IMPORTANT NOTICE

THIS DOCUMENT IS AVAILABLE ONLY TO INVESTORS WHO ARE EITHER (1) QIBs (AS DEFINED BELOW) UNDER RULE 144A OR (2) NON-U.S. PERSONS WITH ADDRESSEES OUTSIDE OF THE U.S.

IMPORTANT: ***You must read the following before continuing. If you are not the intended recipient of this message, please do not distribute or copy the information contained in this e-mail, but instead, delete and destroy all copies of this e-mail including all attachments.*** The following applies to the offering circular following this page, and you are therefore advised to read this carefully before reading, accessing or making any other use of the offering circular. In accessing the offering circular, you agree to be bound by the following terms and conditions, including any modifications to them any time you receive any information from us as a result of such access.

NOTHING IN THIS ELECTRONIC TRANSMISSION CONSTITUTES AN OFFER OF SECURITIES FOR SALE IN ANY JURISDICTION WHERE IT IS UNLAWFUL TO DO SO. THE SECURITIES HAVE NOT BEEN, AND WILL NOT BE, REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR THE SECURITIES LAWS OF ANY STATE OF THE U.S. OR OTHER JURISDICTION AND THE SECURITIES MAY NOT BE OFFERED OR SOLD WITHIN THE U.S. OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, U.S. PERSONS (AS DEFINED IN REGULATION S UNDER THE SECURITIES ACT), EXCEPT PURSUANT TO AN EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND APPLICABLE STATE OR LOCAL SECURITIES LAWS.

THE FOLLOWING OFFERING CIRCULAR MAY NOT BE FORWARDED OR DISTRIBUTED TO ANY OTHER PERSON AND MAY NOT BE REPRODUCED IN ANY MANNER WHATSOEVER. ANY FORWARDING, DISTRIBUTION OR REPRODUCTION OF THIS DOCUMENT IN WHOLE OR IN PART IS UNAUTHORIZED. FAILURE TO COMPLY WITH THIS DIRECTIVE MAY RESULT IN A VIOLATION OF THE SECURITIES ACT OR THE APPLICABLE LAWS OF OTHER JURISDICTIONS. ANY INVESTMENT DECISION SHOULD BE MADE ON THE BASIS OF THE FINAL TERMS AND CONDITIONS OF THE RELEVANT SECURITIES. IF YOU HAVE GAINED ACCESS TO THIS TRANSMISSION CONTRARY TO ANY OF THE FOREGOING RESTRICTIONS, YOU ARE NOT AUTHORIZED AND WILL NOT BE ABLE TO PURCHASE ANY OF THE SECURITIES DESCRIBED THEREIN.

Confirmation of your Representation: In order to be eligible to view the following offering circular or make an investment decision with respect to the securities, investors must be either (I) qualified institutional buyers ("QIBs") (within the meaning of Rule 144A under the Securities Act) or (II) non-U.S. persons (within the meaning of Regulation S under the Securities Act) outside the United States. By accepting the e-mail and accessing the following offering circular, you shall be deemed to have represented to the dealers named in the Offering Circular (the "Dealers"), being senders of the attached, that (1) you and any customers you represent are either (a) QIBs or (b) non-U.S. persons and that the electronic mail address that you gave us and to which this e-mail has been delivered is not located in the United States, its territories or possessions and (2) you consent to the delivery of such offering circular by electronic transmission.

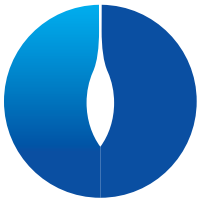
You are reminded that the following offering circular has been delivered to you on the basis that you are a person into whose possession the following offering circular may be lawfully delivered in accordance with the laws of jurisdiction in which you are located and you may not, nor are you authorized to, deliver or disclose the contents of the following offering circular to any other person. If this is not the case, you must return this offering circular to us immediately.

The materials relating to the offering do not constitute, and may not be used in connection with, an offer or solicitation in any place where offers or solicitations are not permitted by law. If a jurisdiction requires that the offering be made by a licensed broker or dealer and the Dealers or any affiliate of the Dealers is a licensed broker or dealer in that jurisdiction, the offering shall be deemed to be made by the Dealers or such affiliate on behalf of the issuer in such jurisdiction.

The following offering circular has been sent to you in an electronic form. You are reminded that documents transmitted via this medium may be altered or changed during the process of electronic transmission and consequently, none of the Dealers nor any person who controls any of them nor any director, officer, employee nor agent of any of them or affiliate of any such person accepts any liability or responsibility whatsoever in respect of any difference between the offering circular distributed to you in electronic format and the hard copy version available to you on request from the Dealers.

You should not reply by e-mail to this announcement, and you may not purchase any securities by doing so. Any reply e-mail communications, including those you generate by using the "Reply" function on your e-mail software, will be ignored or rejected. You are responsible for protecting against viruses and other destructive items. Your use of this e-mail is at your own risk and it is your responsibility to take precautions to ensure that it is free from viruses and other items of a destructive nature.

OFFERING CIRCULAR



KOREA GAS CORPORATION

(a statutory juridical corporation organized under the laws of the Republic of Korea)

U.S.$11,000,000,000
Global Medium Term Note Program

This offering circular replaces and supersedes the offering circular dated June 16, 2023 describing the Program (as defined below). Any Notes (as defined below) issued under this Program on or after the date of this offering circular are issued subject to the provisions described herein. This does not affect any Notes issued prior to the date of this offering circular.

Under this U.S.$11,000,000,000 Global Medium Term Note Program (the "**Program**"), Korea Gas Corporation (the "**Company**") or any subsidiary of the Company which accedes to the Program by executing an accession agreement pursuant to the terms of the Agency Agreement (as defined below) (each such subsidiary, a "**Guaranteed Issuer**," and together with the Company, each, an "**Issuer**" in relation to the Notes issued by it), subject to compliance with all relevant laws, regulations and directives, may from time to time issue notes (the "**Notes**") denominated in any currency agreed between the Issuer and the Relevant Dealer (as defined below).

The Notes will be issued on a senior basis and may be issued in bearer or registered form ("**Bearer Notes**" and "**Registered Notes**," respectively). Notes issued by the Guaranteed Issuers will be guaranteed by the Company (in such capacity, the "**Guarantor**") on a senior basis. The maximum aggregate nominal amount of all Notes from time to time outstanding under the Program will not exceed U.S.$11,000,000,000 (or its equivalent in other currencies calculated as described herein), subject to increase as described herein.

The Notes may be issued on a continuing basis to one or more of the Dealers specified under "Summary of the Program" and any additional Dealer appointed under the Program from time to time by the Issuer (each a "**Dealer**" and together the "**Dealers**"), which appointment may be for a specific issue or on an ongoing basis. References in this offering circular to the "**Relevant Dealer**" shall, in the case of an issue of Notes being (or intended to be) subscribed by more than one Dealer, be to all Dealers agreeing to subscribe such Notes.

Approval in-principle has been received from the Singapore Exchange Securities Trading Limited (the "**SGX-ST**") in connection with the Program and application will be made for the listing and quotation of any Notes that may be issued by the Company pursuant to the Program and which are agreed at or prior to the time of issue thereof to be so listed and quoted on the SGX-ST. Such permission will be granted when such Notes have been admitted for listing and quotation on the SGX-ST. The SGX-ST assumes no responsibility for the correctness of any of the statements made, opinions expressed or reports contained herein. Approval in-principle from, admission to the Official List of, and the listing and quotation of any Notes on, the SGX-ST are not to be taken as an indication of the merits of any Guaranteed Issuer, the Company, the Program or the Notes. Notice of the aggregate nominal amount of Notes, interest (if any) payable in respect of Notes, the issue price of Notes and any other terms and conditions not contained herein which are applicable to each Tranche (as defined under "Terms and Conditions of the Notes") of Notes will be set out in a pricing supplement (the "**Pricing Supplement**") a copy of which, with respect to Notes to be listed on the SGX-ST, will be submitted to the SGX-ST before the date of listing of the Notes of such Tranche.

The Program provides that Notes may be listed or admitted to trading, as the case may be, on such other or further stock exchanges or markets as may be agreed between the Issuer, the Guarantor and the Relevant Dealer(s). Issuer may also issue unlisted Notes and/or Notes not admitted to trading on any market.

See "Risk Factors" beginning on page 70 for a discussion of certain factors to be considered in connection with an investment in the Notes.

The Notes have not been and will not be registered under the U.S. Securities Act of 1933, as amended (the "**Securities Act**"), or with any securities regulatory authority of any state or other jurisdiction of the United States.

The Notes of each Series will be in either bearer form, with or without interest coupons attached, or registered form, without interest coupons attached. Bearer Notes will be issued only outside the United States to non-U.S. persons in reliance on the exemption from registration provided by Regulation S under the Securities Act ("**Regulation S**") and Registered Notes may be issued both outside the United States to non-U.S. persons in reliance on the exemption from registration provided by Regulation S and within the United States or to U.S. persons in private transactions (i) to "qualified institutional buyers" within the meaning of Rule 144A under the Securities Act ("**QIBs**") or (ii) to "accredited investors" (as defined in Rule 501(a)(1), (2), (3) or (7) under the Securities Act) that are institutions ("**Institutional Accredited Investors**") who agree to purchase the Notes for their own account and not with a view to the distribution thereof. Bearer Notes are subject to U.S. tax law requirements. Subject to certain exceptions, the Notes may not be offered or sold, or in the case of Bearer Notes delivered, in the United States or its possessions or to, or for the benefit of, U.S. persons (as defined in Regulation S under the Securities Act or, in the case of Bearer Notes, the U.S. Internal Revenue Code of 1986, as amended (the "**Code**")). See "Form of the Notes" for more description of the manner in which Notes will be issued. Notes are subject to certain restrictions on transfer. See "Subscription and Sale and Transfer and Selling Restrictions."

The Issuer and the Guarantor may agree with any Dealer that the Notes may be issued in a form not contemplated under "Terms and Conditions of the Notes" herein, in which event (in the case of Notes intended to be listed on the SGX-ST) a supplementary offering circular, if appropriate, will be made available which will describe the effect of the agreement reached in relation to such Notes.

Arranger

Citigroup

Dealers

BNP PARIBAS
Citigroup
HSBC
KB Securities
Mirae Asset Securities
Société Générale
Corporate & Investment Banking
UBS

BofA Securities
Crédit Agricole CIB
J.P. Morgan
Korea Development Bank
Mizuho Securities
Standard Chartered Bank

The date of this offering circular is June 12, 2024.

The Company (in its capacity as the Issuer or, in the case of Senior Guaranteed Notes, as the Guarantor) and the Guaranteed Issuers, having made all reasonable enquiries, confirm that this offering circular contains or incorporates all information which is material in the context of the issuance and offering of the Notes, that the information contained or incorporated in this offering circular is true and accurate in all material respects and is not misleading in any material respect, that the opinions and intentions expressed in this offering circular are honestly held and have been reached after considering all relevant circumstances and are based on reasonable assumptions, and that there are no other facts, the omission of which would, in the context of the issue and offering of the Notes, make this offering circular as a whole or any information or the expression of any opinions or intentions expressed in this offering circular misleading in any material respect. The Company and the Guaranteed Issuers accept responsibility accordingly. Information provided in this offering circular with respect to Korea, its political status and economy has been derived from information published by the government and other public sources, and the Company and the Guaranteed Issuers accept responsibility only for the accurate extraction of information from such sources.

This offering circular is to be read in conjunction with all documents that are deemed to be incorporated herein by reference (see "Documents Incorporated by Reference" below). This offering circular shall be read and construed on the basis that such documents are incorporated and form part of this offering circular.

This offering circular is based on the information provided by the Company and the Guaranteed Issuers. The Arranger and the Dealers have not separately verified all of the information contained or incorporated by reference in this offering circular. Accordingly, no representation, warranty or undertaking, express or implied, is made and no responsibility or liability is accepted by the Dealers as to the accuracy or completeness of the information contained or incorporated in this offering circular or any other information provided by the Company or the Guaranteed Issuers, and none of the Arranger or the Dealers accept any responsibility for any acts or omissions of the Company or the Guaranteed Issuers or any other person (other than the relevant Dealers) in connection with the Program and the issue and offering of the Notes. None of the Dealers accepts any responsibility for the contents of this offering circular or for any statement made or purported to be made by the Dealers or on its behalf in connection with the Company, the Guaranteed Issuers, the Program or the issue and offering of the Notes. The Dealers accordingly disclaim all and any liability whether arising in tort or contract or otherwise (save as referred to above) which it might otherwise have in respect of this offering circular or any such statement.

No person is or has been authorized by the Company or the Guaranteed Issuers to give any information or to make any representation other than as contained in this offering circular or any other information supplied in connection with the Program or the Notes and, if given or made, such information or representation must not be relied upon as having been authorized by any of the Company, the Guaranteed Issuers or the Dealers.

Neither this offering circular nor any other information supplied in connection with the Program or any Notes (a) is intended to provide the basis of any credit or other evaluation or (b) should be considered as a recommendation by any of the Company, the Guaranteed Issuers or the Dealers that any recipient of this offering circular or any other information supplied in connection with the Program or any Notes should purchase any Notes. Each investor contemplating purchasing any Notes should make its own independent investigation of the financial condition and affairs, and its own appraisal of the creditworthiness, of the Company and the Guaranteed Issuers. Neither this offering circular nor any other information supplied in connection with the Program or the issue of any Notes constitutes an offer or invitation by or on behalf of any of the Company, the Guaranteed Issuers or the Dealers to any person to subscribe for or to purchase any Notes. The contents of this offering circular should not be construed as providing legal, business, accounting or tax advice. An investor should bear the economic risk of an investment in the Notes.

Neither the delivery of this offering circular nor the offering, sale or delivery of any Notes shall in any circumstances imply that the information contained herein concerning the Company and the Guaranteed Issuers is correct at any time subsequent to the date hereof or that any other information supplied in connection with the Program is correct as of any time subsequent to the date indicated in the document containing the same. The Dealers expressly do not undertake to advise any investor in the Notes of any information coming to their attention. Investors should review, inter alia, the most recently published documents incorporated by reference into this offering circular when deciding whether or not to purchase any Notes.

This offering circular does not constitute an offer to sell or the solicitation of an offer to buy any Notes in any jurisdiction to any person to whom it is unlawful to make the offer or solicitation in such jurisdiction. The distribution of this offering circular and the offer or sale of the Notes may be restricted by law in certain jurisdictions. The Company, the Guaranteed Issuers and the Dealers do not represent that this offering circular may be lawfully distributed, or that any Notes may be lawfully offered, in compliance with any applicable registration or other requirements in any such jurisdiction, or pursuant to an exemption available thereunder, or assume any responsibility for facilitating any such distribution or offering. In particular, no action has been taken by the Company, the Guaranteed Issuers or the Dealers that would permit a public offering of any Notes or distribution of this document in any jurisdiction where action for that purpose is required. Accordingly, no Notes may be offered or sold, directly or indirectly, and neither this offering circular nor any advertisement or other offering material may be distributed or published in any jurisdiction, except under circumstances that will result in compliance with any applicable laws and regulations. Persons into whose possession this offering circular or any Notes may come must inform themselves about, and observe, any such restrictions on the distribution of this offering circular and the offering and sale of the Notes. In particular, there are restrictions on the distribution of this offering circular and the offer or sale of Notes in the United States of America, the European Economic Area (the "**EEA**"), the United Kingdom (the "**UK**"), Japan, Singapore, Hong Kong, Taiwan and Korea. See "Subscription and Sale and Transfer and Selling Restrictions."

In making an investment decision, investors must rely on their own examination of the Issuer and the terms of the Notes being offered, including the merits and risks involved. The Notes have not been approved or disapproved by the United States Securities and Exchange Commission (the "**SEC**") or any other securities commission or other regulatory authority in the United States, nor have the foregoing authorities approved this offering circular or confirmed the accuracy or determined the adequacy of the information contained in this offering circular. Any representation to the contrary is unlawful.

EEA INFORMATION

MIFID II product governance – The final terms (or the Pricing Supplement, as the case may be) in respect of any Series (as defined under "Terms and Conditions of the Notes") of Notes may include a legend entitled "MiFID II Product Governance," which will outline the target market assessment in respect of the Notes of any such Series and which channels for distribution of the Notes are appropriate. If such information is included, any person subsequently offering, selling or recommending the Notes (a "distributor") should take into consideration the target market assessment; however, a distributor subject to Directive 2014/65/EU (as amended, "MiFID II") will be responsible for undertaking its own target market assessment in respect of the Notes (by either adopting or refining the target market assessment) and determining the appropriate distribution channels.

A determination will be made in relation to each issue of Notes about whether, for the purpose of the MiFID Product Governance rules under EU Delegated Directive 2017/593 (the "MiFID Product Governance Rules"), each of the Arranger and Dealers subscribing for any Notes is a manufacturer in respect of such Notes, but otherwise neither the Arranger nor the Dealer nor any of their respective affiliates will be a manufacturer for the purpose of the MiFID Product Governance Rules.

IMPORTANT – EEA RETAIL INVESTORS – If the final terms (or the Pricing Supplement, as the case may be) in respect of any Series of Notes includes a legend entitled "PRIIPS Regulation/Prohibition of Sales to EEA Retail Investors," the Notes of any such Series are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the EEA. For these purposes: (a) the expression "retail investor" means a person who is one (or more) of the following: (i) a retail client as defined in point (11) of Article 4(1) of MiFID II; (ii) a customer within the meaning of Directive (EU) 2016/97 (as amended, the "Insurance Distribution Directive"), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (iii) not a qualified investor as defined in Regulation (EU) 2017/1129 (as amended, the "Prospectus Regulation"); and (b) the expression "offer" includes the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes. Consequently, no key information document required by Regulation (EU) No 1286/2014 (as amended, the "PRIIPs Regulation") for offering or selling the Notes or otherwise making them available to retail investors in the EEA will be prepared and therefore, offering or selling the Notes or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.

UK INFORMATION

UK MiFIR product governance – The final terms (or the Pricing Supplement, as the case may be) in respect of any Series (as defined under "Terms and Conditions of the Notes") of Notes may include a legend entitled "UK MiFIR Product Governance" which will outline the target market assessment in respect of the Notes of any such Series and which channels for distribution of the Notes are appropriate. If such information is included, any person subsequently offering, selling or recommending the Notes (a "UK MiFIR distributor") should take into consideration the target market assessment; however, a UK MiFIR distributor subject to the FCA Handbook Product Intervention and Product Governance Sourcebook (the "UK MiFIR Product Governance Rules") will be responsible for undertaking its own target market assessment in respect of the Notes (by either adopting or refining the target market assessment) and determining the appropriate distribution channels.

A determination will be made in relation to each issue of Notes about whether, for the purpose of the UK MiFIR Product Governance Rules, each of the Arranger and Dealers subscribing for any Notes is a UK MiFIR manufacturer in respect of such Notes, but otherwise neither the Arranger nor the Dealers nor any of their respective affiliates will be a UK MiFIR manufacturer for the purpose of the UK MiFIR Product Governance Rules.

IMPORTANT – UK RETAIL INVESTORS – If the final terms (or the Pricing Supplement, as the case may be) in respect of any Series of Notes includes a legend entitled "UK PRIIPS Regulation/Prohibition of Sales to UK Retail Investors," the Notes of any such Series are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the UK. For these purposes: (a) the expression "retail investor" means a person who is one (or more) of the following: (i) a retail client as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018 ("EUWA"); (ii) a customer within the meaning of the provisions of the Financial Services and Markets Act ("FSMA") and any rules or regulations made under the FSMA to implement Directive (EU) 2016/97, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the EUWA; or (iii) not a qualified investor as defined in Article 2 of the Prospectus Regulation as it forms part of domestic law by virtue of the EUWA; and (b) the expression "offer" includes the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes. Consequently, no key information document required by the PRIIPs Regulation as it forms part of domestic law by virtue of the EUWA (the "UK PRIIPs Regulation") for offering or selling the Notes or otherwise making them available to retail investors in the UK has been prepared and therefore, offering or selling the Notes or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation.

This offering circular is only being distributed to and is only directed at (i) persons who are outside the UK; (ii) investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the "Order"); or (iii) high net worth entities, and other persons to whom it may lawfully be communicated, falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as "relevant persons"). The Notes will only be available to, and any invitation, offer or agreement to subscribe, purchase or otherwise acquire such Notes will be engaged in only with, relevant persons. Any person who is not a relevant person should not act or rely on this offering circular or any of its contents.

None of the Dealers, the Company or the Guaranteed Issuer makes any representation to any investor regarding the legality of its investment in the Notes under any applicable laws. The contents of this offering circular should not be construed as providing legal, business, accounting or tax advice. Any investor should be able to bear the economic risk of an investment in the Notes for an indefinite period of time.

U.S. INFORMATION

This offering circular is being submitted on a confidential basis in the United States to a limited number of QIBs or Institutional Accredited Investors (each as defined under "Form of the Notes") for informational use solely in connection with the consideration of the purchase of the Notes being offered hereby. Its use for any other purpose in the United States is not authorized. It may not be copied or reproduced in whole or in part nor may it be distributed or any of its contents disclosed to anyone other than the prospective investors to whom it is originally submitted.

The Registered Notes may be offered or sold within the United States only to QIBs or to Institutional Accredited Investors, in either case in transactions exempt from registration under the Securities Act. Each U.S. purchaser of the Registered Notes is hereby notified that the offer and sale of any Registered Notes to it may be being made in reliance upon the exemption from the registration requirements of the Securities Act provided by Rule 144A under the Securities Act ("**Rule 144A**").

Purchasers of the Definitive IAI Registered Notes will be required to execute and deliver an IAI Investment Letter (each as defined under "Terms and Conditions of the Notes"). Each purchaser or holder of the Definitive IAI Registered Notes, the Notes represented by a Rule 144A Global Note (as defined below) or any Notes issued in registered form in exchange or substitution therefor (together "**Legended Notes**") will be deemed, by its acceptance or purchase of any such Legended Notes, to have made certain representations and agreements intended to restrict the resale or other transfer of such Notes as set out in "Subscription and Sale and Transfer and Selling Restrictions." Unless otherwise stated, terms used in this paragraph have the meanings given to them in "Form of the Notes."

Bearer Notes are subject to U.S. tax law requirements and may not be offered, sold or delivered within the United States or its possessions or to U.S. persons, except in certain transactions permitted by U.S. Treasury regulations. Terms used in this paragraph have the meanings given to them by the Code and the U.S. Treasury regulations promulgated thereunder.

SINGAPORE INFORMATION

Notification under Section 309B(1)(c) of the Securities and Futures Act 2001 of Singapore (the "**SFA**") – Unless otherwise stated in the Pricing Supplement in respect of any Notes, the Issuer or, as the case may be, the Guaranteed Issuer, has determined, and hereby notifies all relevant persons (as defined in Section 309A(1) of the SFA), that the Notes to be issued under the Program shall be prescribed capital markets products (as defined in the Securities and Futures (Capital Markets Products) Regulations 2018 of Singapore) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

CERTAIN DEFINED TERMS AND CONVENTIONS

Industry data used in this offering circular were obtained from statistics published by the Korea Energy Economics Institute and industry studies released by the Ministry of Trade, Industry and Energy (the "**MOTIE**"). Such information has been accurately reproduced herein and, as far as the Company and the Guaranteed Issuers are aware and are able to ascertain from information published by such third parties, no facts have been omitted that would render the reproduced information inaccurate or misleading. Such industry studies, while believed to be reliable, have not been independently verified, and none of the Company, the Guaranteed Issuers or the Dealers makes any representation as to the accuracy or completeness of this information.

All references to "Korea" and the "Republic" contained in this offering circular shall mean The Republic of Korea. All references to the "government" shall mean the government of Korea. All references to the "Company" or the "Guarantor" shall mean Korea Gas Corporation, a statutory juridical entity established under the Korea Gas Corporation Act of 1982, as amended (the "**KOGAS Act**"), and its consolidated subsidiaries, unless the context otherwise requires. All references to "Guaranteed Issuers" herein shall mean the subsidiaries of Korea Gas Corporation that have acceded to the Program by executing an accession agreement pursuant to the terms of the Agency Agreement, and all references to "Issuers" herein shall mean Korea Gas Corporation and the Guaranteed Issuers. All references to "KEPCO" herein are references to Korea Electric Power Corporation. All references to "U.S." shall mean the United States of America. All references to "city gas companies" herein are references to companies that distribute gas to end-users in Korea.

In this offering circular, all references to "Won" or "₩" are to the lawful currency of Korea, all references to "U.S. dollars," "dollar," "US$" or "U.S.$" are to the lawful currency of the United States of America, all references to "Euro," "euro" or "€" are to the lawful currency of the European Economic and Monetary Union, all references to "Japanese yen," "yen" or "¥" are to the lawful currency of Japan, all references to "Canadian dollar" are to the lawful currency of Canada and all references to "£" are to the lawful currency of the UK.

All financial information, descriptions and other information in this offering circular regarding the Company's activities, financial condition and results of operations are, unless otherwise indicated or required by context, presented on a consolidated basis.

Any discrepancies in any table between totals and the sums of the amounts listed are due to rounding.

SERVICE OF PROCESS AND ENFORCEMENT OF CIVIL LIABILITIES

The Company is a corporation with limited liability organized under the laws of Korea. All of the Company's directors and officers and certain other persons named in this offering circular reside in Korea, and a significant portion of the assets of the directors and officers and certain other persons named in this offering circular and a significant portion of the Company's assets are located in Korea. As a result, it may not be possible for you to effect service of process within the United States upon such persons or to enforce against them or against the Company in U.S. courts judgments predicated upon the civil liability provisions of the federal securities laws of the United States. There is doubt as to the enforceability in Korea, either in original actions or in actions for enforcement of judgments of U.S. courts, of civil liabilities predicated on the U.S. federal securities laws.

AVAILABLE INFORMATION

To permit compliance with Rule 144A under the Securities Act in connection with sales of the Notes, each of the Issuers and the Guarantor (if applicable) will be required to furnish, upon request, to a Holder (as defined in "Terms and Conditions of the Notes") of a Note and a prospective investor designated by such Holder, the information required to be delivered under Rule 144A(d)(4) under the Securities Act unless at the time of the request the Issuer is a reporting company under Section 13 or Section 15(d) of the United States Securities Exchange Act of 1934, as amended (the "**Exchange Act**"), or is exempt from the registration requirements of Section 12(g) of the Exchange Act (and therefore is required to publish on its website, in English, certain information pursuant to Rule 12g3-2(b) under the Exchange Act).

PRESENTATION OF FINANCIAL INFORMATION

The Company's audited consolidated financial statements as of and for the years ended December 31, 2022 and 2021, the Company's audited consolidated financial statements as of and for the years ended December 31, 2023 and 2022 and the Company's unaudited interim condensed consolidated financial statements as of March 31, 2024 and for the three-month periods ended March 31, 2024 and 2023 (the "**unaudited interim condensed consolidated financial statements**") are included elsewhere in the offering circular. Unless otherwise stated, the financial data contained in this offering circular as of and for the year ended December 31, 2021 have been derived from the Company's audited consolidated financial statements as of and for the years ended December 31, 2022 and 2021 included herein and the financial data contained in this offering circular as of and for the years ended December 31, 2022 and 2023 have been derived from the Company's audited consolidated financial statements as of and for the years ended December 31, 2023 and 2022 included herein, which have been prepared in accordance with International Financial Reporting Standards as adopted by the Republic of Korea ("**KIFRS**"), which differ in certain important respects from generally accepted accounting principles in other countries, including U.S. GAAP, and the financial data contained in this offering circular as of March 31, 2024 and for the three-month periods ended March 31, 2023 and 2024 have been derived from the Company's unaudited interim condensed consolidated financial statements included herein which have been prepared in accordance with KIFRS No. 1034 *Interim Financial Reporting*.

Any unaudited financial statements should not be relied upon to provide the same quality of information associated with information that has been subject to an audit nor taken as an indication of the expected financial condition and results of operations of the Company for the relevant full financial year. Potential investors must exercise caution when using such data to evaluate the Company's financial condition and results of operations.

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This offering circular includes risk factors, the Company's audited and unaudited consolidated financial statements and disclosure concerning the Company's business and financial condition and results of operations, as well as other matters. You should carefully review the entire offering circular before making an investment decision.

You should rely only on the information contained in this offering circular or to which the Issuers have referred you. Neither the Company nor the Guaranteed Issuers have authorized anyone to provide you with information that is different. This offering circular may only be used where it is legal to sell the Notes. You should not assume that the information in this offering circular is accurate as of any date other than the date at the front of this offering circular. This offering circular is confidential. You are authorized to use this offering circular solely for the purpose of considering the purchase of the Notes described in this offering circular. You may not reproduce or distribute this offering circular in whole or in part, and you may not disclose any of the contents of this offering circular or use any information herein for any purpose other than considering a purchase of the Notes. You agree to the foregoing by accepting delivery of this offering circular.

IN CONNECTION WITH THE ISSUE AND DISTRIBUTION OF ANY TRANCHE OF NOTES, THE DEALER(S) (IF ANY) NAMED AS THE STABILIZATION MANAGER(S) (OR PERSONS ACTING ON BEHALF OF ANY STABILIZATION MANAGER(S)) IN THE APPLICABLE PRICING SUPPLEMENT MAY, SUBJECT TO ALL APPLICABLE LAWS AND REGULATIONS, OVER-ALLOT THE NOTES OR EFFECT TRANSACTIONS WITH A VIEW TO SUPPORTING THE MARKET PRICE OF THE NOTES OF A SERIES (AS DEFINED BELOW) OF WHICH SUCH TRANCHE FORMS A PART AT A LEVEL HIGHER THAN THAT WHICH MIGHT OTHERWISE PREVAIL FOR A LIMITED PERIOD AFTER THE ISSUE DATE. HOWEVER, THERE IS NO ASSURANCE THAT THE STABILIZATION MANAGER(S) (OR PERSONS ACTING ON BEHALF OF A STABILIZATION MANAGER) WILL UNDERTAKE STABILIZING ACTION. SUCH STABILIZATION, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME AND, IF BEGUN, MUST BE BROUGHT TO AN END AFTER A LIMITED PERIOD. ANY STABILIZING ACTION OR OVER-ALLOTMENT MUST BE CONDUCTED BY THE RELEVANT STABILIZATION MANAGER(S) (OR PERSON(S) ACTING ON BEHALF OF ANY STABILIZATION MANAGER(S)) IN ACCORDANCE WITH ALL APPLICABLE LAWS AND RULES.

DOCUMENTS INCORPORATED BY REFERENCE

The following documents published or issued from time to time after the date hereof shall be deemed to be incorporated into, and to form part of, this offering circular:

(a) the most recently published audited consolidated annual financial statements and the most recently published unaudited interim condensed consolidated financial statements (if any) of the Company from time to time;

(b) the most recently published audited consolidated annual financial statements (if any) and the most recently published unaudited interim condensed consolidated financial statements (if any) of the Guaranteed Issuers from time to time;

(c) each relevant Pricing Supplement; and

(d) all supplements or amendments to this offering circular circulated by the Issuers from time to time,

save that any statement contained herein or in a document which is deemed to be incorporated by reference herein shall be deemed to be modified or superseded for the purpose of this offering circular to the extent that a statement contained in any such subsequent document which is deemed to be incorporated by reference herein modifies or supersedes such earlier statement (whether expressly, by implication or otherwise). Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this offering circular.

The Company and the Guaranteed Issuers will provide, without charge, to each person to whom a copy of this offering circular has been delivered, upon the request of such person, a copy of any or all of the documents deemed to be incorporated herein by reference unless such documents have been modified or superseded as specified above. Requests for such documents should be directed to the Issuers at their offices set out at the end of this offering circular. In addition, such documents will be available for inspection upon prior written notice and satisfactory proof of holding during reasonable business hours (between 9:00am and 3:00pm) from the principal office of Citibank, N.A., London Branch (the "Principal Paying Agent").

The Company and the Guaranteed Issuers will, in connection with the listing and quotation of the Notes on the SGX-ST, so long as the rules of the SGX-ST so require, in the event of any material change which is not reflected in this offering circular, prepare a supplement to this offering circular or publish a new offering circular for use in connection with any subsequent issue of the Notes to be listed and quoted on the SGX-ST. A supplement to this offering circular will also be prepared and submitted to the SGX-ST each time a New Issuer accedes to the Program.

If the terms of the Program are modified or amended in a manner that would make this offering circular, as so modified or amended, inaccurate or misleading, a new offering circular will be prepared.

GENERAL DESCRIPTION OF THE PROGRAM

Under the Program, the Issuer, with the approval of the Guarantor (if applicable), may from time to time issue Notes denominated in any currency, subject to as set out herein. A summary of the terms and conditions of the Program and the Notes appears below. The applicable terms of any Notes will be agreed between the Issuer, the Guarantor (if applicable) and the Relevant Dealer prior to the issue of the Notes and will be set out in the Terms and Conditions of the Notes endorsed on, attached to, or incorporated by reference into, the Notes, as modified and supplemented by the applicable Pricing Supplement attached to, or endorsed on, such Notes, as more fully described under "Form of the Notes."

This offering circular and any supplement will only be valid for Notes issued under the Program in an aggregate principal amount which, when added to the aggregate principal amount then outstanding of all Notes previously or simultaneously issued under the Program, does not exceed U.S.$11,000,000,000 or its equivalent in other currencies. For the purpose of calculating the U.S. dollar equivalent of the aggregate principal amount of Notes issued under the Program from time to time:

(a) the U.S. dollar equivalent of Notes denominated in another Specified Currency (as specified in the applicable Pricing Supplement in relation to the relevant Notes, described under "Form of the Notes") shall be determined, at the discretion of the Issuer and the Guarantor (if applicable), either as of the date on which agreement is reached for the issue of Notes or on the preceding day on which commercial banks and foreign exchange markets are open for business in London, in each case on the basis of the spot rate for the sale of the U.S. dollar against the purchase of such Specified Currency in the London foreign exchange market quoted by any leading international bank selected by the Issuer and the Guarantor (if applicable) on the relevant day of calculation;

(b) the U.S. dollar equivalent of Dual Currency Notes, Index Linked Notes and Partly Paid Notes (each as specified in the applicable Pricing Supplement in relation to the relevant Notes, described under "Form of the Notes") shall be calculated in the manner specified above by reference to the original principal amount on issue of such Notes (in the case of Partly Paid Notes regardless of the subscription price paid); and

(c) the U.S. dollar equivalent of Zero Coupon Notes (as specified in the applicable Pricing Supplement in relation to the relevant Notes, described under "Form of the Notes") and other Notes issued at a discount or a premium shall be calculated in the manner specified above by reference to the net proceeds received by the Issuer for the relevant issue.

SUMMARY OF THE PROGRAM

The following summary does not purport to be complete and is taken from, and is qualified in its entirety by, the remainder of this offering circular and, in relation to the terms and conditions of any particular Tranche of Notes, the applicable Pricing Supplement. Words and expressions defined in "Form of the Notes" and "Terms and Conditions of the Notes" shall have the same meanings in this summary.

Initial Issuer	Korea Gas Corporation (the "**Company**") (Legal Entity Identifier: 988400TFZILHBD5M3R71)
Accession of New Issuers	Any Subsidiary of the Company nominated by the Company may agree to be bound by all the terms of the Program, and thereby become a "New Issuer" by executing an accession agreement pursuant to the terms of the Agency Agreement. In this offering circular, any reference to the "Issuer" shall mean the Initial Issuer and the New Issuers in respect of the Notes issued by it in accordance with the terms of the Program.
Guaranteed Issuers	The New Issuers
Guarantor	Korea Gas Corporation, with respect to Notes issued by the Guaranteed Issuers.
Guarantee	The Guarantor will unconditionally and irrevocably guarantee (the "**Guarantee**") to each holder of Notes issued by a Guaranteed Issuer the due payment of all amounts owing from time to time under such Notes.
Description	Global Medium Term Note Program
Arranger	Citigroup Global Markets Inc.
Dealers	BNP Paribas, Citigroup Global Markets Inc., Crédit Agricole Corporate and Investment Bank, The Hongkong and Shanghai Banking Corporation Limited, J.P. Morgan Securities plc, KB Securities Co., Ltd., The Korea Development Bank, Merrill Lynch International, Mirae Asset Securities Co., Ltd., Mizuho Securities Asia Limited, Standard Chartered Bank, Société Générale, UBS AG Hong Kong Branch and any additional Dealer appointed from time to time in accordance with the Program Agreement. In this offering circular, any reference to the "Relevant Dealer" shall mean any of the Dealers in respect of the Notes as to whose issue such Dealer has entered into an agreement with the Issuer and (in the case of a Guaranteed Issuer) the Guarantor in accordance with the terms of the Program.
Certain Restrictions	Each issue of Notes denominated in a currency in respect of which particular laws, guidelines, regulations, restrictions or reporting requirements apply will only be issued in circumstances which comply with such laws, guidelines, regulations, restrictions or reporting requirements from time to time (see "Subscription and Sale and Transfer and Selling Restrictions") including the following restrictions applicable at the date of this offering circular.

	Notes having a maturity of less than one year:
	Notes having a maturity of less than one year from the date of issue will, if the proceeds of the issue are accepted in the UK, constitute deposits for the purposes of the prohibition on accepting deposits contained in Section 19 of the Financial Services and Markets Act 2000 unless they are issued to a limited class of professional investors and have a denomination and redemption value of at least £100,000 or its equivalent, see "Subscription and Sale and Transfer and Selling Restrictions."
Principal Paying Agent	Citibank, N.A., London Branch
Paying Agent and Transfer Agent . .	Citibank, N.A., London Branch
Registrar.	Citibank, N.A., London Branch
Program Size	Up to U.S.$11,000,000,000 (or its equivalent in other currencies calculated as described under "General Description of the Program") in aggregate principal amount of Notes outstanding at any time. The Company may increase the amount of the Program in accordance with the terms of the Program Agreement.
Distribution	Subject to applicable selling restrictions, Notes may be distributed by way of private or public placement and in each case on a syndicated or non-syndicated basis.
Currencies	Subject to any applicable legal or regulatory restrictions, any currency agreed between the Issuer, the Guarantor (if applicable) and the Relevant Dealer.
Redenomination	The applicable Pricing Supplement may provide that certain Notes may be redenominated in euro.
Maturities	Such maturities as may be agreed between the Issuer, the Guarantor (if applicable) and the Relevant Dealer, subject to such minimum or maximum maturities as may be allowed or required from time to time by the relevant central bank (or equivalent body) or any laws or regulations applicable to the Issuer or the Guarantor or the relevant Specified Currency.
Issue Price	Notes may be issued on a fully-paid or a partly-paid basis and at an issue price which is at par or at a discount to, or premium over, par, to the extent permitted by applicable law.
Form of Notes	The Notes will be issued in bearer or registered form as described in "Form of the Notes." Registered Notes will not be exchangeable for Bearer Notes and vice versa.
Fixed Rate Notes	Fixed interest will be payable on such date or dates as may be agreed between the Issuer, the Guarantor (if applicable) and the Relevant Dealer and on redemption and will be calculated on the basis of such Day Count Fraction as may be agreed between the Issuer, the Guarantor (if applicable) and the Relevant Dealer.

Floating Rate Notes.	Floating Rate Notes will bear interest at a rate determined: (i) on the same basis as the floating rate under a notional interest rate swap transaction in the relevant Specified Currency governed by an agreement incorporating the 2006 ISDA Definitions (as published by the International Swaps and Derivatives Association, Inc., and as amended and updated as at the Issue Date of the first Tranche of the Notes of the relevant Series); or (ii) on the basis of a reference rate appearing on the agreed screen page of a commercial quotation service; or (iii) on an alternative basis as may be agreed by and among the Issuer, the Guarantor (if applicable) and the Relevant Dealer. The margin (if any) relating to such floating rate will be agreed between the Issuer, the Guarantor (if applicable) and the Relevant Dealer for each Series of Floating Rate Notes. In the event of the discontinuation of a reference rate applicable to a Series of Floating Rate Notes specified in the applicable Pricing Supplement, then (a) Condition 6.2(e) of the "Terms and Conditions of the Notes" shall apply if Benchmark Transition Event is specified in the applicable Pricing Supplement; (b) Condition 6.2(f) of the "Terms and Conditions of the Notes" shall apply if Benchmark Discontinuation (SOFR) is specified in the applicable Pricing Supplement; or (c) as otherwise provided in the applicable Pricing Supplement.
Index Linked Notes.	Payments of interest in respect of Index Linked Interest Notes will be calculated by reference to such index and/or formula or to changes in the prices of securities or commodities or to such other factors as the Issuer, the Guarantor (if applicable) and the Relevant Dealer may agree, to the extent permitted by applicable law.
Other provisions in relation to Floating Rate Notes and Index Linked Interest Notes.	Floating Rate Notes and Index Linked Interest Notes may also have a maximum interest rate, a minimum interest rate or both. Interest on Floating Rate Notes and Index Linked Interest Notes in respect of each Interest Period, as agreed prior to issue by the Issuer, the Guarantor (if applicable) and the Relevant Dealer, will be payable on such Interest Payment Dates, and will be calculated on the basis of such Day Count Fraction, as may be agreed between the Issuer, the Guarantor (if applicable) and the Relevant Dealer.
Dual Currency Notes.	Payments (whether in respect of principal or interest and whether at maturity or otherwise) in respect of Dual Currency Notes will be made in such currencies, and based on such rates of exchange, as the Issuer, the Guarantor (if applicable) and the Relevant Dealer may agree, to the extent permitted by applicable law.
Zero Coupon Notes.	Zero Coupon Notes will be offered and sold at a discount to their nominal amount, or offered and sold at their nominal amount and be redeemed at a premium, and will not bear interest.

Redemption	The applicable Pricing Supplement will indicate either that the relevant Notes cannot be redeemed prior to their stated maturity (other than in specified installments, if applicable, or for taxation reasons or following an occurrence of a Change of Control (as defined herein) or following an Event of Default), or that such Notes will be redeemable at the option of the Issuer, and/or the Noteholders upon giving notice to the Noteholders or the Issuer and the Guarantor, as the case may be, on a date or dates specified prior to such stated maturity and at a price or prices and on such other terms as may be agreed between the Issuer, the Guarantor (if applicable) and the Relevant Dealer. The applicable Pricing Supplement may provide that Notes may be redeemable in two or more installments of such amounts and on such dates as are indicated in the applicable Pricing Supplement. Notes having a maturity of less than one year may be subject to restrictions on their denomination and distribution, see "– Certain Restrictions" above.
Change of Control Redemption . . .	The Notes will be redeemable at the option of the Noteholders, in all or in part, upon the occurrence of a Change of Control at 100% of their principal amount, together with accrued and unpaid interest, if any, to but excluding the Change of Control Put Date (as defined herein). See "Terms and Conditions of the Notes – Redemption and Purchase – Change of Control Redemption."
Denomination of Notes	Notes will be issued in such denominations as may be agreed between the Issuer, the Guarantor and the Relevant Dealer except that the minimum denomination of each Note will be such as may be allowed or required from time to time by the central bank (or equivalent body) or any laws or regulations applicable to the relevant Specified Currency, see "– Certain Restrictions" above. Unless otherwise stated in the applicable Pricing Supplement, the minimum denomination of each Definitive IAI Registered Note will be U.S.$500,000 or its approximate equivalent in other Specified Currencies. Notes having a maturity of less than one year may be subject to restrictions on their denomination and distribution (see "– Certain Restrictions" above). The minimum denomination of each Note admitted to trading on a regulated market within the EEA or offered to the public in a Member State of the EEA in circumstances which require the publication of a prospectus under the Prospectus Directive will be €100,000 (or, if the Notes are denominated in a currency other than euro, the equivalent amount in such currency).

Taxation	All payments of principal and interest in respect of the Notes, Receipts and Coupons or under the Guarantee (if applicable) will be made without deduction for or on account of withholding taxes imposed by the Tax Jurisdiction (as defined in Condition 10) unless such withholding or deduction is required by law. In the event that any such deduction is made, the Issuer (and failing whom, the Guarantor) will, except in certain limited circumstances provided in Condition 10, be required to pay additional amounts to cover the amounts so deducted. See "Terms and Conditions of the Notes – Taxation." In making an investment decision, each prospective investor is strongly recommended to consult its own professional advisors in respect of the tax implications of holding the Notes. See "Terms and Conditions of the Notes – Taxation."
Negative Pledge	The terms of the Notes will contain a negative pledge provision as further described in Condition 4 (*Certain Covenants*).
Events of Default	Events of default for the Notes are set out in Condition 12 (*Events of Default*).
Cross-acceleration	The terms of the Notes will contain a cross-acceleration provision as further described in Condition 12 (*Events of Default*).
Status	*Senior Notes:* Notes issued by the Company are referred to as Senior Notes. The Senior Notes will constitute direct, unconditional, unsubordinated and (subject to the provisions of Condition 4 (*Certain Covenants*)) unsecured general obligations of the Company and will rank pari passu, without any preference among themselves and (except for certain obligations required to be preferred by applicable law) equally with all other unsecured and unsubordinated general obligations of the Company, from time to time outstanding. *Senior Guaranteed Notes:* Notes issued by a Guaranteed Issuer are referred to as Senior Guaranteed Notes. The Senior Guaranteed Notes will constitute direct, unconditional, unsubordinated and (subject to the provisions of Condition 4 (*Certain Covenants*)) unsecured general obligations of the Company and will rank pari passu, without any preference among themselves and (except for certain obligations required to be preferred by applicable law) equally with all other unsecured and unsubordinated general obligations of the Guaranteed Issuer, from time to time outstanding.

	Guarantee:
	The Guarantee will constitute a direct, unconditional, unsubordinated and (subject to the provisions of Condition 4 (*Certain Covenants*)) unsecured general obligations of the Guarantor and will rank pari passu, without any preference among themselves and (except for certain obligations required to be preferred by applicable law) equally with all other unsecured and unsubordinated general obligations of the Guarantor, from time to time outstanding.
Listing	Approval in-principle has been received from the SGX-ST in connection with the Program and application will be made for the listing and quotation of any Notes that may be issued by the Company pursuant to the Program and which are agreed at or prior to the time of issue thereof to be so listed and quoted on the SGX-ST. Such permission will be granted when such Notes have been admitted for listing and quotation on the SGX-ST. The Notes may also be listed on such other or further stock exchange(s) as may be agreed between the Issuer, the Guarantor (if applicable) and the Relevant Dealer in relation to each Series. For so long as any Notes are listed on the SGX-ST and the rules of the SGX-ST so require, such Notes, if traded on the SGX-ST, will be traded in a minimum board lot size of S$200,000 (or its equivalent in foreign currencies).
	Unlisted Notes may also be issued.
	The applicable Pricing Supplement will state whether or not the relevant Notes are to be listed and, if so, on which stock exchange(s).
Governing Law	The Notes, the Program Agreement and the Agency Agreement will be governed by, and construed in accordance with, New York law.
Selling Restrictions	There are restrictions on the offer, sale and transfer of the Notes in the United States, the EEA, the UK, Hong Kong, Singapore, Japan, Taiwan and Korea and such other restrictions as may be required in connection with the offering and sale of a particular Tranche of Notes, see "Subscription and Sale and Transfer and Selling Restrictions."

FORM OF THE NOTES

The Notes of each Series will be in either bearer form, with or without interest coupons attached ("**Bearer Notes**"), or registered form, without interest coupons attached ("**Registered Notes**"). Bearer Notes will be issued outside the United States in reliance on Regulation S under the Securities Act ("**Regulation S**") and Registered Notes will be issued both outside the United States in reliance on the exemption from registration provided by Regulation S and within the United States in reliance on Rule 144A or another available exemption from the registration requirements of the Securities Act.

BEARER NOTES

Each Tranche of Bearer Notes will be initially issued in the form of either a temporary bearer global note (a "**Temporary Bearer Global Note**") or a permanent bearer global note (a "**Permanent Bearer Global Note**") as indicated in the applicable Pricing Supplement, which, in either case, will be delivered on or prior to the original issue date of the Tranche to a common depositary (the "**Common Depositary**") for Euroclear Bank SA/NV ("**Euroclear**") and Clearstream Banking, S.A. ("**Clearstream**"). While any Bearer Note is represented by a Temporary Bearer Global Note, payments of principal, interest (if any) and any other amount payable in respect of the Notes due prior to the Exchange Date (as defined below) will be made against presentation of the Temporary Bearer Global Note only to the extent that certification (in a form to be provided) to the effect that the beneficial owners of interests in such Bearer Note are not U.S. persons or persons who have purchased for resale to any U.S. person, as required by U.S. Treasury regulations, has been received by Euroclear and/or Clearstream and Euroclear and/or Clearstream, as applicable, has given a like certification (based on the certifications it has received) to the Principal Paying Agent.

On and after the date (the "**Exchange Date**") which is 40 days after a Temporary Bearer Global Note is issued, interests in such Temporary Bearer Global Note will be exchangeable (free of charge) upon a request as described therein either for (i) interests in a Permanent Bearer Global Note of the same Series or (ii) for definitive Bearer Notes of the same Series with, where applicable, receipts, interest coupons and talons attached (as indicated in the applicable Pricing Supplement and subject, in the case of definitive Bearer Notes, to such notice period as is specified in the applicable Pricing Supplement), in each case against certification of beneficial ownership as described above unless such certification has already been given. Definitive Bearer Notes will only be delivered outside the United States. The holder of a Temporary Bearer Global Note will not be entitled to collect any payment of interest, principal or other amount due on or after the Exchange Date unless, upon due certification, exchange of the Temporary Bearer Global Note for an interest in a Permanent Bearer Global Note or for definitive Bearer Notes is improperly withheld or refused.

Payments of principal, interest (if any) or any other amounts on a Permanent Bearer Global Note will be made through Euroclear and/or Clearstream against presentation or surrender (as the case may be) of the Permanent Bearer Global Note without any requirement for certification.

The applicable Pricing Supplement will specify that a Permanent Bearer Global Note will be exchangeable (free of charge), in whole but not in part, for definitive Bearer Notes with, where applicable, receipts, interest coupons and talons attached upon either (i) not less than 60 days' written notice from Euroclear and/or Clearstream (acting on the instructions of any holder of an interest in such Permanent Bearer Global Note) to the Principal Paying Agent as described therein or (ii) only upon the occurrence of an Exchange Event. For these purposes, "Exchange Event" means that (i) an Event of Default (as defined in Condition 12 (*Events of Default*)) has occurred and is continuing, (ii) the Issuer and the Guarantor have been notified that both Euroclear and Clearstream have been closed for business for a continuous period of 14 days (other than by reason of holiday, statutory or otherwise) or have announced an intention permanently to cease business or have in fact done so and no successor clearing system is available or (iii) the Issuer or the Guarantor has or will become subject to adverse tax consequences which would not be suffered were the Notes represented by the Permanent Bearer Global Note in definitive form. For so long as the Notes are listed on the SGX-ST and the rules of the SGX-ST so require, in the event that the Bearer Global Note is exchanged for definitive Bearer Notes, the Issuer and the Guarantor (if applicable) will (a) appoint and maintain a Paying Agent in Singapore (the "**Singapore Paying Agent**") where the Notes may be presented or surrendered for payment or redemption and (b) make an announcement of such exchange through the SGX-ST, and such announcement will include all material information with regard to the delivery of the definitive Bearer Notes, including details of the Singapore Paying Agent. In the event of the occurrence

of an Exchange Event, Euroclear and/or Clearstream (acting on the instructions of any holder of an interest in such Permanent Bearer Global Note) may give notice to the Principal Paying Agent requesting exchange and, in the event of the occurrence of an Exchange Event as described in (iii) above, the Issuer or the Guarantor may also give notice to the Principal Paying Agent requesting exchange. Any such exchange shall occur not later than 45 days after the date of receipt of the first relevant notice by the Principal Paying Agent.

The following legend will appear on all Bearer Notes which have an original maturity of more than 365 days and on all talons, receipts and interest coupons relating to such Notes:

"ANY UNITED STATES PERSON WHO HOLDS THIS OBLIGATION WILL BE SUBJECT TO LIMITATIONS UNDER THE UNITED STATES INCOME TAX LAWS, INCLUDING THE LIMITATIONS PROVIDED IN SECTIONS 165(j) AND 1287(a) OF THE INTERNAL REVENUE CODE."

The sections referred to provide that United States holders, with certain exceptions, will not be entitled to deduct any loss on Bearer Notes, receipts or interest coupons and will not be entitled to capital gains treatment of any gain on any sale, disposition, redemption or payment of principal in respect of such Notes, receipts or interest coupons.

Notes which are represented by a Bearer Global Note will only be transferable in accordance with the rules and procedures for the time being of Euroclear or Clearstream, as the case may be.

REGISTERED NOTES

The Registered Notes of each Tranche offered and sold in reliance on Regulation S, which will be sold to non-U.S. persons outside the United States, will initially be represented by a global note in registered form (a "**Regulation S Global Note**"). Prior to expiry of the distribution compliance period (as defined in Regulation S) applicable to each Tranche of Notes, beneficial interests in a Regulation S Global Note may not be offered or sold to, or for the account or benefit of, a U.S. person except as otherwise provided in Condition 2 (*Transfers of Registered Notes*) and may not be held otherwise than through Euroclear or Clearstream and such Regulation S Global Note will bear a legend regarding such restrictions on transfer.

The Registered Notes of each Tranche may only be offered and sold in the United States or to U.S. persons in private transactions (i) to "qualified institutional buyers" within the meaning of Rule 144A under the Securities Act ("**QIBs**") or (ii) to "accredited investors" (as defined in Rule 501(a)(1), (2), (3) or (7) under the Securities Act) that are institutions ("**Institutional Accredited Investors**") who agree to purchase the Notes for their own account and not with a view to the distribution thereof. The Registered Notes of each Tranche sold to QIBs will be represented by a global note in registered form (a "**Rule 144A Global Note**" and, together with a Regulation S Global Note, the "**Registered Global Notes**").

Registered Global Notes will either (i) be deposited with a custodian for, and registered in the name of a nominee of, DTC for the accounts of its participants, including Euroclear and Clearstream or (ii) be deposited with a common depositary for, and registered in the name of a common nominee of, Euroclear and Clearstream, as specified in the applicable Pricing Supplement. Persons holding beneficial interests in Registered Global Notes will be entitled or required, as the case may be, under the circumstances described below, to receive physical delivery of definitive Notes in fully registered form.

The Registered Notes of each Tranche sold to Institutional Accredited Investors will be in definitive form, registered in the name of the holder thereof ("**Definitive IAI Registered Notes**"). Unless otherwise set forth in the applicable Pricing Supplement, Definitive IAI Registered Notes will be issued only in minimum denominations of U.S.$500,000 and integral multiples of U.S.$1,000 in excess thereof (or the approximate equivalents in the applicable Specified Currency). Definitive IAI Registered Notes will be subject to the restrictions on transfer set forth therein and will bear the restrictive legend described under "Subscription and Sale and Transfer and Selling Restrictions." Institutional Accredited Investors that hold Definitive IAI Registered Notes may elect to hold such Notes through DTC, but transferees acquiring the Notes in transactions exempt from Securities Act registration pursuant to Regulation S or Rule 144 under the Securities Act (if available) may do so upon satisfaction of the requirements applicable to such transfer as described under "Subscription and Sale and Transfer and Selling Restrictions." The Rule 144A Global Note and the Definitive IAI Registered Notes will be subject to certain restrictions on transfer set forth therein and will bear a legend regarding such restrictions.

Payments of principal, interest and any other amount in respect of the Registered Global Notes will, in the absence of provision to the contrary, be made to the person shown on the Register (as defined in Condition 8.4 (*Payments – Payments in respect of Registered Notes*)) as the registered holder of the Registered Global Notes. None of the Issuer, the Guarantor, any Paying Agent or the Registrar will have any responsibility or liability for any aspect of the records relating to or payments or deliveries made on account of beneficial ownership interests in the Registered Global Notes or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests.

Payments of principal, interest or any other amount in respect of the Registered Notes in definitive form will, in the absence of provision to the contrary, be made to the persons shown on the Register on the relevant Record Date (as defined in Condition 8.4 (*Payments – Payments in respect of Registered Notes*)) immediately preceding the due date for payment in the manner provided in that Condition.

Interests in a Registered Global Note will be exchangeable (free of charge), in whole but not in part, for definitive Registered Notes without receipts, interest coupons or talons attached only upon the occurrence of an Exchange Event. For these purposes, "Exchange Event" means that (i) an Event of Default has occurred and is continuing, (ii) in the case of Notes registered in the name of a nominee for DTC, either DTC has notified the Issuer and the Guarantor that it is unwilling or unable to continue to act as depository for the Notes and no alternative clearing system is available or DTC has ceased to constitute a clearing agency registered under the Exchange Act, (iii) in the case of Notes registered in the name of a nominee for a common depositary for Euroclear and Clearstream, the Issuer and the Guarantor have been notified that both Euroclear and Clearstream have been closed for business for a continuous period of 14 days (other than by reason of holiday, statutory or otherwise) or have announced an intention permanently to cease business or have in fact done so and, in any such case, no successor clearing system is available or (iv) the Issuer or the Guarantor have or will become subject to adverse tax consequences which would not be suffered were the Notes represented by the Registered Global Note in definitive form. For so long as the Notes are listed on the SGX-ST and the rules of the SGX-ST so require, in the event that the Registered Global Note is exchanged for definitive Registered Notes, the Issuer and the Guarantor (if applicable) will (a) appoint and maintain a Singapore Paying Agent where the Notes may be presented or surrendered for payment or redemption and (b) make an announcement of such exchange through the SGX-ST, and such announcement will include all material information with regard to the delivery of the definitive Registered Notes, including details of the Singapore Paying Agent. In the event of the occurrence of an Exchange Event, DTC, Euroclear and/or Clearstream (acting on the instructions of any holder of an interest in such Registered Global Note) may give notice to the Registrar requesting exchange and, in the event of the occurrence of an Exchange Event as described in (iv) above, the Issuer and the Guarantor may also give notice to the Registrar requesting exchange. Any such exchange shall occur not later than 10 days after the date of receipt of the first relevant notice by the Registrar.

TRANSFER OF INTERESTS

Interests in a Registered Global Note may, subject to compliance with all applicable restrictions, be transferred to a person who wishes to hold such interest in another Registered Global Note or in the form of a Definitive IAI Registered Note. Definitive IAI Registered Notes may, subject to compliance with all applicable restrictions, be transferred to a person who wishes to hold such Notes in the form of an interest in a Registered Global Note. No beneficial owner of an interest in a Registered Global Note will be able to transfer such interest, except in accordance with the applicable procedures of DTC, Euroclear and Clearstream, in each case to the extent applicable. Registered Notes are also subject to the restrictions on transfer set forth therein and will bear a legend regarding such restrictions, see "Subscription and Sale and Transfer and Selling Restrictions."

GENERAL

Pursuant to the Agency Agreement (as defined under "Terms and Conditions of the Notes"), the Principal Paying Agent or the Registrar, as the case may be, shall arrange that, where a further Tranche of Notes is issued which is intended to form a single Series with an existing Tranche of Notes, the Notes of such further Tranche shall be assigned a common code and ISIN and, where applicable, a CUSIP and CINS number which are different from the common code, ISIN, CUSIP and CINS assigned to Notes of any other Tranche of the same Series until at least the expiry of the distribution compliance period applicable to the Notes of such Tranche and, for Notes subject to the certification requirements under U.S. Treasury regulations, until at least the Temporary Global Note is exchanged for the Permanent Global Note.

For so long as any of the Notes is represented by a Global Note held on behalf of Euroclear and/or Clearstream, each person (other than Euroclear or Clearstream) who is for the time being shown in the records of Euroclear or of Clearstream as the holder of a particular nominal amount of such Notes (in which regard any certificate or other document issued by Euroclear or Clearstream as to the nominal amount of such Notes standing to the account of any person shall be conclusive and binding for all purposes except in the case of manifest error) shall be treated by the Issuer and the Guarantor (if applicable) and their respective agents as the holder of such nominal amount of such Notes for all purposes other than with respect to the payment of principal or interest on such nominal amount of such Notes, for which purpose the bearer of the relevant Bearer Global Note or the registered holder of the relevant Registered Global Note shall be treated by the Issuer and the Guarantor (if applicable) and their respective agents as the holder of such nominal amount of such Notes in accordance with and subject to the terms of the relevant Global Note and the expressions "Noteholder" and "holder of Notes" and related expressions shall be construed accordingly.

So long as DTC or its nominee is the registered owner or holder of a Registered Global Note, DTC or such nominee, as the case may be, will be considered the sole owner or holder of the Notes represented by such Registered Global Note for all purposes under the Agency Agreement and such Notes except to the extent that in accordance with DTC's published rules and procedures any ownership rights may be exercised by its participants or beneficial owners through participants.

Any reference herein to Euroclear and/or Clearstream and/or DTC shall, whenever the context so permits, be deemed to include a reference to any additional or alternative clearing system specified in the applicable Pricing Supplement.

A Note may be accelerated by the holder thereof in certain circumstances described in Condition 12 (*Events of Default*). In such circumstances, where any Note is still represented by a Global Note and the Global Note (or any part thereof) has become due and repayable in accordance with the Terms and Conditions of such Notes and payment in full of the amount due has not been made in accordance with the provisions of the Global Note then holders of interests in such Global Note credited to their accounts with DTC may require DTC to deliver Definitive Notes in registered form in exchange for their interest in such Global Note in accordance with DTC's standard operating procedures.

For so long as the Notes are listed on the SGX-ST and the rules of the SGX-ST so require, in the event that a Global Note is exchanged for definitive Notes, the Issuer and the Guarantor (if applicable) will (a) appoint and maintain a Singapore Paying Agent where the Notes may be presented or surrendered for payment or redemption and (b) make an announcement of such exchange through the SGX-ST, and such announcement will include all material information with regard to the delivery of the definitive Notes, including details of the Singapore Paying Agent.

FORM OF APPLICABLE PRICING SUPPLEMENT

Set out below is the form of Pricing Supplement which will be completed for each Tranche of Notes issued under the Program.

[MIFID II PRODUCT GOVERNANCE – Solely for the purposes of the manufacturer's product approval process, the target market assessment in respect of the Notes has led to the conclusion that: (i) the target market for the Notes is eligible counterparties and professional clients only, each as defined in Directive 2014/65/EU (as amended, "MiFID II"); and (ii) all channels for distribution of the Notes to eligible counterparties and professional clients are appropriate. Any person subsequently offering, selling or recommending the Notes (a "distributor") should take into consideration each manufacturer's target market assessment; however, a distributor subject to MiFID II is responsible for undertaking its own target market assessment in respect of the Notes (by either adopting or refining each manufacturer's target market assessment) and determining the appropriate distribution channels.]

[UK MIFIR PRODUCT GOVERNANCE – Solely for the purposes of the manufacturer's product approval process, the target market assessment in respect of the Notes has led to the conclusion that: (i) the target market for the Notes is eligible counterparties, as defined in the FCA Handbook Conduct of Business Sourcebook, and professional clients, as defined in Regulation (EU) No 600/2014 as it forms part of UK domestic law by virtue of the European Union (Withdrawal) Act

2018 as amended ("UK MiFIR") only; and (ii) all channels for distribution of the Notes to eligible counterparties and professional clients are appropriate. Any person subsequently offering, selling or recommending the Notes (a "distributor") should take into consideration the manufacturer's target market assessment; however a distributor subject to the FCA Handbook Product Intervention and Product Governance Sourcebook, as may be applicable, is responsible for undertaking its own target market assessment in respect of the Notes (by either adopting or refining the manufacturer's target market assessment) and determining the appropriate distribution channels.]

[PRIIPS REGULATION/PROHIBITION OF SALES TO EEA RETAIL INVESTORS – The Notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the European Economic Area ("EEA"). For these purposes: (a) the expression "retail investor" means a person who is one (or more) of the following: (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, "MiFID II"); (ii) a customer within the meaning of Directive (EU) 2016/97 (as amended, the "Insurance Distribution Directive"), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (iii) not a qualified investor as defined in Regulation (EU) 2017/1129 (as amended, the "Prospectus Regulation"); and (b) the expression "offer" includes the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes. Consequently, no key information document required by Regulation (EU) No 1286/2014 (as amended, the "PRIIPs Regulation") for offering or selling the securities or otherwise making them available to retail investors in the EEA has been prepared and therefore, offering or selling the securities or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.

This offering circular has been prepared on the basis that any offer of the Notes in any member state of the EEA will be made pursuant to an exemption under the Prospectus Regulation from the requirement to publish a prospectus for offers of the Notes. This offering circular is not a prospectus for the purposes of the Prospectus Regulation.]

[UK PRIIPS REGULATION/PROHIBITION OF SALES TO UK RETAIL INVESTORS – The Notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the United Kingdom ("UK"). For these purposes: (a) the expression "retail investor" means a person who is one (or more) of the following: (i) a retail client as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018 ("EUWA"); (ii) a customer within the meaning of the provisions of the Financial Services and Markets Act 2000 (as amended, the "FSMA") and any rules or regulations made under the FSMA to implement Directive (EU) 2016/97, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the EUWA; or (iii) not a qualified investor as defined in Article 2 of Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the EUWA (the "UK Prospectus Regulation"). Consequently, no key information document required by Regulation (EU) No 1286/2014 as it forms part of domestic law by virtue of the EUWA (the "UK PRIIPs Regulation") for offering or selling the Notes or otherwise making them available to retail investors in the UK has been prepared and therefore offering or selling the Notes or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation.

This offering circular has been prepared on the basis that any offer of the Notes in the UK will be made pursuant to an exemption under the UK Prospectus Regulation from the requirement to publish a prospectus for offers of the Notes. This offering circular is not a prospectus for the purposes of the UK Prospectus Regulation.]

[Date]

[KOREA GAS CORPORATION/[NEW ISSUER]]

Issue of [Aggregate Nominal Amount of Tranche] [Title of Notes]
under the U.S.$11,000,000,000
Global Medium Term Note Program of
Korea Gas Corporation

[as guaranteed by Korea Gas Corporation]

This document constitutes the Pricing Supplement relating to the issue of Notes described herein. Terms used herein shall be deemed to be defined as such for the purposes of the conditions (the "Conditions") set forth in the offering circular dated June 12, 2024 (the "offering circular"). This Pricing Supplement contains the final terms of the Notes and is supplemental to and must be read in conjunction with such offering circular.

[*The following alternative language applies if the first tranche of an issue which is being increased was issued under an offering circular with an earlier date.*

Terms used herein shall be deemed to be defined as such for the purposes of the conditions (the "Conditions") set forth in the offering circular dated [original date]. This Pricing Supplement contains the final terms of the Notes and is supplemental to must be read in conjunction with the offering circular dated [current date] (the "offering circular"), except in respect of the Conditions which are extracted from the offering circular dated [original date] and are attached hereto.]

[Include whichever of the following apply or specify as "Not Applicable" (N/A). Note that the numbering should remain as set out below, even if "Not Applicable" is indicated for individual paragraphs or subparagraphs. Italics denote directions for completing the Pricing Supplement.]

[If the Notes have a maturity of less than one year from the date of their issue, the minimum denomination [must/may need to] be £100,000 or its equivalent in any other currency.]

1.	(i)	Issuer:	Korea Gas Corporation/[NEW ISSUER]
	[(ii)	Guarantor:	Korea Gas Corporation (*delete for direct issues by Korea Gas Corporation*)]
2.	(a)	Series Number:	[●]
	(b)	Tranche Number:	[●] *(If fungible with an existing Series, details of such Series, including the date on which the Notes become fungible)*
	(c)	Re-opening:	[Yes/No] *[Specify terms of initial or eventual fungibility]*
3.		Specified Currency or Currencies:	[●]
4.		Aggregate Nominal Amount:	
	(a)	Series:	[●]
	(b)	Tranche:	[●] *(If fungible with an existing Series, details of such Series, including the date on which the Notes become fungible)*
5.	(a)	Issue Price of Tranche:	[●]% of the Aggregate Principal Amount [plus accrued interest from [*insert date*] (in the case of fungible issues only, if applicable)]

	(b)	Net Proceeds: *(required only for listed issues)*	[●]
	(c)	Use of Proceeds: *(as described in the offering circular/describe)*	[●]
6.	(a)	Specified Denominations:	[●] *(N.B. In the case of Registered Notes, this means the minimum integral amount in which transfers can be made. For Registered Global Notes, consider including language substantially to the following effect (however, appropriate amendments should be made for different currencies) "€100,000 and integral multiples of €1,000 in excess thereof")* *(N.B. For Bearer Notes with a Specified Denomination and higher integral multiples above the minimum denomination, consider including language substantially to the following effect. However, appropriate amendments should be made or different currencies.)* ("[U.S.$200,000] and integral multiples of [U.S.$1,000] in excess thereof, up to and including [U.S.$399,000] and, for so long as the Notes are represented by a Global Note (as defined below) and Euroclear and Clearstream so permit, the Notes shall be tradable only in the minimum authorized denomination of [U.S.$200,000] and higher integral multiples of [U.S.$1,000], notwithstanding that no definitive notes will be issued with a denomination above [U.S.$399,000].") *(N.B. It should be noted that such Specified Denomination will not be permitted in relation to any issue of Notes which are to be represented on issue by a Temporary Global Note exchangeable for Definitive Notes.)*
	(b)	Calculation Amount:	[●] *(If only one Specified Denomination, insert the Specified Denomination. If there is more than one Specified Denomination, insert the highest common factor. N.B. There must be a common factor in the case of two or more Specified Denominations.)*
7.	(a)	Issue Date:	[●]
	(b)	Interest Commencement Date:	*[specify/*Issue Date/Not Applicable*] (N.B. An Interest Commencement Date will not be relevant for certain Notes, for example Zero Coupon Notes.)*
8.		Maturity Date:	*[Fixed rate – specify date/Floating rate* – Interest Payment Date falling in or nearest to *[specify month and year]]*

9.	Interest Basis:	[[●]% Fixed Rate] [[EURIBOR/SOFR/Other reference rate] +/- [●]% Floating Rate] [Zero Coupon] [Index Linked Interest] [Dual Currency Interest] [*specify other*] (further particulars specified below)
10.	Redemption/Payment Basis:	[Redemption at par] [Dual Currency Redemption] [Partly Paid] [Installment] [*specify other*]
11.	Change of Interest Basis or Redemption/Payment Basis:	[*Specify details of any provision for change of Notes into another Interest Basis or Redemption/Payment Basis*]
12.	Put/Call Options:	[Investor Put] [Issuer Call] [(further particulars specified below)]
13.	Listing:	[*Singapore Exchange Securities Trading Limited*[1]*/specify other/None*]
14.	(a) Status of the Notes:	[Senior Notes/Senior Guaranteed Notes]
	[(b) Status of the Guarantee]	[Senior] *(delete for direct issues by Korea Gas Corporation)*
	[(c) Date of [the Issuer's Board] approval for the issuance of Notes obtained]	[[●]/None required]
	[(d) Date of [the Guarantor's Board] approval for the making of the Guarantee obtained]	[[●]/None required] *(delete for direct issues by Korea Gas Corporation)*
15.	Method of distribution:	[Syndicated/Non-syndicated]

PROVISIONS RELATING TO INTEREST (IF ANY) PAYABLE

16.	Fixed Rate Note Provisions:	[Applicable/Not Applicable] *(If not applicable, delete the remaining subparagraphs of this paragraph)*
	(a) Rate(s) of Interest:	[●]% per annum [payable [annually/semi-annually/quarterly/other (*specify*)] in arrear] *(If payable other than annually, consider amending Condition 6 (Interest)*

1 For SGX-ST- listing: For drawdowns based on the offering circular dated June 12, 2024, please note that if the Issuer's audited financials as of and for the year ended December 31, 2024 has since become available, this should be appended in full to the pricing supplement.

(b)	Interest Payment Date(s):	[●] in each year up to and including the Maturity Date] [adjusted in accordance *with [specify Business Day Convention and any applicable Additional Business Center(s) for the definition of "Business Day"]/*not adjusted]/[*specify other*] *(N.B. This will need to be amended in the case of long or short coupons)*
(c)	Fixed Coupon Amount(s): *(applicable to Notes in definitive form*)	[●] per Calculation Amount
(d)	Broken Amount(s): *(applicable to Notes in definitive form)*	([●]per Calculation Amount, payable on the Interest Payment Date falling [in/on] [●] [*Insert particulars of any initial or final broken interest amounts which do not correspond with the Fixed Coupon Amount*]
(e)	Day Count Fraction:	[30/360 or Actual/Actual (ICMA) or [specify other]]
(f)	Determination Date(s):	[●] in each year [*Insert regular interest payment dates, ignoring issue date or maturity date in the case of a long or short first or last coupon. N.B. This will need to be amended in the case of regular interest payment dates which are not of equal duration. N.B. Only relevant where Day Count Fraction is Actual/Actual (ICMA))*]
(g)	Other terms relating to the method of calculating interest for Fixed Rate Notes:	[None/*Give details*]
17.	Floating Rate Note Provisions:	[Applicable/Not Applicable] *(If not applicable, delete the remaining subparagraphs of this paragraph)*
(a)	Specified Period(s)/Specified Interest Payment Dates:	[●]
(b)	Business Day Convention:	[Floating Rate Convention/Following Business Day Convention/Modified Following Business Day Convention/Preceding Business Day Convention/[*specify other*]]
(c)	Additional Business Center(s):	*[●] (Insert New York City for U.S. dollar denominated Notes to be held through DTC and for non-US dollar denominated Notes where exchange into U.S. dollars is contemplated for DTC participants holding through Euroclear and Clearstream)*
(d)	Manner in which the Rate of Interest and Interest Amount is to be determined:	[Screen Rate Determination/ISDA Determination/*specify other*]
(e)	Party responsible for calculating the Rate of Interest and Interest Amount (if not the Principal Paying Agent):	[●]

(f) Screen Rate Determination:

- Reference Rate: [●] *(Either EURIBOR, SOFR or other, although additional information is required if other – including fallback provisions in the Agency Agreement)*
- Interest Determination Date(s): [●] *(Second day on which the TARGET2 System is open prior to the start of each Interest Period if EURIBOR)*
- Relevant Screen Page: [●] *(In the case of EURIBOR, if not Reuters EURIBOR01 ensure it is a page which shows a composite rate or amend the fallback provisions appropriately)*
- SOFR Benchmark: [Not Applicable/Compounded Daily SOFR/SOFR Index]
(*Only applicable where the Reference Rate is SOFR*)
- Compounded Daily SOFR: [Not Applicable/SOFR Lag/SOFR Observation Shift]
(*Only applicable in the case of Compounded Daily SOFR*)
- Lookback Days: [Not Applicable/[●] U.S. Government Securities Business Day(s)]
(*Only applicable in the case of SOFR Lag*)
- SOFR Observation Shift Days: [Not Applicable/[●] U.S. Government Securities Business Day(s)]
(*Only applicable in the case of SOFR Observation Shift or SOFR Index*)
- SOFR $\text{Index}_{\text{Start}}$: [Not Applicable/[●] U.S. Government Securities Business Day(s)]
(*Only applicable in the case of SOFR Index*)
- SOFR $\text{Index}_{\text{End}}$: [Not Applicable/[●] U.S. Government Securities Business Day(s)]
(*Only applicable in the case of SOFR Index*)

(g) ISDA Determination:

- Floating Rate Option: [●] *(If not on the same basis as the floating rate under a notional interest rate swap transaction in the relevant Specified Currency governed by an agreement incorporating the 2006 ISDA Definitions, the Issuer shall describe the basis here)*
- Designated Maturity: [●]
- Reset Date: [●]

(h) Margin(s): [+/-][●]% per annum

(i) Minimum Rate of Interest: [●]% per annum

(j) Maximum Rate of Interest: [●]% per annum

	(k) Day Count Fraction:	[Actual/Actual (ISDA)] [Actual/365 (Fixed)] [Actual/365 (Sterling)] [Actual/360] [30/360, 360/360 or Bond Basis] [30E/360 or Eurobond Basis] [30E/360 (ISDA)] [Other] *(See Condition 6 (Interest) for alternatives)*
	(l) Fallback provisions, rounding provisions and any other terms relating to the method of calculating interest on Floating Rate Notes, if different from those set out in the Conditions:	[Benchmark Transition Event]/[Benchmark Discontinuation (SOFR)]/[*specify other if different from those set out in the Conditions*]
18.	Zero Coupon Note Provisions:	[Applicable/Not Applicable] *(If not applicable, delete the remaining subparagraphs of this paragraph)*
	(a) Accrual Yield:	[●]% per annum
	(b) Reference Price:	[●]
	(c) Any other formula/basis of determining amount payable:	[●]
	(d) Day Count Fraction in relation to Early Redemption Amounts and late payment:	[Conditions 9.7 *(Redemption and Purchase – Early Redemption Amounts) and 9.12 (Redemption and Purchase – Late payment on Zero Coupon Notes) apply/specify other] (Consider applicable day count fraction if not U.S. dollar denominated)*
19.	Index Linked Interest Note Provisions:	[Applicable/Not Applicable] *(If not applicable, delete the remaining subparagraphs of this paragraph)*
	(a) Index/Formula:	[*Give or annex details*]
	(b) Calculation Agent:	[*give name*]
	(c) Party responsible for calculating the Rate of Interest (if not the Calculation Agent) and Interest Amount (if not the Principal Paying Agent):	[●]
	(d) Provisions for determining Coupon where calculation by reference to Index and/or Formula is impossible or impracticable:	[*Need to include a description of market disruption or settlement disruption events and adjustment provisions*]
	(e) Specified Period(s)/Specified Interest Payment Dates:	[●]
	(f) Business Day Convention:	[Floating Rate Convention/Following Business Day Convention/Modified Following Business Day Convention/Preceding Business Day Convention/*specify other*]
	(g) Additional Business Center(s):	[●]
	(h) Minimum Rate of Interest:	[●]% per annum

(i)	Maximum Rate of Interest:	[●]% per annum
(j)	Day Count Fraction:	[Actual/Actual (ISDA)] [Actual/365 (Fixed)] [Actual/365 (Sterling)] [Actual/360] [30/360, 360/360 or Bond Basis] [30E/360 or Eurobond Basis] [30E/360 (ISDA)] [Other] *(See Condition 6 (Interest) for alternatives*)
20. Dual Currency Interest Note Provisions:		[Applicable/Not Applicable] *(If not applicable, delete the remaining subparagraphs of this paragraph)*
(a)	Rate of Exchange/method of calculating Rate of Exchange:	[Give or annex details]
(b)	Party, if any, responsible for calculating the principal and/or interest due (if not the Principal Paying Agent):	[●]
(c)	Provisions applicable where calculation by reference to Rate of Exchange impossible or impracticable:	[*Need to include a description of market disruption or settlement disruption events and adjustment provisions*]
(d)	Person at whose option Specified Currency(ies) is/are payable:	[●]
(e)	Day Count Fraction:	[Actual/Actual (ISDA)] [Actual/365 (Fixed)] [Actual/365 (Sterling)] [Actual/360] [30/360, 360/360 or Bond Basis] [30E/360 or Eurobond Basis] [30E/360 (ISDA)] [Other] *(See Condition 6 (Interest) for alternatives)*

PROVISIONS RELATING TO REDEMPTION

21. Issuer Call:		[Applicable/Not Applicable] *(If not applicable, delete the remaining subparagraphs of this paragraph)*
(a)	Optional Redemption Date(s):	[●]
(b)	Optional Redemption Amount of each Note and method, if any, of calculation of such amount(s):	[[●] per Calculation Amount/*specify other*]
(c)	If redeemable in part:	
(i)	Minimum Redemption Amount:	[●] per Calculation Amount
(ii)	Maximum Redemption Amount:	[●] per Calculation Amount

	(d) Notice period (if other than as set out in the Conditions):	[●] *(N.B. If setting notice periods which are different to those provided in the Conditions, the Issuer and the Guarantor are advised to consider the practicalities of distribution of information through intermediaries, for example, clearing systems and custodians, as well as any other notice requirements which may apply, for example, as between the Issuer, the Guarantor and the Principal Paying Agent)*
22.	Investor Put:	[Applicable/Not Applicable] *(If not applicable, delete the remaining subparagraphs of this paragraph)*
	(a) Optional Redemption Date(s):	[●]
	(b) Optional Redemption Amount of each Note and method, if any, of calculation of such amount(s):	[[●] per Calculation Amount/*specify other*]
	(c) Notice period (if other than as set out in the Conditions):	[●] *(N.B. If setting notice periods which are different to those provided in the Conditions, the Issuer and the Guarantor are advised to consider the practicalities of distribution of information through intermediaries, for example, clearing systems and custodians, as well as any other notice requirements which may apply, for example, as between the Issuer, the Guarantor and the Principal Paying Agent)*
23.	Final Redemption Amount:	[[●] per Calculation Amount/*specify other*/see Appendix]
24.	Early Redemption Amount payable on redemption for taxation reasons or on event of default and/or the method of calculating the same (if required or if different from that set out in Condition 9.7 *(Redemption and Purchase – Early Redemption Amounts)*):	[[●] per Calculation Amount/*specify other*/see Appendix]

GENERAL PROVISIONS APPLICABLE TO THE NOTES

25.	Form of Notes:	[Bearer Notes: Temporary Bearer Global Note exchangeable for a Permanent Bearer Global Note which is exchangeable for Definitive Notes [on 60 days' notice given at any time/only upon an Exchange Event]] [Bearer Notes: Temporary Bearer Global Note exchangeable for Definitive Notes on and after the Exchange Date] [Bearer Notes: Permanent Bearer Global Note exchangeable for Definitive Notes [on 60 days' notice given at any time/only upon an Exchange Event/at any time at the request of the Issuer]]

[Registered Notes: Regulation S Global Note (U.S.$[●] nominal amount) registered in the name of a nominee for [DTC/a common depositary for Euroclear and Clearstream]/Rule 144A Global Note (U.S.$[●] principal amount registered in the name of a nominee for [DTC/a common depositary for Euroclear and Clearstream]/Definitive IAI Registered Notes (*specify principal amounts*)]

(Ensure that this is consistent with the wording in the "Form of the Notes" section in the offering circular and the Notes themselves. N.B. The exchange upon notice/at any time options for Bearer Notes should not be expressed to be applicable if the Specified Denomination of the Notes in paragraph 6 includes language substantially to the following effect: "[U.S.$200,000] and integral multiples of [U.S.$1,000] in excess thereof, up to and including [U.S.$399,000]." *Furthermore, such Specified Denomination construction is not permitted in relation to any issue of Notes which is to be represented on issue by a Temporary Global Note exchangeable for Definitive Notes.)*

("[U.S.$200,000] and integral multiples of [U.S.$1,000] in excess thereof, up to and including [U.S.$399,000] and, for so long as the Notes are represented by a Global Note (as defined below) and Euroclear and Clearstream so permit, the Notes shall be tradable only in the minimum authorized denomination of [U.S.$200,000] and higher integral multiples of [U.S.$1,000], notwithstanding that no definitive notes will be issued with a denomination above [U.S.$399,000].")

26. Additional Financial Center(s) or other special provisions relating to Payment Days: [Not Applicable/give details] *(Note that this paragraph relates to the place of payment and not Interest Period end dates to which sub-paragraphs 17(c) and 19(g) relate)*

27. Talons for future Coupons or Receipts to be attached to Definitive Bearer Notes (and dates on which such Talons mature): [Yes/No. *If yes, give details*]

28. Details relating to Partly Paid Notes: amount of each payment comprising the Issue Price and date on which each payment is to be made and consequences of failure to pay, including any right of the Issuer to forfeit the Notes and interest due on late payment: [Not Applicable/give details] *(*N.B. *A new form of Temporary Global Note and/or Permanent Global Note may be required for Partly Paid issues)*

29. Details relating to Installment Notes:

    (a) Installment Amount(s): [Not Applicable/*give details*]

    (b) Installment Date(s): [Not Applicable/*give details*]

30.	Redenomination applicable:	Redenomination [not] applicable [*(If Redenomination is applicable, specify the applicable Day Count Fraction and any provisions necessary to deal with floating rate interest calculation (including alternative reference rates))*]
31.	Other terms:	[Not Applicable/*give details*]

Distribution

32.	(a) If syndicated, names of Managers:	[Not Applicable/*give names*]
	(b) Stabilization Manager(s) (if any):	[Not Applicable/*give name*]
33.	If non-syndicated, name of Relevant Dealer:	[Not Applicable/*give name*]
34.	U.S. Selling Restrictions:	[Regulation S Cat. [1/2]/Rule 144A] [TEFRA D/TEFRA C/TEFRA not applicable *(for Bearer Notes with a maturity of one year or less (including unilateral rollovers and extensions) or Registered Notes)*]
35.	Prohibition of sales to EEA retail investors:	[Applicable/Not Applicable]
36.	Prohibition of sales to UK retail investors:	[Applicable/Not Applicable]
37.	Additional selling restrictions:	[Not Applicable/g*ive details*]
38.	[Singapore Sales to Institutional Investors and Accredited Investors only: (If Singapore Sales is not applicable, delete this paragraph)	[Applicable/Not Applicable] (If the Notes are offered in Singapore to Institutional Investors and Accredited Investors (as defined under the Securities and Futures Act 2001 of Singapore) only, "Applicable" should be specified. If the Notes are also offered in Singapore to investors other than Institutional Investors and Accredited Investors (as defined under the Securities and Futures Act 2001 of Singapore), "Not Applicable" should be specified.)]

Operational Information

39.	Any clearing system(s) other than Euroclear and Clearstream and the relevant identification number(s):	[Not Applicable/*give name(s) and number(s)*]
40.	Delivery:	Delivery [against/free of] payment
41.	Additional Paying Agent(s) (if any):	
	ISIN:	[●]
	Common Code:	[●]
	CUSIP:	[●]
	(insert here any other relevant codes such as CINS)	[Not Applicable/*specify*]

[**NOTIFICATION UNDER SECTION 309B(1)(C) OF THE SECURITIES AND FUTURES ACT 2001 OF SINGAPORE (THE "SFA")**

The Issuer has determined, and hereby notifies all relevant persons (as defined in Section 309A(1) of the SFA), that the Notes are [prescribed capital markets products [OR] capital markets products other than prescribed capital markets products]* (as defined in the Securities and Futures (Capital Markets Products) Regulations 2018 of Singapore) and [Excluded Investment Products [OR] Specified Investment Products]* (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

* To delete accordingly.]

LISTING APPLICATION

This Pricing Supplement comprises the final terms required to list the issue of Notes described herein pursuant to the U.S.$11,000,000,000 Global Medium Term Note Program of the Issuer [and the Guarantor].

The Singapore Exchange Securities Trading Limited (the "SGX-ST") assumes no responsibility for the correctness of any of the statements made, opinions expressed or reports contained in this Pricing Supplement. Approval in-principle from, admission to the Official List of, and the listing and quotation of any Notes on, the SGX-ST are not to be taken as an indication of the merits of the Issuer [, the Guarantor], the Program or the Notes.

RESPONSIBILITY

The Issuer accepts responsibility for the information contained in this Pricing Supplement.

Signed on behalf of the Issuer:

By: _____

Duly authorized

If the applicable Pricing Supplement specifies any modification to the Terms and Conditions of the Notes as described herein, it is envisaged that, to the extent that such modification relates only to Conditions 1 *(Form, Denomination and Title)*, 5 *(Redenomination)*, 6 *(Interest)*, 8 *(Payments)*, 9 *(Redemption and Purchase* (except Condition 9.2 *(Redemption and Purchase – Redemption for tax reasons)*), 13 *(Replacement of Notes, Receipts, Coupons and Talons)*, 14 *(Agents)*, 15 *(Exchange of Talons)*, 16 *(Notices)* (insofar as such Notes are not listed or admitted to trade on any stock exchange) or 18 *(Further Issues)*, they will not necessitate the preparation of a supplement to this offering circular. If the Terms and Conditions of the Notes of any Series are to be modified in any other respect, a supplement to this offering circular will be prepared, if appropriate.

TERMS AND CONDITIONS OF THE NOTES

*The following are the Terms and Conditions (the "**Conditions**") of the Notes (as defined below) which will be incorporated by reference into each Global Note (as defined below) and each definitive Note, in the latter case only if permitted by the rules of the relevant stock exchange or other relevant authority (if any) and agreed by the Issuer and the relevant Dealer at the time of issue but, if not so permitted and agreed, such definitive Note will have endorsed thereon or attached thereto such Conditions. The applicable Pricing Supplement in relation to any Tranche of Notes may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the following Conditions, replace or modify the following Conditions for the purpose of such Notes. The applicable Pricing Supplement (or the relevant provisions thereof) will be endorsed upon, or attached to, each Global Note and definitive Note. Reference should be made to "Form of the Notes" for a description of the content of the Pricing Supplements which will specify which of such terms are to apply in relation to the relevant Notes.*

This Note is one of a Series (as defined below) of Notes issued by Korea Gas Corporation (the "**Company**") or any additional issuer which is a Subsidiary (as defined below) of the Company and has acceded to the Program by executing an accession agreement pursuant to the terms of the Agency Agreement (as defined below) (each of the Company and such additional issuers, in relation to the Notes issued by it, the "Issuer," and each of such additional issuers, excluding the Company, a "**Guaranteed Issuer**"). Notes issued by a Guaranteed Issuer will be guaranteed by the Company (in such capacity, the "**Guarantor**"). References to the Guarantor in the Conditions shall only be relevant in the context of Notes issued by a Guaranteed Issuer.

References herein to the "**Notes**" shall be references to the Senior Notes or the Senior Guaranteed Notes (each as defined in Condition 3 below), as the case may be, of this Series issued by the Issuer (and in the case of issuance by a Guaranteed Issuer, guaranteed by the Guarantor) and shall mean:

(a) in relation to any Notes represented by a global Note (a "**Global Note**"), units of the lowest Specified Denomination in the Specified Currency (as defined below);

(b) any Global Note;

(c) any definitive Notes in bearer form ("**Bearer Notes**"), issued in exchange for a Global Note in bearer form; and

(d) any definitive Notes in registered form ("**Registered Notes**") (whether or not issued in exchange for a Global Note in registered form).

The Notes, and in the case of the Bearer Notes, the Receipts (as defined below) and the Coupons (as defined below), are issued pursuant to, and have the benefit of, an agency agreement dated September 30, 2010, as amended and supplemented by a first amendment to the agency agreement dated January 5, 2012, a second amendment to the agency agreement dated January 24, 2014, a third amendment to the agency agreement dated June 24, 2016 and a fourth amendment to the agency agreement dated June 23, 2017, among the Company, The Bank of New York Mellon, London Branch, as the original principal paying agent, and the other original agents named therein, and a supplemental agency agreement dated May 21, 2021, among the Company, The Bank of New York Mellon, London Branch, as the original principal paying agent, Citibank, N.A., London Branch, as principal paying agent, paying agent, transfer agent and registrar (each, a "**Principal Paying Agent**," "**Paying Agent**," "**Transfer Agent**," and "**Registrar**," each of which terms include any successor thereto or additional such agent appointed pursuant to the terms of the Agency Agreement, and collectively, the "**Agents**"), and the other original agents named therein, and a sixth amendment to the agency agreement dated June 30, 2021, a seventh amendment to the agency agreement dated June 24, 2022 and an eighth amendment to the agency agreement dated June 16, 2023 between the Company and Citibank, N.A., London Branch as Principal Paying Agent, Paying Agent, Transfer Agent and Registrar (such agency agreement as amended and/or supplemented and/or restated from time to time, the "**Agency Agreement**").

Interest-bearing definitive Bearer Notes have (unless otherwise indicated in the applicable Pricing Supplement) interest coupons ("**Coupons**") and, if indicated in the applicable Pricing Supplement, talons for further Coupons ("**Talons**") attached on issue. Any reference herein to Coupons or coupons shall, unless the context otherwise requires, be deemed to include a reference to Talons or talons. Definitive

Bearer Notes repayable in installments have receipts ("**Receipts**") for the payment of the installments of principal (other than the final installment) attached on issue. Registered Notes and Global Notes do not have Receipts, Coupons or Talons attached on issue.

The Pricing Supplement for this Note (or the relevant provisions thereof) is attached to or endorsed on this Note and supplements these Conditions, and may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with these Conditions, replace or modify these Conditions for the purposes of this Note. References to the "**applicable Pricing Supplement**" are to the Pricing Supplement (or the relevant provisions thereof) attached to or endorsed on this Note.

Any reference to "**Noteholders**" or "**holders**" in relation to any Notes shall mean (in the case of Bearer Notes) the holders of the Notes and (in the case of Registered Notes) the persons in whose name the Notes are registered and shall, in relation to any Notes represented by a Global Note, be construed as provided below. Any reference herein to "**Receiptholders**" shall mean the holders of the Receipts, and any reference herein to "**Couponholders**" shall mean the holders of the Coupons and shall, unless the context otherwise requires, include the holders of the Talons.

As used herein, "Tranche" means Notes which are identical in all respects (including as to listing and admission to trading), and "Series" means a Tranche of Notes together with any further Tranche or Tranches of Notes which are (a) expressed to be consolidated and form a single series and (b) identical in all respects (including as to listing and admission to trading) except for their respective Issue Dates, Interest Commencement Dates (if applicable) and/or Issue Prices (if applicable).

Copies of the Agency Agreement are available for inspection during normal business hours at the specified office of each of the Agents. Copies of the applicable Pricing Supplement are available for inspection during normal business hours at the specified office of each of the Agents except that, if this Note is an unlisted Note of any Series, the applicable Pricing Supplement will only be available for inspection by a Noteholder holding one or more unlisted Notes of such Series and such Noteholder must produce evidence satisfactory to the relevant Agent as to its holding of such Notes and its identity. The Noteholders, the Receiptholders and the Couponholders are deemed to have notice of, and are entitled to the benefit of, all the provisions of the Agency Agreement and the applicable Pricing Supplement which are applicable to them. The statements in these Conditions include summaries of, and are subject to, the detailed provisions of the Agency Agreement.

Words and expressions defined in the Agency Agreement or used in the applicable Pricing Supplement shall have the same meanings where used in these Conditions unless the context otherwise requires or unless otherwise stated and provided that, in the event of inconsistency between the Agency Agreement and the applicable Pricing Supplement, or between these Conditions and the applicable Pricing Supplement, the applicable Pricing Supplement will prevail.

1. FORM, DENOMINATION AND TITLE

The Notes may be issued in bearer form or in registered form as specified in the applicable Pricing Supplement and, in the case of definitive Notes, will be serially numbered, in the Specified Currency and the Specified Denomination(s). Except as provided in Condition 2 (*Transfers of Registered Notes*), Notes of one Specified Denomination may not be exchanged for Notes of another Specified Denomination, and Bearer Notes may not be exchanged for Registered Notes and *vice versa*. Registered Notes are represented by registered certificates and, except as provided in Condition 2.3, each such certificate shall represent the entire holding of Registered Notes by the same holder.

This Note may be a Fixed Rate Note, a Floating Rate Note, a Zero Coupon Note, an Index Linked Interest Note, a Dual Currency Interest Note or a combination of any of the foregoing, depending upon the Interest Basis shown in the applicable Pricing Supplement.

This Note may be an Installment Note, a Dual Currency Redemption Note, a Partly Paid Note or a combination of any of the foregoing, depending upon the Redemption/Payment Basis shown in the applicable Pricing Supplement. This Note may also be a Limited Recourse Note, as indicated in the applicable Pricing Supplement.

Definitive Bearer Notes are issued with Coupons attached and (if applicable) Receipts and Talons attached, unless they are Zero Coupon Notes in which case references to Coupons and Couponholders in these Conditions are not applicable.

Subject as set out below, title to Bearer Notes, Receipts and Coupons will pass by delivery and title to the Registered Notes will pass upon registration of transfers in accordance with the provisions of the Agency Agreement. The Issuer, the Guarantor and any Agent will (except as otherwise required by law) deem and treat the bearer of any Bearer Note, Receipt or Coupon and the registered holder of any Registered Note as the absolute owner thereof (whether or not overdue and notwithstanding any notice of ownership or writing thereon or notice of any previous loss or theft thereof) for all purposes but, in the case of any Global Note, without prejudice to the provisions set out in the next succeeding paragraph, and no person shall be liable for so treating the holder.

For so long as any of the Notes is represented by a Global Note held on behalf of Euroclear Bank SA/NV as operator of the Euroclear system ("**Euroclear**") and/or Clearstream Banking, S.A. ("**Clearstream**"), each person (other than Euroclear or Clearstream) who is for the time being shown in the records of Euroclear or Clearstream as the holder of a particular nominal amount of such Notes (in which regard any certificate or other document issued by Euroclear or Clearstream as to the nominal amount of such Notes standing to the account of any person shall be conclusive and binding for all purposes save in the case of manifest error) shall be treated by the Issuer, the Guarantor and the Agents as the holder of such nominal amount of such Notes for all purposes other than with respect to the payment of principal or interest on such nominal amount of such Notes, for which purpose the bearer of the relevant Bearer Global Note or the registered holder of the relevant Registered Global Note shall be treated by the Issuer, the Guarantor and any Agent as the holder of such nominal amount of such Notes in accordance with and subject to the terms of the relevant Global Note and the expressions "**Noteholder**" and "**holder of Notes**" and related expressions shall be construed accordingly. For so long as The Depository Trust Company ("**DTC**") or its nominee is the registered owner or holder of a Registered Global Note, DTC or such nominee, as the case may be, will be considered the sole owner or holder of the Notes represented by such Registered Global Note for all purposes under the Agency Agreement and the Notes except to the extent that in accordance with DTC's published rules and procedures any ownership rights may be exercised by its participants or beneficial owners through participants.

Notes which are represented by a Global Note will be transferable only in accordance with the rules and procedures for the time being of DTC, Euroclear and Clearstream, as the case may be. References to DTC, Euroclear and/or Clearstream shall, whenever the context so permits, be deemed to include a reference to any additional or alternative clearing system specified in the applicable Pricing Supplement.

For so long as the Notes are listed on the Singapore Exchange Securities Trading Limited (the "**SGX-ST**") and the rules of the SGX-ST so require, in the event that the Global Note is exchanged for definitive Notes, the Issuer and the Guarantor (if applicable) will appoint and maintain a paying agent in Singapore, where the Notes may be presented or surrendered for payment or redemption. In addition, in the event that the Global Note is exchanged for definitive Notes, an announcement of such exchange will be made by or on behalf of the Issuer and the Guarantor (if applicable) through the SGX-ST. Such announcement will include all material information with regard to the delivery of the definitive Notes, including details of the paying agent in Singapore.

2. TRANSFERS OF REGISTERED NOTES

2.1 Transfers of interests in Registered Global Notes

Transfers of beneficial interests in Registered Global Notes will be effected by DTC, Euroclear or Clearstream, as the case may be, and, in turn, by other participants and, if appropriate, indirect participants in such clearing systems acting on behalf of beneficial transferors and transferees of such interests. A beneficial interest in a Registered Global Note will, subject to compliance with all applicable legal and regulatory restrictions, be transferable for Notes in definitive form or for a beneficial interest in another Registered Global Note only in the authorized denominations set out in the applicable Pricing Supplement and only in accordance with the rules and operating procedures for the time being of DTC, Euroclear or Clearstream, as the case may be, and in accordance with the terms and conditions specified in the Agency Agreement. Transfers of a Registered Global Note registered in the name of a nominee for DTC shall be limited to transfers of such Registered Global Note, in whole but not in part, to another nominee of DTC or to a successor of DTC or such successor's nominee.

2.2 Transfers of Registered Notes in definitive form

Subject as provided in Conditions 2.5 (*Transfers of Registered Notes – Transfers of interests in Regulation S Global Notes*), 2.6 (*Transfers of Registered Notes – Transfers of interests in Legended Notes*) and 2.7 (*Transfers of Registered Notes – Exchanges and transfers of Registered Notes generally*), upon the terms and subject to the conditions set forth in the Agency Agreement, a Registered Note in definitive form may be transferred in whole or in part in the authorized denominations set out in the applicable Pricing Supplement. In order to effect any such transfer (i) the holder or holders must (A) surrender the Registered Note for registration of the transfer of the Registered Note, or the relevant part of the Registered Note, at the specified office of the Registrar or any Transfer Agent, with the form of transfer thereon duly executed by the holder or holders thereof or his or their attorney or attorneys duly authorized in writing, and (B) complete and deposit such other certifications as may be required by the Registrar or, as the case may be, the relevant Transfer Agent, and (ii) the Registrar or, as the case may be, the relevant Transfer Agent must, after due and careful enquiry, be satisfied with the documents of title and the identity of the person making the request. Any such transfer will be subject to such reasonable regulations as the Issuer and the Registrar may from time to time prescribe (the initial such regulations being set out in Schedule 8 to the Agency Agreement). Subject as provided above, the Registrar or, as the case may be, the relevant Transfer Agent will, within seven business days (being for this purpose a day on which banks are open for business in the city where the specified office of the Registrar or, as the case may be, the relevant Transfer Agent is located) of the request (or such longer period as may be required to comply with any applicable fiscal or other laws or regulations), authenticate and make available for collection at the specified office of the Transfer Agent, or deliver, or procure the authentication and delivery of, at its specified office to the transferee or (at the risk of the transferee) send by uninsured mail, to such address as the transferee may request, a new Registered Note in definitive form of a like aggregate nominal amount to the Registered Note (or the relevant part of the Registered Note) transferred. In the case of the transfer of part only of a Registered Note in definitive form, a new Registered Note in definitive form in respect of the balance of the Registered Note not transferred will be so authenticated and delivered or (at the risk of the transferor) sent to the transferor.

2.3 Registration of transfer upon partial redemption

In the event of a partial redemption of Notes under Condition 9 (*Redemption and Purchase*), the Issuer shall not be required to register the transfer of any Registered Note, or part of a Registered Note, called for partial redemption.

2.4 Costs of registration

Noteholders will not be required to bear the costs and expenses of effecting any registration of transfer as provided above, except for any costs or expenses of delivery other than by regular uninsured mail and except that the Issuer (or the Guarantor, as applicable) may require the payment of a sum sufficient to cover any stamp duty, tax or other governmental charge that may be imposed in relation to the registration.

2.5 Transfers of interests in Regulation S Global Notes

Prior to expiry of the applicable Distribution Compliance Period (as defined below), transfers by the holder of, or of a beneficial interest in, a Regulation S Global Note (as defined below) to a transferee in the United States or who is a U.S. person will only be made:

(a) upon receipt by the Registrar of a written certification substantially in the form set out in the Agency Agreement, amended as appropriate (a "**Transfer Certificate**"), copies of which are available from the specified office of the Registrar or any Transfer Agent, from the transferor of the Note or beneficial interest therein to the effect that such transfer is being made:

(i) to a person whom the transferor reasonably believes is a QIB (as defined below) in a transaction meeting the requirements of Rule 144A (as defined below); or

(ii) to a person who is an Institutional Accredited Investor, in which case the Transfer Certificate must be accompanied by a duly executed investment letter from the relevant transferee substantially in the form set out in Schedule 3 of the Agency Agreement (an "**IAI Investment Letter**"); or

(b) otherwise pursuant to the Securities Act (as defined below) or an exemption therefrom, subject to receipt by the Issuer and the Guarantor of such satisfactory evidence as the Issuer and the Guarantor may reasonably require, which may include an opinion of U.S. counsel, that such transfer is in compliance with any applicable federal securities laws of the United States or any applicable securities laws of any state of the United States,

and, in each case, in accordance with any applicable securities laws of any state of the United States or any other jurisdiction.

In the case of (a)(i) above, such transferee may take delivery through a Legended Note (as defined below) in global or definitive form, and, in the case of (a)(ii) above, such transferee may take delivery only through a Legended Note in definitive form. After expiry of the applicable Distribution Compliance Period (a) beneficial interests in Regulation S Global Notes registered in the name of a nominee for DTC may be held through DTC directly, by a participant in DTC, or indirectly through a participant in DTC, and (b) such certification requirements will no longer apply to such transfers.

2.6 Transfers of interests in Legended Notes

Transfers of Legended Notes or beneficial interests therein may be made:

(a) to a transferee who takes delivery of such interest through a Regulation S Global Note, upon receipt by the Registrar of a duly completed Transfer Certificate from the transferor to the effect that such transfer is being made in accordance with Regulation S (as defined below) and that in the case of a Regulation S Global Note registered in the name of a nominee for DTC, if such transfer is being made prior to expiry of the applicable Distribution Compliance Period, the interests in the Notes being transferred will be held immediately thereafter through Euroclear and/or Clearstream; or

(b) to a transferee who takes delivery of such interest through a Legended Note:

(i) where the transferee is a person whom the transferor reasonably believes is a QIB in a transaction meeting the requirements of Rule 144A, without certification; or

(ii) where the transferee is an Institutional Accredited Investor, subject to delivery to the Registrar of a Transfer Certificate from the transferor to the effect that such transfer is being made to an Institutional Accredited Investor, together with a duly executed IAI Investment Letter from the relevant transferee; or

(c) otherwise pursuant to the Securities Act or an exemption therefrom, subject to receipt by the Issuer and the Guarantor of such satisfactory evidence as the Issuer and the Guarantor may reasonably require, which may include an opinion of U.S. counsel, that such transfer is in compliance with any applicable federal securities laws of the United States or any applicable securities laws of any state of the United States,

and in each case, in accordance with any applicable securities laws of any state of the United States or any other jurisdiction.

Notes transferred by Institutional Accredited Investors to QIBs pursuant to Rule 144A or outside the United States pursuant to Regulation S will be eligible to be held by such QIBs or non-U.S. investors through DTC, Euroclear or Clearstream, as appropriate, and the Registrar will arrange for any Notes which are the subject of such a transfer to be represented by the appropriate Registered Global Note, where applicable.

Upon the transfer, exchange or replacement of Legended Notes, or upon specific request for removal of the Legend, the Registrar shall deliver only Legended Notes or refuse to remove the Legend, as the case may be, unless there is delivered to the Issuer and the Guarantor such satisfactory evidence as may reasonably be required by the Issuer and the Guarantor, which may include an opinion of U.S. counsel, that neither the Legend nor the restrictions on transfer set forth therein are required to ensure compliance with the provisions of the Securities Act.

2.7 Exchanges and transfers of Registered Notes generally

Holders of Registered Notes in definitive form, other than Institutional Accredited Investors, may exchange such Notes for interests in a Registered Global Note of the same type at any time.

2.8 Closed Periods

No Noteholder may require the transfer of a Registered Note to be registered during (i) the period of 15 days ending on the due date for any redemption or payment of principal or interest or payment on such Note and (ii) during the 15 days before any dates on which Notes may be called for redemption by the Issuer at its option pursuant to Condition 9.3, (iii) after any such Note has been called for redemption or (iv) during the period of seven (7) days ending (and including) on any Record Date (as defined below).

2.9 Definitions

In this Condition, the following expressions shall have the following meanings:

"**Distribution Compliance Period**" means the period that ends 40 days after the completion of the distribution of each Tranche of Notes, as certified by the relevant Dealer (in the case of a non-syndicated issue) or the relevant Lead Manager (in the case of a syndicated issue);

"**Institutional Accredited Investor**" means "**accredited investors**" (as defined in Rule 501(a)(1), (2), (3) or (7) under the Securities Act) that are institutions;

"**Legended Note**" means Registered Notes in definitive form that are issued to Institutional Accredited Investors and Registered Notes (whether in definitive form or represented by a Registered Global Note) sold in private transactions to QIBs in accordance with the requirements of Rule 144A;

"**QIB**" means a "**qualified institutional buyer**" within the meaning of Rule 144A;

"**Regulation S**" means Regulation S under the Securities Act;

"**Regulation S Global Note**" means a Registered Global Note representing Notes sold outside the United States in reliance on Regulation S;

"**Rule 144A**" means Rule 144A under the Securities Act;

"**Rule 144A Global Note**" means a Registered Global Note representing Notes sold in the United States or to QIBs; and

"**Securities Act**" means the United States Securities Act of 1933, as amended.

3. STATUS OF THE NOTES; GUARANTEE

3.1 Senior Notes

This Condition 3.1 is applicable to all Notes which are specified in the applicable Pricing Supplement as being Senior Notes issued by the Company ("**Senior Notes**").

The Senior Notes and any Receipts and Coupons relating thereto are direct, unconditional, unsubordinated and (subject to Condition 4 (Certain Covenants)) unsecured general obligations of the Company and shall at all times rank pari passu, without any preference among themselves and (except for certain obligations required to be preferred by applicable law) equally with all other unsecured and unsubordinated general obligations of the Company, from time to time outstanding.

3.2 Senior Guaranteed Notes

This Condition 3.2 is applicable to all Notes which are specified in the applicable Pricing Supplement as being Senior Guaranteed Notes issued by a Guaranteed Issuer ("**Senior Guaranteed Notes**").

The Senior Guaranteed Notes and any Receipts and Coupons relating thereto are direct, senior, unconditional, unsubordinated and (subject to Condition 4 (*Certain Covenants*)) unsecured general obligations of the relevant Guaranteed Issuer and shall at all times rank pari passu, without any

preference among themselves and (except for certain obligations required to be preferred by applicable law) equally with all other unsecured and unsubordinated general obligations of such Guaranteed Issuer, from time to time outstanding.

The Senior Guaranteed Notes and any Receipts and Coupons relating thereto are guaranteed as to payment of principal and interest by the Guarantor as set forth in Condition 3.3.

In relation to each Series of Senior Guaranteed Notes and any Receipts and Coupons relating thereto, claims in respect of the Guarantee (as defined below) shall at all times rank pari passu and (except for certain obligations required to be preferred by applicable law) equally with all other unsecured and unsubordinated general obligations of the Guarantor, from time to time outstanding.

3.3 Guarantee

The Guarantor unconditionally and irrevocably guarantees (the "**Guarantee**") to each holder of the Senior Guaranteed Notes and any Receipts and Coupons relating thereto the due payment of all amounts owing from time to time under the Senior Guaranteed Notes and the related Receipts and Coupons.

The Guarantee is a guarantee of payment and not a guarantee of collection.

The Guarantee is a direct, senior, unconditional, unsubordinated and (subject to Condition 4 (*Certain Covenants*)) unsecured general obligation of the Guarantor and shall at all times rank pari passu and (except for certain obligations required to be preferred by applicable law) equally with all other unsecured and unsubordinated general obligations of the Guarantor, from time to time outstanding.

4. CERTAIN COVENANTS

4.1 Negative Pledge

So long as any of the Notes of this Series remains outstanding, neither the Issuer nor the Guarantor will create or permit to be outstanding any mortgage, charge, lien, pledge or other security interest ("**Security**") upon the whole or part of its property, assets or revenues, present or future, to secure for the benefit of the holders of any International Investment Securities (as defined below) (i) payment of any sum due in respect of any such securities or (ii) any payment under any guarantee of any such securities or (iii) any payment under any indemnity or other like obligation relating to any such securities, without in any such case at the same time according to the Notes of this Series and the Receipts and Coupons applicable thereto, either the same security as is granted to or is outstanding in respect of such International Investment Securities, guarantee, indemnity or other like obligation or such other security as shall be approved by an Extraordinary Resolution passed at a meeting of the Noteholders of this Series.

The foregoing shall not operate to restrict or prohibit the creation or existence of any Security solely in Receivables (as defined below) securing payment of interest or principal of, payment under any guarantee of, or payment under any indemnity relating to, any International Investment Securities issued by a wholly-owned Subsidiary (or another Person in which the Issuer or the Guarantor makes an investment and to which the Issuer or the Guarantor transfers Receivables and related assets) of the Issuer or the Guarantor.

As used herein:

"**International Investment Securities**" means notes, debentures, bonds or investment securities of the Issuer which:

(A) either are by their terms payable, or confer a right to receive payment, in any currency other than Korean Won or are denominated in Korean Won and more than 50% of the aggregate principal amount thereof is initially distributed outside Korea by or with the authorization of the Issuer and the Guarantor; and

(B) are for the time being, or are intended to be, quoted, listed, ordinarily dealt in or traded on any stock exchange or over-the-counter or other securities market outside Korea.

"**Person**" means any individual, corporation, company, firm, tribunal, undertaking, association, organization, partnership, joint venture, trust, limited liability company, unincorporated organization or government or any agency, instrumentality or political subdivision thereof; in each case whether or not being a separate legal entity.

"**Receivable**" means a right to receive payment arising from a sale or lease of goods (including oil or gas reserves and equipment) or the performance of services by a Person pursuant to an arrangement with another Person pursuant to which such other Person is obligated to pay for such goods or services under terms that permit the purchase of such goods and services on credit.

"**Relevant GAAP**" means such accounting principles which are generally accepted in the jurisdiction of the Relevant Issuer's or the Guarantor's incorporation, as applicable.

"**Subsidiary**" means (i) any corporation or other entity of which securities or other ownership interests having ordinary voting power to elect a majority of the board of directors or other persons performing similar functions are at the time directly or indirectly owned by the Issuer or Guarantor or (ii) any subsidiary subject to consolidation with the Issuer or the Guarantor's financial statements under Relevant GAAP.

4.2 Consolidation, Merger and Sale of Assets

Each of the Issuers and the Guarantor, without the consent of the Noteholders, may consolidate with, or merge into, or sell, transfer, lease or convey its assets as an entirety or substantially as an entirety to any corporation organized under the laws of the respective jurisdiction of its incorporation; provided that (i) any successor corporation expressly assumes the applicable obligations of the Issuer or the Guarantor, as the case may be, under the Notes, the Guarantee (if applicable) and the Agency Agreement, as the case may be, (ii) after giving effect to the transaction, with respect to the Issuer or the Guarantor, as the case may be, or any such successor corporation, no Event of Default (as defined below) and no event which, after notice or lapse of time or both, would become an Event of Default, shall have occurred and be continuing, and (iii) the Issuer or the Guarantor, as the case may be, has delivered to the Principal Paying Agent a certificate executed by a duly authorized officer of the Issuer or the Guarantor, as the case may be, and an opinion of counsel as to matters of law stating that such consolidation, merger, sale, transfer, lease or conveyance and, if a supplemental agency agreement is required in connection with such transaction, such supplemental agency agreement comply with the Agency Agreement and the Notes and that all conditions precedent herein provided for relating to such transaction have been complied with.

4.3 Provision of Information to Noteholders

Each of the Issuers and the Guarantor covenants that for so long as any of the Notes are "restricted securities" within the meaning of Rule 144 under the Securities Act, it will, at any time when it is not subject to either the periodic reporting requirements of Section 13 or Section 15(d) of the Exchange Act or the requirements of Rule 12g3-2(b) thereunder, provide to any Noteholder or prospective purchaser of Notes designated by such Noteholder, upon the request of such Noteholder or prospective purchaser, the information required to be provided by Rule 144A(d)(4) under the Securities Act.

5. REDENOMINATION

5.1 Redenomination

Where redenomination is specified in the applicable Pricing Supplement as being applicable, the Issuer may, without the consent of the Noteholders, the Receiptholders and the Couponholders, on giving prior notice to the applicable Agent, DTC, Euroclear and Clearstream and at least 30 days' prior notice to the Noteholders in accordance with Condition 16 (*Notices*), elect that, with effect from the Redenomination Date specified in the notice, the Notes shall be redenominated in Euro.

The election will have effect as follows:

(a) the Notes and the Receipts shall be deemed to be redenominated into Euro with a principal amount for each Note and Receipt equal to the principal amount of that Note or Receipt in the

Specified Currency, converted into Euro at the Established Rate, rounded to the nearest Euro 0.01 if the conversion results in an amount involving a fraction of Euro 0.01, *provided* that, if the Issuer determines, with prior notice to the applicable Agents, that the then market practice in respect of the redenomination into Euro of internationally offered securities is different from the provisions specified above, such provisions shall be deemed to be amended so as to comply with such market practice and the Issuer shall promptly notify the Noteholders, the stock exchange (if any) on which the Notes may be listed and the applicable Agents of such deemed amendments;

(b) except to the extent that an Exchange Notice (as defined below) has been given in accordance with paragraph (d) below, the amount of interest due in respect of the Notes will be calculated by reference to the aggregate principal amount of Notes presented (or, as the case may be, in respect of which Coupons are presented) for payment by the relevant holder and the amount of such payment shall be rounded down to the nearest Euro 0.01;

(c) if definitive Notes are required to be issued after the Redenomination Date, they shall be issued at the expense of the Issuer in the denominations of Euro 1,000, Euro 10,000, Euro 100,000 and (but only to the extent of any remaining amounts less than Euro 1,000 or such smaller denominations as stated in prior notice to the applicable Agent) Euro 0.01 and such other denominations as the applicable Agent shall be notified of by the Issuer or the Guarantor and notify the same to the Noteholders;

(d) if issued prior to the Redenomination Date, all unmatured Coupons denominated in the Specified Currency (whether or not attached to the Notes) will become void with effect from the date on which the Issuer gives notice (the "**Exchange Notice**") that replacement Euro-denominated Notes, Receipts and Coupons are available for exchange (provided that such securities are so available) and no payments will be made in respect of them. The payment obligations contained in any Notes and Receipts so issued will also become void on that date although those Notes and Receipts will continue to constitute valid exchange obligations of the Issuer. New Euro-denominated Notes, Receipts and Coupons will be issued in exchange for Notes, Receipts and Coupons denominated in the Specified Currency in such manner as the applicable Agent may specify acting on the instruction of the Issuer and as shall be notified to the Noteholders in the Exchange Notice. No Exchange Notice may be given less than 15 days prior to any date for payment of principal or interest on the Notes;

(e) after the Redenomination Date, all payments in respect of the Notes, the Receipts and the Coupons, other than payments of interest in respect of periods commencing before the Redenomination Date, will be made solely in Euro as though references in the Notes to the Specified Currency were to Euro. Payments will be made in Euro by credit or transfer to a Euro account (or any other account to which Euro may be credited or transferred) specified by the payee or, at the option of the payee, by a Euro check;

(f) if the Notes are Fixed Rate Notes and interest for any period ending on or after the Redenomination Date is required to be calculated for a period ending other than on an Interest Payment Date (as defined below) (as specified in the applicable Pricing Supplement), it will be calculated by applying the Rate of Interest to each Specified Denomination, multiplying such sum by the applicable Day Count Fraction (as defined below), and rounding the resultant figure to the nearest sub-unit of the relevant Specified Currency, half of any such sub-unit being rounded upwards or otherwise in accordance with applicable market convention;

(g) if the Notes are Floating Rate Notes, the applicable Pricing Supplement will specify any relevant changes to the provisions relating to interest; and

(h) such other changes shall be made to this Condition as the Issuer may decide, after prior notice to the applicable Agent, and as may be specified in the notice, to conform it to conventions then applicable to instruments denominated in Euro.

5.2 Interpretation

In these Conditions, the following expressions have the following meanings:

"**Established Rate**" means the rate for the conversion of the Specified Currency (including compliance with rules relating to rounding in accordance with applicable European Community regulations) into Euro established by the Council of the European Union pursuant to Article 123 of the Treaty;

"**Euro**" or "**euro**" means the currency introduced at the start of the third stage of European economic and monetary union pursuant to the Treaty;

"**Redenomination Date**" means (in the case of interest bearing Notes) any date for payment of interest under the Notes or (in the case of Zero Coupon Notes) any date, in each case specified by the Issuer in the notice given to the Noteholders pursuant to Condition 5.1 (Redenomination) above and which falls on or after the date on which the country of the Specified Currency first participates in the third stage of European economic and monetary union; and

"**Treaty**" means the Treaty establishing the European Community (signed in Rome on March 25, 1957), as amended from time to time.

6. INTEREST

6.1 Interest on Fixed Rate Notes

Each Fixed Rate Note bears interest on its outstanding nominal amount (or, if it is a Partly Paid Note, the amount paid up) from (and including) the Interest Commencement Date at the rate(s) per annum (expressed as a percentage) equal to the Rate(s) of Interest. Interest will be payable in arrears on the Interest Payment Date(s) in each year up to (and including) the Maturity Date.

If the Notes are in definitive form, except as provided in the applicable Pricing Supplement, the amount of interest payable on each Interest Payment Date in respect of the Fixed Interest Period ending on (but excluding) such date will amount to the Fixed Coupon Amount. Payments of interest on any Interest Payment Date will, if so specified in the applicable Pricing Supplement, amount to the Broken Amount so specified.

Except in the case of Notes in definitive form where a Fixed Coupon Amount or Broken Amount is specified in the applicable Pricing Supplement, interest shall be calculated in respect of any period by applying the Rate of Interest to:

(A) in the case of Fixed Rate Notes which are represented by a Global Note, the aggregate outstanding nominal amount of the Fixed Rate Notes represented by such Global Note (or, if they are Partly Paid Notes, the aggregate amount paid up); or

(B) in the case of Fixed Rate Notes in definitive form, the Calculation Amount;

and, in each case, multiplying such sum by the applicable Day Count Fraction, and rounding the resultant figure to the nearest sub-unit of the relevant Specified Currency, half of any such sub-unit being rounded upwards or otherwise in accordance with applicable market convention. Where the Specified Denomination of a Fixed Rate Note in definitive form comprises more than one Calculation Amount, the amount of interest payable in respect of such Fixed Rate Note shall be the aggregate of the amounts (determined in the manner provided above) for each Calculation Amount comprising the Specified Denomination without any further rounding.

In these Conditions:

"**Day Count Fraction**" means, in respect of the calculation of an amount of interest, in accordance with this Condition 6.1:

(a) if "**Actual/Actual (ICMA)**" is specified in the applicable Pricing Supplement:

(i) in the case of Notes where the number of days in the relevant period from (and including) the most recent Interest Payment Date (or, if none, the Interest Commencement Date) to (but excluding) the relevant payment date (the "**Accrual Period**") is equal to or shorter than the Determination Period during which the Accrual Period ends, the number of days in such Accrual Period divided by the product of (1) the number of days in such Determination Period (as defined below) and (2) the number of Determination Dates (as specified in the applicable Pricing Supplement) that would occur in one calendar year; or

(ii) in the case of Notes where the Accrual Period is longer than the Determination Period during which the Accrual Period ends, the sum of:

(A) the number of days in such Accrual Period falling in the Determination Period in which the Accrual Period begins divided by the product of (x) the number of days in such Determination Period and (y) the number of Determination Dates that would occur in one calendar year; and

(B) the number of days in such Accrual Period falling in the next Determination Period divided by the product of (x) the number of days in such Determination Period and (y) the number of Determination Dates that would occur in one calendar year; and

(b) if "**30/360**" is specified in the applicable Pricing Supplement, the number of days in the period from (and including) the most recent Interest Payment Date (or, if none, the Interest Commencement Date) to (but excluding) the relevant payment date (such number of days being calculated on the basis of a year of 360 days with 12 30-day months) divided by 360.

"**Determination Period**" means each period from (and including) a Determination Date to but excluding the next Determination Date (including, where either the Interest Commencement Date or the final Interest Payment Date is not a Determination Date, the period commencing on the first Determination Date prior to, and ending on the first Determination Date falling after, such date);

"**Fixed Interest Period**" means the period from (and including) an Interest Payment Date (or the Interest Commencement Date) to (but excluding) the next (or first) Interest Payment Date; and

"**sub-unit**" means, with respect to any currency other than Euro, the lowest amount of such currency that is available as legal tender in the country of such currency and, with respect to Euro, one cent.

6.2 Interest on Floating Rate Notes and Index Linked Interest Notes

(a) Interest Payment Dates

Each Floating Rate Note and Index Linked Interest Note bears interest on its outstanding nominal amount (or, if it is a Partly Paid Note, the amount paid up) from (and including) the Interest Commencement Date and such interest will be payable in arrears on either:

(i) the Specified Interest Payment Date(s) in each year specified in the applicable Pricing Supplement; or

(ii) if no Specified Interest Payment Date(s) is/are specified in the applicable Pricing Supplement, each date (each such date, together with each Specified Interest Payment Date, an "**Interest Payment Date**") which falls the number of months or other period specified as the Specified Period in the applicable Pricing Supplement after the preceding Interest Payment Date or, in the case of the first Interest Payment Date, after the Interest Commencement Date.

Such interest will be payable in respect of each Interest Period (which expression shall, in these Conditions, mean the period from (and including) an Interest Payment Date (or the Interest Commencement Date) to (but excluding) the next (or first) Interest Payment Date).

If a Business Day Convention is specified in the applicable Pricing Supplement and (x) if there is no numerically corresponding day on the calendar month in which an Interest Payment Date should occur or (y) if any Interest Payment Date would otherwise fall on a day which is not a Business Day (as defined below), then, if the Business Day Convention specified is:

(A) in any case where Specified Periods are specified in accordance with Condition 6.2 (*Interest – Interest on Floating Rate Notes and Index Linked Interest Notes – (a)(ii)*) above, the Floating Rate Convention, such Interest Payment Date (a) in the case of (x) above, shall be the last day that is a Business Day in the relevant month and the provisions of (ii) below shall apply *mutatis mutandis* or (b) in the case of (y) above, shall be postponed to the next day which is a Business Day unless it would thereby fall into the next calendar month, in which event (i) such Interest Payment Date shall be brought forward to the immediately preceding Business Day, and (ii) each subsequent Interest Payment Date shall be the last Business Day in the month which falls the Specified Period after the preceding applicable Interest Payment Date occurred; or

(B) the Following Business Day Convention, such Interest Payment Date shall be postponed to the next day which is a Business Day; or

(C) the Modified Following Business Day Convention, such Interest Payment Date shall be postponed to the next day which is a Business Day unless it would thereby fall into the next calendar month, in which event such Interest Payment Date shall be brought forward to the immediately preceding Business Day; or

(D) the Preceding Business Day Convention, such Interest Payment Date shall be brought forward to the immediately preceding Business Day.

In these Conditions, "**Business Day**" means a day which is both:

(x) a day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealing in foreign exchange and foreign currency deposits) in London, New York and any Additional Business Center specified in the applicable Pricing Supplement; and

(y) either (i) in relation to any sum payable in a Specified Currency other than Euro, a day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealing in foreign exchange and foreign currency deposits) in the principal financial center of the country of the relevant Specified Currency (if other than London, New York and any Additional Business Center and which if the Specified Currency is Australian dollars or New Zealand dollars shall be Melbourne or Wellington, respectively) or (ii) in relation to any sum payable in Euro, a day on which the Trans-European Automated Real-Time Gross Settlement Express Transfer (TARGET2) System (the "**TARGET2 System**") is open.

(b) Rate of Interest

The Rate of Interest payable from time to time in respect of Floating Rate Notes and Index Linked Interest Notes will be determined in the manner specified in the applicable Pricing Supplement.

(i) ISDA Determination for Floating Rate Notes

Where ISDA Determination is specified in the applicable Pricing Supplement as the manner in which the Rate of Interest is to be determined, the Rate of Interest for each Interest Period will be the relevant ISDA Rate (as defined below) plus or minus (as indicated in the applicable Pricing Supplement) the Margin (if any). For the purposes of this sub-paragraph (i), "**ISDA Rate**" for an Interest Period means a rate equal to the Floating Rate that would be determined by the Calculation Agent for that swap transaction under the terms of an agreement

incorporating the 2006 ISDA Definitions, as published by the International Swaps and Derivatives Association, Inc. and as amended and updated as at the Issue Date of the first Tranche of the Notes of this Series (the "**ISDA Definitions**") and under which:

(1) the Floating Rate Option is as specified in the applicable Pricing Supplement;

(2) the Designated Maturity is a period specified in the applicable Pricing Supplement; and

(3) the relevant Reset Date is either (i) if the applicable Floating Rate Option is based on the the Euro-zone inter-bank offered rate ("**EURIBOR**") or on the Secured Overnight Financing Rate ("**SOFR**"), the first day of that Interest Period or (ii) in any other case, as specified in the applicable Pricing Supplement.

For the purposes of this sub-paragraph (i), "Floating Rate", "Calculation Agent", "**Floating Rate Option**", "**Designated Maturity**" and "**Reset Date**" have the meanings given to those terms in the ISDA Definitions.

(ii) Screen Rate Determination for Floating Rate Notes

Where Screen Rate Determination is specified in the applicable Pricing Supplement as the manner in which the Rate of Interest is to be determined, the Rate of Interest for each Interest Period will, subject as provided below, be either:

(1) the offered quotation; or

(2) the arithmetic mean (rounded if necessary to the fifth decimal place, with 0.000005 being rounded upwards) of the offered quotations,

(expressed as a percentage rate per annum) for the Reference Rate which appears or appear, as the case may be, on the Relevant Screen Page as at 11.00 a.m. (Brussels time, in the case of EURIBOR or New York City time, in the case of SOFR) on the Interest Determination Date in question plus or minus (as indicated in the applicable Pricing Supplement) the Margin (if any), all as determined by the Principal Paying Agent. If five or more of such offered quotations are available on the Relevant Screen Page, the highest (or, if there is more than one such highest quotation, one only of such quotations) and the lowest (or, if there is more than one such lowest quotation, one only of such quotations) shall be disregarded by the Principal Paying Agent for the purpose of determining the arithmetic mean (rounded as provided above) of such offered quotations.

If the Reference Rate from time to time in respect of Floating Rate Notes is specified in the applicable Pricing Supplement as being other than EURIBOR or SOFR, the Rate of Interest in respect of such Notes will be determined as provided in the applicable Pricing Supplement.

The Agency Agreement contains provisions for determining the Rate of Interest in the event that the Relevant Screen Page is not available or if, in the case of (1) above, no such offered quotation appears or, in the case of (2) above, fewer than three such offered quotations appear, in each case as at the time specified in the preceding paragraph; provided, however, that Condition 6.2(e) shall apply if the Issuer or its designee has determined that a Benchmark Transition Event (as defined in Condition 6.2(e)) has occurred and Benchmark Transition Event is specified in the applicable Pricing Supplement.

(iii) Screen Rate Determination for Floating Rate Notes where the Reference Rate is specified as being SOFR Benchmark

Where Screen Rate Determination is specified in the applicable Pricing Supplement as the manner in which the Rate of Interest is to be determined and the Reference Rate is specified as SOFR Benchmark in the applicable Pricing Supplement, the Rate of Interest for each Interest Period will, subject as provided below, be equal to the relevant SOFR Benchmark plus or minus the Margin (if any), all as determined by the Calculation Agent on the relevant Interest Determination Date.

The "SOFR Benchmark" will be determined based on Compounded Daily SOFR or SOFR Index, as follows (subject in each case to Condition 6.2(f) as further specified hereon)

(1) If Compounded Daily SOFR is specified in the applicable Pricing Supplement as the manner in which the SOFR Benchmark will be determined, the SOFR Benchmark for each Interest Period shall be equal to the compounded average of daily SOFR reference rates for each day during the relevant Interest Period (where SOFR Lag is specified in the applicable Pricing Supplement to determine Compounded Daily SOFR) or the SOFR Observation Period (where SOFR Observation Shift is specified in the applicable Pricing Supplement to determine Compounded Daily SOFR).

Compounded Daily SOFR shall be calculated by the Calculation Agent in accordance with one of the formulas referenced below depending upon which is specified in the applicable Pricing Supplement:

(I) SOFR Lag:

$$\left(\prod_{i=1}^{d_o}\left(1+\frac{SOFR_{i\,-\times USBD}\times n_i}{360}\right)-1\right)\times\frac{360}{d}$$

with the resulting percentage being rounded, if necessary, to the nearest one hundred-thousandth of a percentage point, with 0.000005 per cent. being rounded upwards (e.g., 9.876541 per cent. (or 0.09876541) being rounded down to 9.87654 per cent. (or 0.0987654) and 9.876545 per cent. (or 0.09876545) being rounded up to 9.87655 per cent. (or 0.0987655)) and where:

"**SOFRi-xUSBD**" for any U.S. Government Securities Business Day "i" in the relevant Interest Period is equal to the SOFR reference rate for the U.S. Government Securities Business Day falling the number of Lookback Days prior to that U.S. Government Securities Business Day "i";

"**Lookback Days**" means such number of U.S. Government Securities Business Days as specified in the applicable Pricing Supplement, which shall not be less than five U.S. Government Securities Business Days;

"**d**" means the number of calendar days in the relevant Interest Period;

"**do**" for any Interest Period means the number of U.S. Government Securities Business Days in the relevant Interest Period;

"**i**" means a series of whole numbers ascending from one to do, representing each relevant U.S. Government Securities Business Day from (and including) the first U.S. Government Securities Business Day in the relevant Interest Period; and

"**ni**" for any U.S. Government Securities Business Day "i" in the relevant Interest Period means the number of calendar days from (and including) such U.S. Government Securities Business Day "i" up to (but excluding) the following U.S. Government Securities Business Day for which $SOFR_{i\text{-}xUSBD}$ applies.

(II) SOFR Observation Shift:

$$\left(\prod_{i=1}^{d_o}\left(1+\frac{SOFR_i\times n_i}{360}\right)-1\right)\times\frac{360}{d}$$

with the resulting percentage being rounded, if necessary, to the nearest one hundred-thousandth of a percentage point, with 0.000005 per cent. being rounded upwards (e.g., 9.876541 per cent. (or 0.09876541) being rounded down to 9.87654 per cent. (or 0.0987654) and 9.876545 per cent. (or 0.09876545) being rounded up to 9.87655 per cent. (or 0.0987655)) and where:

"**SOFRi**" for any U.S. Government Securities Business Day "i" in the relevant SOFR Observation Period is equal to the SOFR reference rate for that U.S. Government Securities Business Day "i";

"**SOFR Observation Period**" means, in respect of an Interest Period, the period from (and including) the date falling the number of SOFR Observation Shift Days prior to the first day of such Interest Period to (but excluding) the date falling the number of SOFR Observation Shift Days prior to the Interest Payment Date for such Interest Period;

"**SOFR Observation Shift Days**" means the number of U.S. Government Securities Business Days as specified in the applicable Pricing Supplement, which shall not be less than five U.S. Government Securities Business Days;

"**d**" means the number of calendar days in the relevant SOFR Observation Period;

"**do**" for any SOFR Observation Period means the number of U.S. Government Securities Business Days in the relevant SOFR Observation Period;

"**i**" means a series of whole numbers ascending from one to do, representing each U.S. Government Securities Business Day from (and including) the first U.S. Government Securities Business Day in the relevant SOFR Observation Period; and

"**ni**" for any U.S. Government Securities Business Day "i" in the relevant SOFR Observation Period means the number of calendar days from (and including) such U.S. Government Securities Business Day "i" up to (but excluding) the following U.S. Government Securities Business Day for which $SOFR_i$ applies.

The following defined terms shall have the meanings set out below for purpose of this 6.2(b)(iii)(1):

"**Bloomberg Screen SOFRRATE Page**" means the Bloomberg screen designated "SOFRRATE" or any successor page or service;

"**Reuters Page USDSOFR=**" means the Reuters page designated "USDSOFR=" or any successor page or service;

"**SOFR**" means, in respect of a U.S. Government Securities Business Day, the reference rate determined by the Calculation Agent in accordance with the following provision:

(a) the Secured Overnight Financing Rate published at the SOFR Determination Time as such reference rate is reported on the Bloomberg Screen SOFRRATE Page; the Secured Overnight Financing Rate published at the SOFR Determination Time as such reference rate is reported on the Reuters Page USDSOFR=; or the Secured Overnight Financing Rate published at the SOFR Determination Time on the SOFR Administrator's Website;

(b) if the reference rate specified in (a) above does not appear and a SOFR Benchmark Transition Event and its related SOFR Benchmark Replacement Date have not occurred, the SOFR reference rate shall be the reference rate published on the SOFR Administrator's Website for the first preceding U.S. Government Securities Business Day for which SOFR was published on the SOFR Administrator's Website; or

(c) if the reference rate specified in (a) above does not appear and a SOFR Benchmark Transition Event and its related SOFR Benchmark Replacement Date have occurred, the provisions set forth in Condition 6.2(f) shall apply as specified in the applicable Pricing Supplement;

"**SOFR Determination Time**" means approximately 3:00 p.m. (New York City time) on the immediately following U.S. Government Securities Business Day.

(2) If SOFR Index is specified in the applicable Pricing Supplement, the SOFR Benchmark for each Interest Period shall be equal to the compounded average of daily SOFR reference rates for each day during the relevant SOFR Observation Period as calculated by the Calculation Agent as follows:

$$\left(\frac{SOFR\ Index_{End}}{SOFR\ Index_{Start}} - 1\right) \times \left(\frac{360}{d_c}\right)$$

with the resulting percentage being rounded, if necessary, to the nearest one hundred-thousandth of a percentage point, with 0.000005 per cent. being rounded upwards (e.g., 9.876541 per cent. (or 0.09876541) being rounded down to 9.87654 per cent. (or 0.0987654) and 9.876545 per cent. (or 0.09876545) being rounded up to 9.87655 per cent. (or 0.0987655)) and where:

"**SOFR Index**" means, in respect of a U.S. Government Securities Business Day, the SOFR Index value as published on the SOFR Administrator's Website at the SOFR Index Determination Time on such U.S. Government Securities Business Day, *provided that*:

(i) if the value specified above does not appear and a SOFR Benchmark Transition Event and its related SOFR Benchmark Replacement Date have not occurred, the "SOFR Index" shall be calculated on any Interest Determination Date with respect to an Interest Period, in accordance with the Compounded Daily SOFR formula described above in Condition 6.2(iii)(1)(II) "SOFR Observation Shift", and the term "SOFR Observation Shift Days" shall mean five U.S. Government Securities Business Days; or

(ii) if the value specified above does not appear and a SOFR Benchmark Transition Event and its related SOFR Benchmark Replacement Date have occurred, the provisions set forth in Condition 6.2(f) shall apply as specified in the applicable Pricing Supplement;

"**SOFR Index$_{End}$**" means, in respect of an Interest Period, the SOFR Index value on the date that is the number of U.S. Government Securities Business Days specified in the applicable Pricing Supplement prior to the Interest Payment Date for such Interest Period (or in the final Interest Period, the Maturity Date), which shall not be less than five U.S. Government Securities Business Days;

"**SOFR IndexStart**" means, in respect of an Interest Period, the SOFR Index value on the date that is the number of U.S. Government Securities Business Days specified hereon prior to the first day of such Interest Period;

"**SOFR Index Determination Time**" means, in respect of a U.S. Government Securities Business Day, approximately 3:00 p.m. (New York City time) on such U.S. Government Securities Business Day;

"**SOFR Observation Period**" means, in respect of an Interest Period, the period from (and including) the date falling the number of SOFR Observation Shift Days prior to the first day of such Interest Period to (but excluding) the date falling the number of SOFR Observation Shift Days prior to the Interest Payment Date for such Interest Period;

"**SOFR Observation Shift Days**" means the number of U.S. Government Securities Business Days as specified in the applicable Pricing Supplement; and

"**dc**" means the number of calendar days in the applicable SOFR Observation Period.

The following defined terms shall have the meanings set out below for purpose of this Condition 6.2(b)(iii):

"**Interest Determination Date**" means, with respect to a Rate of Interest and Interest Period, the date specified as such in the applicable Pricing Supplement or, if none is so specified, the fifth U.S. Government Securities Business Day prior to the last day of each Interest Period unless otherwise agreed with the Calculation Agent;

"**SOFR Administrator's Website**" means the website of the Federal Reserve Bank of New York, or any successor source;

"**SOFR Benchmark Replacement Date**" means the date of occurrence of a Benchmark Event with respect to the then-current SOFR Benchmark;

"**SOFR Benchmark Transition Event**" means the occurrence of a Benchmark Event with respect to the then-current SOFR Benchmark; and

"**U.S. Government Securities Business Day**" means any day except for a Saturday, a Sunday or a day on which the Securities Industry and Financial Markets Association recommends that the fixed income departments of its members be closed for the entire day for purposes of trading in U.S. government securities.

(c) Minimum Rate of Interest and/or Maximum Rate of Interest

If the applicable Pricing Supplement specifies a Minimum Rate of Interest for any Interest Period, then, in the event that the Rate of Interest in respect of such Interest Period determined in accordance with the provisions of paragraph (b) above is less than such Minimum Rate of Interest, the Rate of Interest for such Interest Period shall be such Minimum Rate of Interest.

If the applicable Pricing Supplement specifies a Maximum Rate of Interest for any Interest Period, then, in the event that the Rate of Interest in respect of such Interest Period determined in accordance with the provisions of paragraph (b) above is greater than such Maximum Rate of Interest, the Rate of Interest for such Interest Period shall be such Maximum Rate of Interest.

(d) Determination of Rate of Interest and Calculation of Interest Amounts

The Principal Paying Agent, in the case of certain Floating Rate Notes, and the Calculation Agent, in the case of Index Linked Interest Notes, will at or as soon as practicable after each time at which the Rate of Interest is to be determined, determine the Rate of Interest for the relevant Interest Period. Where applicable, the Calculation Agent will notify the Principal Paying Agent of the Rate of Interest for the relevant Interest Period as soon as practicable after calculating the same.

The Principal Paying Agent or the Calculation Agent (where applicable) will calculate the amount of interest (the "**Interest Amount**") payable on the Floating Rate Notes or Index Linked Interest Notes for the relevant Interest Period by applying the Rate of Interest to:

(A) in the case of Floating Rate Notes or Index Linked Interest Notes which are represented by a Global Note, the aggregate outstanding nominal amount of the Notes represented by such Global Note (or, if they are Partly Paid Notes, the aggregate amount paid up); or

(B) in the case of Floating Rate Notes or Index Linked Interest Notes in definitive form, the Calculation Amount;

and, in each case, multiplying such sum by the applicable Day Count Fraction, and rounding the resultant figure to the nearest sub-unit of the relevant Specified Currency, half of any such sub-unit being rounded upwards or otherwise in accordance with applicable market convention. Where the Specified Denomination of a Floating Rate Note or an Index Linked Interest Note in definitive form comprises more than one Calculation Amount, the Interest Amount payable in respect of such Note shall be the aggregate of the amounts (determined in the manner provided above) for each Calculation Amount comprising the Specified Denomination without any further rounding.

(e) Effect of Benchmark Transition Event

The following provisions shall apply if Benchmark Transition Event is specified in the applicable Pricing Supplement:

(A) Benchmark Replacement: If the Issuer or its designee determines that a Benchmark Transition Event (as defined herein) and its related Benchmark Replacement Date (as defined herein) have occurred prior to the Reference Time (as defined herein) in respect of any determination of the Benchmark (as defined herein) on any date, the Benchmark Replacement (as defined herein) will replace the then-current Benchmark for all purposes relating to the applicable Notes in respect of such determination on such date and all determinations on all subsequent dates.

(B) Benchmark Replacement Conforming Changes: In connection with the implementation of a Benchmark Replacement, the Issuer or its designee will have the right to make Benchmark Replacement Conforming Changes (as defined herein) from time to time.

At the request of the Issuer, but subject to receipt by the Agents of a certificate signed by two duly authorised officers of the Issuer pursuant to Condition 6.2(e)(D) and at least five London banking days' prior notice thereof, the Agents shall (at the expense of the Issuer), without any requirement for the consent or approval of Noteholders, be obliged to concur with the Issuer in effecting any Benchmark Replacement Conforming Changes (including, inter alia, by amending or supplementing the Agency Agreement), *provided that* the Agents shall not be obliged so to concur if, in the opinion of any of the Agents, doing so would impose more onerous obligations upon it or expose it to any additional duties, responsibilities or liabilities or reduce or amend the protective provisions afforded to the Agents in these Conditions or the Agency Agreement (including, for the avoidance of doubt, any supplemental agency agreement) in any way.

In connection with any Benchmark Replacement Conforming Changes in accordance with this Condition 6.2(e), the Issuer shall comply with the rules of any stock exchange on which the applicable Notes are for the time being listed or admitted to trading.

(C) Decisions and Determinations: Any determination, decision or election that may be made by the Issuer or its designee pursuant to this Condition 6.2(e), including any determination with respect to a tenor, rate or adjustment or of the occurrence or non-occurrence of an event, circumstance or date and any decision to take or refrain from taking any action or any selection, will be conclusive and binding absent manifest error, may be made in the Issuer or its designee's sole discretion, and, notwithstanding anything to the contrary in these Conditions or the Agency Agreement, shall become effective with respect to the applicable Notes without consent from any other party.

(D) Notices, etc.: Any Benchmark Replacement (including any Benchmark Replacement Adjustment) and the specific terms of any Benchmark Replacement Conforming Changes determined under this Condition 6.2(e) will be notified promptly by the Issuer to the Principal Paying Agent and, in accordance with Condition 16, the Noteholders. Such notice shall be irrevocable and shall specify the effective date of the Benchmark Replacement Conforming Changes, if any.

No later than notifying the Principal Paying Agent of the same, the Issuer shall deliver to the Agents a certificate signed by two duly authorized officers of the Issuer:

(1) confirming (i) that a Benchmark Transition Event has occurred and (ii) the Benchmark Replacement (including any Benchmark Replacement Adjustment) and the specific terms of any Benchmark Replacement Conforming Changes, in each case as determined in accordance with the provisions of this Condition 6.2(e); and

(2) certifying that the Benchmark Replacement Conforming Changes are necessary to ensure the proper operation of the Benchmark Replacement.

The Agents shall be entitled to rely on such certificate (without liability to any person) as sufficient evidence thereof.

If, following the occurrence of a Benchmark Transition Event and its related Benchmark Replacement Date, any Benchmark Replacement is notified to the Agent or any other party specified in the applicable Pricing Supplement as being responsible for determining the Rate of Interest pursuant to this Condition 6.2(e), and the Agent or such other responsible party (as applicable) is in any way uncertain as to the application of such Benchmark Replacement in the calculation or determination of any Rate of Interest, it shall promptly notify the Issuer thereof and the Issuer or its designee shall direct the Agent or such other party (as applicable) in writing as to which course of action to adopt in the application of such Benchmark Replacement in the determination of such Rate of Interest.

(E) Survival of Original Reference Rate: Without prejudice to the obligations of the Issuer under Condition 6.2(e)(A), (B), (C) and (D), the Benchmark and the fallback provisions provided for in the Agency Agreement will continue to apply unless and until the Principal Paying Agent has been notified of the Benchmark Replacement (including any Benchmark Replacement Adjustment) and the specific terms of any Benchmark Replacement Conforming Changes, in accordance with Condition 6.2(e)(D).

(F) Certain Defined Terms: As used in this Condition 6.2(e):

"**Benchmark**" means, initially, the relevant SOFR Benchmark specified in the applicable Pricing Supplement; *provided that* if the Issuer or its designee determines on or prior to the Reference Time that a Benchmark Event and its related Benchmark Replacement Date have occurred with respect to the relevant SOFR Benchmark (including any daily published component used in the calculation thereof) or the then-current Benchmark, then "Benchmark" means the applicable Benchmark Replacement.

"**Benchmark Replacement**" means the Interpolated Benchmark; provided that if the Issuer or its designee cannot determine the Interpolated Benchmark as of the Benchmark Replacement Date, then "Benchmark Replacement" means the first alternative set forth in the order below that can be determined by the Issuer or its designee as of the Benchmark Replacement Date:

(1) the sum of: (I) Term SOFR and (II) the Benchmark Replacement Adjustment;

(2) the sum of: (I) Compounded SOFR and (II) the Benchmark Replacement Adjustment;

(3) the sum of: (I) the alternate rate of interest that has been selected or recommended by the Relevant Governmental Body as the replacement for the then-current Benchmark for the applicable Corresponding Tenor and (II) the Benchmark Replacement Adjustment;

(4) the sum of: (I) the ISDA Fallback Rate and (II) the Benchmark Replacement Adjustment;

(5) the sum of: (I) the alternate rate of interest that has been selected by the Issuer or its designee as the replacement for the then-current Benchmark for the applicable Corresponding Tenor giving due consideration to any industry-accepted rate of interest as a replacement for the then-current Benchmark for U.S. dollar-denominated floating rate notes at such time and (II) the Benchmark Replacement Adjustment.

"**Benchmark Replacement Adjustment**" means the first alternative set forth in the order below that can be determined by the Issuer or its designee as of the Benchmark Replacement Date:

(1) the spread adjustment, or method for calculating or determining such spread adjustment (which may be a positive or negative value or zero) that has been selected or recommended by the Relevant Governmental Body for the applicable Unadjusted Benchmark Replacement;

(2) if the applicable Unadjusted Benchmark Replacement is equivalent to the ISDA Fallback Rate, then the ISDA Fallback Adjustment;

(3) the spread adjustment (which may be a positive or negative value or zero) that has been selected by the Issuer or its designee giving due consideration to any industry-accepted spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of the then-current Benchmark with the applicable Unadjusted Benchmark Replacement for U.S. dollar-denominated floating rate notes at such time.

"**Benchmark Replacement Conforming Changes**" means, with respect to any Benchmark Replacement, any technical, administrative or operational changes (including changes to the definition of "Interest Period," timing and frequency of determining rates and making payments of interest, changes to the definition of "Corresponding Tenor" solely when such tenor is longer than the Interest Period and other administrative matters) with respect to these Conditions, the Agency Agreement or otherwise that the Issuer or its designee decides may be appropriate to reflect the adoption of such Benchmark Replacement in a manner substantially consistent with market practice (or, if the Issuer or its designee decides that adoption of any portion of such market practice is not administratively feasible or if the Issuer or its designee determines that no market practice for use of the Benchmark Replacement exists, in such other manner as the Issuer or its designee determines is reasonably necessary).

"**Benchmark Replacement Date**" means the earliest to occur of the following events with respect to the then-current Benchmark:

(1) in the case of clause (1) or (2) of the definition of "Benchmark Transition Event," the later of (I) the date of the public statement or publication of information referenced therein and (II) the date on which the administrator of the Benchmark permanently or indefinitely ceases to provide the Benchmark; or

(2) in the case of clause (3) of the definition of "Benchmark Transition Event," the date of the public statement or publication of information referenced therein.

For the avoidance of doubt, if the event giving rise to the Benchmark Replacement Date occurs on the same day as, but earlier than, the Reference Time in respect of any determination, the Benchmark Replacement Date will be deemed to have occurred prior to the Reference Time for such determination.

"**Benchmark Transition Event**" means the occurrence of one or more of the following events with respect to the then-current Benchmark:

(1) a public statement or publication of information by or on behalf of the administrator of the Benchmark announcing that such administrator has ceased or will cease to provide the Benchmark, permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the Benchmark;

(2) a public statement or publication of information by the regulatory supervisor for the administrator of the Benchmark, the central bank for the currency of the Benchmark, an insolvency official with jurisdiction over the administrator for the Benchmark, a resolution authority with jurisdiction over the administrator for the Benchmark or a court or an entity with similar insolvency or resolution authority over the administrator for the Benchmark, which states that the administrator of the Benchmark has ceased or will cease to provide the Benchmark permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the Benchmark; or

(3) a public statement or publication of information by the regulatory supervisor for the administrator of the Benchmark announcing that the Benchmark is no longer representative.

"**Compounded SOFR**" means the compounded average of SOFRs for the applicable Corresponding Tenor, with the rate, or methodology for this rate, and conventions for this rate (which will be compounded in arrears with a lookback and/or suspension period as a mechanism to determine the interest amount payable prior to the end of each Interest Period) being established by the Issuer or its designee in accordance with:

(1) the rate, or methodology for this rate, and conventions for this rate selected or recommended by the Relevant Governmental Body for determining compounded SOFR; provided that:

(2) if, and to the extent that, the Issuer or its designee determines that Compounded SOFR cannot be determined in accordance with clause (1) above, then the rate, or methodology for this rate, and conventions for this rate that have been selected by the Issuer or its designee giving due consideration to any industry-accepted market practice for U.S. dollar-denominated floating rate notes at such time.

Notwithstanding the foregoing, Compounded SOFR will include a lookback and/or suspension period as a mechanism to determine the interest amount payable prior to the end of each Interest Period.

"**Corresponding Tenor**" with respect to a Benchmark Replacement means a tenor (including overnight) having approximately the same length (disregarding business day adjustment) as the applicable tenor for the then-current Benchmark.

"**designee**" means a designee as selected and separately appointed by the Issuer in writing.

"**Federal Reserve Bank of New York's Web site**" means the website of the Federal Reserve Bank of New York at http://www.newyorkfed.org, or any successor source.

"**Interpolated Benchmark**" with respect to the Benchmark means the rate determined for the Corresponding Tenor by interpolating on a linear basis between: (1) the Benchmark for the longest period (for which the Benchmark is available) that is shorter than the Corresponding Tenor and (2) the Benchmark for the shortest period (for which the Benchmark is available) that is longer than the Corresponding Tenor.

"**ISDA Definitions**" means the 2006 ISDA Definitions published by the International Swaps and Derivatives Association, Inc. or any successor thereto, as amended or supplemented from time to time, or any successor definitional booklet for interest rate derivatives published from time to time.

"**ISDA Fallback Adjustment**" means the spread adjustment (which may be a positive or negative value or zero) that would apply for derivatives transactions referencing the ISDA Definitions to be determined upon the occurrence of an index cessation event with respect to the Benchmark for the applicable tenor.

"**ISDA Fallback Rate**" means the rate that would apply for derivatives transactions referencing the ISDA Definitions to be effective upon the occurrence of an index cessation date with respect to the Benchmark for the applicable tenor excluding the applicable ISDA Fallback Adjustment.

"**Reference Time**" with respect to any determination of the Benchmark means (1) if the Benchmark is the SOFR Benchmark, the SOFR Determination Time (where Simple SOFR Average or Compounded Daily SOFR is specified as applicable hereon) or SOFR Index Determination Time (where SOFR Index is specified as applicable hereon), or (2) if the Benchmark is not the SOFR Benchmark, the time determined by the Issuer or its designee after giving effect to the Benchmark Replacement Conforming Changes.

"**Relevant Governmental Body**" means the Federal Reserve Board and/or the Federal Reserve Bank of New York, or a committee officially endorsed or convened by the Federal Reserve Board and/or the Federal Reserve Bank of New York or any successor thereto.

"**SOFR**" with respect to any day means the secured overnight financing rate published for such day by the Federal Reserve Bank of New York, as the administrator of the benchmark (or a successor administrator) on the Federal Reserve Bank of New York's Web site.

"**Term SOFR**" means the forward-looking term rate for the applicable Corresponding Tenor based on SOFR that has been selected or recommended by the Relevant Governmental Body.

"**Unadjusted Benchmark Replacement**" means the Benchmark Replacement excluding the Benchmark Replacement Adjustment.

(f) Benchmark Discontinuation (SOFR)

The following provisions shall apply if Benchmark Discontinuation (SOFR) is specified in the applicable Pricing Supplement:

(A) Benchmark Replacement: If the Issuer or its designee determines on or prior to the relevant Reference Time that a Benchmark Event and its related Benchmark Replacement Date have occurred with respect to the then-current Benchmark, the Benchmark Replacement will replace the then-current Benchmark for all purposes relating to the Notes in respect of all determinations on such date and for all determinations on all subsequent dates.

(B) Benchmark Replacement Conforming Changes: In connection with the implementation of a Benchmark Replacement, the Issuer or its designee will have the right to make Benchmark Replacement Conforming Changes from time to time. For the avoidance of doubt, any of the Agents shall, at the direction and expense of the Issuer, effect such consequential amendments to the Agency Agreement and these Conditions as may be required to give effect to this Condition 6.2(f). Noteholders' consent shall not be required in connection with effecting any such changes, including the execution of any documents or any steps to be taken by the Agents (if required). Further, none of the Calculation Agent, the Paying Agents, the Registrars or the Transfer Agents shall be responsible or liable for any determinations, decisions or elections made by the Issuer or its designee with respect to any Benchmark Replacement or any other changes and shall be entitled to rely conclusively on any certifications provided to each of them in this regard.

(C) Decisions and Determinations: Any determination, decision or election that may be made by the Issuer or its designee pursuant to this Condition 6.2(f), including any determination with respect to a tenor, rate or adjustment or of the occurrence or non-occurrence of an event, circumstance or date and any decision to take or refrain from taking any action or any selection (1) will be conclusive and binding absent manifest error, (2) will be made in the sole discretion of the Issuer or its designee, as applicable, and (3) notwithstanding anything to the contrary in the documentation relating to the Notes, shall become effective without consent from the holders of the Notes or any other party.

(D) Certain Defined Terms: As used in this Condition 6.2(f):

"**Benchmark**" means, initially, the relevant SOFR Benchmark specified in the applicable Pricing Supplement; provided that if the Issuer or its designee determines on or prior to the Reference Time that a Benchmark Event and its related Benchmark Replacement Date have occurred with respect to the relevant SOFR Benchmark (including any daily published component used in the calculation thereof) or the then-current Benchmark, then "Benchmark" means the applicable Benchmark Replacement;

"**Benchmark Event**" means the occurrence of one or more of the following events with respect to the then-current Benchmark (including any daily published component used in the calculation thereof):

(1) a public statement or publication of information by or on behalf of the administrator of the Benchmark (or such component) announcing that such administrator has ceased or will cease to provide the Benchmark (or such component), permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the Benchmark (or such component); or

(2) a public statement or publication of information by the regulatory supervisor for the administrator of the Benchmark (or such component), the central bank for the currency of the Benchmark (or such component), an insolvency official with jurisdiction over the administrator for the Benchmark (or such component), a resolution authority with jurisdiction over the administrator for the Benchmark (or such component) or a court or an entity with similar insolvency or resolution authority over the administrator for the Benchmark, which states that the administrator of the Benchmark (or such component) has ceased or will cease to provide the Benchmark (or such component) permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the Benchmark (or such component); or

(3) a public statement or publication of information by the regulatory supervisor for the administrator of the Benchmark announcing that the Benchmark is no longer representative;

"**Benchmark Replacement**" means the first alternative set forth in the order below that can be determined by the Issuer or its designee as of the Benchmark Replacement Date:

(1) the sum of:

(I) the alternate reference rate that has been selected or recommended by the Relevant Governmental Body as the replacement for the then-current Benchmark (including any daily published component used in the calculation thereof); and

(II) the Benchmark Replacement Adjustment;

(2) the sum of:

(I) the ISDA Fallback Rate; and

(II) the Benchmark Replacement Adjustment; or

(3) the sum of:

(I) the alternate reference rate that has been selected by the Issuer or its designee as the replacement for the then-current Benchmark (including any daily published component used in the calculation thereof) giving due consideration to any industry-accepted reference rate as a replacement for the then-current Benchmark (including any daily published component used in the calculation thereof) for U.S. dollar-denominated Floating Rate Notes at such time; and

(II) the Benchmark Replacement Adjustment;

"**Benchmark Replacement Adjustment**" means the first alternative set forth in the order below that can be determined by the Issuer or its designee as of the Benchmark Replacement Date:

(1) the spread adjustment, or method for calculating or determining such spread adjustment (which may be a positive or negative value or zero) that has been selected or recommended by the Relevant Governmental Body for the applicable Unadjusted Benchmark Replacement;

(2) if the applicable Unadjusted Benchmark Replacement is equivalent to the ISDA Fallback Rate, the ISDA Fallback Adjustment; or

(3) the spread adjustment (which may be a positive or negative value or zero) that has been selected by the Issuer or its designee giving due consideration to any industry-accepted spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of the then- current Benchmark (including any daily published component used in the calculation thereof) with the applicable Unadjusted Benchmark Replacement for U.S. dollar-denominated Floating Rate Notes at such time;

"**Benchmark Replacement Conforming Changes**" means, with respect to any Benchmark Replacement, any technical, administrative or operational changes (including changes to the timing and frequency of determining rates and making payments of interest, rounding of amounts or tenors, and other administrative matters) the Issuer or its designee decides may be appropriate to reflect the adoption of such Benchmark Replacement in a manner substantially consistent with market practice (or, if the Issuer or its designee decides that adoption of any portion of such market practice is not administratively feasible or if the Issuer or its designee determines that no market practice for use of the Benchmark Replacement exists, in such other manner as the Issuer or its designee determines is reasonably necessary);

"**Benchmark Replacement Date**" means the earliest to occur of the following events with respect to the then-current Benchmark (including any daily published component used in the calculation thereof):

(1) in the case of sub-paragraph (1) or (2) of the definition of "Benchmark Event", the later of:

(I) the date of the public statement or publication of information referenced therein; and

(II) the date on which the administrator of the Benchmark permanently or indefinitely ceases to provide the Benchmark (or such component); or

(2) in the case of sub-paragraph (3) of the definition of "Benchmark Event", the date of the public statement or publication of information referenced therein.

For the avoidance of doubt, if the event giving rise to the Benchmark Replacement Date occurs on the same day as, but earlier than, the Reference Time in respect of any determination, the Benchmark Replacement Date will be deemed to have occurred prior to the Reference Time for such determination;

"**designee**" means a designee as selected and separately appointed by the Issuer in writing;

"**ISDA Definitions**" means the 2006 ISDA Definitions published by the International Swaps and Derivatives Association, Inc. or any successor thereto, as amended or supplemented from time to time, or any successor definitional booklet for interest rate derivatives published from time to time;

"**ISDA Fallback Adjustment**" means the spread adjustment (which may be a positive or negative value or zero) that would apply for derivatives transactions referencing the ISDA Definitions to be determined upon the occurrence of an index cessation event with respect to the Benchmark;

"**ISDA Fallback Rate**" means the rate that would apply for derivatives transactions referencing the ISDA Definitions to be effective upon the occurrence of an index cessation date with respect to the Benchmark (including any daily published component used in the calculation thereof) for the applicable tenor excluding the applicable ISDA Fallback Adjustment;

"**Reference Time**" with respect to any determination of the Benchmark means (1) if the Benchmark is the SOFR Benchmark, the SOFR Determination Time (where Simple SOFR Average or Compounded Daily SOFR is specified as applicable hereon) or SOFR Index Determination Time (where SOFR Index is specified as applicable hereon), or (2) if the Benchmark is not the SOFR Benchmark, the time determined by the Issuer or its designee after giving effect to the Benchmark Replacement Conforming Changes;

"**Relevant Governmental Body**" means the Federal Reserve Board and/or the Federal Reserve Bank of New York, or a committee officially endorsed or convened by the Federal Reserve Board and/or the Federal Reserve Bank of New York or any successor thereto; and

"**Unadjusted Benchmark Replacement**" means the Benchmark Replacement excluding the Benchmark Replacement Adjustment.

In these Terms and Conditions,

"**Day Count Fraction**" means, in respect of the calculation of an amount of interest in accordance with this Condition 6.2:

(1) if "**Actual/Actual (ISDA)**" or "**Actual/Actual**" is specified in the applicable Pricing Supplement, the actual number of days in the Interest Period divided by 365 (or, if any portion of that Interest Period falls in a leap year, the sum of (A) the actual number of days in that portion of the Interest Period falling in a leap year divided by 366 and (B) the actual number of days in that portion of the Interest Period falling in a non-leap year divided by 365);

(2) if "**Actual/365 (Fixed)**" is specified in the applicable Pricing Supplement, the actual number of days in the Interest Period divided by 365;

(3) if "**Actual/365 (Sterling)**" is specified in the applicable Pricing Supplement, the actual number of days in the Interest Period divided by 365, or in the case of an Interest Payment Date falling in a leap year, 366;

(4) if "**Actual/360**" is specified in the applicable Pricing Supplement, the actual number of days in the Interest Period divided by 360;

(5) if "**30/360**", "**360/360**" or "**Bond Basis**" is specified in the applicable Pricing Supplement, the number of days in the Interest Period divided by 360, calculated on a formula basis as follows:

$$\text{Day Count Fraction} = \frac{[360 \times (Y_2 - Y_1)] + [30 \times (M_2 - M_1)] + (D_2 - D_1)}{360}$$

where:

Y_1 is the year, expressed as a number, in which the first day of the Interest Period falls;

Y_2 is the year, expressed as a number, in which the day immediately following the last day of the Interest Period falls;

M_1 is the calendar month, expressed as a number, in which the first day of the Interest Period falls;

M_2 is the calendar month, expressed as a number, in which the day immediately following the last day of the Interest Period falls;

D_1 is the first calendar day, expressed as a number, of the Interest Period, unless such number is 31, in which case D_1 will be 30; and

D_2 is the calendar day, expressed as a number, immediately following the last day included in the Interest Period, unless such number would be 31 and D1 is greater than 29, in which case D_2 will be 30;

(6) if "**30E/360**" or "**Eurobond Basis**" is specified in the applicable Pricing Supplement, the number of days in the Interest Period divided by 360, calculated on a formula basis as follows:

$$\text{Day Count Fraction} = \frac{[360 \times (Y_2 - Y_1)] + [30 \times (M_2 - M_1)] + (D_2 - D_1)}{360}$$

where:

Y_1 is the year, expressed as a number, in which the first day of the Interest Period falls;

Y_2 is the year, expressed as a number, in which the day immediately following the last day of the Interest Period falls;

M_1 is the calendar month, expressed as a number, in which the first day of the Interest Period falls;

M_2 is the calendar month, expressed as a number, in which the day immediately following the last day of the Interest Period falls;

D_1 is the first calendar day, expressed as a number, of the Interest Period, unless such number is 31, in which case D_1 will be 30; and

D_2 is the calendar day, expressed as a number, immediately following the last day included in the Interest Period, unless such number would be 31, in which case D_2 will be 30;

(7) if "**30E/360 (ISDA)**" is specified in the applicable Pricing Supplement, the number of days in the Interest Period divided by 360, calculated on a formula basis as follows:

$$\text{Day Count Fraction} = \frac{[360 \times (Y_2 - Y_1)] + [30 \times (M_2 - M_1)] + (D_2 - D_1)}{360}$$

where:

Y_1 is the year, expressed as a number, in which the first day of the Interest Period falls;

Y_2 is the year, expressed as a number, in which the day immediately following the last day of the Interest Period falls;

M_1 is the calendar month, expressed as a number, in which the first day of the Interest Period falls;

M_2 is the calendar month, expressed as a number, in which the day immediately following the last day of the Interest Period falls;

D_1 is the first calendar day, expressed as a number, of the Interest Period, unless (i) that day is the last day of February or (ii) such number would be 31, in which case D_1 will be 30; and

D_2 is the calendar day, expressed as a number, immediately following the last day included in the Interest Period, unless (i) that day is the last day of February but not the Maturity Date or (ii) such number would be 31 and D_2 will be 30.

(g) Notification of Rate of Interest and Interest Amounts

The Principal Paying Agent or the Calculation Agent (where applicable) will cause the Rate of Interest and each Interest Amount for each Interest Period and the relevant Interest Payment Date to be notified to the Issuer and any stock exchange on which the relevant Floating Rate Notes or Index Linked Interest Notes are for the time being listed and notice thereof to be published in accordance with Condition 16 (*Notices*) as soon as practicable after their determination but in no event later than the fourth London Business Day (as defined below) thereafter, provided that such notification details are provided by the Issuer to the Agent, or in accordance with Annex D of the Procedures Memorandum. Each Interest Amount and Interest Payment Date so notified may subsequently be amended (or appropriate alternative arrangements made by way of adjustment) without prior notice in the event of an extension or shortening of the Interest Period. Any such amendment will be promptly notified to the Issuer and each stock exchange on which the relevant Floating Rate Notes or Index Linked Interest Notes are for the time being listed and to the Noteholders in accordance with Condition 16 (*Notices*). For the purposes of this paragraph, the expression "**London Business Day**" means a day (other than a Saturday or a Sunday) on which banks and foreign exchange markets are open for general business in London. For the avoidance of doubt, this Condition 6.2(e) shall not apply if a Benchmark Transition Event has occurred and Condition 6.2(b)(iii) becomes effective.

(h) Certificates to be Final

All certificates, communications, opinions, determinations, calculations, quotations and decisions given, expressed, made or obtained for the purposes of the provisions of this Condition 6.2, whether by the Principal Paying Agent or, if applicable, the Calculation Agent, shall (in the absence of willful misconduct, fraud or gross negligence) be binding on the Issuer, the Guarantor (if applicable), the Principal Paying Agent, the Calculation Agent (if applicable), the other Agents and all Noteholders, Receiptholders and Couponholders and (in the absence as aforesaid) no liability to the Issuer, the Guarantor (if applicable), the Noteholders, the Receiptholders or the Couponholders shall attach to the Principal Paying Agent or the Calculation Agent (if applicable) in connection with the exercise or non-exercise by it of its powers, duties and discretions pursuant to such provisions.

6.3 Zero Coupon Notes

Where a Note the Interest Basis of which is specified to be Zero Coupon is repayable prior to the Maturity Date and is not paid when due, the amount due and payable prior to the Maturity Date shall be the Early Redemption Amount (as defined below) of such Note. As from the Maturity Date, the Rate of Interest for any overdue principal of such Note shall be a rate per annum (expressed as a percentage) equal to the Accrual Yield (as described in paragraph (c) of Condition 9.7).

6.4 Interest on Dual Currency Interest Notes

The rate or amount of interest payable in respect of Dual Currency Interest Notes shall be determined in the manner specified in the applicable Pricing Supplement.

6.5 Interest on Partly Paid Notes

In the case of Partly Paid Notes (other than Partly Paid Notes which are Zero Coupon Notes), interest will accrue as aforesaid on the paid-up nominal amount of such Notes and otherwise as specified in the applicable Pricing Supplement.

6.6 Accrual of Interest

Each Note (or in the case of the redemption of part only of a Note, that part only of such Note) will cease to bear interest (if any) from the date for its redemption unless, upon due presentation thereof, payment of principal is improperly withheld or refused. In such event, interest will continue to accrue until whichever is the earlier of:

(a) the date on which all amounts due in respect of such Note have been paid; and

(b) five days after the date on which the full amount of the moneys payable in respect of such Note has been received by the Principal Paying Agent or the Registrar, as the case may be, and notice to that effect has been given to the Noteholders in accordance with Condition 16 (*Notices*).

7. LIMITED RECOURSE

The amounts payable in respect of the Limited Recourse Notes shall be determined in the manner specified in the applicable Pricing Supplement.

8. PAYMENTS

8.1 Method of payment

Subject as provided below:

(a) payments in a Specified Currency other than Euro will be made by credit or transfer to an account in the relevant Specified Currency (which, in the case of a payment in Japanese yen to a non-resident of Japan, shall be a non-resident account) maintained by the payee with, or, at the option of the payee, by a check in such Specified Currency drawn on, a bank in the principal financial center of the country of such Specified Currency (which, if the Specified Currency is Australian dollars or New Zealand dollars, shall be Melbourne or Wellington, respectively); and

(b) payments in Euro will be made by credit or transfer to a Euro account (or any other account to which Euro may be credited or transferred) specified by the payee or, at the option of the payee, by a Euro check.

Payments will be subject in all cases to (i) any fiscal or other laws and regulations applicable thereto in the place of payment, but without prejudice to the provisions of Condition 10 (*Taxation*) and (ii) any deduction or withholding required pursuant to FATCA (as defined in Condition 10). References to "**Specified Currency**" will include any successor currency under applicable law.

8.2 Presentation of definitive Bearer Notes, Receipts and Coupons

Payments of principal in respect of definitive Bearer Notes will (subject as provided below) be made in the manner provided in Condition 8.1 (*Payments – Method of payment*) above only against presentation and surrender (or, in the case of part payment of any sum due, endorsement) of definitive Bearer Notes, and payments of interest in respect of definitive Bearer Notes will (subject as provided below) be made as aforesaid only against presentation and surrender (or, in the case of part payment of any sum due, endorsement) of Coupons, in each case at the specified office of any Paying Agent outside the United States (which expression, as used herein, means the United States of America (including the States and the District of Columbia, its territories, its possessions and other areas subject to its jurisdiction)) and in each case payments will not be made by a transfer of funds to an account maintained by the payee in the United States or mailed to an address in the United States.

Payments of installments of principal (if any) in respect of definitive Bearer Notes, other than the final installment, will (subject as provided below) be made in the manner provided in Condition 8.1 (*Payments – Method of payment*) above only against presentation and surrender (or, in the case of part payment of any sum due, endorsement) of the relevant Receipt in accordance with the preceding paragraph. Payment of the final installment will be made in the manner provided in Condition 8.1 (*Payments – Method of payment*) above only against presentation and surrender (or, in the case of part payment of any sum due, endorsement) of the relevant Bearer Note in accordance with the preceding paragraph. Each Receipt must be presented for payment of the relevant installment together with the definitive Bearer Note to which it appertains. Receipts presented without the definitive Bearer Note to which they appertain do not constitute valid obligations of the Issuer. Upon the date on which any definitive Bearer Note becomes due and repayable, unmatured Receipts (if any) relating thereto (whether or not attached) shall become void and no payment shall be made in respect thereof.

Fixed Rate Notes in definitive bearer form (other than Dual Currency Notes, Index Linked Notes or Long Maturity Notes (as defined below)) should be presented for payment together with all unmatured Coupons appertaining thereto (which expression shall for this purpose include Coupons falling to be issued on exchange of matured Talons), failing which the amount of any missing unmatured Coupon (or, in the case of payment not being made in full, the same proportion of the amount of such missing unmatured Coupon as the sum so paid bears to the sum due) will be deducted from the sum due for payment. Each amount of principal so deducted will be paid in the manner mentioned above against surrender of the relative missing Coupon at any time before the expiry of 10 years after the Relevant Date (as defined in Condition 10 (*Taxation*)) in respect of such principal (whether or not such Coupon would otherwise have become void under Condition 11 (*Prescription*)) or, if later, five years from the date on which such Coupon would otherwise have become due, but in no event thereafter.

Upon any Fixed Rate Note in definitive bearer form becoming due and repayable prior to its Maturity Date, all unmatured Talons (if any) appertaining thereto will become void and no further Coupons will be issued in respect thereof.

Upon the date on which any Floating Rate Note, Dual Currency Note, Index Linked Note or Long Maturity Note in definitive bearer form becomes due and repayable, unmatured Coupons and Talons (if any) relating thereto (whether or not attached) shall become void and no payment or, as the case may be, exchange for further Coupons shall be made in respect thereof. A "**Long Maturity Note**" is a Fixed Rate Note (other than a Fixed Rate Note which on issue had a Talon attached) whose nominal amount on issue is less than the aggregate interest payable thereon provided that such Note shall cease to be a Long Maturity Note on the Interest Payment Date on which the aggregate amount of interest remaining to be paid after that date is less than the nominal amount of such Note.

If the due date for redemption of any definitive Bearer Note is not an Interest Payment Date, interest (if any) accrued in respect of such Note from (and including) the preceding Interest Payment Date or, as the case may be, the Interest Commencement Date shall be payable only against surrender of the relevant definitive Bearer Note.

8.3 Payments in respect of Bearer Global Notes

Payments of principal and interest (if any) in respect of any Notes represented by any Global Note in bearer form will (subject as provided below) be made in the manner specified above in relation to definitive Bearer Notes and otherwise in the manner specified in the relevant Global Note against presentation or surrender, as the case may be, of such Global Note at the specified office of any Paying Agent outside the United States. A record of each payment made against presentation or surrender of any Global Note in bearer form, distinguishing between any payment of principal and any payment of interest, will be made on such Global Note by the relevant Paying Agent to which it was presented and such record shall be prima facie evidence that the payment in question has been made.

8.4 Payments in respect of Registered Notes

Payments of principal (other than installments of principal prior to the final installment) in respect of each Registered Note (whether or not in global form) will be made against presentation and surrender (or, in the case of part payment of any sum due, endorsement) of the Registered Note at the specified office of the Registrar or any of the Paying Agents. Such payments will be made by transfer to the Designated Account (as defined below) of the holder (or the first named of joint holders) of the Registered Note appearing in the register of holders of the Registered Notes maintained by the Registrar (the "**Register**"), (i) where the Notes are in global form, at the close of business day (being for this purpose, a day on which Euroclear, Clearstream or DTC, as the case may be, are open for business in respect of Notes cleared through Euroclear, Clearstream or DTC, as the case may be) before the relevant date and (ii) where the Notes are in definitive form, at the close of business on the third business day (being for this purpose a day on which banks are open for business in the city where the specified office of the Registrar is located) before the relevant due date. Notwithstanding the previous sentence, if (a) a holder does not have a Designated Account or (b) the principal amount of the Notes held by a holder is less than U.S.$250,000 (or its approximate equivalent in any other Specified Currency), payment will instead be made by a check in the Specified Currency drawn on a Designated Bank (as defined below). For these purposes, "**Designated Account**" means the account (which, in the case of a payment in Japanese yen to a non-resident of Japan, shall be a non-resident account) maintained by a holder with a Designated Bank and identified as such in the Register and "**Designated Bank**" means (in the case of payment in a Specified Currency other than Euro) a bank in the principal financial center of the country of such Specified Currency (which, if the Specified Currency is Australian dollars or New Zealand dollars, shall be Melbourne or Wellington, respectively) and (in the case of a payment in Euro) any bank which processes payments in Euro.

Payments of interest and payments of installments of principal (other than the final installment) in respect of each Registered Note (whether or not in global form) will be made by a check in the Specified Currency drawn on a Designated Bank and mailed by uninsured mail on the business day in the city where the specified office of the Registrar is located immediately preceding the relevant due date to the holder (or the first named of joint holders) of the Registered Note appearing in the relevant Register, (i) where the Notes are in global form, at the close of business day (being for this purpose, a day on which Euroclear, Clearstream or DTC, as the case may be, are open for business in respect of Notes cleared through Euroclear, Clearstream or DTC, as the case may be) before the relevant date and (ii) where the Notes are in definitive form, at the close of business on the fifteenth day (whether or not such fifteenth day is a business day) before the relevant due date (the "**Record Date**") at his address shown in the Register on the Record Date and at his risk. Upon application of the holder to the specified office of the Registrar not less than three business days in the city where the specified office of the Registrar is located before the due date for any payment of interest or an installment of principal (other than the final installment) in respect of a Registered Note, the payment may be made by transfer on the due date in the manner provided in the preceding paragraph. Any such application for transfer shall be deemed to relate to all future payments of interest (other than interest due on redemption) and installments of principal (other than the final installment) in respect of the Registered Notes which become payable to the holder who has made the initial application until such time as the Registrar is notified in writing to the contrary by such holder. Payment of the interest due in respect of each Registered Note on redemption and the final installment of principal will be made in the same manner as payment of the principal amount of such Registered Note.

Holders of Registered Notes will not be entitled to any interest or other payment for any delay in receiving any amount due in respect of any Registered Note as a result of a check posted in accordance with this Condition arriving after the due date for payment or being lost in the post. No commissions or expenses shall be charged to such holders by the Registrar in respect of any payments of principal or interest in respect of the Registered Notes.

All amounts payable to DTC or its nominee as registered holder of a Registered Global Note in respect of Notes denominated in a Specified Currency other than U.S. dollars shall be paid by transfer by the Registrar to an account in the relevant Specified Currency of the Exchange Agent on behalf of DTC or its nominee for conversion into and payment in U.S. dollars in accordance with the provisions of the Agency Agreement.

Neither the Issuer, the Guarantor nor any of the Agents will have any responsibility or liability for any aspect of the records relating to, or payments made on account of, beneficial ownership interests in the Registered Global Notes or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests.

8.5 General provisions applicable to payments

The holder of a Global Note shall be the only person entitled to receive payments in respect of Notes represented by such Global Note and the Issuer (and the Guarantor, if applicable) will be discharged by payment to, or to the order of, the holder of such Global Note in respect of each amount so paid. Each of the persons shown in the records of DTC, Euroclear or Clearstream, as the beneficial holder of a particular nominal amount of Notes represented by such Global Note must look solely to DTC, Euroclear or Clearstream, as the case may be, for his share of each payment so made by the Issuer to, or to the order of, the holder of such Global Note.

Notwithstanding the foregoing provisions of this Condition, if any amount of principal and/or interest in respect of Bearer Notes is payable in U.S. dollars, such U.S. dollar payments of principal and/or interest in respect of such Notes will be made at the specified office of a Paying Agent in the United States if:

(a) the Issuer and the Guarantor have appointed Paying Agents with specified offices outside the United States with the reasonable expectation that such Paying Agents would be able to make payment in U.S. dollars at such specified offices outside the United States of the full amount of principal and interest on the Bearer Notes in the manner provided above when due;

(b) payment of the full amount of such principal and interest at all such specified offices outside the United States is illegal or effectively precluded by exchange controls or other similar restrictions on the full payment or receipt of principal and interest in U.S. dollars; and

(c) such payment is then permitted under United States law without involving, in the opinion of the Issuer and the Guarantor, adverse tax consequences to the Issuer or the Guarantor.

8.6 Payment Day

If the date for payment of any amount in respect of any Note, Receipt or Coupon is not a Payment Day (as defined below), the holder thereof shall not be entitled to payment until the next following Payment Day in the relevant place and shall not be entitled to further interest or other payment in respect of such delay.

For these purposes, "Payment Day" means any day which (subject to Condition 11 (*Prescription*) is:

(a) a day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealing in foreign exchange and foreign currency deposits) in:

(i) in the case of Notes in definitive form only, the relevant place of presentation;

(ii) London; and

(iii) any Additional Financial Center specified in the applicable Pricing Supplement, provided that the named financial center of the country of the relevant Specified Currency and the international central securities depositaries shall not be authorized or required by law or regulation to be closed;

(b) either (1) in relation to any sum payable in a Specified Currency other than Euro, a day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealing in foreign exchange and foreign currency deposits) in the principal financial center of the country of the relevant Specified Currency (which if the Specified Currency is Australian dollars or New Zealand dollars shall be Melbourne or Wellington, respectively) or (2) in relation to any sum payable in Euro, a day on which the TARGET2 System is open; and

(c) in the case of any payment in respect of a Registered Global Note denominated in a Specified Currency other than U.S. dollars and registered in the name of DTC or its nominee and in respect of which an accountholder of DTC (with an interest in such Registered Global Note) has elected to receive any part of such payment in U.S. dollars, a day on which commercial banks are not authorized or required by law or regulation to be closed in New York City.

8.7 Interpretation of principal and interest

Any reference in these Conditions to principal in respect of the Notes shall be deemed to include, as applicable:

(a) any additional amounts which may be payable with respect to principal under Condition 10 (*Taxation*);

(b) the Final Redemption Amount of the Notes;

(c) the Early Redemption Amount of the Notes;

(d) the Optional Redemption Amount(s) (if any) of the Notes;

(e) in relation to Notes redeemable in installments, the Installment Amounts;

(f) in relation to Zero Coupon Notes, the Amortized Face Amount (as defined in Condition 9.7 (*Redemption and Purchase – Early Redemption Amounts*)); and

(g) any premium and any other amounts (other than interest) which may be payable by the Issuer under or in respect of the Notes.

Any reference in the Conditions to interest in respect of the Notes shall be deemed to include, as applicable, any additional amounts which may be payable with respect to interest under Condition 10 (*Taxation*).

9. REDEMPTION AND PURCHASE

9.1 Redemption at maturity

Unless previously redeemed or purchased and cancelled as specified below, each Note (including Dual Currency Redemption Notes) will be redeemed by the Issuer at its Final Redemption Amount specified in, or determined in the manner specified in, the applicable Pricing Supplement in the relevant Specified Currency on the Maturity Date.

9.2 Redemption for tax reasons

The Notes may be redeemed at the option of the Issuer in whole, but not in part, at any time (if this Note is neither a Floating Rate Note, an Index Linked Interest Note or a Dual Currency Interest Note) or on any Interest Payment Date (if this Note is either a Floating Rate Note, an Index Linked Interest Note or a Dual Currency Interest Note), on giving not less than 30 nor more than 60 days' notice to the applicable Agent and, in accordance with Condition 16 (*Notices*), the Noteholders (which notice shall be irrevocable), if:

(a) the Issuer or (if the Guarantor is required to make payments under the Guarantee) the Guarantor has or will become obligated to pay additional amounts as provided or referred to in Condition 10 (*Taxation*) as a result of any change in, or amendment to, the laws or regulations of a Tax Jurisdiction (as defined in Condition 10 (*Taxation*)) or any regulations or rulings promulgated thereunder, or any change in the application or official interpretation of such laws or regulations or rulings, or any change in the application or official interpretation of, or any execution of or amendment to, any treaty or treaties affecting in taxation to which the Tax Jurisdiction is a party, which change or amendment becomes effective on or after the date on which agreement is reached to issue the first Tranche of the Notes of the relevant Series; and

(b) such obligation cannot be avoided by the Issuer or the Guarantor, if applicable, taking reasonable measures available to it,

provided that no such notice of redemption shall be given earlier than 60 days prior to the earliest date on which the Issuer or the Guarantor, if applicable, would be obligated to pay such additional amounts or give effect to such treatment, as the case may be, were a payment in respect of the Notes (or the Guarantee, if applicable), then due.

Prior to the publication of any notice of redemption pursuant to this Condition, the Issuer or the Guarantor, as applicable, shall deliver to the Principal Paying Agent (i) a certificate signed by an authorized officer of the Issuer or the Guarantor, as applicable, stating that the Issuer or the Guarantor, as applicable, is entitled to effect such redemption and setting forth a statement of facts showing that the conditions precedent to the right of the Issuer or the Guarantor, as applicable, so to redeem have occurred and (ii) an opinion of independent legal advisers of recognized standing to the effect that the Issuer or the Guarantor, as applicable, has or will become obligated to pay such additional amounts as a result of such change or amendment.

Notes redeemed pursuant to this Condition 9.2 will be redeemed at their Early Redemption Amount referred to in Condition 9.7 (*Redemption and Purchase – Early Redemption Amounts*) below together (if appropriate) with interest accrued to (but excluding) the date of redemption.

9.3 Redemption at the option of the Issuer ("Issuer Call")

If Issuer Call is specified in the applicable Pricing Supplement, the Issuer may, having given:

(a) not less than 15 nor more than 30 days' notice to the Noteholders in accordance with Condition 16 (*Notices*); and

(b) not less than 15 days before the giving of the notice referred to in (a) above, notice to the Principal Paying Agent and, in the case of a redemption of Registered Notes, the Registrar;

(which notices shall be irrevocable and shall specify the date fixed for redemption), redeem all or some only of the Notes then outstanding on any Optional Redemption Date and at the Optional Redemption Amount(s) specified in, or determined in the manner specified in, the applicable Pricing Supplement together, if appropriate, with interest accrued to (but excluding) the relevant Optional Redemption Date. Any such redemption must be of a nominal amount not less than the Minimum Redemption Amount and not more than the Maximum Redemption Amount, in each case as may be specified in the applicable Pricing Supplement. In the case of a partial redemption of Notes, the Notes to be redeemed ("**Redeemed Notes**") will be selected individually by lot, in the case of Redeemed Notes represented by definitive Notes, and in accordance with the rules of DTC, Euroclear and/or Clearstream, in the case of Redeemed Notes represented by a Global Note, not more

than 30 days prior to the date fixed for redemption (such date of selection being hereinafter called the "**Selection Date**"). In the case of Redeemed Notes represented by definitive Notes, a list of the serial numbers of such Redeemed Notes will be published in accordance with Condition 16 (*Notices*) not less than 15 days prior to the date fixed for redemption. The aggregate nominal amount of Redeemed Notes represented by definitive Notes shall bear the same proportion to the aggregate nominal amount of all Redeemed Notes as the aggregate nominal amount of definitive Notes outstanding bears to the aggregate nominal amount of the Notes outstanding, in each case on the Selection Date, *provided* that, such first mentioned nominal amount shall, if necessary, be rounded downwards to the nearest integral multiple of the Specified Denomination and the aggregate nominal amount of Redeemed Notes represented by a Global Note shall be equal to the balance of the Redeemed Notes. No exchange of the relevant Global Note will be permitted during the period from (and including) the Selection Date to (and including) the date fixed for redemption pursuant to this Condition 9.3 and notice to that effect shall be given by the Issuer to the Noteholders in accordance with Condition 16 (*Notices*) at least five days prior to the Selection Date.

9.4 Redemption at the option of the Noteholders ("Investor Put")

If Investor Put is specified in the applicable Pricing Supplement, then, if and to the extent specified in the applicable Pricing Supplement, upon the holder of any Note, giving to the Issuer, in accordance with Condition 16 (Notices), not less than 15 nor more than 30 days' notice (or such other notice period as is specified in the applicable Pricing Supplement) (which notice shall be irrevocable), the Issuer will, upon the expiry of such notice, redeem subject to, and in accordance with, the terms specified in the applicable Pricing Supplement in whole (but not in part), such Note on the Optional Redemption Date and at the relevant Optional Redemption Amount as specified in, or determined in the manner specified in, the applicable Pricing Supplement, together, if applicable, with interest accrued to (but excluding) the relevant Optional Redemption Date. It may be that before an Investor Put can be exercised, certain conditions and/or circumstances will need to be satisfied. Where relevant, the provisions relating to such conditions and circumstances will be set out in the applicable Pricing Supplement. Registered Notes may be redeemed under this Condition 9.4 in any multiple of their lowest Specified Denomination.

9.5 Change of Control Redemption

Upon the occurrence of a Change of Control (as defined below), each Noteholder will have the option (the "**Change of Control Put Option**") (unless, prior to the giving of the Change of Control Put Event Notice (as defined below), the Issuer shall have given notice under Condition 9.2 (*Redemption and Purchase – Redemption for tax reasons*) or 9.3 (*Redemption and Purchase – Redemption at the option of the Issuer ("**Issuer Call**")*) in respect of the relevant Notes), exercisable during the Change of Control Put Period (as defined below), to require the Issuer to redeem all or any part of such Noteholder's Notes at a redemption price (the "**Change of Control Redemption Price**") equal to 100% of the principal amount of such Notes, together with accrued and unpaid interest, if any, to but excluding the Change of Control Put Date (as defined below). The Change of Control Put Option shall operate as set out in Condition 9.4 (*Redemption at the option of the Noteholders ("**Investor Put**")*). Accrued and unpaid interest in respect of the then current Interest Period (or portion thereof) shall be determined as if the Change of Control Put Date was an Interest Payment Date. Within 30 days following a Change of Control, the Issuer shall cause the Principal Paying Agent to mail a notice (a "**Change of Control Put Event Notice**") to the Noteholders in accordance with Condition 16 stating (a) that a Change of Control has occurred and that such holder has the right to require the Issuer to redeem such holder's Notes at the Change of Control Redemption Price, (b) the date (the "**Change of Control Put Date**") fixed by the Issuer for redemption under this Condition 9.5 (which shall be a Business Day within the fifth day after the expiry of the Change of Control Put Period) and (c) the procedures determined by the Issuer that a Noteholder must follow in order to have its Notes redeemed. In this Condition:

"**Change of Control**" means the central government and local governments of Korea ceasing to own and control (directly or indirectly or in combination) at least 50.1% of the Company's issued and outstanding voting shares.

"**Change of Control Put Period**" means the period fixed by the Issuer, which shall end on a Business Day no earlier than 30 days or later than 60 days after a Change of Control Put Event Notice is mailed.

9.6 Put Notices

To exercise the right to require redemption of such Note, pursuant to Condition 9.4 (*Redemption and Purchase – Redemption at the option of the Noteholders ("**Investor Put**")*) or 9.5 (*Redemption and Purchase – Change of Control Redemption*) the Noteholder must deliver, at the specified office of the Principal Paying Agent (in the case of Bearer Notes) or the Registrar (in the case of Registered Notes), at any time during normal business hours of such Principal Paying Agent or, as the case may be, the Registrar falling within the notice period (in the case of Condition 9.4) or the Change of Control Put Period (in the case of Condition 9.5), such Note (except for a Global Note) together with a duly signed and completed notice of exercise in the form (for the time being current) obtainable from any specified office of the relevant Paying Agent or, as the case may be, the Registrar (a "**Put Notice**") and in which the holder must specify a bank account (or, if payment is required to be made by check, an address) to which payment is to be made under this Condition or evidence satisfactory to the Principal Paying Agent concerned or, as the case may be, the Registrar that the Note will, following delivery of the Put Notice, be held to its order or under its control and, in the case of Registered Notes, the nominal amount thereof to be redeemed and, if less than the full nominal amount of the Registered Notes so surrendered is to be redeemed, an address to which a new Registered Note in respect of the balance of such Registered Notes is to be sent subject to and in accordance with the provisions of Condition 2.2 (*Transfers of Registered Notes – Transfers of Registered Notes in definitive form*). If this Note is in definitive form, the Put Notice must be accompanied by this Note or evidence satisfactory to the relevant Paying Agent concerned that this Note will, following delivery of the Put Notices, be held to its order or under its control.

Any Put Notice or other notice given in accordance with the standard procedures of Euroclear and Clearstream given by a holder of any Note pursuant to Condition 9.4 (*Redemption and Purchase – Redemption at the option of the Noteholders ("Investor Put")*) or Condition 9.5 (*Redemption and Purchase – Change of Control Redemption*) shall be irrevocable except where, prior to the due date of redemption, an Event of Default has occurred and is continuing, in which event, such holder, at its option, may elect by notice to the Issuer to withdraw the notice given pursuant to Condition 9.4 (*Redemption and Purchase – Redemption at the option of the Noteholders ("Investor Put")* or Condition 9.5 (*Redemption and Purchase – Change of Control Redemption*) and instead to declare such Note forthwith due and payable pursuant to Condition 12 (*Events of Default*).

9.7 Early Redemption Amounts

For the purpose of Condition 9.2 (*Redemption and Purchase – Redemption for tax reasons*) above and Condition 12 (*Events of Default*), each Note will be redeemed at its Early Redemption Amount calculated as follows:

(a) in the case of a Note with a Final Redemption Amount equal to the Issue Price, at the Final Redemption Amount thereof;

(b) in the case of a Note (other than a Zero Coupon Note but including an Installment Note and a Partly Paid Note) with a Final Redemption Amount which is or may be less or greater than the Issue Price or which is payable in a Specified Currency other than that in which the Note is denominated, at the amount specified in, or determined in the manner specified in, the applicable Pricing Supplement or, if no such amount or manner is so specified in the applicable Pricing Supplement, at its nominal amount; or

(c) in the case of a Zero Coupon Note, at an amount (the "**Amortized Face Amount**") calculated in accordance with the following formula:

$$\text{Early Redemption Amount} = RP \times (1+AY)^{y}$$

where:

"**RP**" means the Reference Price;

"**AY**" means the Accrual Yield expressed as a decimal; and

"**y**" is a fraction the numerator of which is equal to the number of days (calculated on the basis of a 360-day year consisting of 12 months of 30 days each) from (and including) the Issue Date of the first Tranche of the Notes of the relevant Series to (but excluding) the date fixed for redemption or (as the case may be) the date upon which such Note becomes due and repayable and the denominator of which is 360, or on such other calculation basis as may be specified in the applicable Pricing Supplement.

9.8 Installments

Installment Notes will be redeemed in the Installment Amounts and on the Installment Dates. In the case of early redemption, the Early Redemption Amount will be determined pursuant to Condition 9.7 (Redemption and Purchase – Early Redemption Amounts) above.

9.9 Partly Paid Notes

Partly Paid Notes will be redeemed, whether at maturity, early redemption or otherwise, in accordance with the provisions of this Condition and the applicable Pricing Supplement.

9.10 Purchases

The Issuer, the Guarantor and any of their respective Subsidiaries may at any time purchase Notes (provided that, in the case of definitive Bearer Notes, all unmatured Receipts, Coupons and Talons appertaining thereto are purchased therewith) by tender (available to all Noteholders alike) or in the open market at any price. If the Issuer, the Guarantor or any of their respective Subsidiaries shall acquire any Notes, such acquisition shall not operate as or be deemed for any purpose to be a satisfaction of the indebtedness represented by such Notes unless and until such Notes are delivered to the relevant Paying Agent and/or the Registrar for cancellation and are cancelled and retired by such Paying Agent and/or the Registrar. Notes purchased or otherwise acquired or held by or on behalf of the Issuer, the Guarantor or any of their respective Subsidiaries may be held, resold or, at its discretion, surrendered to any Paying Agent and/or the Registrar for cancellation. Notes purchased or otherwise acquired or held by or on behalf of the Issuer, the Guarantor or any of their respective Subsidiaries are not entitled to vote at meetings of Noteholders and shall not be deemed to be outstanding for the purposes of calculating quorums at meetings of Noteholders.

9.11 Cancellation

All Notes which are redeemed will forthwith be cancelled (together with all unmatured Receipts, Coupons and Talons attached thereto or surrendered therewith at the time of redemption). All Notes so cancelled and the Notes purchased and cancelled pursuant to Condition 9.10 (Redemption and Purchase – Purchases) above (together with all unmatured Receipts, Coupons and Talons cancelled therewith) shall be forwarded to the Principal Paying Agent (which shall notify the Registrar of such cancelled Notes in the case of Registered Notes) and cannot be reissued or resold.

9.12 Late payment on Zero Coupon Notes

If the amount payable in respect of any Zero Coupon Note upon redemption of such Zero Coupon Note pursuant to Condition 9.1 (*Redemption and Purchase – Redemption at maturity*), 9.2 (*Redemption and Purchase – Redemption for tax reasons*), 9.3 (*Redemption and Purchase – Redemption at the option of the Issuer ("Issuer Call"),* 9.4 (*Redemption and Purchase – Redemption at the option of the Noteholders ("Investor Put")* or 9.5 (*Redemption and Purchase – Change of Control Redemption*) above or upon its becoming due and repayable as provided in Condition 12 (Events of Default) is improperly withheld or refused, the amount due and repayable in respect of such Zero Coupon Note shall be the amount calculated as provided in paragraph (c) of Condition 9.7 (*Redemption and Purchase – Early Redemption Amounts)* above as though the references therein to the date fixed for the redemption or the date upon which such Zero Coupon Note becomes due and payable were replaced by references to the date which is the earlier of:

(a) the date on which all amounts due in respect of such Zero Coupon Note have been paid; and

(b) five days after the date on which the full amount of the moneys payable in respect of such Zero Coupon Notes has been received by the Principal Paying Agent or, in the case of Registered Notes, the Registrar and notice to that effect has been given to the Noteholders in accordance with Condition 16 (*Notices*).

9.13 Obligation to redeem

Upon the expiry of any notice as is referred to in 9.2 (*Redemption and Purchase – Redemption for tax reasons*), 9.3 (*Redemption and Purchase – Redemption at the option of the Issuer ("Issuer Call")),* 9.4 (*Redemption and Purchase – Redemption at the option of the Noteholders ("Investor Put"*)) or 9.5 (*Redemption and Purchase – Change of Control Redemption*) above, the Issuer, failing whom, the Guarantor, shall be bound to redeem the Notes to which the notice referred at the relevant redemption price applicable at the date of such redemption together with, if appropriate, interest accrued to (but excluding) the relevant redemption date.

10. TAXATION

All payments of principal and interest in respect of the Notes, Receipts and Coupons or under the Guarantee (if applicable) by or on behalf of the Issuer or the Guarantor (if applicable) will be made without withholding or deduction for or on account of any present or future taxes or duties of whatever nature imposed or levied by or on behalf of the relevant Tax Jurisdiction unless such withholding or deduction is required by law. In such event, the Issuer (or the Guarantor, if applicable) will pay such additional amounts as shall be necessary in order that the net amounts received by the holders of the Notes, Receipts or Coupons after such withholding or deduction shall equal the respective amounts of principal and interest which would otherwise have been receivable in respect of the Notes, Receipts or Coupons, as the case may be, in the absence of such withholding or deduction; except that no such additional amounts shall be payable with respect to any Note, Receipt or Coupon:

(a) where such withholding or deduction is imposed on a payment to a holder by reason of such holder presenting such Note, Receipt or Coupon for payment (where presentation is required) in the relevant Tax Jurisdiction (provided the Notes can also be presented at an office of a Paying Agent outside such Tax Jurisdiction); or

(b) to or on behalf of a holder of such Note, Receipt or Coupon who is subject to any present or future taxes or duties of whatever nature imposed or levied by or on behalf of the relevant Tax Jurisdiction in respect of such Note, Receipt or Coupon by reason of such holder being or having been connected with the relevant Tax Jurisdiction (or any political subdivision thereof) other than merely by holding such Note, Receipt or Coupon or receiving principal or interest or other payments in respect thereof; or

(c) where such withholding or deduction is imposed on a payment to a holder who is liable for such taxes or duties in respect of such Note, Receipt or Coupon by reason of such holder of the Note (or fiduciary, settlor, beneficiary, member or shareholder of, or possessor of power over the relevant holder, if the relevant holder is an estate, nominee, trust or corporation) being or having been connected with a Tax Jurisdiction other than merely by holding such Note, Receipt or Coupon; or

(d) presented for payment (where presentation is required) more than 30 days after the Relevant Date (as defined below) except to the extent that the holder thereof would have been entitled to an additional amount on presenting the same for payment on such thirtieth day assuming that day to have been a Payment Day (as defined in Condition 8.6 (*Payments – Payment Day*)); or

(e) where such withholding or deduction is imposed on a payment to a holder who would not be liable or subject to the withholding or deduction by making a declaration of non-residence or other similar claim for exemption to the relevant tax authority if (i) after having been requested in writing by the Issuer (or the Guarantor, if applicable) to make such a declaration or claim, such holder fails to do so and (ii) specific arrangements to undertake the monitoring required to monitor such a declaration or claim have been agreed to and put in place by the Issuer (or the Guarantor, if applicable), Euroclear, Clearstream, the Principal Paying Agent and the Paying Agent; or

(f) where such withholding or deduction would not have been imposed but for a failure by the holder or beneficial owner (or any financial institution through which the holder or beneficial owner holds any Note, Receipt or Coupon or through which payment on the Note, Receipt or

Coupon is made) to comply with any certification, information, identification, documentation or other reporting requirements (including entering into and complying with an agreement with the U.S. Internal Revenue Service) imposed pursuant to Sections 1471 through 1474 of the U.S. Internal Revenue Code of 1986, as amended (including any successor or amended version of these provisions, any regulations or agreements thereunder, or official interpretations thereof), or an intergovernmental agreement between the United States and another jurisdiction facilitating the implementation thereof (or any law implementing such an intergovernmental agreement) (collectively, "FATCA"); or

(g) any combination of paragraphs (a), (b), (c), (d), (e) or (f) above.

As used herein:

(i) "**Tax Jurisdiction**" means, (i) with respect to the Company and the Guarantor, Korea or any political subdivision or any authority thereof or therein having power to tax or any other jurisdiction or any political subdivision or any authority thereof or therein having power to tax to which the Company or the Guarantor becomes subject in respect of payments made by it of principal and interest on the Notes, Receipts or Coupons or under the Guarantee, as the case may be, through such jurisdiction, and (ii) with respect to any Guaranteed Issuer, such Guaranteed Issuer's jurisdiction of incorporation or any political subdivision or any authority thereof or therein having power to tax or any other jurisdiction or any political subdivision or any authority thereof or therein having power to tax to which such Guaranteed Issuer becomes subject in respect of payments made by it of principal and interest on the Notes, Receipts or Coupons through such jurisdiction; and

(ii) the "**Relevant Date**" means the date on which such payment first becomes due, except that, if the full amount of the moneys payable has not been duly received by the relevant Agent or the relevant Registrar, as the case may be, on or prior to such due date, it means the date on which, the full amount of such moneys having been so received, notice to that effect is duly given to the Noteholders in accordance with Condition 16 (*Notices*).

The obligation to pay additional amounts shall not apply to (a) any estate, inheritance, gift, sales, transfer, personal property or any similar tax, assessment or other governmental charge or (b) any tax, assessment or other governmental charge which is payable otherwise than by deduction or withholding from payments of principal of, or interest or premium on, the Notes, Receipts or Coupons; *provided that*, except as otherwise set forth in these Conditions and in the Agency Agreement, the Issuer or the Guarantor, if applicable, shall pay all stamp and other duties, if any, which may be imposed by Korea, the United States or any respective political subdivision thereof or any taxing authority of or in the foregoing, with respect to the Agency Agreement or as a consequence of the issuance of the first Tranche of the Notes of the relevant Series.

Whenever there is mentioned in any context the payment of principal of, and any premium or interest on, any Note, Receipt or Coupon, such mention shall be deemed to include payment of additional amounts to the extent that, in such context, additional amounts are, were or would be payable in respect thereof.

11. PRESCRIPTION

The Notes (whether in bearer or registered form), Receipts and Coupons or the Guarantee will become void unless presented for payment within a period of five years (in the cases of principal) and two years (in the case of interest) after the Relevant Date (as defined in Condition 10 (*Taxation*)) therefor.

There shall not be included in any Coupon sheet issued on exchange of a Talon any Coupon the claim for payment in respect of which would be void pursuant to this Condition or Condition 8.2 (*Payments – Presentation of definitive Bearer Notes, Receipts and Coupons*) or any Talon which would be void pursuant to Condition 8.2 (*Payments – Presentation of definitive Bearer Notes, Receipts and Coupons*).

12. EVENTS OF DEFAULT

12.1 Events of Default

The occurrence and continuance of any of the following events will constitute an event of default ("**Event of Default**") under the Notes:

(i) default in the payment of any installment of interest upon any of the Notes as and when the same shall become due and payable, and continuance of such default for a period of 30 days;

(ii) default in the payment of all or any part of the principal of, or premium (if any) on, any of the Notes as and when the same shall become due and payable, whether at maturity, upon redemption or otherwise;

(iii) breach or failure to observe or perform any other of the covenants or agreements on the part of the Issuer or the Guarantor (if applicable) contained in the Notes of the relevant Series or the Guarantee (if applicable) for a period of 60 days after the date on which written notice specifying such default or breach, stating that such notice is a "Notice of Default" under the Notes of the relevant Series or the Guarantee (if applicable) and demanding that the Issuer or the Guarantor (if applicable) remedy the same, shall have been given to the Issuer or the Guarantor (if applicable), with a copy to the Principal Paying Agent, by the holders of at least 10% in aggregate principal amount of the Notes of the relevant Series at the time outstanding;

(iv) any Debt of the Company in the aggregate outstanding principal amount of US$10,000,000 or more either (a) becoming due and payable prior to the due date for payment thereof by reason of acceleration thereof following default by the Company or (b) not being repaid at, and remaining unpaid after, maturity as extended by the period of grace, if any, applicable thereto, or any guarantee given by the Company in respect of Debt of any other person not being honored when, and remaining dishonored after becoming, due and called; *provided* that, in the case of (a) above, if any such default under any such Debt shall be cured or waived, then the default under the Notes by reason thereof shall be deemed to have been cured and waived;

(v) the entry of a decree or order for relief in respect of the Issuer or the Guarantor by a court or administrative or other governmental agency or body having jurisdiction in the premises in an involuntary case under any applicable bankruptcy, insolvency, reorganization, rehabilitation, compulsory composition or other similar law in effect on the date of issuance of the first Tranche of the Notes or thereafter, or appointing a receiver, liquidator, assignee, custodian, trustee or sequestrator (or similar official) of the Issuer or the Guarantor or for any substantial part of its property or ordering the winding up, dissolution or liquidation of its affairs, or shall otherwise adjudicate or find the Issuer or the Guarantor to be bankrupt or insolvent, and continuance of any such decree or order unstayed and in effect for a period of 60 consecutive days; or

(vi) the commencement by the Issuer or the Guarantor of a voluntary case under any applicable bankruptcy, insolvency, reorganization, rehabilitation, compulsory composition or other similar law in effect on the date of issuance of the first Tranche of the Notes or thereafter, or consent to the entry of an order for relief in an involuntary case under any such law, or consent to the appointment or taking possession by a receiver, liquidator, assignee, custodian, trustee or sequestrator (or similar official) of the Issuer or the Guarantor or for any substantial part of its property, or, subject to Condition 4.2, cease to carry on the whole or substantially the whole of its business (other than in furtherance of the new legislation by or plan of the government for restructuring of the gas industry and/or privatization of the Company, as it may be amended, modified or supplemented), or make any general assignment for the benefit of creditors, or enter into any composition with its creditors, or take corporate action in furtherance of any such action.

If an Event of Default with respect to the Notes of a given Series occurs and is continuing, the holders of not less than 25% in aggregate principal amount of the Notes of the relevant Series then outstanding may declare the principal amount (and premium, if any) of, and all accrued but unpaid interest on, all the Notes of the relevant Series to be due and payable immediately, by a notice in

writing to the Issuer and the Guarantor (if applicable) at the office of the Principal Paying Agent, and upon such declaration, any such principal amount (and premium, if any) and interest shall become immediately due and payable. Upon such declaration, the Principal Paying Agent shall give notice thereof to the Issuer and the Guarantor (if applicable) and to the Noteholders of the relevant Series, by mail and publication. If, after any such declaration and before any judgment or decree for the payment of the moneys due shall have been obtained or entered, the Issuer or the Guarantor, as applicable, pays or deposits with the Principal Paying Agent all amounts then due with respect to the Notes of the relevant Series (other than amounts due solely because of such declaration) and cures all other Events of Default with respect to the Notes of the relevant Series, such defaults may be waived and such declaration may be annulled and rescinded by the holders of more than 50% in aggregate principal amount of the Notes of the relevant Series then outstanding by written notice thereof to the Issuer and the Guarantor (if applicable) at the office of the Principal Paying Agent.

For the avoidance of doubt, the Agent shall have no responsibility to take any steps to ascertain whether any relevant event under this Condition has occurred.

As used herein, "**Debt**" means, with respect to any person as of any date of determination, without duplication, (i) all obligations, contingent or otherwise, of such person for borrowed money, (ii) all obligations of such person evidenced by bonds, notes or other similar instruments, (iii) all obligations of such person in respect of letters of credit or other similar instruments, (iv) all obligations of such person to pay the unpaid purchase price of any property or service, (v) all obligations secured by a Security on any property or asset of such person, whether or not such obligations are assumed by such person and (vi) all obligations of others guaranteed by such person to the extent of such guarantees and, for clauses (i) through (vi), which are denominated in a currency other than the currency of Korea and which has a final maturity of one year or more. The amount of Debt of any person as of any date of determination shall be the outstanding balance at such date of all unconditional obligations as described above, the maximum liability of such person for any such contingent obligations at such date and, in the case of clause (vi), the lesser of the fair market value (as determined in good faith by the board of directors of such person) at such date of the property or asset of such person subject to a Security securing the obligations of others and the amount of such obligations secured.

13. REPLACEMENT OF NOTES, RECEIPTS, COUPONS AND TALONS

Should any Note, Receipt, Coupon or Talon be lost, stolen, mutilated, defaced or destroyed, it may be replaced, subject to applicable laws, regulations and stock exchange or other relevant authority regulations, at the specified office of the relevant Paying Agent (in the case of Bearer Notes, Receipts or Coupons) or the Registrar (in the case of Registered Notes) upon payment by the claimant of such costs and expenses as may be incurred in connection therewith and on such terms as to evidence and indemnity as the Issuer and the Agents may reasonably require. Mutilated or defaced Notes, Receipts, Coupons or Talons must be surrendered before replacements will be issued.

14. AGENTS

The names of the initial Agents and their initial specified offices are set out below.

The Issuer and the Guarantor are entitled to vary or terminate the appointment of any Agent and/or appoint additional or other Agents and/or approve any change in the specified office through which any Agent acts, provided that:

(a) there will at all times be a Principal Paying Agent and a Registrar;

(b) so long as the Notes are listed on any stock exchange or admitted to trading by any other relevant authority, there will at all times be a Paying Agent (in the case of Bearer Notes) and a Registrar and a Transfer Agent (in the case of Registered Notes) with a specified office in such place as may be required by the rules and regulations of the relevant stock exchange or any other relevant authority (and in the case of Bearer Notes, outside the United States);

(c) so long as any of the Registered Global Notes payable in a Specified Currency other than U.S. dollars are held through DTC or its nominee, there will at all times be an Exchange Agent with a specified office in New York, London or Hong Kong; and

(d) for so long as the Notes are listed on the SGX-ST and the rules of the SGX-ST so require, in the event that the Global Note is exchanged for definitive Notes, there will at all times be a Paying Agent in Singapore.

In addition, the Issuer and the Guarantor shall forthwith appoint a Paying Agent having a specified office in New York City in the circumstances described in Condition 8.5 (*Payments – General provisions applicable to payments*). Any variation, termination, appointment or change shall only take effect (other than in the case of insolvency, when it shall be of immediate effect) after not less than 30 or more than 45 days' prior notice thereof shall have been given to the Noteholders in accordance with Condition 16 (*Notices*).

In acting under the Agency Agreement, the Agents act solely as agents of the Issuer and do not assume any obligation to, or relationship of agency or trust with, any Noteholders, Receiptholders or Couponholders. The Agency Agreement contains provisions permitting any entity into which any Agent is merged or converted or with which it is consolidated or to which it transfers all or substantially all of its assets to become the successor agent.

15. EXCHANGE OF TALONS

On and after the Interest Payment Date on which the final Coupon comprised in any Coupon sheet matures, the Talon (if any) forming part of such Coupon sheet may be surrendered at the specified office of the Principal Paying Agent or any other Paying Agent in exchange for a further Coupon sheet including (if such further Coupon sheet does not include Coupons to (and including) the final date for the payment of interest due in respect of the Note to which it appertains) a further Talon, subject to the provisions of Condition 11 (*Prescription*). Each Talon shall, for the purpose of these Conditions, be deemed to mature on the Interest Payment Date on which the final Coupon comprised in the relative Coupon sheet matures.

16. NOTICES

All notices regarding the Bearer Notes will be deemed to be validly given if published in a leading English language daily newspaper of general circulation in Asia by the Issuer or the Guarantor, if applicable. It is expected that such publication will be made in the *Asian Wall Street Journal*. The Issuer or the Guarantor, as applicable, shall also ensure that notices are duly published in a manner which complies with the rules and regulations of any stock exchange (or any other relevant authority) on which the Bearer Notes are for the time being listed or by which they have been admitted to trading. Any such notice will be deemed to have been given on the date of the first publication or, where required to be published in more than one newspaper, on the date of the first publication in all required newspapers.

All notices regarding the Registered Notes will be deemed to be validly given if (a) sent by first class mail or (if posted to an address overseas) by airmail to the holders (or the first named of joint holders) at their respective addresses recorded in the Register and will be deemed to have been given on the fourth day after mailing, and (b) in addition, if and for so long as the Registered Notes are listed on a stock exchange or are admitted to trading by another relevant authority and the rules of that stock exchange or relevant authority so require, such notice will be published in a daily newspaper of general circulation in the place or places required by those rules.

Until such time as any definitive Notes are issued, there may, so long as any Global Notes representing the Notes are held in their entirety on behalf of DTC, Euroclear and/or Clearstream, be substituted for such publication in such newspaper(s) the delivery of the relevant notice to DTC, Euroclear and/or Clearstream for communication by them to the holders of the Notes and, in addition, for so long as any Notes are listed on a stock exchange or are admitted to trading by another relevant authority and the rules of that stock exchange or any other relevant authority so require, such notice will be published in a manner specified by those rules. Any such notice shall be deemed to have been given to the holders of the Notes one day after the day on which the said notice was given to DTC, Euroclear and/or Clearstream.

Notices to be given by any Noteholder shall be in writing and given by lodging the same, together (in the case of any Note in definitive form) with the relative Note or Notes, with the Principal Paying Agent (in the case of Bearer Notes) or the Registrar (in the case of Registered Notes). So long as any

of the Notes are represented by a Global Note, such notice may be given by any holder of a Note to the Agent or the Registrar through DTC, Euroclear and/or Clearstream, as the case may be, in such manner as the Principal Paying Agent, the Registrar and DTC, Euroclear and/or Clearstream, as the case may be, may approve for this purpose.

Receiptholders and Couponholders will be deemed for all purposes to have notice of the contents of any notice given to the Noteholders in accordance with this condition.

17. MEETINGS OF NOTEHOLDERS, MODIFICATION AND WAIVER

17.1 Meetings of Noteholders

The Agency Agreement contains provisions for convening meetings of the Noteholders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution of a modification of the Notes, the Receipts, the Coupons or any of the provisions of the Agency Agreement. Such a meeting may be convened by the Issuer, the Guarantor or Noteholders holding not less than 10% in nominal amount of the Notes for the time being remaining outstanding. The quorum at any such meeting for passing an Extraordinary Resolution is one or more persons holding or representing not less than 50% in nominal amount of the Notes for the time being outstanding, or at any adjourned meeting one or more persons being or representing Noteholders whatever the nominal amount of the Notes so held or represented, except that at any meeting the business of which includes the modification of certain provisions of the Notes, Receipts or Coupons (including modifying the due date of maturity of the Notes or any date for payment of principal, premium, redemption amount or interest thereof, reducing or canceling the amount of principal, premium or redemption amount or the rate of interest payable in respect of the Notes, modifying or canceling the Guarantee or altering the currency of payment of the principal amount of the Notes, Receipts or Coupons), the quorum shall be one or more persons holding or representing not less than 75% in nominal amount of the Notes for the time being outstanding, or at any adjourned such meeting one or more persons holding or representing not less than 25%, in nominal amount of the Notes for the time being outstanding. An Extraordinary Resolution passed at any meeting of the Noteholders shall be binding on all the Noteholders, whether or not they are present at the meeting, and on all Receiptholders and Couponholders.

17.2 Modifications and Waivers

The Principal Paying Agent, the Issuer and the Guarantor may agree, without the consent of the Noteholders, Receiptholders or Couponholders, to:

(a) any modification (except as mentioned above) of the Notes, the Receipts, the Coupons, the Conditions, the Agency Agreement or the Guarantee which is not materially prejudicial to the interests of the Noteholders; or

(b) any modification of the Notes, the Receipts, the Coupons, the Conditions, the Agency Agreement or the Guarantee which is of a formal, minor or technical nature or is made to correct a manifest error or to comply with mandatory provisions of the law.

Any such modification shall be binding on the Noteholders, the Receiptholders and the Couponholders and any such modification shall be notified to the Noteholders in accordance with Condition 16 (Notices) as soon as practicable thereafter.

18. FURTHER ISSUES

The Issuer may from time to time without the consent of the Noteholders, the Receiptholders or the Couponholders, create and issue further notes with the same terms and conditions as the Notes in all respects except for the amount and date of the first payment of interest thereon so that such further issue shall be consolidated and form a single Series with the outstanding Notes; provided that, in the case of Bearer Notes initially represented by interests in a Temporary Bearer Global Note exchangeable for interests in a Permanent Bearer Global Note or definitive Bearer Notes, such consolidation will occur only upon certification of non-U.S. beneficial ownership and exchange of interests in the Temporary Bearer Global Note for interests in the Permanent Bearer Global Note or

definitive Bearer Notes; provided further that, any further notes shall be issued under a separate CUSIP or ISIN number unless the further notes are issued pursuant to a "qualified reopening" of the original series, are otherwise treated as part of the same "issue" of debt instruments as the original series or are issued with less than a *de minimis* amount of original issue discount, in each case for United States federal income tax purposes.

19. CURRENCY INDEMNITY

Any amount received or recovered in a currency other than the currency in which payment under the relevant Note, Receipt or Coupon is due (whether as a result of, or of the enforcement of, a judgment or order of a court of any jurisdiction, in the insolvency, winding-up or dissolution of the Issuer or the Guarantor, as applicable) by any Noteholder, Receiptholder or Couponholder in respect of any sum expressed to be due to it from the Issuer or the Guarantor (as applicable) shall only constitute a discharge to the Issuer or the Guarantor, as applicable, to the extent of the amount in the currency of payment under the relevant Note, Receipt or Coupon that the recipient is able to purchase with the amount so received or recovered in that other currency on the date of that receipt or recovery (or, if it is not practicable to make that purchase on that date, on the first date on which it is practicable to do so). If the amount received or recovered is less than the amount expressed to be due to the recipient under any Note, Receipt or Coupon, the Issuer, failing whom the Guarantor, shall indemnify such Noteholder, Receiptholder or Couponholder, as the case may be, against any loss sustained by it as a result. In any event, the Issuer, failing whom the Guarantor, shall indemnify the recipient against the cost of making any such purchase. For the purposes of this Condition, it shall be sufficient for the Noteholder, Receiptholder or Couponholder, as the case may be, to demonstrate that it would have suffered a loss had an actual purchase been made. These indemnities constitute a separate and independent obligation from the Issuer's and the Guarantor's other obligations, shall give rise to a separate and independent cause of action, shall apply irrespective of any indulgence granted by any Noteholder, Receiptholder or Couponholder and shall continue in full force and effect despite any other judgment, order, claim or proof for a liquidated amount in respect of any sum due under any Note, Receipt or Coupon or any other judgment or order.

20. GOVERNING LAW AND SUBMISSION TO JURISDICTION

20.1 Governing law

The Agency Agreement, the Notes, the Guarantee, the Receipts and the Coupons are governed by, and shall be construed in accordance with, the law of the State of New York.

20.2 Submission to jurisdiction

To the fullest extent permitted by applicable law, the Issuer and the Guarantor irrevocably submit to the non-exclusive jurisdiction of any federal or state court in the Borough of Manhattan, The City of New York, United States of America, in any suit, action or proceeding brought by any Noteholder, Receiptholder or Couponholder arising out of or based upon the Notes, the Guarantee, the Receipts/or the Coupons, and irrevocably agrees that all claims in respect of any such suit, action or proceeding may be determined in any such court. The Issuer and the Guarantor irrevocably and to the fullest extent they are permitted to do so under applicable law waive any objection they may have to the laying of venue in any such court or the defense of an inconvenient forum to the maintenance of any such suit or proceeding to the extent permitted by applicable law. The Issuer and the Guarantor hereby appoint the Law Office of Sungchurl Koh, whose address as of the date hereof is 303 Fifth Avenue, Suite 806, New York, NY 10016, U.S.A. as their authorized agent (the "**Authorized Agent**", which expression shall include any replacement authorized agent) upon whom process may be served in any such suit or proceeding set forth herein, it being understood that the designation and appointment of the Authorized Agent as such authorized agent shall become effective immediately without any further action on the part of the Issuer or the Guarantor; provided that if for any reason the Authorized Agent named above ceases to act as Authorized Agent hereunder for the Issuer or the Guarantor, the Issuer and the Guarantor will appoint another person acceptable to the Dealers in the Borough of Manhattan, The City of New York and the State of New York, as Authorized Agent. The Issuer and the Guarantor agree to take any and all action as may be necessary, including the filing of any and all documents that may be necessary, to maintain such designation and appointment of the authorized agent in full force and effect. If for any reason the appointment

of the Authorized Agent shall cease to be in force, the Issuer and the Guarantor shall forthwith appoint a new agent to be the Authorized Agent and shall deliver to the Dealers and the Arranger a copy of the new Authorized Agent's acceptance for that appointment within 30 days. Service of process upon the Authorized Agent shall be deemed, in every respect, effective service of process upon the Issuer or the Guarantor. The parties hereto each hereby waive any right to trial by jury in any action, proceeding or counterclaim arising out of or relating to the Notes, the Guarantee, the Receipts and/or Coupons.

20.3 Other documents

In the Agency Agreement the Issuer and the Guarantor submitted to the jurisdiction of the courts of the State of New York and appointed an agent for service of process in terms substantially similar to those set out above.

20.4 Waiver of immunity

The Issuer and the Guarantor hereby irrevocably and unconditionally waive and agrees not to raise with respect to the Notes or the Guarantee (including a dispute relating to any non-contractual obligations arising out of or in connection thereunder) any right to claim sovereign or other immunity from jurisdiction or execution and any similar defense, and irrevocably and unconditionally consents to the giving of any relief or the issue of any process, including, without limitation, the making, enforcement or execution against any property whatsoever (irrespective of its use or intended use) of any order or judgment made or given in connection with any legal action or other proceedings.

USE OF PROCEEDS

The net proceeds from each issue of Notes will be applied by the Issuer for its general corporate purposes, including working capital, financing investments in overseas gas exploration, development and production projects, financing capital expenditures and repayment of outstanding borrowings.

EXCHANGE RATES

The table below sets forth, for the periods and dates indicated, information concerning the market average exchange rate, announced by Seoul Money Brokerage Services, Ltd., between Won and U.S. dollars and rounded down to the nearest tenth of one Won. No representation is made that the Won or U.S. dollar amounts referred to herein could have been or could be converted into U.S. dollars or Won, as the case may be, at any particular rate or at all.

Period	At End of Period	Average Rate[(1)]	High	Low
		(Won per U.S.$1.00)		
2018	1,118.1	1,100.3	1,142.5	1,057.6
2019	1,157.8	1,165.7	1,218.9	1,111.6
2020	1,088.0	1,180.1	1,280.1	1,082.7
2021	1,185.5	1,144.4	1,199.1	1,083.1
2022	1,267.3	1,292.0	1,436.6	1,185.5
2023	1,289.4	1,305.4	1,360.6	1,219.3
2024 (through June 11)				
January	1,330.6	1,323.6	1,343.2	1,289.4
February	1,334.0	1,331.7	1,337.9	1,325.1
March	1,346.8	1,330.7	1,346.8	1,311.1
April	1,378.7	1,367.8	1,395.3	1,346.8
May	1,376.5	1,365.4	1,378.5	1,349.4
June (through June 11)	1,377.9	1,374.8	1,381.6	1,366.9

Source: Seoul Money Brokerage Services, Ltd.

(1) The average rate for the period is calculated as the average of the market average exchange rates on each business day during the relevant period.

RISK FACTORS

Investing in the Notes involves risks and uncertainties. Prospective purchasers of the Notes are advised to review carefully all of the information contained elsewhere in this offering circular and should consider, in particular, the following risk factors before purchasing the Notes. The risks described below are not the only ones that may be relevant to the Company or the Notes.

Risks related to the Company and its Natural Gas Import and Wholesale Business

The Company is subject to the control of the government, and its activities are heavily regulated.

As of March 31, 2024, the government directly and indirectly held 46.7% of the Company's issued and outstanding shares, and local governments held an additional 7.9% of the Company's issued and outstanding shares. Accordingly, the government is able to influence the election of the directors on the Company's board and the management of the Company. Although the Company's management runs the day-to-day operations, the government may determine material policies and, without the consent of other shareholders, the outcome of any transaction or other matter submitted to the Company's shareholders for approval, except for those matters requiring a special resolution of the shareholders. The government has historically influenced, and is likely to continue to influence, the Company's strategy and operations. The government also has the ability to influence and control other government-related entities, some of which are the Company's customers.

The Company was established under the KOGAS Act to, among other things, secure Korea's long-term supply of natural gas. The Company is heavily regulated by a variety of laws and regulatory bodies, including the MOTIE and the Ministry of Economy and Finance (the "**MOEF**"). From time to time, the Company is required to take action in furtherance of public policy considerations and the government's broader objectives for the natural gas industry, which may not be in the Company's best commercial interests. In particular, public policy considerations relating to the level of the Company's profitability affect the Company's prescribed rate of return. The MOTIE, among other things, supervises the Company's forecasting process for natural gas demand, approves the Company's liquefied natural gas ("**LNG**") supply contracts, and regulates natural gas sales prices. In addition, the Company must obtain the MOTIE's consent in certain instances, and in some cases must seek amendments to current laws, to expand its operations into new businesses outside of its core gas operations.

Furthermore, the MOEF has been encouraging government-controlled enterprises, including the Company, to significantly reduce their debt levels. In this respect, the government annually reviews and revises five-year target guidelines for the Company to reduce its liabilities-to-equity ratio, and the current target guideline, set in 2023, suggests that the Company reduce its liabilities-to-equity ratio to 203.9%, on a consolidated basis, by the end of 2027. In response to such guidelines, the Company has been in periodic discussions with the MOTIE and the MOEF regarding the Company's plans for debt reduction, including through disposal of non-core or unprofitable assets and issuance of equity and/or equity-linked securities, as well as various other cost-saving initiatives, and the Company's liabilities-to-equity ratio was 459% as of March 31, 2024, on a consolidated basis. However, there is no assurance that the Company's plans will be fully implemented as currently anticipated or, even if implemented in full, will enable the Company to achieve the target liabilities-to-equity ratio. If the Company does not meet such target ratio within the agreed timeline, the Company may face sanctions by the government, which may include adverse performance evaluation by the government and dismissal of the Company's President.

In June 2016, the MOEF announced broad-based measures to adjust the functions of government-controlled entities in the energy, environment and education sectors (the "**June 2016 Government Plan**"). These measures include, among others, (i) rationalization of the overseas natural resource exploration, development and production activities of government-controlled enterprises, including the Company, (ii) the gradual liberalization of the LNG wholesale market beginning in 2025 as well as measures aimed at improving the market environment for direct imports of LNG for own-use and (iii) the public listing of shares of Korea Gas Technology Corp., a wholly-owned subsidiary of the Company, which provides system maintenance for the Company's gas-related facilities and designs and supervises the construction of natural gas production and supply facilities. Subsequently in June 2016, the MOTIE announced improvement measures for the overseas natural resource exploration, development and production activities of government-controlled enterprises, including the Company. According to such improvement measures, the Company has developed a plan for the sale of its interests in overseas exploration,

development and production operations, other than core assets (taking into consideration strategic value and profitability), to third parties with preference given to institutional investors in Korea if possible and with an aim to maximize the returns on such sales. The timing of any such sales will be subject to market conditions. In addition, the Company will be limited from entering into any new overseas investments other than any such investments that are in furtherance of important policy objectives. Pursuant to such plan, in July 2018, the Company sold 10% of its equity interest in the LNG Canada project in British Columbia to Petroliam Nasional Berhad ("**Petronas**") of Malaysia, terminated its resource development projects in Iraq's Mansuriya in February 2020, Democratic Republic of Timor-Leste in August 2021 and Iraq's Akkas in April 2024. The Company is also currently in the process of terminating its resource development project in Krueng Mane, Indonesia, its compressed natural gas fueling station and cylinder business in Uzbekistan and its city gas development project in Mozambique. In addition, certain agreements relating to the Company's overseas exploration, development and production activities require the consent of other parties in order to effect some or all of the measures being considered by the government. The Company cannot make any assurances that future policy decisions by the government will not have an adverse effect on the Company's business, results of operations and financial condition.

From time to time, the government may suspend the Company's ability to increase its sales prices to city gas companies to fully reflect increases in raw material costs, which has had, and may in the future have, a negative impact on the Company's cash flows and financial condition, and also a temporary negative impact on the Company's results of operations.

Historically, the MOTIE, after consultation with the MOEF, has permitted the Company to pass through its raw material costs (including LNG costs, transportation expenses, insurance costs and taxes and duties as well as reserves periodically allocated for the collection of the Company's outstanding receivables) through periodic adjustments to the Company's sales prices to its customers, which has enabled the Company to mitigate its commodity price and foreign exchange risks. Prior to the beginning of each calendar year, the MOTIE, after consultation with the MOEF and the Company, determines the unit "supply margin," which is based on the Company's target sales volume, estimated unit supply costs based on such target sales volume (including depreciation, selling, general and administrative expenses and labor costs) and a guaranteed return for the Company for the then upcoming year. The guaranteed return amount is determined based on the Company's assets used in the distribution of natural gas, the Company's weighted average cost of capital and certain adjustments. The Company adds to this unit supply margin the unit raw material costs to arrive at the unit gas sales prices charged to its customers ("**Formula Prices**"). This enables the Company to recover its supply costs, pass through its raw material costs and realize a guaranteed return. Such Formula Prices are adjusted periodically throughout the year to reflect fluctuations in raw material costs, as permitted by the Supply of Natural Gas Regulation under the City Gas Business Act.

However, during periods of substantial fluctuations in the price of LNG and the value of the Won relative to the U.S. dollar, as part of the government's efforts to mitigate the impact of such fluctuations as well as concerns over inflation, the MOTIE temporarily suspends the bi-monthly adjustments to the sales prices that the Company invoices to city gas companies. During such periods, the amounts that the Company is entitled to collect from city gas companies based on the Formula Prices but is unable to collect due to the suspension of the bi-monthly adjustments are recorded as "current non-financial assets" (for amounts estimated to be collectible within one year subsequent to the statement of financial position date) or "non-current non-financial assets" (for amounts estimated to be collectible after one year subsequent to the statement of financial position date). For example, the MOTIE temporarily suspended from March 2008 to February 2013 the periodic bi-monthly adjustments to the sales price that the Company invoices to city gas companies. The total amount of current non-financial assets and non-current non-financial assets accumulated during the suspension period relating to the material costs component of sales to city gas companies was Won 5,341 billion. Such suspension and the resulting inability by the Company to fully increase its invoice sales prices to city gas companies to reflect the Formula Prices led to a substantial decrease in net cash inflows and a corresponding increase in the Company's borrowings during the suspension period. In 2013, the MOTIE lifted the suspension of the periodic bi-monthly adjustments and reformulated the Formula Prices at a level that enabled the Company to recoup from February 2013 to October 2017 the accumulated Won 5,341 billion to which the Company was entitled but unable to collect during the suspension period. Following such reformulation of the Formula Prices, when the Company recognizes sales, it reduced the amounts in other non-financial assets by an amount equal to the portion of the Formula Prices earmarked for recoupment until all such previously suspended amounts are recouped. Following the lifting of the suspension in February 2013 and the reformulation of the Formula Price, the Company recouped all such amounts accumulated during the suspension period by October 2017.

From October 2018 to June 2019, from July 2020 to March 2022, from November 2022 to April 2023 and since July 2023, in order to mitigate the impact of increases in the price of LNG, the MOTIE re-suspended the bi-monthly adjustments to the sales prices that the Company invoices to city gas companies. Such amounts that the Company was unable to collect due to the suspensions and estimated to be collectible within one year subsequent to the statement of financial position date amounted to Won 1,628 billion as of December 31, 2021, Won 3,796 billion as of December 31, 2022, Won 4,065 billion as of December 31, 2023 and Won 3,819 billion as of March 31, 2024 and were recorded as "other current non-financial assets." Such amounts that the Company was unable to collect due to the suspensions and estimated to be collectible after one year subsequent to the statement of financial position date amounted to Won 1,453 billion as of December 31, 2021, Won 8,292 billion as of December 31, 2022, Won 11,847 billion as of December 31, 2023 and Won 11,994 billion as of March 31, 2024 and were recorded as "other non-current non-financial assets." However, from April 2022 to October 2022 and from May 2023 to June 2023, the MOTIE had lifted the suspension of the periodic bi-monthly adjustments and reformulated the Formula Prices, which allowed the Company to recoup some of the accumulated amounts. No assurance can be given as to when the Company will be able to recoup the accumulated amounts to which the Company was entitled but unable to collect or that the MOTIE will not change its policy or adopt other measures that may prevent or delay the Company from realizing its guaranteed return fully or at all. In addition, the time lag associated with the bi-monthly adjustments to the Formula Prices has had, and may in the future have, a negative impact on the Company's cash flows and financial condition and a temporary negative impact on the Company's results of operations. In addition, if the MOTIE changes its regulation to the effect that the Company becomes unable to fully pass through its raw material and supply costs by charging the Formula Prices to its customers, the Company's results of operations, cash flows and financial condition could be materially adversely affected.

The government is pursuing liberalization of the Korean natural gas industry, including opening the LNG import and wholesale market to competition.

Since 1998, the government has stated that it is considering various options regarding the liberalization of the natural gas industry to introduce competition and greater transparency. In 1999, the government amended the Petroleum Business Act to allow gas consumers to import LNG for their own use from 2001. Since the passage of the amendment, 23 companies, including three power generating subsidiaries of KEPCO, have started importing LNG directly, which has had an adverse effect on the Company's sales and results of operations in recent periods. The Company can make no assurance that additional companies will not import LNG for their own use in the future. If a large number of companies were to begin to import LNG in substantial amounts or in such a way as to bypass the Company's terminals and pipeline facilities, the Company's sales and results of operations could be adversely affected. See "– The Company relies on the subsidiaries of KEPCO for a substantial portion of its sales, and its results of operations and financial condition are affected by their performance and the mix of fuel sources they use to generate power."

In October 2008, the MOTIE proposed a road map to permit other companies to enter the LNG import and wholesale market in Korea. The road map contemplates gradual liberalization, initially starting with liberalization of the market for power generating companies followed by the market for industrial usage. In January 2014, the City Gas Business Act was amended to permit other companies to enter the LNG market. The amendment allows LNG traders, upon registration, to store LNG in bonded areas (in accordance with the Customs Act of Korea) for onward sales overseas, but prohibits sales of such stored LNG to domestic third parties in Korea. The amendment also allows overseas sales of LNG by domestic companies that directly import LNG for their own use. In June 2016, the MOEF announced broad-based measures to adjust the functions of government-controlled entities in the energy, environment and education sectors. These measures include, among others, the gradual liberalization of the LNG wholesale market beginning in 2025 as well as measures aimed at improving the market environment for direct imports of LNG for own-use. In July 2016, the MOTIE announced measures to reform the regulations applicable to new energy businesses. These measures include, among others, the expansion of own-use LNG imports. In February 2020, the City Gas Business Act was amended to define the marine natural gas business and set forth matters relating to the registration of the marine natural gas business and notifications regarding import and export of marine natural gas. The amendment was implemented following the expected increase in natural gas as a marine fuel due to tightening ship emissions regulations by the International Maritime Organization. Notwithstanding such developments, the Company believes that its profitability for the near- to mid-term will not be materially affected, as a substantial portion of projected demand for natural gas in the next decade is expected to be satisfied under the Company's

existing long-term supply contracts and new competitors for LNG import and wholesale will only be able to compete for the portion of projected demand that will not be met by the Company under its existing long-term supply contracts until such contracts terminate. Accordingly, the Company believes that new entrants would not be able to significantly penetrate the market in the near future. However, liberalization of the Korean natural gas industry may intensify competition in the LNG import and wholesale market in the future, which could have a material adverse effect on the Company's business, results of operation and financial condition, and the Company may be put at a disadvantage due to its long-term contracts and pricing structure. New entrants may be able to obtain natural gas at rates lower than those to which the Company has committed to purchase under its long-term contracts and may have more flexibility in pricing.

The government may privatize the Company by further reducing its ownership interest in the Company or spinning off parts of the Company's operations.

In the past, the government contemplated privatization of the Company through a reduction in the government's shareholding or a spin-off of the Company's LNG importation and distribution business. In June 2016, the MOEF announced broad-based measures to adjust the functions of government-controlled entities in the energy, environment and education sectors. These measures include, among others, (i) rationalization of the overseas natural resource exploration, development and production activities of government-controlled enterprises, including the Company and (ii) the public listing of shares of Korea Gas Technology Corp., a wholly-owned subsidiary of the Company, which provides system maintenance for the Company's gas-related facilities and designs and supervises the construction of natural gas production and supply facilities. Subsequently in June 2016, the MOTIE announced improvement measures for the overseas natural resource exploration, development and production activities of government-controlled enterprises, including the Company. According to such improvement measures, the Company has developed a plan for the sale of its interests in overseas exploration, development and production operations, other than core assets (taking into consideration strategic value and profitability), to third parties with preference given to institutional investors in Korea if possible and with an aim to maximize the returns on such sales. The timing of any such sales will be subject to market conditions. Pursuant to such plan, in July 2018, the Company sold 10% of its equity interest in the LNG Canada project in British Columbia to Petronas, terminated its resource development projects in Iraq's Mansuriya in February 2020, Democratic Republic of Timor-Leste in August 2021 and Iraq's Akkas in April 2024. The Company is also currently in the process of terminating its resource development project in Krueng Mane, Indonesia, its compressed natural gas fueling station and cylinder business in Uzbekistan and its city gas development project in Mozambique. See "– The Company is subject to the control of the government, and its activities are heavily regulated." To the Company's knowledge, the government currently does not have any plan to privatize the Company through a reduction in the government's shareholding. However, there can be no assurance that the government will not consider privatization of the Company in the future. In such an event, the Company cannot be certain how reduced government control would affect its business and results of operations. In particular, the Company cannot provide any assurance that certain government policies, such as the pass-through of costs and guaranteed return on investment, would continue to exist after privatization or a reduction in government control. In addition, certain ship financing agreements relating to ships that are used exclusively by the Company require the central government and the local governments to maintain direct or indirect ownership or control of an aggregate of 30% of the Company's total issued and outstanding shares. Should any privatization plan not make specific arrangements for such provisions, the Company's liquidity, financial condition and results of operations could be adversely affected.

In the event that the central government and local governments of Korea cease to own and control (directly or indirectly or in combination) at least 50.1% of the Company's issued and outstanding capital stock (a "change of control event"), such event will trigger a change of control redemption provision under the Notes. See "Terms and Conditions of the Notes – Redemption and Purchase – Change of Control Redemption." Upon the occurrence of a change of control event, each holder of Notes will have the right to require the Company to redeem all or any part of such holder's Notes at a redemption price equal to 100% of their principal amount plus accrued but unpaid interest, if any, to the date of redemption. The failure to redeem any Notes required to be so redeemed would constitute an event of default under the Notes. The Company cannot assure you that it would have sufficient funds available at the time of a change of control event to make any repayment as described above.

The Company obtains substantially all of its natural gas from a small number of overseas suppliers.

The Company currently obtains substantially all of its LNG from overseas sources, including Australia, Oman, Qatar and the United States. The Company has found that developing relationships with certain key suppliers has enabled the Company to obtain consistent supplies of high quality natural gas at competitive prices. Any prolonged interruption in the supply of natural gas from any key suppliers would have a material adverse effect on the Company's business operations. In order to ensure a stable source of supply, the Company selectively enters into long-term LNG supply contracts for 10 to 25 years. Any significant interruption in the supply of natural gas from any of its suppliers could cause the Company to purchase gas on the spot market at prices higher than contracted, which in turn would result in an increase in the Company's gas sales prices to its customers. In addition, there is no guarantee that the Company would be able to find suitable alternative sources of long-term supply on a timely basis, on commercially acceptable terms or at all.

The volatility in the prices of natural gas, crude oil and other competing energy sources could affect demand for natural gas as a fuel source.

The Company's purchase price for LNG is primarily determined by crude oil prices, and the purchase price in Won terms is also affected by the exchange rate between the Won and the U.S. dollar. Driven primarily by a fluctuation in crude oil prices in recent years, the price of natural gas has also fluctuated significantly. The market price and supply of imported natural gas are subject to a variety of factors that are beyond the control of the Company, including political developments and instability in crude oil and natural gas producing regions (in particular the Middle East), activities of the Organization of Petroleum Exporting Countries ("**OPEC**") and other petroleum and natural gas producing nations in setting and maintaining production levels, and the development, market prices and supply levels of alternative or substitute energy sources, including the discovery and extraction of a large reserve of shale oil and gas in the United States. In particular, the global COVID-19 pandemic has materially and adversely affected the global economy and financial markets in 2020, which decreased the global demand for crude oil and natural gas in 2020. See "– Earthquakes, tsunamis, floods, severe health epidemics (including the global COVID-19 pandemic and any possible occurrence of other types of widespread infectious diseases) and other natural calamities could materially and adversely affect the Company's business, results of operations or financial condition." Such developments were exacerbated by a conflict between OPEC led by Saudi Arabia and Russia relating to crude oil production cuts, and the market price of crude oil fell to a historical low in April 2020. While the market price of crude oil has since generally recovered, as the oil producing nations were able to reach a consensus on reduced production levels and the overall level of global economic activities showed signs of improvement through 2021 and the first half of 2022, the level of fluctuation in the market price of crude oil has increased in more recent periods. Although the market price of crude oil significantly increased in the first half of 2022, primarily as a result of Russia's invasion of Ukraine in February 2022, it generally declined from the second half of 2022 through 2023 in light of weakness and uncertainty in the global economy and financial markets, among others, due to rising interest rates globally to combat inflationary pressures, the effect of which was partially offset by the decisions by the member countries of OPEC to reduce their crude oil supply volume in October 2022, April 2023, June 2023 and March 2024 and by Russia to do the same in March 2023, August 2023 and March 2024. Future prospects for crude oil prices and supply levels remain highly uncertain and volatile. Although the full impact of such events cannot be reasonably estimated at this time, the cumulative nature of these events could have a material adverse effect on the Company's business, financial condition and results of operations.

Most of the gas currently sold by the Company is sold under long-term contracts and therefore, in the short term, demand for gas is not materially affected by price volatility. However, long-term demand is dependent upon the relative prices of natural gas and competing alternative energy sources. If there is an increase in the price of crude oil, leading to an increase in the Company's gas sales price, there may be less demand for the Company's gas. For example, when natural gas prices are unusually high, power generating companies may switch from natural gas to cheaper sources of fuel. To the extent that the market price of alternative energy sources drops to and is sustained at a low level, or the Company's gas sales prices increase as a result of an increase in the price of LNG procured under future contacts, demand for the Company's natural gas may decrease, which could adversely affect the Company's business, results of operations and financial condition. Governmental policies may also impact the prices of natural gas and other competing energy sources. Although the Company's sales price adjustment mechanism enables the Company to pass on a substantial portion of the fluctuation in costs of natural gas imports to its customers through adjustments of the Formula Price, there can be no assurance that the Company will continue to be able to pass on increased costs without negatively impacting customer demand or the Company's long-term relationship with its customers.

If future oil and gas prices are forecasted to decline substantially, the Company may be required to write down the book value of its assets, which may have a material adverse effect on the Company's business, financial condition and results of operations.

The Company reviews its assets at the end of each reporting period to determine whether there is any indication of impairment. If any such indication exists, the Company estimates the recoverable amount of the relevant assets. The recoverable amount of an asset is the greater of its value in use, which is the estimated future net cash flow expected to be generated by the asset adjusted by a discount rate that reflects current market assessments of the time value of money and the risks specific to the asset, and its fair value less costs to sell. If the book value exceeds the recoverable amount of an asset, an impairment loss will be recognized and the book value of such asset will be adjusted to their recoverable amount.

The Company estimates the future net cash flows of its assets based on long-term forecasts from globally recognized research institutions. If such long-term forecasts estimate that oil and gas prices will decrease substantially, the Company may be required to recognize impairment loss on its assets. Likewise, certain of the entities in which the Company has made equity investments may be required to recognize impairment loss on their assets, which may contribute to the recognition of loss in investments in associates and joint ventures and impairment of available-for-sale financial assets by the Company.

The Company recognized net impairment loss on property, plant and equipment of Won 150 billion in 2022 and Won 657 billion in 2023, and net impairment loss on intangible assets of Won 67 billion in 2022 and Won 143 billion in 2023, primarily related to impairment of assets of the Company's wholly-owned subsidiaries (mainly attributable to KOGAS Prelude Pty. Ltd., KG Mozambique Ltd., KOGAS Mozambique, Lda. and KOGAS Iraq B.V.) that invested in various overseas gas exploration, development and production projects. The Company recognized a net reversal of impairment loss on property, plant and equipment of Won 442 billion in 2021 mainly attributable to a reversal of impairment loss related to machinery of KOGAS Australia Pty. Ltd. and a reversal of impairment loss on intangible assets of Won 89 billion in 2021 mainly attributable to a reversal of impairment loss related to mineral rights of KOGAS Australia Pty. Ltd., in each case due to increases in forecasted prices of oil and gas and improvements in the business environment. The Company did not recognize impairment loss on property, plant and equipment or impairment loss on intangible assets in the first three months of 2024. While these impairment losses do not have any effect on the Company's cash flow and may be reversed in the future upon changes in the business environment resulting in the resumption or reappraisal of the Company's related development activities, they do negatively impact the Company's results of operations and there is no assurance that such impairment losses will be reversed in whole, in part or at all, in the future.

The Company cannot accurately predict the amount or timing of any impairment of assets. If the Company is required to recognize an impairment loss on a significant portion of its assets, such impairment would have a material adverse effect on the Company's business, financial condition and results of operations.

Earthquakes, tsunamis, floods, severe health epidemics (including the global COVID-19 pandemic and any possible occurrence of other types of widespread infectious diseases) and other natural calamities could materially and adversely affect the Company's business, results of operations or financial condition.

If earthquakes, tsunamis, floods, severe health epidemics or any other natural calamities were to occur in any area where any of the Company's assets, exploration, production or development projects or customers are located, the Company's business, results of operations or financial condition could be adversely affected. Any occurrence of such natural calamities in countries where the Company's exploration, production or development projects are located may lead to reduced production or delays in the production of natural gas. In addition, natural calamities in areas where the Company's customers are located may cause disruptions in their businesses, which in turn could adversely impact their demand for the Company's natural gas, which may also lead to lower prices for such natural gas.

In particular, COVID-19, an infectious disease caused by severe acute respiratory syndrome coronavirus 2, was declared a pandemic by the World Health Organization in March 2020. While the Company believes that COVID-19 has not caused material disruption to its business operations to date, the global outbreak of COVID-19 had led to global economic and financial disruptions, particularly in 2022. See "– The volatility in the prices of natural gas, crude oil and other competing energy sources could affect demand for natural gas as a fuel source."

Risks associated with COVID-19 or other types of widespread infectious diseases include:

- disruption in the normal operations of the businesses of the Company's customers, which in turn may decrease demand for the Company's natural gas and adversely affect their prices;

- disruption in the normal operations of the Company's business resulting from contraction of infectious diseases by the Company's employees or those of the Company's exploration, production and development projects, which may necessitate such employees to be quarantined and/or the Company's exploration, production and development projects or offices to be temporarily shut down, which in turn may adversely impact the Company's production capacity;

- disruption in the distribution of the Company's natural gas to its customers;

- disruption resulting from the necessity for social distancing, including implementation of temporary adjustment of work arrangements requiring employees to work remotely, which may lead to a reduction in labor productivity;

- unstable global and Korean financial markets, which may adversely affect the Company's ability to meet its funding needs on a timely and cost-effective basis; and

- impairments in the fair value of the Company's investments in companies that may be adversely affected by the pandemic, which in turn may adversely affect the Company's business, financial condition and results of operations and may also adversely affect the sale of the Company's overseas assets pursuant to the June 2016 Government Plan.

In the event that a future recurrence of COVID-19 or an occurrence of other types of widespread infectious diseases cannot be effectively and timely contained, the Company's business, financial condition and results of operations may be materially and adversely affected.

The expansion of the Company's gas processing, storage and transmission network will require additional capital for which the Company may be unable to obtain sufficient financing.

The Company is currently constructing storage facilities in Dangjin, and it also plans to make capital expenditures to increase its processing and storage capacity and further expand its national pipeline. The Company currently expects to spend approximately Won 2.9 trillion in planned capital expenditures from 2024 until 2025 relating to the expansion of its receiving terminals and storage capacity, construction of a liquid hydrogen plant and hydrogen refueling stations, and construction and maintenance of its pipeline network. The Company may from time to time adjust its future capital expenditures subject to market demand in Korea for natural gas, the production outlook of the global gas industry and global economic conditions in general. There can be no assurance that debt or equity financing or cash flow from operations will be available or sufficient to meet the Company's capital expenditure requirements or, if debt or equity financing is available, that it will be available on terms acceptable to the Company. Any inability of the Company to access sufficient capital could have a material adverse effect on the Company's growth strategy.

The Company engages in certain international activities and dealings, including dealings relating to Russia and Myanmar, that may be subject to or otherwise affected by economic sanctions administered and enforced by various jurisdictions. These economic sanctions may limit what dealings the Company can engage in, including dealings related to the Company's supply of LNG and natural gas, and may have other adverse effects on the Company's business and reputation.

The U.S. government, including the U.S. Department of the Treasury's Office of Foreign Assets Control, or OFAC, administers and enforces certain laws and regulations, or U.S. direct sanctions, that impose prohibitions or restrictions on dealings with or related to certain designated countries and territories, governments, entities and individuals, and entities majority-owned by such parties, that take place within U.S. jurisdiction. U.S. direct sanctions include territorial sanctions targeting specific countries and jurisdictions; blocking sanctions, which generally prohibit U.S. persons from engaging in transactions or other dealings with or involving blocked persons or the property or interests in property of blocked person; and non-blocking prohibitions and restrictions that target specific kinds of dealings, including, for example, dealings in debt or equity issued by certain designated parties after certain dates. U.S. direct sanctions are subject to frequent and unpredictable changes. For example, as a result of recent events in Ukraine and Myanmar, the United States has adopted new, additional and/or enhanced direct sanctions

targeting, to different extents, Russia and Myanmar, and persons located in those jurisdictions. Although U.S. direct sanctions generally are not applicable to non-U.S. persons (although certain U.S. direct sanctions programs do apply to non-U.S. subsidiaries of U.S. companies), non-U.S. persons can be held liable for violations of U.S. direct sanctions to the extent they participate in prohibited transactions within U.S. jurisdiction (including transactions, for example, involving U.S. goods, services or technology, U.S. persons, or U.S. dollar payments that are cleared through the U.S. financial system). U.S. direct sanctions may apply to the Company or its dealings, and changes to U.S. direct sanctions may affect what dealings the Company can pursue or engage in, and/or what counterparties the Company can interact with.

In addition to U.S. direct sanctions, the United States maintains numerous secondary sanctions programs that give the U.S. government authority to impose a variety of sanctions on foreign parties that engage in certain sanctionable activities, including certain dealings with U.S. sanctioned persons, regardless of whether such sanctionable activities occur within U.S. jurisdiction. The imposition of U.S. secondary sanctions is not automatic, and instead requires specific action by the U.S. government. In practice, U.S. secondary sanctions are highly discretionary and may be strongly influenced by political considerations, and accordingly, are difficult to predict. Non-U.S. parties that engage in sanctionable activities are potentially subject to a number of sanctions, including, among other things, the blocking of any property within U.S. jurisdiction (including the possession or control of U.S. persons) in which the sanctioned party has an interest, and a prohibition on transactions or dealings with or involving such parties or property in which such persons have an interest if such transactions or other dealings are undertaken within U.S. jurisdiction. The Company's business and reputation could be adversely affected, for example, if the U.S. government were to determine that its activities, or the activities of any of its counterparties, involve sanctionable activity under U.S. secondary sanctions.

In addition to U.S. direct and secondary sanctions, other jurisdictions, including the European Union, the United Kingdom and Korea, administer and enforce their own economic sanctions that target certain countries and territories, governments, entities and individuals in varying respects. Like the United States, some of these jurisdictions have adopted new, additional and/or enhanced sanctions targeting Russia and Myanmar in response to recent events. These sanctions may apply to the Company or its dealings, and changes to such sanctions may affect what dealings the Company can pursue or engage in, and/or what counterparties the Company can interact with.

Any violation of applicable sanctions by the Company could result in criminal, civil, and/or administrative liability for the Company, including potentially substantial fines or other criminal, civil, and/or administrative penalties, and the Company's reputation being adversely affected.

The Company is engaged in the following dealings with sanctioned parties. As of the date of this document, the Company has no other dealings with sanctioned parties.

In July 2008, the Company entered into a long-term LNG supply agreement with Sakhalin Energy LLC ("**SE**"), which is directly and indirectly more than 50% owned by Gazprom Sakhalin Holdings, a subsidiary of PJSC Gazprom, for the supply of LNG through 2028. Furthermore, in April 2024, Sakhalin Project LLC, a wholly-owned subsidiary of Gazprom Sakhalin Holdings, purchased a 27.5% interest held in SE by SE. PJSC Gazprom has been designated for certain U.S. non-blocking sanctions under Directive 4 under Executive Order 13662 and Directive 3 under Executive Order 14024. Since SE is directly and indirectly more than 50% owned by PJSC Gazprom, the same sanctions that apply to PJSC Gazprom apply to SE. In 2021, 2022, 2023 and the first three months of 2024, the Company's LNG supply sourced from SE represented approximately 3.5%, 4.0%, 4.4% and 4.9%, respectively, of its total LNG supply.

In December 2009, the Company joined a consortium including Gazprom Neft Badra B.V., a subsidiary of Gazprom Neft PJSC, to develop and produce oil and gas in the Badra oilfield in Iraq based on a 20-year technical service contract with the Iraqi government (the "**Badra Project**"). The Company holds a 22.50% equity interest in the Badra Project and Gazprom Neft Badra B.V. holds a 30.0% equity interest in the Badra Project (the remaining ownership interest in the Badra Project is held by non-sanctioned persons/the Iraqi government). Gazprom Neft PJSC has been designated for certain U.S. non-blocking sanctions (including being designated under Directives 2 and 4 under Executive Order 13662 and Directive 3 under Executive Order 14024) and certain EU and UK sanctions. Since Gazprom Neft Badra B.V. is more than 50% owned by Gazprom Neft PJSC, Gazprom Neft Badra B.V. is subject to the same restrictions as Gazprom Neft PJSC. In 2021, 2022, 2023 and the first three months of 2024, the Company's revenue recognized from the Badra Project represented approximately 0.6%, 0.4%, 0.3% and 0.2%, respectively, of its total revenue.

In November 2001, the Company made direct investments in a gas field development project in Myanmar from which the Company continues to derive revenue and incur operating expenses (the "**Myanmar Project**"). The Company holds an 8.5% equity interest in the Myanmar Project and Myanma Oil and Gas Enterprise ("**MOGE**") holds a 15.0% equity interest in the project (the remaining ownership interest in the Myanmar Project is held by non-sanctioned persons). On February 21, 2022, MOGE was designated for EU sanctions and certain managers of MOGE have also been subsequently designated for U.S. blocking sanctions. Such sanctions do not extend to the Company or, to the Company's knowledge, to the Myanmar Project. On October 31, 2023, OFAC issued Burma-related Directive 1 under Executive Order 14014, which prohibits U.S. persons from providing, exporting or re-exporting, directly or indirectly, financial services to, or for the benefit of, MOGE, regardless of the currency in which any prohibited transaction is denominated. The operator of the Myanmar Project has received specific licenses from OFAC relating to the Myanmar Project and the Company's participation in the Myanmar Project is in compliance with such directive. In 2021, 2022, 2023 and the first three months of 2024, the Company's revenue recognized from the Myanmar Project represented approximately 0.3%, 0.2%, 0.2% and 0.2%, respectively, of its total revenue and the Company's operating expenses incurred for the Myanmar Project represented approximately 0.03%, 0.02%, 0.03% and 0.02%, respectively, of its total revenue.

As noted above, these dealings predate the conflict in Ukraine which began in February 2022 and the February 2021 military coup in Myanmar and since such dates, the Company has not entered into any new agreements in, with, or involving Russia or Myanmar. While these dealings have historically included transactions conducted in U.S. dollars through U.S. financial institutions, the Company confirms that these transactions have been conducted at all times in full compliance with all sanctions laws. Furthermore, the Company does not have any dealings with the government of the Russian Federation, the Central Bank of the Russian Federation, VTB Bank Public Joint Stock Company, The Corporation Bank for Development and Foreign Economic Affairs Vnesheconombank, Promsvyazbank Public Joint Stock Company, Bank Rossiya, or any person or arrangement that is owned or controlled by any of the aforementioned entities. The Company is continuing to evaluate its business activities in, with, or involving Russia and Myanmar in light of recent developments and will only engage in additional transactions in, with, or involving Russia or Myanmar that are fully compliant with applicable sanctions. Although the Company believes that it is in compliance with all applicable sanctions, and intends to use its reasonable best efforts to maintain such compliance, the Company cannot guarantee that it will be in compliance in the future, particularly since the scope of such sanctions may be uncertain and such sanctions are subject to frequent and unpredictable changes. Additionally, changes to applicable sanctions may have a negative impact on the Company's stable procurement of LNG and natural gas or otherwise on its business or reputation. While the Company believes that adequate alternative supplies of LNG and natural gas are currently available to it, if the Company cannot obtain adequate LNG or natural gas volumes of the type and quality it requires or if it is able to obtain such types and volumes only at unfavorable prices as a result of applicable sanctions, the Company's business and results of operations could be materially and adversely affected.

The Company's business is highly seasonal, and this seasonality and weather conditions may lead to increased costs, the failure to fulfill natural gas supply contracts or reduced demand.

Demand for gas in Korea peaks during the winter and falls off considerably in the summer months. Furthermore, extreme weather conditions such as heat waves or winter storms could cause these seasonal fluctuations to be more pronounced. This seasonality may result in increased storage costs in the summer months and deficient supplies of LNG in winter months. Although the Company has historically been able to pass on to customers additional costs incurred as a result of increased storage costs or spot market purchases, there can be no assurance that it will be able to continue to do so in the future. In addition, warm winters and cool summers may reduce demand for natural gas by retail consumers and power generating companies. The Company has implemented various measures to reduce the effects of seasonality on its business, including offering incentives to city gas companies that use natural gas in the summer for cooling operations, but it can make no assurance as to the continued effectiveness of these measures.

The Company's supply and shipping contracts may require the Company to pay for LNG that it did not actually import.

Almost all of the Company's supply contracts contain take-or-pay provisions which require the Company to pay for an agreed amount of LNG annually even if the Company fails to actually take delivery of such agreed amount of LNG in a given year. In addition, 19 of the Company's shipping contracts include

ship-or-pay clauses that oblige the Company to pay annually an agreed amount of costs payable by the shipping company if the Company fails to actually ship a certain volume of LNG in a given year.

To date, the Company has never been required to make payments under such take-or-pay or ship-or-pay clauses principally because, in most cases, it has been able to purchase and ship sufficient amounts of LNG to avoid triggering these clauses. On rare occasions, due to a decrease in demand, the Company purchased or shipped less than the agreed amounts of LNG, but the amounts were within the range allowed to be deferred under the supply or shipping contracts. However, if the Company's requirements for LNG were to be materially reduced in future years and the Company is not able to negotiate a reduction of the annual off-take or shipment volumes, the Company may incur payment obligations under these clauses. Because at times the Company must negotiate supply volumes with the power generating companies after committing to minimum purchases of LNG from overseas suppliers, the Company may be forced to make payments under its take-or-pay or ship-or-pay clauses if the volume agreed upon with the power generating companies is substantially lower than the Company's committed off-take amounts.

The Company's ability to pass on any take-or-pay or ship-or-pay obligations to city gas companies is limited because city gas companies are typically obliged to pay for only 2% of any amount they contract for but do not actually purchase. The Company believes that it will be able to pass on any such costs related to power generating companies if ever incurred, but can make no assurances that it will be able to do so. Thus, if the Company had to make any payments under its take-or-pay or ship-or-pay obligations, its financial condition and results of operations could be adversely affected.

The Company may have to make substantial payments under its shipping contracts if it discontinues using any ships currently under contract.

29 LNG ships that the Company currently uses were built specifically for use by the Company. Although the Company is not a party to the financing documents for these ships, it has entered into contracts of affreightment with the shipping companies. Under these contracts, the Company may be required to make payments in respect of the loans used to finance the construction of the ships if the Company were to terminate its use of one or more of the ships and, as a result, were not to make freight or other payments with respect to the use of such ships. Even if the Company were required to make the remaining payments under any ship financing documents, it would not acquire title to the relevant ship. Accordingly, if the Company terminates the use of ships and is required to make the committed payments, the Company's results of operations and financial condition could be adversely affected.

The Company relies on the subsidiaries of KEPCO for a substantial portion of its sales, and its results of operations and financial condition are affected by their performance and the mix of fuel sources they use to generate power.

The Company relies on the power generating subsidiaries of KEPCO for a substantial portion of the Company's sales. As of March 31, 2024, KEPCO held 20.5% of the Company's issued and outstanding shares. Consequently, the Company's sales volume is substantially affected by the amount of natural gas the Company sells to the subsidiaries of KEPCO and their overall policy to utilize natural gas as a fuel source for power generation. In 1999, the government amended the Petroleum Business Act to allow gas consumers to import LNG for their own use from 2001, and Korea Midland Power, Korea Western Power and Korea Southern Power, power generating subsidiaries of KEPCO, started importing LNG directly from 2015, 2022 and 2023, respectively, which has had an adverse effect on the Company's sales and results of operations in recent periods. Sales volume to the subsidiaries of KEPCO has been decreasing in recent periods, accounting for 19.7%, 18.9%, 16.9% and 12.2% of the Company's sales volume in 2021, 2022, 2023 and the three-month period ended March 31, 2024, respectively. Furthermore, in June 2016, the MOEF announced broad-based measures to adjust the functions of government-controlled entities in the energy, environment and education sectors, which include, among others, the deregulation and gradual liberalization of the retail electricity market. There can be no assurance that the Company's key relationships with KEPCO or any of its subsidiaries will not be terminated or otherwise be adversely impacted, or that demand for natural gas from the power generating subsidiaries of KEPCO will not continue to decrease. Any such development may have a material and adverse effect on the Company's business and results of operations.

Depreciation of the Won against the U.S. dollar may have an adverse effect on the Company's results of operations.

All of the LNG processed by the Company is imported from other countries pursuant to contracts denominated in U.S. dollars, and all of the Company's contracts with its customers for sales of natural gas are denominated in Won. Depreciation of the Won increases the amounts paid in Won for raw material costs, freight costs and interest and principal payment amounts on foreign currency-denominated debt as well as the Won amounts of the Company's foreign currency-denominated liabilities.

With respect to the Company's exposure to foreign currency risks related to raw material costs and freight costs, such risks to the Company are mitigated because the MOTIE generally allows the Company to pass through its raw material costs (including freight costs) by periodically adjusting the Company's Formula Prices. The Company is also exposed to the risks inherent in its foreign currency positions relating to its foreign currency-denominated debt, which accounted for 32.8% of the Company's total short-term borrowings and long-term debt (long-term borrowings and debentures including current portion less discount) as of March 31, 2024. It is the Company's policy to hedge a majority of its foreign currency-denominated debt through derivative instruments and asset-liability matching. The Company is also exposed to foreign currency risks on capital lease expenses relating to 11 of its LNG ships. For additional information, including how such capital lease expenses are hedged, see note 7 to the unaudited interim condensed consolidated financial statements, note 8 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2023 and 2022 and note 8 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2022 and 2021 included elsewhere in this offering circular. To the extent the Company has unhedged positions or its hedging and other risk management procedures do not work as planned, or the pass-through of cost increases resulting from foreign currency risks is delayed or not fully made, the Company's results of operations and financial condition could be adversely affected.

Importing, processing and transporting natural gas involve numerous risks that may result in accidents and other operating risks and costs.

Natural gas distributed by the Company is highly flammable and explosive. There is a significant risk of either accidents or leakage causing damage and/or injury. There can be no assurances that accidents will not occur and any significant accidents that arise at the fault of the Company could have a material adverse effect on the Company.

These risks could result in loss of human life, significant damage to property, environmental pollution, impairment of the Company's operations and substantial financial and reputational losses to the Company. For the Company's pipelines located near populated areas, including residential areas, commercial business centers, industrial sites and other public gathering areas, the potential damage resulting from the occurrence of these events is greater. Although the Company maintains insurance against most of these risks and losses, the occurrence of any of these events not fully covered by insurance could have a material adverse effect on the Company's financial position and results of operations.

The Company is subject to environmental regulations, and its operations could expose it to substantial liabilities.

The Company is subject to national and local environmental laws and regulations, which increasingly reflect the pressure to reduce emission of carbon dioxide relating to the Company's gas processing and transporting activities, and the Company's operations could expose it to risk of substantial liability relating to environmental or health and safety issues, such as those resulting from discharge of pollutants and carbon dioxide into the environment and the handling, storage and disposal of hazardous materials. The Company may also be responsible for the investigation and remediation of environmental conditions at currently and formerly operated sites. In addition, the Company may become subject to associated liabilities, including liabilities for natural resource damage, third party property damage or personal injury resulting from lawsuits brought by the government or private litigants. In the course of the Company's operations, hazardous materials may be generated at third party-owned or operated sites, and hazardous materials may be disposed of or treated at third party-owned or operated disposal sites. If those sites become contaminated, the Company could also be held responsible for the cost of investigation and remediation of such sites, for any associated natural resource damage, and for civil or criminal fines or penalties.

Furthermore, heightened global awareness and international and national commitments to reduce greenhouse gas emissions and counteract climate change (including increased activism by non-governmental and political organizations campaigning against fossil fuel extractions) may lead to increased costs for the Company. For example, the Glasgow Climate Pact which was agreed to at the 2021 United Nations Climate Change Conference ("COP26") in November 2021 includes commitments to phase down the use of unabated coal power and inefficient fossil fuel subsidies. The Government also announced its commitment to reduce greenhouse gas emissions by 40% by 2030 at COP26 and such commitments were reconfirmed at COP27 in Egypt in November 2022. Moreover, COP28 in Dubai in December 2023 resulted in an agreement to transition away from fossil fuels to achieve net-zero emission by 2050 as well as to triple renewable energy capacity globally by 2030. Carbon tax proposals in various jurisdictions as well as consumer preference changes in response to growing concerns of climate change could stimulate the emergence of alternative technologies and renewable energy availability, which may impact demand for gas and fossil fuel-based power generation while increasing corporate expenses. Investor preferences and sentiments are also influenced by environmental, social and corporate governance considerations including climate change and the transition to a lower carbon economy. Changes in such preferences and sentiment, including increased scrutiny from market participants, environmental organizations or the press could have an adverse effect on the Company's debt issuances, could affect the Company's access to the capital markets and its attractiveness to potential investors, potentially resulting in reduced access to financing, increased financing costs, potential volatility in the price(s) of the Company's outstanding debt securities as well as on its business plans and financial performance.

Disputes with the Company's labor union may disrupt its business operations.

As of March 31, 2024, approximately 89.5% of the Company's employees were members of a labor union. The Company negotiates a collective bargaining agreement every two years as well as a wage agreement on an annual basis with its labor union. The latest collective bargaining agreement came into effect in December 2023. The Company entered into a new wage agreement with its labor union in December 2023. In the past, the Company has experienced opposition from its labor union for concerns over the government's plans to liberalize and privatize the natural gas wholesale and transport industry and restructure the Company to improve its operating efficiency and profitability by reducing its employee base. Although the Company has not experienced any significant labor disputes and unrests that have interrupted its business operations in recent years, there can be no assurance that the Company will not experience in the future labor disputes and unrests, including expanded protests and strikes or protracted negotiation of the collective bargaining agreements, which could disrupt its business operations and have an adverse effect on its financial condition and results of operation.

Risks relating to the Company's Exploration, Development and Production Business

If the Company is unable to divest from overseas exploration, development and production operations on acceptable terms, the Company's financial condition and results of operations may be adversely affected.

In accordance with its debt reduction plan submitted to the MOEF and as part of its plan to bolster its overall financial soundness, the Company plans to concentrate on its core business of LNG import-related operations and pursue selective new business opportunities abroad. In June 2016, the MOEF announced broad-based measures to adjust the functions of government-controlled entities in the energy, environment and education sectors. These measures include, among others, rationalization of the overseas natural resource exploration, development and production activities of government-controlled enterprises, including the Company. The measures announced by the MOEF contemplate selling the Company's interests in overseas exploration, development and production operations, other than core assets, to private sector third parties. Subsequently in June 2016, the MOTIE announced improvement measures for the overseas natural resource exploration, development and production activities of government-controlled enterprises, including the Company. According to such improvement measures, the Company has developed a plan for the sale of its interests in overseas exploration, development and production operations, other than core assets (taking into consideration strategic value and profitability), to third parties with preference given to institutional investors in Korea if possible and with an aim to maximize the returns on such sales. The timing of any such sales will be subject to market conditions. Pursuant to such plan, in July 2018, the Company sold 10% of its equity interest in the LNG Canada project in British Columbia to Petronas, terminated its resource development projects in Iraq's Mansuriya in February 2020, Democratic Republic of Timor-Leste in August 2021 and Iraq's Akkas in April 2024. The Company is also

currently in the process of terminating its resource development project in Krueng Mane, Indonesia, its compressed natural gas fueling station and cylinder business in Uzbekistan and its city gas development project in Mozambique. In addition, the Company will be limited from entering into any new overseas investments other than any such investments that are in furtherance of important policy objectives. See "– The Company is subject to the control of the government, and its activities are heavily regulated."

Even if the Company is successful in disposing of certain of its overseas assets through a sale or otherwise, the Company may be required to recognize a loss in connection with such disposal if the disposal price of such assets is less than their respective book value. In addition, the Company may not be able to reinvest the proceeds of any disposal on acceptable terms or at all.

The Company's failure to successfully divest from its overseas exploration, development and production operations or to reinvest the proceeds of any such disposal, each on acceptable terms, may have a material adverse effect on the Company's financial condition and results of operations.

The Company faces various risks associated with its investments worldwide, and if the Company is not able to effectively manage these risks, the Company's financial condition and results of operations may be adversely affected.

As part of a consortium or through acquisition of a minority interest, the Company engages in overseas gas exploration, development and production projects in various locations, including Australia, Iraq and Mozambique, as well as participates in LNG terminal operation and maintenance activities and invests in gas supply companies located abroad. The Company may also selectively acquire or invest in companies or businesses that may complement its business. Demand and market acceptance for the Company's activities abroad are subject to a substantially higher level of uncertainty than its natural gas import and wholesale business and are substantially dependent upon the market condition of the global natural gas industry. In addition, much of the Company's current exploration projects involve drilling exploratory wells on properties with no proven natural gas and oil reserves. Although all drilling, whether developmental or exploratory, involves risks, exploratory drilling involves greater risks of dry holes or failure to find commercial quantities of natural gas and oil.

Furthermore, the Company is subject to political, legal and regulatory environments in these countries, some of which are known to be unstable, and differ in certain significant respects from those prevailing in developed countries. Furthermore, as the global competition for limited natural resources continues to intensify, the Company may face protectionist measures imposed by governments that are designed to protect local commercial interests.

The Company's operations abroad requires management attention and personnel resources. In addition, the Company's results of operations may be adversely affected by a number of risks in the countries in which it operates or has interests, including, but not limited to, the following:

- changes in international and domestic political and economic conditions as well as social conditions;
- challenges caused by distance, language, local business customs and cultural differences;
- local labor relation issues which could lead to significant work stoppages and labor unrest;
- changes in laws, regulations or governmental policies, or in the interpretation or enforcement thereof, including those affecting taxes and royalties on energy resources, labor, environmental compliance and investments, as well as those driven by resource nationalism;
- difficulty and costs relating to compliance with different commercial and legal requirements, including obtaining licenses, permits or other regulatory approvals from local authorities and in enforcing the Company's rights under contracts;
- fluctuations in foreign currency exchange rates;
- foreign exchange controls and cash repatriation restrictions;
- military hostilities or acts of terrorism;

- forced relocation and labor issues arising from projects in countries that have weaker protections relating to labor and human rights; and

- natural disasters including earthquakes or tsunamis and landslides, and epidemics or outbreaks (such as the Middle East Respiratory Syndrome outbreak).

The likelihood of such risks being realized and their potential impact on the Company vary from country to country and are difficult to predict with any degree of accuracy. The Company may not be able to develop and implement policies and strategies that will be effective in each location where it conducts business, and there can be no assurance that the Company's exposure to such risks will not adversely affect the Company's business, results of operations and financial condition.

The Company may encounter problems with joint overseas gas exploration, development and production projects and large-scale infrastructure projects, which may materially and adversely affect its business.

In recent years, the Company has participated in a number of overseas gas exploration, development and production projects, as well as large-scale infrastructure projects. The Company typically pursues these gas exploration, development and production projects and infrastructure projects jointly with consortium partners or through acquisition of a minority interest in such projects, and the Company expects to be involved in other joint projects in the future. The Company typically lacks a controlling interest in the joint projects even though the Company sometimes holds the largest interest in the projects among the consortium partners. Therefore, the Company is usually unable to require that its joint ventures sell assets or return invested capital, make additional capital contributions or take any other action without the vote of at least a majority of its consortium partners. If there are disagreements between the Company and its consortium partners regarding the business and operations of the joint projects, the Company cannot assure you that it will be able to resolve them in a manner that will be in the Company's best interests. Certain major decisions, such as selling a stake in the joint project, may require the consent of all other partners. These limitations may adversely affect the Company's ability to obtain the economic and other benefits it seeks from participating in these projects.

In addition, the Company's consortium partners may:

- have economic or business interests or goals that are inconsistent with those of the Company;

- take actions contrary to the Company's instructions, requests, policies or objectives;

- be unable or unwilling to fulfill their obligations;

- have financial difficulties; or

- have disputes with the Company as to their rights, responsibilities and obligations.

Any of these and other factors may have a material adverse effect on the performance of the Company's joint projects and expose the Company to a number of risks, including the risk that the partners may be incapable of providing the required financial support to the partnerships and the risk that the partners may not be able to fulfill their other obligations, resulting in disputes not only between the Company and its partners, but also between the joint ventures and their customers. Such a development may in turn materially and adversely affect the Company's business, results of operations and financial condition.

Risks related to Korea

If economic conditions in Korea deteriorate, the Company's current business and future growth could be materially and adversely affected.

The Company is incorporated in Korea, where most of its assets are located and most of its income is generated. As a result, the Company is subject to political, economic, legal and regulatory risks specific to Korea, and its performance and successful fulfillment of its operational strategies are dependent in large part on the overall Korean economy. Any future deterioration of the Korean or global economy could adversely affect the Company's business, financial condition and results of operations.

In recent years, adverse conditions and volatility in the global financial markets, fluctuations in oil and commodity prices, supply chain disruptions and the increasing weakness of the global economy, in particular due to the COVID-19 pandemic and Russia's invasion of Ukraine and ensuing sanctions against Russia, among others, have contributed to the uncertainty of global economic prospects in general and have adversely affected, and may continue to adversely affect, the Korean economy, which has been characterized by high levels of uncertainty resulting from high inflation rates, a rise in interest rates and a depreciation of the Won against the U.S. dollar. As a result, future growth of the Korean economy is subject to many factors beyond the Company's control, including developments in the global economy.

Other developments that could have an adverse impact on Korea's economy include:

- declines in consumer confidence and a slowdown in consumer spending in the Korean or global economy;

- hostilities, political or social tensions involving Russia (including the invasion of Ukraine by Russia and ensuing actions that the United States and other countries have taken or may take in the future) and the resulting adverse effects on the global supply of oil and other natural resources and the global financial markets;

- adverse conditions or developments in the economies of countries and regions that are important export markets for Korea, such as China, the United States, Europe and Japan, or in emerging market economies in Asia or elsewhere, including as a result of deteriorating economic and trade relations between the United States and China and increased uncertainties in the global financial markets and industry;

- adverse changes or volatility in foreign currency reserve levels, commodity prices (including oil prices), exchange rates (including fluctuation of the Won against the U.S. dollar, Euro or Japanese Yen or revaluation of the Chinese Renminbi), interest rates, inflation rates or stock markets;

- the occurrence of severe health epidemics in Korea and other parts of the world in addition to the COVID-19 pandemic;

- increased sovereign default risks in select countries and the resulting adverse effects on the global financial markets;

- deterioration in economic or diplomatic relations between Korea and its trading partners or allies, including deterioration resulting from territorial or trade disputes or disagreements in foreign policy;

- deterioration in the financial condition or performance of small- and medium-sized enterprises and other companies in Korea due to the government's policies to increase minimum wages and limit working hours of employees;

- investigations of large Korean business groups and their senior management for possible misconduct;

- a continuing rise in the level of household debt and increasing delinquencies and credit defaults by retail and small-and medium-sized enterprise borrowers in Korea;

- the economic impact of any pending or future free trade agreements or of any changes to existing free trade agreements;

- social and labor unrest;

- substantial changes in the market prices of Korean real estate;

- a substantial decrease in tax revenues and a substantial increase in the government's expenditures for fiscal stimulus measures, unemployment compensation and other economic and social programs, in particular in light of the government's ongoing efforts to provide emergency relief payments to households and emergency loans to corporations in need of funding in light of COVID-19 as well as interest rate increases, which, together, would likely lead to a national budget deficit as well as an increase in the government's debt;

- financial problems or lack of progress in the restructuring of Korean business groups, other large troubled companies, their suppliers or the financial sector;

- increases in social expenditures to support an aging population in Korea or decreases in economic productivity due to the declining population size in Korea;

- political uncertainty or increasing strife among or within political parties in Korea;

- hostilities or political or social tensions involving oil producing countries in the Middle East (including the escalation of hostilities in the Middle East following the Israel-Hamas war) and Northern Africa and any material disruption in the global supply of oil or sudden increase in the price of oil;

- natural or man-made disasters that have a significant adverse economic or other impact on Korea or its major trading partners; and

- an increase in the level of tensions or an outbreak of hostilities between North Korea and Korea or the United States.

Escalations in tensions with North Korea could have an adverse effect on the Company and the market value of the Notes.

Relations between Korea and North Korea have been tense throughout Korea's modern history. The level of tension between the two Koreas has fluctuated and may increase abruptly as a result of current and future events. In particular, there have been heightened security concerns in recent years stemming from North Korea's nuclear weapon, ballistic missile and satellite programs as well as its hostile military actions against Korea. Some of the significant incidents in recent years include the following:

- North Korea renounced its obligations under the Nuclear Non-Proliferation Treaty in January 2003 and has conducted six rounds of nuclear tests since October 2006, including claimed detonations of hydrogen bombs and warheads that can be mounted on ballistic missiles. Over the years, North Korea has continued to conduct a series of missile tests, including ballistic missiles launched from submarines and intercontinental ballistic missiles that it claims can reach the United States mainland. North Korea has increased the frequency of such activities since the beginning of 2022, firing numerous ballistic missiles, including intercontinental ballistic missiles, and in November 2023, successfully launched its first spy satellite. In response, the Government has repeatedly condemned the provocations and flagrant violations of relevant United Nations Security Council resolutions. In February 2016, the Government also closed the inter-Korea Gaesong Industrial Complex in response to North Korea's fourth nuclear test in January 2016. Internationally, the United Nations Security Council has passed a series of resolutions condemning North Korea's actions and significantly expanding the scope of sanctions applicable to North Korea. Over the years, the United States and the European Union have also expanded their sanctions applicable to North Korea.

- In March 2010, a Korean naval vessel was destroyed by an underwater explosion, killing many of the crewmen on board. The Government formally accused North Korea of causing the sinking, while North Korea denied responsibility. Moreover, in November 2010, North Korea fired more than one 100 artillery shells that hit Korea's Yeonpyeong Island near the Northern Limit Line, which acts as the de facto maritime boundary between Korea and North Korea on the west coast of the Korean peninsula, causing casualties and significant property damage. The Government condemned North Korea for the attack and vowed stern retaliation should there be further provocation.

North Korea's economy also faces severe challenges, which may further aggravate social and political pressures within North Korea.

Although bilateral summit meetings between Korea and North Korea were held in April, May and September 2018 and between North Korea and the United States in June 2018, February 2019 and June 2019, there can be no assurance that the level of tensions affecting the Korean peninsula will not escalate in the future. Any further increase in tensions, which may occur, for example, if North Korea experiences a leadership crisis, high-level contacts between Korea and North Korea or between the United States and North Korea break down or military hostilities occur, could have a material adverse effect on the Korean economy and on the Company's business, financial condition and results of operations and the price of the Notes, including a downgrade in the Company's credit rating or of the Notes.

There are special risks involved with investing in securities of Korean companies, including the possibility of restrictions being imposed by the government in emergency circumstances as well as accounting and corporate disclosure standards that differ from those in other jurisdictions.

As the Company is a Korean company and operates in a business and cultural environment that is different from that of other countries, there are risks associated with investing in its securities that are not typical for investments in securities of companies in other jurisdictions.

Under the Foreign Exchange Transaction Act of Korea and the Presidential Decree and regulations under the Act and Decree (collectively referred to as the "**Foreign Exchange Transaction Laws**"), if the government deems that certain emergency circumstances, including sudden fluctuations in interest rates or exchange rates, extreme difficulty in stabilizing the balance of payments or substantial disturbance in the Korean financial and capital markets, are likely to occur, it may impose any necessary restriction such as requiring Korean or foreign investors to obtain prior approval from the Minister of Economy and Finance for the acquisition of Korean securities or for the repatriation of interest, dividends or sales proceeds arising from Korean securities or from disposition of such securities or other transactions involving foreign exchange. Moreover, if the government deems it necessary on account of war, armed conflict, natural disaster or grave and sudden changes in domestic or foreign economic circumstances or similar events or circumstances, the Minister of Economy and Finance may temporarily suspend performance under any or all foreign exchange transactions, in whole or in part, to which the Foreign Exchange Transaction Laws apply (including suspension of payment and receipt of foreign exchange) or impose an obligation to deposit or sell any means of payment to the Bank of Korea or certain other governmental agencies or financial institutions.

In addition to preparing its financial statements in accordance with the KOGAS Act, the City Gas Business Act and the Accounting Process Standards for Public Enterprises and Semi-Governmental Institutions, the Company prepared and presented its audited consolidated financial statements as of and for the years ended December 31, 2023 and 2022 and its audited consolidated financial statements as of and for the years ended December 31, 2022 and 2021 in accordance with KIFRS and expects to prepare its financial statements in accordance with KIFRS for future periods, which differ in certain respects from accounting principles applicable to companies in certain other countries, including the United States. In making an investment decision, investors must rely upon their own examination of the Company, the terms of the offering and the financial information contained in this offering circular.

Risks related to the Notes

The Notes are not guaranteed by the Republic of Korea.

The Notes are not the obligations of, or guaranteed by, the Republic of Korea. Although under the KOGAS Act, the government is allowed to guarantee bonds offered by the Company, it is not providing a guarantee in respect of the Notes. In addition, the government is under no obligation to maintain the solvency of the Company. Therefore, investors should not rely on the government to fulfill the Company's obligations under the Notes in the event the Company is unable to do so.

The Notes are unsecured obligations.

Because the Notes are unsecured obligations, their repayment may be compromised if:

- the Company enters into bankruptcy, liquidation, rehabilitation or other winding-up proceedings;
- there is a default in payment under the Company's future secured indebtedness or other unsecured indebtedness; or
- there is an acceleration of any of the Company's indebtedness.

If any of these events occurs, the Company's assets may not be sufficient to pay amounts due on any of the Notes.

The Notes are subject to transfer restrictions.

The Notes will not be registered under the Securities Act or any state securities laws and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons, except to qualified institutional buyers in reliance on the exemption provided by Rule 144A, to certain persons in offshore transactions in reliance on Regulation S, or pursuant to another exemption from, or in another transaction not subject to, the registration requirements of the Securities Act and in accordance with applicable state securities laws. For a further discussion of the transfer restrictions applicable to the Notes, see "Subscription and Sale and Transfer and Selling Restrictions – Transfer Restrictions."

The Notes may have limited liquidity.

No assurance can be given as to the liquidity of, or the development and continuation of an active trading market for, the Notes. If an active trading market for the Notes does not develop or is not maintained, the market price and liquidity of the Notes may be adversely affected. If such a market were to develop, the Notes could trade at prices that may be higher or lower than the price at which the Notes are issued depending on many factors, including:

- prevailing interest rates;
- the Company's results of operations and financial condition;
- political and economic developments in and affecting Korea;
- the market conditions for similar securities; and
- the financial condition and stability of the Korean natural gas industry and the Korean financial sector.

Risks Relating to Forward-Looking Statements

This offering circular contains forward-looking statements that are the Company's present expectations of future events and are subject to certain factors and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements.

In addition to the risks related to the Company's business discussed above, other factors could cause actual results to differ materially from those described in the various forward-looking statements contained in this offering circular. These factors include, but are not limited to, the following:

- general economic, business and political conditions;
- fluctuations in prices of natural gas, crude oil and other competing energy sources;
- adverse trends in regulatory, legislative and judicial developments;
- adverse developments in the global financial markets and industry;

- the ability of third parties to perform in accordance with contractual terms and specifications;
- fluctuations in exchange rates between the Won and the U.S. dollar;
- the Company's leverage and its ability to meet its debt obligations; and
- changes in competitive conditions in the Korean natural gas industry.

By their nature, certain disclosures relating to these and other risks are only estimates and should one or more of these uncertainties or risks, among others, materialize, actual results may vary materially from those estimated, anticipated or projected, as well as from historical results. Specifically but without limitation, revenues could decrease, costs could increase, capital costs could increase, capital investment could be delayed and anticipated improvements in performance might not be fully realized.

You should not place undue reliance on the forward-looking statements, which speak only as of the date of this offering circular. Except as required by law, the Company is not under any obligation, and expressly disclaim any obligation, to update or alter any forward-looking statements, whether as a result of new information, future events or otherwise. All subsequent forward-looking statements attributable to the Company or any person acting on the Company's behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this section.

CAPITALIZATION OF THE COMPANY

The following table sets forth the Company's capitalization (defined as the sum of long-term debt, excluding current portion, and equity) as of March 31, 2024 on a consolidated basis. This table should be read in conjunction with the Company's unaudited interim condensed consolidated financial statements included elsewhere in this offering circular.

	As of March 31, 2024
	Outstanding
	(in billions of Won)
Long-term debt (excluding current portion):	
Debentures, net of discount	₩ 21,308
Long-term borrowings	290
Total long-term debt	21,598
Equity:	
Share capital	462
Share premium	1,304
Hybrid bonds	334
Retained earnings	7,083
Other components of equity	958
Equity attributable to owners of the parent	10,141
Non-controlling interests	78
Total equity	10,219
Total capitalization	₩ 31,817

There has been no material change in the Company's capitalization (on a consolidated basis) since March 31, 2024.

SELECTED FINANCIAL AND OPERATING DATA

The following tables present selected consolidated financial and operating data of the Company. This data should be read in conjunction with the consolidated financial statements of the Company and the notes thereto, "Management's Discussion and Analysis of Financial Condition and Results of Operations" and other historical financial information included elsewhere in, or incorporated by reference into, this offering circular.

SELECTED FINANCIAL DATA

The selected financial data as of and for the years ended December 31, 2021, 2022 and 2023 below are derived from the Company's consolidated financial statements included elsewhere in this offering circular, which have been prepared in accordance with KIFRS. The selected financial data as of March 31, 2024 and for the three-month periods ended March 31, 2023 and 2024 below are derived from the Company's unaudited interim condensed consolidated financial statements included elsewhere in this offering circular, which have been prepared in accordance with KIFRS No. 1034 *Interim Financial Reporting*.

	For the year ended December 31,			For the three months ended March 31,	
	2021	2022	2023	2023	2024
	(in billions of Won)				
Selected Statements of Comprehensive Income Data:					
Revenue	₩ 27,521	₩ 51,724	₩ 44,556	₩ 17,930	₩ 12,811
Cost of sales	(25,859)	(48,828)	(42,599)	(17,219)	(11,780)
Gross profit	1,662	2,896	1,957	711	1,031
Selling and administrative expenses	(422)	(433)	(404)	(122)	(109)
Operating profit	1,240	2,463	1,553	588	922
Other income	35	239	36	7	2
Other expenses	(46)	(95)	(196)	(5)	(3)
Other gains (losses)	549	(188)	(766)	14	9
Finance income	881	2,675	1,438	821	671
Finance costs	(1,472)	(3,503)	(3,031)	(1,210)	(1,056)
Gains on investments in associates and joint ventures, net	180	354	105	22	87
Profit (loss) before income tax	1,367	1,945	(862)	237	632
Income tax benefit (expense)	(403)	(448)	114	(97)	(225)
Profit (loss) for the year/period	₩ 965	₩ 1,497	₩ (747)	₩ 139	₩ 407
Profit (loss) for the year/period attributable to:					
Owners of the parent	951	1,493	(761)	133	406
Non-controlling interests	14	4	14	6	1
Total comprehensive income (loss)	₩ 1,080	₩ 1,572	₩ (537)	₩ 213	₩ 481
Total comprehensive income (loss) attributable to:					
Owners of the parent	1,054	1,559	(553)	203	494
Non-controlling interests	26	13	16	10	(13)
Selected Cash Flow Data:					
Net cash provided by (used in) operating activities	₩ (2,071)	₩ (14,581)	₩ 5,886	₩ 391	₩ 403
Net cash used in investing activities	(1,170)	(974)	(1,334)	(231)	(493)
Net cash provided by (used in) financing activities	3,476	15,802	(4,587)	(26)	240

	As of December 31,			As of March 31,
	2021	2022	2023	2024
	(in billions of Won)			
Selected Statements of Financial Position Data:				
Cash and cash equivalents	₩ 565	₩ 813	₩ 781	₩ 952
Trade and other receivables	6,979	12,122	7,038	7,587
Inventories	3,583	7,623	5,043	3,666
Current non-financial assets	1,886	4,374	4,491	4,215
Other current assets	135[(1)]	159[(1)]	77[(1)]	213[(1)]
Total current assets	13,148	25,092	17,430	16,633
Long-term trade and other receivable	210	202	210	213
Property, plant and equipment	23,581	23,294	22,352	22,665
Non-current non-financial assets	1,507	8,369	11,952	12,111
Other non-current assets	5,224[(2)]	5,469[(2)]	5,311[(2)]	5,494[(2)]
Total non-current assets	30,522	37,333	39,824	40,484
Total assets	₩ 43,670	₩ 62,425	₩ 57,255	₩ 57,117
Total current liabilities (including current portion of long-term debt)	₩ 14,022	₩ 30,635	₩ 22,566	₩ 21,283
Total non-current liabilities	20,529	21,380	24,862	25,615
Total liabilities	34,551	52,014	47,429	46,898
Total equity	9,119	10,411	9,826	10,219
Total liabilities and equity	₩ 43,670	₩ 62,425	₩ 57,255	₩ 57,117

(1) The amount includes current financial assets, short-term contract assets and current tax assets.

(2) The amount includes non-current financial assets, intangible assets other than goodwill, goodwill, investments in associates and joint ventures, net defined benefit assets and deferred tax assets.

SELECTED OPERATING DATA

	For the year ended December 31,			For the three months ended March 31,	
	2021	2022	2023	2023	2024
Average daily sales volume (metric tons)	101,133	105,197	94,908	130,191	125,379

	As of December 31,			As of March 31,
	2021	2022	2023	2024
Send-out capacity (metric tons/hour)	15,340	15,400	15,400	15,400
Pipeline length (kilometers)	5,027	5,105	5,178	5,178
Storage capacity (thousands of kiloliters)	12,160	12,160	12,160	12,160

THE COMPANY

Business

The Company is the only company in Korea engaged in the wholesale distribution of natural gas, and is one of the largest importers of LNG in the world. Since beginning commercial operations in 1986, the Company has significantly expanded its operations, supplying 34.6 million metric tons of natural gas in 2023 and 11.4 million metric tons in the first three months of 2024. The Company believes that natural gas supplied by the Company accounted for approximately 19.1% of the primary energy consumed in Korea in 2023. The Company supplies gas primarily to 34 city gas companies, five non-nuclear power generating subsidiaries of KEPCO and 23 other power generating companies in Korea. The Company imports LNG primarily through long- and medium-term contracts with overseas suppliers. From time to time, the Company also purchases LNG on the spot market to cover short-term fluctuations in demand for natural gas.

The Company was established by the government on August 18, 1983 to facilitate the implementation of the government's policies relating to the diversification of energy sources through the development of the natural gas industry. The government has sought to reduce Korea's dependence on fossil fuels, such as petroleum and coal, partly to reduce its vulnerability to the international oil market, but also in response to growing international and domestic awareness of environmental issues. Through its direct and indirect holdings, the government controls a majority of the Company's issued share capital. As of March 31, 2024, the government directly and indirectly held 46.7% of the Company's issued and outstanding shares, and local governments held an additional 7.9% of the Company's issued and outstanding shares. Accordingly, the government has historically influenced, and is likely to continue to influence, the Company's strategy, operations and management. The Company is heavily regulated by a variety of laws and regulatory bodies, including the MOTIE and the MOEF. The government also has the ability to influence and control other government-related entities, such as the five non-nuclear power generating subsidiaries of KEPCO, which are the Company's customers. From time to time, the Company is required to take actions in furtherance of public policy considerations and the government's broader objectives for the natural gas industry that are not necessarily in the Company's best commercial interests. For example, public policy considerations relating to the level of the Company's profitability affect the Company's prescribed rate of return.

As part of its efforts to diversify its operations and prepare for the potential restructuring and liberalization of the natural gas industry in Korea as well as in response to the government's policy to promote procurement of natural resources, the Company has participated in exploration, development and production of natural gas outside Korea. As part of a consortium or through acquisition of a minority interest, the Company engages in overseas gas exploration and development in various locations, including Australia, Iraq and Mozambique, as well as participates in LNG terminal operation and maintenance activities and invests in gas supply companies located abroad. Some of these projects have recently begun to generate profits after years of investment, and the Company intends to make the scheduled or requisite investments in its overseas projects.

In more recent years, the Company's strategic goal has been to enhance profitability and financial soundness through debt reduction, including through disposition of non-core or unprofitable assets, as well as various other cost-saving measures. Such strategic goal is in line with the Company's debt reduction plan submitted to the MOEF and as part of its plan to bolster its overall financial health. Accordingly, the Company plans to concentrate on its core business of LNG import-related operations and pursue selective new business opportunities domestically and abroad. For example, in July 2020, the Company was designated as Korea's exclusive hydrogen agency in charge of maintaining appropriate hydrogen price levels, managing supplies and inspecting supply chains. Furthermore, the Company plans to establish a nationwide hydrogen fueling infrastructure by taking advantage of its existing natural gas supply facilities and technical expertise. In furtherance of such plans, the Company plans to make investments for the (1) construction of hydrogen production bases in Pyongtaek, which construction is expected to be completed by 2025, (2) establishment of a domestic hydrogen pipeline for combined cycle power plants based on the results of the Clean Hydrogen Portfolio Standard bidding process and (3) development of low-carbon energy sources, such as e-methane, while leveraging its existing natural gas infrastructure. The Company invested approximately Won 1,103 billion in 2021, Won 966 billion in 2022, Won 1,026 billion in 2023 and Won 493 billion in the first three months of 2024, and it expects to invest approximately Won 1,617 billion in such projects in the remainder of 2024, substantially all of which relate to committed capital expenditures on its construction of storage facilities in Dangjin, existing overseas projects and the construction of the hydrogen infrastructure described above.

The Company's facilities consist primarily of its gas processing terminals, storage facilities and a nationwide pipeline network. The Company imports, receives and revaporizes LNG at its LNG receiving terminals and then distributes natural gas to its customers through its nationwide network of pipelines that encompassed 5,178 kilometers as of March 31, 2024. The Company has five receiving terminals located in Pyongtaek, Incheon, Tongyeong, Samcheok and Jeju. As of March 31, 2024, the Pyongtaek, Incheon, Tongyeong, Samcheok and Jeju terminals had LNG storage capacities of 3.4 million kiloliters, 3.5 million kiloliters, 2.6 million kiloliters, 2.6 million kiloliters and 0.1 million kiloliters, respectively.

The Company generated revenue of Won 44,556 billion in 2023 and had total assets of Won 57,255 billion and total equity of Won 9,826 billion as of December 31, 2023. The Company generated revenue of Won 12,811 billion in the first three months of 2024 and had total assets of Won 57,117 billion and total equity of Won 10,219 billion as of March 31, 2024.

THE KOREAN GAS INDUSTRY

Energy Policy

The government has long had an active involvement in the energy sector, necessitated by the limited availability of domestic energy resources. Early energy policy was driven by a desire to maintain rapid economic growth. However, the present government policy is to develop a sustainable energy policy in which economic growth, energy security and environmental goals are balanced.

In the past, priority was placed on the development of energy resources to meet increasing energy demand generated by Korea's rapid economic growth. The oil crisis experienced in the 1970s exposed Korea's over-dependence on oil as its primary source of fuel. In an effort to achieve a more secure energy supply, the government encouraged diversification into other sources of primary fuel and the development of alternative fuel sources. Accordingly, as is the case for the majority of developed economies, the government created a centralized agency, namely the MOTIE (and its predecessors) to link its energy policy as an integral part of the wider economic and industrial policies.

In order to secure the necessary and appropriate sources of energy, the MOTIE prepares various energy plans that guide energy policy, including the importation and production plans for Korea's energy providers. The Basic National Energy Plan (the "**Basic Plan**") is prepared by the government every five years and contains plans for various types of energy (petroleum, gas, electric power, hard and soft coal, other minerals, and new and renewable energy sources). The third Basic Plan was established on June 4, 2019. The Long-Term Natural Gas Supply-Demand Plan (the "**Long-Term Plan**") is updated every two years and lays out the government's projections for natural gas demand in Korea. The current Long-Term Plan was last announced in April 2023.

According to the third Basic Plan, the percentage of total energy consumption to be satisfied by gas in Korea is expected to rise from 19.3% in 2017 to 25.4% in 2040, and total demand for natural gas in Korea is expected to increase at a compound annual growth rate of 1.8% during this period from 47.2 million tons in 2017 to 71.2 million tons in 2040. In comparison, according to the third Basic Plan, the percentages of total energy consumption to be satisfied by coal, oil, nuclear power and renewable energy are expected to change from 35.2% to 30.5%, 25.8% to 20.7%, 12.9% to 8.6% and 6.1% to 14.1%, respectively, in each case, from 2017 to 2040, with a compound annual growth rate of 0.0%, 0.4%, 1.2% and 4.3%, respectively, during this period, with a total compound annual growth rate of 0.6% for all types of energy during this period. The MOTIE's demand forecasts are typically conservative compared to actual demand and generally have been revised upwards to reflect rising gas usage. Furthermore, in July 2014, to rationalize energy consumption patterns nationally and promote an increased use of natural gas in lieu of electricity, the individual consumption tax rate applicable to natural gas for uses other than power generation was lowered from Won 60 per kilogram to Won 42 per kilogram subject to certain variations, which enhanced the price competitiveness of natural gas compared to other energy sources. For further discussion of these plans, see "Regulation of the Korean Gas Industry." In addition to providing support in the production of the required reports of the government, the Company uses a demand forecast model to continually update and revise gas demand forecasts for its own internal purposes.

In July 2022, at the 30th cabinet meeting, the government presented new policy goals and directions that address climate change, energy security and new energy industries (the "**New Government Energy Policy Direction**"). The New Government Energy Policy Direction provides for, among others, the following:

- Nuclear: resume construction of two nuclear reactors, Shin-Hanul units #3 and #4, and increase the share of nuclear power generation to a minimum of 30% of total power generation in Korea by 2030 on the premise that nuclear plants currently under construction will achieve normal operation and that those currently in operation will continue to be operational;

- Renewables: redefine reasonable renewable energy supply targets based on supply conditions and derive appropriate proportions for each source, including solar and wind power;

- Coal and LNG: replace old coal power plants with LNG power plants and operate in a flexible manner to achieve stable power supply and respond to changing energy market situations; and

- Carbon-free: develop core technologies for (i) water electrolysis, (ii) fuel cells, (iii) hydrogen ships, (iv) hydrogen vehicles and (v) hydrogen turbines and high value-added materials to achieve independence in such core technologies, and construct hydrogen distribution infrastructures, such as terminals, storage facilities and pipeline networks.

Moreover, pursuant to the Framework Act on Carbon Neutrality and Green Growth for Coping with Climate Crisis (the "**Carbon Neutrality Act**"), the government established the first National Carbon Neutral and Green Growth Basic Plan (the "**Carbon Neutral Basic Plan**") in April 2023, which is largely in line with the New Government Energy Policy Direction. For further discussion of the Carbon Neutral Basic Plan, see "Regulation of the Korean Gas Industry."

In general, the rate of growth in energy demand in Korea has been closely correlated to the rate of growth in the overall economy, reflected in such measures as GDP growth. According to the first Carbon Neutral Basic Plan, Korea's gross domestic product is expected to grow at a compound annual growth rate of 1.9% per annum during the period from 2018 to 2040. In addition to growth in the overall economy, other factors such as environmental regulations are expected to have a significant positive impact on the growth of natural gas demand as regulations that promote or mandate "clean energy" have the effect of encouraging greater use of natural gas compared to other conventional fuel sources.

Industry Liberalization

Since 1998, the government has stated that it is considering various options regarding the liberalization of the natural gas industry to introduce competition and greater transparency. In 1999, the government amended the Petroleum Business Act to allow gas consumers to import LNG for their own use from the year 2001. Since the passage of the amendment, 23 companies, including three power generating subsidiaries of KEPCO, have started importing LNG directly. The Company can give no assurance that additional companies will not import LNG for their own use in the future.

In October 2008, the MOTIE proposed a road map to permit other companies to enter the LNG import and wholesale market in Korea. The road map contemplates gradual liberalization, initially starting with liberalization of the market for power generating companies followed by the market for industrial usage. In January 2014, the City Gas Business Act was amended to permit other companies to enter the LNG market. The amendment allows LNG traders, upon registration, to store LNG in bonded areas (in accordance with the Customs Act of Korea) for onward sales overseas, but prohibits sales of such stored LNG to domestic third parties in Korea. The amendment also allows overseas sales of LNG by domestic companies that directly import LNG for their own use. In June 2016, the MOEF announced broad-based measures to adjust the functions of government-controlled entities in the energy, environment and education sectors. These measures include, among others, the gradual liberalization of the LNG wholesale market beginning in 2025 as well as measures aimed at improving the market environment for direct imports of LNG for own-use. In July 2016, the MOTIE announced measures to broadly spread the results of, and reform the regulations applicable to, new energy businesses. These measures include, among others, the expansion of own-use LNG imports. In February 2020, the City Gas Business Act was amended to define the marine natural gas business and set forth matters relating to the registration of the marine natural gas business and notifications regarding import and export of marine natural gas. The amendment was implemented following the expected increase in natural gas as a marine fuel due to tightening ship

emissions regulations by the International Maritime Organization. Notwithstanding such developments, the Company believes that its profitability for the near- to mid-term will not be materially affected, as a substantial portion of projected demand for natural gas in the next decade is expected to be satisfied under the Company's existing long-term supply contracts and new competitors for LNG import and wholesale will only be able to compete for the portion of projected demand that will not be met by the Company under its existing long-term supply contracts until such contracts terminate. Accordingly, the Company believes that new entrants would not be able to significantly penetrate the market in the near future. However, such liberalization plans may intensify competition in the LNG import and wholesale market in the future.

Privatization of the Company

In the past, the government contemplated privatization of the Company through a reduction in the government's shareholding or a spin-off of the Company's LNG importation and distribution business. In June 2016, the MOEF announced broad-based measures to adjust the functions of government-controlled entities in the energy, environment and education sectors. These measures include, among others, (i) rationalization of the overseas natural resource exploration, development and production activities of government-controlled enterprises, including the Company and (ii) the public listing of shares of Korea Gas Technology Corp., a wholly-owned subsidiary of the Company, which provides system maintenance for the Company's gas-related facilities and designs and supervises the construction of natural gas production and supply facilities. With respect to the overseas natural resources exploration, development and production operations of the Company, the measures announced by the MOEF contemplate selling the Company's interests in such operations, other than core assets, to private sector third parties. Subsequently in June 2016, the MOTIE announced improvement measures for the overseas natural resource exploration, development and production activities of government-controlled enterprises, including the Company. According to such improvement measures, the Company has developed a plan for the sale of its interests in overseas exploration, development and production operations, other than core assets (taking into consideration strategic value and profitability), to third parties with preference given to institutional investors in Korea if possible and with an aim to maximize the returns on such sales. The timing of any such sales will be subject to market conditions. Pursuant to such plan, in July 2018, the Company sold 10% of its equity interest in the LNG Canada project in British Columbia to Petronas, terminated its resource development projects in Iraq's Mansuriya in February 2020, Democratic Republic of Timor-Leste in August 2021 and Iraq's Akkas in April 2024. The Company is also currently in the process of terminating its resource development project in Krueng Mane, Indonesia, its compressed natural gas fueling station and cylinder business in Uzbekistan and its city gas development project in Mozambique. In addition, the Company will be limited from entering into any new overseas investments other than any such investments that are in furtherance of important policy objectives. See "– The Company is subject to the control of the government, and its activities are heavily regulated." To the Company's knowledge, the government currently does not have any plan to privatize the Company through a reduction in the government's shareholding. However, there can be no assurance that the government will not consider privatization of the Company in the future.

SALES

The Company's sales are primarily split between two customer groups: city gas companies and power generating companies. Demand for natural gas from the city gas companies has grown over the past decade as new pipeline connections have increased access to natural gas and customers that used other forms of energy switched to natural gas as it became available. Generally, about a third of sales to power generating companies are to the five non-nuclear power generating subsidiaries of KEPCO. The Company also sold natural gas to 23 other power generating companies that, in the aggregate, owned 40 power plants as of March 31, 2024.

In addition, the Company sells compressed natural gas to private transport companies and companies that operate portable gas fueling stations. The Company also earns fees from companies that utilize the Company's pipelines in order to transport LNG, as well as fees from diverting LNG through a private company that uses the low temperatures of LNG for cooling purposes before LNG reaches the Company's revaporizing facilities.

The Company first supplied natural gas to city gas companies in 1987. Since then, sales to city gas companies have surpassed sales to power generating companies and grew to approximately 18,328 thousand metric tons in 2023 and 7,111 thousand metric tons in the first three months of 2024. The residential gas penetration rate in Korea in 2023 was 84.6% compared to 50% in 1998. The growth in volume of natural gas supplied to residential and business heating end-users and industrial end-users has slowed in recent years. However, the Company believes that there remains potential to increase natural gas sales to such users where penetration rates are relatively lower.

The Company first sold natural gas to KEPCO in 1986. Sales of natural gas by the Company to power generating companies amounted to 16,314 thousand metric tons in 2023 and 4,298 thousand metric tons in the first three months of 2024.

The table below provides details of gas sales volume for the periods indicated.

	For the year ended December 31,						For the three-month periods ended March 31,			
	2021		2022		2023		2023		2024	
	Sales volume	Percent of total	Sales volume	Percent of total	Sales volume	Percent of total	Sales volume	Percent of total	Sales volume	Percent of total
	(in thousands of metric tons)									
City gas companies:										
Residential/ business heating. .	8,793	23.8%	9,189	23.9%	8,161	23.6%	3,911	33.4%	4,030	35.3%
Industrial	7,589	20.6	7,418	19.3	6,772	19.5	1,859	15.9	1,940	17.0
Others	2,949	8.0	3,225	8.4	3,395	9.8	970	8.3	1,141	10.0
Sub-total	19,331	52.4	19,832	51.6	18,328	52.9	6,740	57.5	7,111	62.3
Power generating companies:										
Subsidiaries of KEPCO	7,269	19.7	7,249	18.9	5,868	16.9	1,820	15.5	1,391	12,2
Others										
Average Tariff Plan	10,313	27.9	11,133	29.0	9,955	28.7	3,094	26.4	2,676	23.5
Individual Tariff Plan.	–	–	184	0.5	491	1.4	61	0.5	231	2.0
Sub-total	17,582	47.6	18,566	48.4	16,314	47.1	4,975	42.4	4,298	37.6
Total sales volume	36,913	100.0%	38,398	100.0%	34,642	100.0%	11,715	100.0%	11,409	100.0%

City Gas Companies

As of March 31, 2024, the Company supplied natural gas to 34 city gas companies in Korea. The Company supplies natural gas to city gas companies generally under 20-year contracts, which may be extended if the parties agree to an extension of five years before expiration of the relevant contract. Under these contracts, in November of each year, the volume of gas to be supplied each month of the following year is determined. If the volume that a city gas company fails to purchase is greater than 10% of the agreed amount, these contracts typically contain penalty provisions that oblige the city gas company to pay 2% of the amount they contract for but do not actually take. The penalty does not apply if extreme weather conditions cause a decrease in demand. Thus, the Company may not be able to fully pass through to the city gas companies any costs it incurs under its own take-or-pay or ship-or-pay obligations discussed below.

The table below shows the city gas penetration rate as of December 31, 2023.

Region/City	Total number of households	Households with natural gas supply	Penetration rate[1]
	(in thousands)		(%)
Seoul	4,469	4,444	99.4
Incheon	1,351	1,208	89.4
Gyeonggi	5,979	5,088	85.1
Busan	1,565	1,523	97.3
Daegu	1,094	1,054	96.3
Gwangju	655	666	101.6
Daejon	680	643	94.5
Ulsan	491	477	97.2
Sejong	161	112	69.9
Gangwon	761	431	56.7
Chungbuk	780	549	70.4
Chungnam	1,035	769	74.2
Jeonbuk	861	632	73.4
Jeonnam	911	526	57.7
Gyeongbuk	1,283	889	69.3
Gyeongnam	1,526	1,182	77.5
Jeju	313	49	15.6
Total	23,915	20,242	84.6

Source: City Gas Companies Association.

(1) Discrepancies in the penetration rate are due to rounding.

Although residential heating and electricity generation have been, and are expected to continue to be in the foreseeable future, the major uses of natural gas, natural gas has also become a key energy source for industrial use, including in the manufacturing of food, textile, metal, machinery and chemical products. Sales volume of natural gas for industrial use represented 19.5% of the Company's total sales volume and 36.9% of the Company's sales volume to city gas companies in 2023 and 17.0% of the Company's total sales volume and 27.3% of the Company's sales volume to city gas companies in the first three months of 2024.

The table below provides details of sales by volume to the Company's major city gas customers for the periods indicated.

	For the year ended December 31,			For the three months ended March 31,	
	2021	2022	2023	2023	2024
	(in thousands of metric tons)				
Samchully	3,153	3,292	3,094	1,118	1,130
Seoul	1,552	1,621	1,463	616	633
Gyeongdong	1,800	1,758	1,416	442	529
Ko-one	1,250	1,296	1,213	477	476
Busan	1,102	1,125	1,034	389	400

As a substantial portion of natural gas supplied by the Company is used for heating of residential and commercial units, sales tend to be heavily skewed toward the winter months. Gas demand from the residential and commercial sectors is predominantly for heating purposes, and demand for gas in the winter months is significantly greater than in the summer months due to Korea's climate in which winters tend to be long and cold. The demand gap, or "Turn-Down Ratio," for city gas companies was approximately 3:1 in 2023, meaning that in such year, sales in the month with the highest gas usage were approximately three times greater than sales in the month with the lowest gas usage.

At the beginning of the winter season, the Company's storage tanks generally achieve full capacity levels, whereas at the end of the winter season the storage tanks operate at significantly lower utilization rates, which then gradually increase during the summer and fall seasons. In order to use overall capacity and storage facilities more efficiently year-round, the Company seeks to reduce the seasonality effect by boosting demand for natural gas during the summer, including through the following initiatives:

- focusing on new customer types with more stable demand patterns, particularly industrial consumers;
- developing a price structure that encourages increased summer demand;
- promoting the use of natural gas-powered air conditioning; and
- promoting the use of compressed natural gas-powered cars and buses.

Power Generating Companies

The Company's sales to power generating companies are split between two customer segments: the five non-nuclear power generating subsidiaries of KEPCO and the 23 other power generating companies in Korea. The power generating companies' generating systems consist of nuclear, thermal, hydro and internal combustion units, which at the end of 2023 had an aggregate installed generating capacity of 144,421 megawatts. According to the Korea Power Exchange, it was estimated that natural gas was used for approximately 26.8% of the power generating companies' gross generating production in 2023. Because of the variety of energy sources available to the power generating companies, it is the government's practice to first allocate supplies of LNG to the city gas companies, which do not have the same flexibility.

For sales to power generating companies, the Company has historically averaged the price of LNG under its import contracts and applied the same price to all power plants based on such average import price under the average tariff plan. However, starting from 2022, the Company has been replacing such plan with the individual tariff plan on contracts entered into with new power plants as well as power plants whose existing contracts with the Company are expiring. Under the individual tariff plan, different prices are charged to each power plant through negotiations between each power plant and the Company.

Power Generating Subsidiaries of KEPCO

From the Company's inception until April 2001, it supplied natural gas to KEPCO. In April 2001, pursuant to a restructuring plan for the electricity industry in Korea, KEPCO's non-nuclear generating capacity was divided among the following five separate power generating subsidiaries, each with its own management structure, assets and liabilities: Korea South-East Power Co., Ltd., Korea Southern Power Co., Ltd., Korea Midland Power Co., Ltd., Korea Western Power Co., Ltd. and Korea East-West Power Co., Ltd. Each of these subsidiaries remains wholly owned by KEPCO, although the government may gradually reduce KEPCO's shareholding of each such subsidiary.

The Company entered into 20-year LNG supply contracts with the five non-nuclear power generating subsidiaries of KEPCO that are currently scheduled to expire between December 2026 and December 2043. Under the terms of the contracts, the Company's annual sales quantity is determined annually through negotiations with the power generating companies, subject to the government's approval, and may be adjusted through negotiations between the parties. The Company and each power generating company have agreed that, if the Company and the relevant power generating company cannot agree on the annual purchase quantity, the power generating company will continue to purchase LNG from the Company, with the purchase quantity being determined based on the average of the quantities purchased during the preceding three years. The five non-nuclear power generating subsidiaries of KEPCO are jointly and severally liable for a take-or-pay obligation to the Company to the extent of their annual purchase quantity.

As discussed above in "– The Korean Gas Industry – Energy Policy" and in "Regulation of the Korean Gas Industry," energy policy in Korea is expressed through a series of government energy plans. These plans are periodically revised every two to five years and their main objectives include maintaining a balance between energy supply and demand, improving efficiency within the electricity industry and ensuring the production of electricity in an environmentally clean manner. The government also develops electricity plans ("**Electricity Plans**") which effectively determine the power generating companies' long-term plans for construction of generating units. In January 2023, the government published in consultation with KEPCO the Tenth Electricity Plan which forecasts electricity supply and demand until 2036. The Tenth Electricity Plan projects that electricity consumption will grow at an average growth rate of 1.7% from 2022 to 2036 and increase to 703,165 gigawatt hours in 2036 from 555,914 gigawatt hours in 2022. The Tenth Electricity Plan contemplates significant capacity increases in power generated from nuclear and renewable energy sources, while it projects capacity decreases in power generated from hard coal and oil. The capacity for power generated from LNG is expected to increase to 64.6 gigawatts in 2036 from 41.3 gigawatts in 2022. The Eleventh Electricity Plan is expected to be published in 2024 and the first draft was announced in May 2024. The draft projects maximum electricity demand in 2038 to be 129.3 gigawatts, necessitating a total capacity of 157.8 gigawatts when accounting for a 22% reserve rate. Confirmed contribution of 147.2 gigawatts from nuclear, coal power, LNG and renewable energy sources is expected, and the draft proposes to satisfy a portion of the remaining 10.6 gigawatts requirement with new large-scale nuclear power plants with capacities of up to 4.2 gigawatts (three units), including 0.7 gigawatts (one unit) for small modular reactor demonstration projects. The draft also emphasizes the prioritization of carbon-free sources, with a target of 70% carbon-free electricity generation by 2038. It also projects solar and wind power capacity to reach 72 gigawatts by 2030, more than triple the 23 gigawatts achieved in 2022.

Other Power Generating Companies

In addition to the five non-nuclear power generating subsidiaries of KEPCO, the Company currently supplies natural gas to 23 other power generating companies. The following table describes the natural gas usage capacities of these companies as of March 31, 2024.

	Number of power plants	**Capacity**
		(in megawatts)
Posco Energy Corporation	5	2,276
GS Power Co., Ltd.	2	931
GS EPS Co., Ltd.	3	1,416
CGN Yulchon Generation Co., Ltd.	2	1,390
Pyongtaek Energy Co., Ltd.	1	770
Pocheon Power Co., Ltd.	2	1,450
S-Power Co., Ltd.	1	751
Dongducheon Dream Power Co., Ltd.	2	1,717
Pocheon IPP Co., Ltd.	1	874
KOSPO Youngnam Power Co., Ltd.	1	443
Korea District Heating Co., Ltd.	7	2,456
Busan-Jungkwan Energy Co., Ltd.	1	46
Incheon Airport Energy Co., Ltd.	1	127
Incheon Total Energy Company	1	187
Suwan Energy Co., Ltd.	1	115
Daeryun Power Co., Ltd.	2	640
Daegu Green Power Co., Ltd.	1	371
Narae Energy Service Co., Ltd.	1	364
DS Power Co., Ltd.	1	436
Chuncheon Energy Co., Ltd.	1	431
Korea Land & Housing Corporation.	1	102
Naepogreen Energy Co., Ltd	1	555
Hanju Co., Ltd	1	140
Total.	40	17,988

Wholesale Pricing of Natural Gas

Wholesale gas and gas supply prices are set by the MOTIE after consultations with the MOEF. A sales price adjustment mechanism is implemented pursuant to the Supply of Natural Gas Regulation under the City Gas Business Act and is designed to enable the Company to recover its reasonable costs (including supply costs and raw material costs) plus a guaranteed return. Prior to the beginning of each calendar year, the MOTIE, after consultation with the MOEF and the Company, determines the unit "supply margin," which is based on the Company's target sales volume, estimated unit supply costs based on such target sales volume (including depreciation, selling, general and administrative expenses and labor costs) and a guaranteed return for the Company for the then upcoming year. The guaranteed return amount is determined based on the Company's assets used in the distribution of natural gas, the Company's weighted average cost of capital and certain adjustments. The weighted average cost of capital is calculated by applying the Company's estimated borrowing rate as well as the Company's cost of equity calculated using a capital asset pricing model.

The Company adds to the unit supply margin the unit raw material costs (including LNG costs, transportation expenses, insurance costs and taxes and duties as well as reserves periodically allocated for the collection of the Company's outstanding receivables) to arrive at the Formula Price. This enables the Company to recover its supply costs, pass through its raw material costs and realize the guaranteed return. Such Formula Prices are adjusted periodically throughout the year to reflect fluctuations in raw material costs, which enables the Company to mitigate its commodity price and foreign exchange risks. In the case of raw material costs related to the Company's sales to power generating companies and to city gas companies for industrial end-users and other end-users, estimates for such costs are determined on a monthly basis and the Company is able to periodically settle any differences between its estimated costs and the actual costs it incurs. In the case of raw material costs related to the Company's sales to city gas companies for residential and business heating end-users, such costs are typically adjusted every two months under the City Gas Business Act and Supply of Natural Gas Regulation thereunder if the fluctuations in the raw material costs exceed 3%.

The government reserves the right to suspend the periodic adjustments to the sales price the Company invoices to its customers. During periods of substantial fluctuations in the price of LNG and the value of the Won relative to the U.S. dollar, as part of the government's efforts to mitigate the impact of such fluctuations as well as concerns over inflation, the MOTIE has temporarily suspended the bi-monthly adjustments to the sales prices that the Company invoices to city gas companies. During such periods, the amounts that the Company is entitled to collect from city gas companies based on the Formula Prices but is unable to collect due to the suspension of the bi-monthly adjustments are recorded as "current non-financial assets" (for amounts estimated to be collectible within one year subsequent to the statement of financial position date) or "non-current non-financial assets" (for amounts estimated to be collectible after one year subsequent to the statement of financial position date). For example, the MOTIE temporarily suspended from March 2008 to February 2013 the periodic bi-monthly adjustments to the sales price that the Company invoices to city gas companies. The total amount of current non-financial assets and non-current non-financial assets accumulated during such suspension period relating to the material costs component of sales to city gas companies was Won 5,341 billion. Such suspension and the resulting inability by the Company to fully increase its invoice sales prices to city gas companies to reflect the Formula Prices in turn led to a substantial decrease in net cash inflows and a corresponding increase in the Company's borrowings during the suspension period.

In February 2013, the MOTIE lifted the suspension of the periodic bi-monthly adjustments and reformulated the Formula Prices at a level that enabled the Company to recoup from February 2013 to October 2017 the accumulated Won 5,341 billion to which the Company was entitled but unable to collect during the suspension period. Following such reformulation of the Formula Prices, when the Company recognizes sales, it reduced the amounts in other non-financial assets accumulated during the suspension period by an amount equal to the portion of the Formula Prices allocated over the relevant period to the recoupment of the prior guaranteed return that was not collected due to the suspension until all such amounts accumulated during the suspension period were recouped. Following the lifting of the suspension in February 2013 and the reformulation of the Formula Price, the Company recouped all such amounts accumulated during the suspension period by October 2017.

From October 2018 to June 2019, from July 2020 to March 2022, from November 2022 to April 2023 and since July 2023, in order to mitigate the impact of increases in the price of LNG, the MOTIE re-suspended the bi-monthly adjustments to the sales prices that the Company invoices to city gas companies. Such amounts that the Company was unable to collect due to the suspensions and estimated to be collectible within one year subsequent to the statement of financial position date amounted to Won 1,628 billion as of December 31, 2021, Won 3,796 billion as of December 31, 2022, Won 4,065 billion as of December 31, 2023 and Won 3,819 billion as of March 31, 2024 and were recorded as "other current non-financial assets." Such amounts that the Company was unable to collect due to the suspensions and estimated to be collectible after one year subsequent to the statement of financial position date amounted to Won 1,453 billion as of December 31, 2021, Won 8,292 billion as of December 31, 2022, Won 11,847 billion as of December 31, 2023 and Won 11,994 billion as of March 31, 2024 and were recorded as "other non-current non-financial assets." See note 11 to the Company's unaudited interim condensed consolidated financial statements, note 16 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2023 and 2022 and note 16 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2022 and 2021, included elsewhere in this offering circular. However, from April 2022 to October 2022 and from May 2023 to June 2023, the MOTIE had lifted the suspension of the periodic bi-monthly adjustments and reformulated the Formula Prices, which allowed the Company to recoup some of the accumulated amounts.

No assurance can be given as to when the Company will be able to recoup the accumulated amounts to which the Company was entitled but unable to collect or that the MOTIE will not change its policy or adopt other measures that may prevent or delay the Company from realizing its guaranteed return fully or at all. See "Risk Factors – Risks related to the Company and its Natural Gas Import and Wholesale Business – From time to time, the government may suspend the Company's ability to increase its sales prices to city gas companies to fully reflect increases in raw material costs, which has had, and may in the future have, a negative impact on the Company's cash flows and financial condition, and also a temporary negative impact on the Company's results of operations."

The split of the Company's supply cost burden between city gas companies and power generating companies is determined based on the respective purchase volume forecasts and cost factors for these two customer groups. The Company at times charges different supply prices based on seasonality and the ultimate end user.

LNG SUPPLY

The Company currently obtains substantially all of its LNG requirements from overseas sources, including Australia, Oman, Qatar and the United States.

LNG Sales and Purchase Agreements

Developers and financiers of LNG facilities have historically required long-term sales contracts of 20 to 25 years to be in place before starting the capital-intensive process of LNG facility construction. As a large purchaser of LNG, the Company has established a number of long-term sales and purchase agreements with suppliers that guarantee a minimum level of annual LNG supply. The Company believes that developing and maintaining good relationships with key suppliers is critical to securing consistent supplies of high quality natural gas at competitive prices. Since the introduction of LNG in Korea in 1986, natural gas demand has increased at rates often exceeding the LNG supply from long-term contracts. This has occurred in part because the Company's purchase commitments under long-term contracts are constrained by plans issued by the MOTIE that have often underestimated growth in demand. Accordingly, the Company from time to time has entered into short- and medium-term purchase contracts or spot market transactions to cover short-term fluctuations in seasonal demand.

The following table provides certain information about the Company's long- and medium-term LNG purchase agreements outstanding as of March 31, 2024.

Supplier	Contract period	Delivery basis	Contract volume (in thousand metric tons per year)
Malaysia LNG SDN. BHD. (Malaysia)	2008 to 2028	DES[(1)]	2,000[(2)]
RasGas (Qatar)	1999 to 2024	FOB[(3)]	4,920
RasGasIII (Qatar)	2007 to 2026	DES	2,100
RasGasIII (Qatar)	2013 to 2032	DES	2,000
Qatar Petroleum (Qatar)	2025 to 2044	DES	2,000
Oman LNG L.L.C. (Oman)	2000 to 2024	FOB	4,060
Sakhalin Energy Investment Company (Russia)	2008 to 2028	FOB	1,500
Gladstone LNG (Australia)	2016 to 2036	FOB	3,500[(4)]
Shell Eastern Trading (Pte.) Ltd. (primarily Australia)	2013 to 2038	DES	3,640
Total Gas & Power Limited (primarily Australia)	2014 to 2031	DES	2,000[(5)]
Sabine Pass LNG (USA)	2017 to 2037	FOB	2,800
PT Donngi Senoro LNG (Indonesia)	2015 to 2027	FOB	700
BP (United Kingdom)	2025 to 2042	DES	1,580

(1) Under "delivered-ex-ship" ("**DES**") contracts, the suppliers arrange for the transportation of the LNG to the Company's receiving terminals in Korea and a transportation component is included in the contract price. Title to the LNG passes to the Company at the Company's receiving terminals.

(2) Including 500 thousand metric tons per year that can be purchased at the option of the Company.

(3) Under "free-on-board" ("**FOB**") contracts, title to the LNG passes to the Company at the loading docks in the country where the supplier is located, and the Company arranges for transportation to its receiving terminals.

(4) Includes 500 thousand metric tons per year that can be supplied at the option of the supplier.

(5) Initially one million metric tons per year from 2014 to 2017, and increasing to two million metric tons from 2018 onwards.

Almost all of the long- and medium-term supply contracts contain take-or-pay provisions that require the Company to purchase a certain amount of LNG each year of the contract term, whether or not delivery is taken. Conversely, some agreements specify that the suppliers have downward flexibility to defer supplies. The long- and medium-term supply contracts also specify the downward flexibility available to the Company, which is the amount that may be deferred in any one year without payment becoming due. This figure varies between 5% to 10% of the annual volume the Company is required to purchase. The Company normally is required to purchase such deferred amounts during the remaining term of the relevant contract. Furthermore, there is a limit on the total amount of LNG that can be deferred under such contracts, generally up to 100% of the annually contracted volume. Once this level is reached, the Company is required to pay for the LNG even if delivery is not taken. Almost all of the supply agreements provide that any payment made under the take-or-pay provision can be applied as a credit to future LNG purchases that in subsequent years exceed that year's agreed-upon volume. To date, there have been no instances where the Company has been required to pay for undelivered LNG under the take-or-pay provisions. As the Company increases its storage capacity and expands its pipeline network, its ability to store unutilized LNG is expected to increase. As a result, the Company expects that its ability to deal with excess LNG, if any, will improve.

The price of LNG is generally determined by an LNG market pricing formula based primarily on the price of crude oil. Substantially all of the price of LNG purchased by the Company is determined by the Japanese Crude Cocktail, which is linked to the price of customs-cleared crude oil imports into Japan. The price of LNG which is expected to be imported from Qatar Petroluem after 2025 is linked to the price of Brent crude oil and the price of LNG which is expected to be imported from BP after 2025 is linked to the price of Henry Hub natural gas.

The Company's contracts with Gladstone LNG, Malaysia LNG SDN. BHD. III, PT Donngi Senoro LNG, Sakhalin Energy Investment Company Ltd., Shell Eastern Trading (Pte.) Ltd. and Total Gas & Power Limited permit the Company or the supplier to request renegotiation of pricing terms every five years. The Company's contract with Qatar Petroleum signed in 2021 is subject to a price review after ten years from the commencement of the contract period. The Company may in the future enter into additional long-and medium-term agreements with other suppliers to satisfy its supply requirements on a stable and diversified basis.

The purchase prices under the supply contracts are payable in U.S. dollars.

Shipping

The Company currently imports all of its natural gas in the form of LNG in ships designed and used exclusively for transporting LNG. Each ship can transport approximately 56,000 to 77,000 metric tons of LNG at temperatures ranging from minus 159.8 celsius to minus 163.8 celsius.

The Company arranges LNG shipments on two different bases:

- Under DES contracts, the suppliers arrange for the transportation of the LNG to the Company's receiving terminals in Korea and a transportation component is included in the contract price. For such contracts, title to the LNG passes to the Company at the Company's receiving terminals.

- Under FOB contracts, title to the LNG passes to the Company at the loading docks in the country where the supplier is located, and the Company must arrange for the transportation to its receiving terminals.

For its FOB contracts, the Company utilizes the services of the following domestic Korean shipping companies: Hyundai LNG Shipping Co., Ltd., SK Shipping Co., Ltd., H-Line Shipping Co., Ltd., Korea Line LNG and Korea LNG Trading Co., Ltd. Each ship is allocated to a particular LNG purchase contract, although there is some flexibility in changing the allocation.

As of March 31, 2024, the Company had entered into a total of 30 shipping contracts with the above five Korean shipping companies for the exclusive use of 30 vessels. 29 of these shipping contracts relate to LNG transporting vessels that were built specifically for use by the Company. Each of these 29 shipping contracts has a term of 20 or 25 years, which term may be adjusted by the Company with the consent of the relevant shipping company. The one other shipping contract relates to ships chartered by the relevant shipping companies for use by the Company. Eight of the financing contracts for these ships require the government to directly or indirectly own 30% of the Company's shares and maintain effective control of the Company.

If the Company were to terminate its use of one or more of the ships under its shipping contracts, it could be required to make the remaining payments under the relevant shipping company's financing documents. Although the Company is not a party to the financing documents for these ships, it has entered into contracts of affreightment with the shipping companies. The Company believes that it would terminate its use of such ships only pursuant to a plan by the MOTIE that calls for large reductions in supply. The Company believes that the government would reimburse the Company for any payments it makes following the termination of a shipping contract. However, the government does not have any legal or contractual obligation to do so. Even if the Company were required to make payments under a ship's financing documents, it would not acquire title to the ship. The financing documents also contain various grace periods and other provisions regarding alternative uses of the ships, which the Company believes would enable it to minimize its exposure in respect of such payments.

Under the shipping contracts relating to the 29 ships built for the Company, the Company and the shipping companies have agreed to an annual shipment volume for the life of the agreements. Each year the Company may adjust the shipment volume for the following year based on any changes to agreements between the Company and its LNG suppliers. The annual shipment volume may be adjusted according to the Company's shipping requirements as long as the Company adheres to the aggregate shipment volume for the term of the contract.

Other than the shipping contracts relating to the ships to be used for the transportation of LNG under the Sabine Pass LNG purchase agreement, 19 of the shipping contracts contain ship-or-pay clauses, which require the Company to pay the costs incurred by the shipping company if the committed volume of shipment, as adjusted as described in the previous paragraph, for a given year is not shipped. Under the shipping contracts relating to the ships built for the Company, the payments under the ship-or-pay clauses are determined based on the shipping companies' capital costs and vessel expenses. The components of the shipping companies' capital costs include the cost of building the vessel, interest expense on financing for the construction of the vessel and other costs such as management and other fees in connection with such financing. The shipping companies' vessel expenses include labor, repair, maintenance and insurance costs for the ships. Payments under the ship-or-pay clauses are calculated by multiplying the unit shipment costs by the shortfall in shipment volume for the relevant year.

To date, the Company has never been required to make payments under such take-or-pay or ship-or-pay clauses principally because, in most cases, it has been able to purchase and ship sufficient amounts of LNG to avoid triggering these clauses. On rare occasions, due to a decrease in demand, the Company has purchased or shipped less than the agreed amounts of LNG, but the amounts were within the range allowed to be deferred under the supply or shipping contracts. However, if the Company's requirements for LNG were to be materially reduced in future years and the Company were not able to negotiate a reduction of the annual shipment volumes, the Company may incur payment obligations under the ship-or-pay clauses. Under the shipping contracts, any such payments could be applied against costs relating to future shipping requirements in excess of contracted amounts.

STORAGE AND TRANSMISSION

As of March 31, 2024, the Company owned and operated a pipeline network of 5,178 kilometers in length. The Company receives, stores and vaporizes LNG in five large terminal complexes in Pyongtaek, Incheon, Tongyeong, Samcheok and Jeju that had a combined storage capacity of 12.2 million kiloliters of LNG as of March 31, 2024. Pyongtaek and Incheon are located on the western coast of Korea near Seoul; Tongyeong is located on the southern coast of Korea; Samcheok is located on the eastern coast of Korea; Jeju is located off the southern coast of Korea.

LNG is delivered to the Company's receiving terminals in specially designed ships. LNG is then pumped into storage tanks through unloading arms and pipes. Later, LNG is pumped out to the vaporizers where it is revaporized and then piped in a gaseous state to wholesale customers throughout Korea. The Company's facilities for receiving, storing, vaporizing and distributing natural gas have been constructed to meet international industry design standards and are operated under strict quality and safety controls.

Terminals

Pyongtaek

The Pyongtaek complex, which has been in operation since 1986, is located on a 1,331,831 square meter tract of land at Asan Bay on Korea's western coast in Gyeonggi province, 100 kilometers south-west of Seoul. The Pyongtaek complex is equipped with berthing facilities for two tankers to unload LNG and, as of March 31, 2024, it housed 23 storage tanks with a total capacity of 3.4 million kiloliters of LNG. Each tank has a storage capacity of between 100,000 to 200,000 kiloliters, is above ground with a concrete membrane and is designed to withstand earthquakes to the same scale as nuclear power plants in Korea. The Pyongtaek complex's vaporizing facilities are a combination of "open rack" type and "submerged" type with a production capacity of 4,680 metric tons of natural gas per hour as of March 31, 2024. The terminal processed approximately 13.3 million metric tons of natural gas in 2023 and approximately 3.8 million metric tons of natural gas in the first three months of 2024.

The revaporizing facilities at the Pyongtaek complex utilize waste water from the adjacent Korea Western Power Co., Ltd.'s power station. The Company believes this has a significant beneficial effect on the Pyongtaek complex's operating cost structure when compared to the Incheon complex.

Incheon

The Incheon complex, which commenced operations in 1996, is located on a 1,380,948 square meter site, also on the Republic's western coast in the Incheon municipality. Due to safety concerns in this heavily populated area, the Incheon complex is situated entirely on an island of reclaimed land, approximately eight kilometers off the coast. The Incheon complex is also equipped with two berths and, as of March 31,

2024, had 23 storage tanks in operation with a total capacity of 3.5 million kiloliters. 13 of the storage tanks are above ground and ten are below ground. The vaporizing facility had a production capacity of 6,270 metric tons of natural gas per hour as of March 31, 2024. The terminal processed approximately 12.1 million metric tons of natural gas in 2023 and approximately 4.0 million metric tons of natural gas in the first three months of 2024.

Tongyeong

The Tongyeong complex is located on a 1,124,504 square meter site and has been operational since September 2002. The Tongyeong complex is equipped with two berths and, as of March 31, 2024, had 17 storage tanks in operation with a total capacity of 2.6 million kiloliters. All of the storage tanks are above ground. The vaporizing facility had a production capacity of 3,030 metric tons of natural gas per hour as of March 31, 2024. The terminal processed approximately 7.5 million metric tons of natural gas in 2023 and approximately 2.4 million metric tons of natural gas in the first three months of 2024.

Samcheok

The Samcheok complex is located on a 872,345 square meter site on the eastern coast of Korea and has been operational since July 2014. The Samcheok complex, as of March 31, 2024, had twelve storage tanks in operation with a total capacity of 2.6 million kiloliters. The vaporizing facility had a production capacity of 1,320 metric tons of natural gas per hour as of March 31, 2024. The terminal processed approximately 3.9 million metric tons of natural gas in 2023 and approximately 1.6 million metric tons of natural gas in the first three months of 2024.

Jeju

The Jeju complex is located on a 74,786 square meter site off the southern coast of Korea and has been operational since October 2019. The Jeju complex, as of March 31, 2024, had two storage tanks in operation with a total capacity of 0.1 million kiloliters. The vaporizing facility had a production capacity of 100 metric tons of natural gas per hour as of March 31, 2024. The terminal processed approximately 242 thousand metric tons of natural gas in 2023 and approximately 74 thousand metric tons of natural gas in the first three months of 2024.

Pipeline Network

Once LNG is converted into vaporized gas at the Pyongtaek, Incheon, Tongyeong, Samcheok and Jeju facilities, the gas is pumped throughout Korea through underground pipelines. The pipes are constructed in Korea to ISO 9001 technical standards and ISO 14001 environmental standards, and are insulated with rubber and then buried 1.2 to 1.5 meters underground after stringent inspections. The Company's distribution facilities also include stations for regulating the pressure of the gas as it is transmitted and other auxiliary facilities such as metering instruments.

As of March 31, 2024, the Company's transmission system had a total of 5,178 kilometers of pipeline in operation. As of March 31, 2024, the pipelines supplied gas to approximately 216 counties and cities throughout Korea. The Company's transmission system includes 422.3 kilometers of pipeline that encircle the Seoul metropolitan area in order to provide this highly populated area with a stable and secure supply of natural gas. The Company's extensive pipeline also allows the Company to distribute LNG to regional areas of Korea outside of the major metropolitan areas. By the end of 2036, the Company expects to expand its network to comprise approximately 5,840 kilometers of pipeline.

System Control Centers

The Central System Control Center, which is located in the Company's headquarters building in Daegu, continually and automatically checks and controls the production and distribution operations with computerized monitoring equipment. The control center has been designed with the assistance of Dong-Ah Engineering Co., Ltd. (Korea) and OGE Energy Corp. (Japan) and utilizes computer-controlled equipment from Digital Equipment Corporation (USA). The center is designed to prevent accidents and to manage any emergency that may arise. In addition, there are ten regional control centers in Ansan, Daejon, Gimhae, Gunsan, Gwangju, Gyeongsan, Incheon, Jeju, Seoul and Wonju, which continually monitor the distribution of natural gas within their respective regions. The regional centers are also designed for accident prevention.

The Central System Control Center also monitors the distribution and flow of natural gas in order to obtain consumption and demand figures. The information gathered is used to study and review the Company's performance and customer consumption patterns.

OVERSEAS OPERATIONS

As part of its efforts to diversify its operations and prepare for the potential restructuring and liberalization of the natural gas industry in Korea as well as in response to the government's policy to promote procurement of natural resources, the Company has participated in exploration, development and production of natural gas outside Korea. As part of a consortium or through acquisition of a minority interest, the Company engages in overseas gas exploration and development in various locations, including Australia, Iraq and Mozambique, as well as participates in LNG terminal operation and maintenance activities and invests in gas supply companies located abroad.

In more recent years, the Company's strategic goal has been to enhance profitability and financial soundness through debt reduction, including through disposition of non-core or unprofitable assets, as well as various other cost-saving measures. Such strategic goal is in line with the Company's debt reduction plan submitted to the MOEF and as part of its plan to bolster its overall financial health. Accordingly, the Company plans to concentrate on its core business of LNG import-related operations and pursue selective new business opportunities domestically and abroad. The Company invested approximately Won 495 billion in 2021, Won 417 billion in 2022, Won 337 billion in 2023 and Won 128 billion in the first three months of 2024, and it expects to invest approximately Won 499 billion in such projects in the remainder of 2024, substantially all of which relate to committed capital expenditures on its existing overseas projects.

The major overseas gas exploration, development and production projects that the Company is currently pursuing are as follows:

- **Gladstone Project in Australia**. In January 2011, the Company, Total S.A., Santos Ltd. and Petronas announced their approval of the Gladstone LNG project in Australia (the "**GLNG Project**"). The integrated GLNG Project consists of the development and production of coal bed methane, an unconventional natural gas, from the Fairview, Arcadia, Roma and Scotia fields located in the Bowen and Surat Basin in Queensland, eastern Australia, the construction of a gas transmission pipeline from the gas fields to Gladstone, Queensland as well as the construction of a liquefaction plant on Curtis Island, Queensland. The consortium commenced commercial production in September 2015. The GLNG project expects to produce 7.8 million metric tons of LNG per year, and the Company has entered into a long-term agreement to offtake 3.5 million metric tons of LNG per year from 2015 to 2031.

  As of March 31, 2024, KOGAS Australia Pty. Ltd. ("**KOGAS Australia**"), a wholly-owned subsidiary of the Company which acts as a holding company for the Company's interest in the project, held a 15.0% interest in the GLNG project. KOGAS Australia recorded sales of Won 603 billion in 2021, Won 1,098 billion in 2022, Won 1,009 billion in 2023 and Won 278 billion in the first quarter of 2024, and net profit of Won 393 billion in 2021, Won 159 billion in 2022, Won 76 billion in 2023 and Won 24 billion in the first quarter of 2024. As of March 31, 2024, KOGAS Australia had total assets of Won 4,319 billion and total liabilities of Won 3,466 billion.

- **Prelude Project in Australia**. In June 2012, the Company announced its purchase of a 10.0% interest in the Prelude floating LNG project in Australia from Shell Australia Pty. (the "**Prelude Project**"). Floating LNG projects produce, liquefy, store and transfer LNG at sea before carriers ship it directly to markets. The Prelude Project commenced production operations in June 2019 with initial production capacity of approximately 3.6 million metric tons of LNG per year.

  As of March 31, 2024, KOGAS Prelude Pty. Ltd. ("**KOGAS Prelude**"), a wholly-owned subsidiary of the Company, held a 10.0% interest in the Prelude Project. KOGAS Prelude, which is the operator of the project, recorded sales of Won 287 billion in 2021, Won 194 billion in 2022, Won 311 billion in 2023 and Won 137 billion in the first quarter of 2024, and net profit of Won 4 billion in 2021, net loss of Won 43 billion in 2022, net loss of 4 billion in 2023 and net profit of Won 21 billion in the first quarter of 2024. As of March 31, 2024, KOGAS Prelude had total assets of Won 2,137 billion and total liabilities of Won 1,531 billion.

- **Zubair Project in Iraq**. In June 2009, the Company joined a consortium with Eni S.p.A. and Occidental Petroleum Corporation and made a successful bid in the Iraqi government's auction of the Zubair oilfield (the "**Zubair Project**"). The consortium has the right to develop and produce oil and gas in the Zubair oilfield for 25 years, with the right to extend the contract period by an additional five years, subject to certain conditions. The consortium commenced commercial production in February 2010. The consortium expects to produce an aggregate of 4.7 billion barrels of crude oil during the initial contract period of 25 years, and the Company has entered into a long-term agreement to offtake a certain portion of the crude oil produced from 2010 to 2035.

  As of March 31, 2024, KOGAS Iraq B.V. ("**KOGAS Iraq**"), a wholly-owned subsidiary of the Company, held a 23.8% interest in the Zubair Project. KOGAS Iraq has entered into a service agreement related to the project and receives compensation for its services from the crude oil produced in the project. KOGAS Iraq recorded sales of Won 376 billion in 2021, Won 393 billion in 2022, Won 496 billion in 2023 and Won 125 billion in the first quarter of 2024, and net profit of Won 65 billion in 2021, net loss of Won 91 billion in 2022, net loss of Won 165 billion in 2023 and net profit of Won 14 billion in the first quarter of 2024. As of March 31, 2024, KOGAS Iraq had total assets of Won 991 billion and total liabilities of Won 186 billion.

- **Badra Project in Iraq**. In December 2009, the Company joined a consortium with Gazprom Neft, Petronas and Turkiye Petrolleri Anonim Ortakligi, the state-owned oil and gas company of Turkey, and made a successful bid in the Iraqi government's auction of the Badra oilfield (the "**Badra Project**"). The consortium has the right to develop and produce oil and gas in the Badra oilfield for 20 years, with the right to extend the contract period by an additional five years, subject to certain conditions. The consortium commenced commercial production in the second half of 2014. The consortium expects to produce an aggregate of 220 million barrels of crude oil during the initial contract period of 20 years, and the Company has entered into a long-term agreement to offtake a certain portion of the crude oil produced from 2010 to 2030.

  As of March 31, 2024, KOGAS Badra B.V. ("**KOGAS Badra**"), a wholly-owned subsidiary of the Company, held a 22.5% interest in the Badra Project. KOGAS Badra has entered into a service agreement related to the project and receives compensation for its services from the crude oil produced in the project. KOGAS Badra recorded sales of Won 150 billion in 2021, Won 203 billion in 2022, Won 132 billion in 2023 and Won 25 billion in the first quarter of 2024, and net profit of Won 8 billion in 2021, Won 115 billion in 2022, Won 49 billion in 2023 and net loss of Won 1 billion in the first quarter of 2024. As of March 31, 2024, KOGAS Badra had total assets of Won 461 billion and total liabilities of Won 53 billion.

- **Mozambique Project**. In July 2007, the Company formed a consortium with Eni S.p.A. and Petroleos e Gas de Portugal SGPS, S.A. to explore the Area 4 offshore block in Mozambique owned by Eni S.p.A. (the "**Mozambique Project**"). The Coral FLNG project, which is the first natural gas extraction project of Area 4, commenced production in November 2022 and has an annual production capacity of 3.4 million metric tons of LNG per year.

  As of March 31, 2024, KG Mozambique Ltd. ("**KG Mozambique**"), a wholly-owned subsidiary of the Company, held a 10.0% interest in the Mozambique Project. KG Mozambique, which is the operator of the project, recorded no sales in 2021, sales of Won 13 billion in 2022, Won 160 billion in 2023 and Won 42 billion in the first quarter of 2024, and net loss of Won 19 billion in 2021, Won 47 billion in 2022, Won 221 billion in 2023 and net profit of Won 5 billion in the first quarter of 2024. As of March 31, 2024, KG Mozambique had total assets of Won 1,365 billion and total liabilities of Won 1,064 billion.

For additional details of the Company's consolidated subsidiaries that engage in overseas operations, see note 1 to the Company's unaudited interim condensed consolidated financial statements, note 1 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2023 and 2022 and note 1 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2022 and 2021, included elsewhere in this offering circular.

HYDROGEN BUSINESS

In January 2019, the MOTIE announced the Hydrogen Economy Roadmap with a goal to create a comprehensive hydrogen ecosystem in Korea and to become a leading country in the new global hydrogen economy including in areas of fuel cell electric vehicles and fuel cells. In addition, the Korean National

Assembly passed the Hydrogen Economy Promotion and Safety Management Act in February 2020 with a view to create a legal framework for the realization of the Hydrogen Economy Roadmap. The roadmap aims to, among others, (1) supply 15 gigawatts of utility-scale fuel cells and 2.1 gigawatts of commercial and residential fuel cells by 2040, (2) produce 5.9 million fuel cell electric vehicles and 60,000 fuel cell buses by 2040 and (3) install 1,200 hydrogen refueling stations by 2040. Furthermore, in November 2022, the government announced the Clean Hydrogen Ecosystem Creation Plan at the fifth Hydrogen Economy Council, which goal includes, among others, to produce 30,000 hydrogen-powered commercial vehicles by 2030, build 70 liquid hydrogen fueling stations and to compose 7.1% of the nation's energy mix with clean hydrogen by 2036. The Clean Hydrogen Ecosystem Creation Plan aims to, among others, (1) create large-scale hydrogen demand in the transportation, power generation, and industrial sectors by expanding subsidies for the purchase of hydrogen buses and trucks and by reducing the acquisition tax on hydrogen buses, and (2) construct the world's largest liquefied hydrogen plant (40,000 tons per year), an ammonia receiving terminal (4,000,000 tons per year), a liquefied hydrogen receiving terminal (100,000 tons per year) and a hydrogen-only pipeline network in response to the growing demand for hydrogen. In December 2023, the sixth Hydrogen Economy Council was held, and the main agenda included plans to (1) operate a clean hydrogen certification system, (2) foster small hydrogen industry entrepreneurs, (3) expand the supply of hydrogen electric vehicles and (4) operate a national hydrogen focus laboratory.

Pursuant to such government initiatives, in July 2020, the Company was designated as Korea's exclusive hydrogen agency in charge of maintaining appropriate hydrogen price levels, managing supplies and inspecting supply chains. In addition, the Company plans to help establish a nation-wide hydrogen fueling infrastructure by taking advantage of its existing natural gas supply facilities and technical expertise. In furtherance of such plans, the Company completed construction of (1) hydrogen charging stations in Gimhae in 2021 and Daegu in 2022, (2) a hydrogen production base in Gwangju in 2023 with production capacity of 1,400 tons per year and (3) a hydrogen production base in Changwon in 2023 with production capacity of 3,500 tons per year. The Company also plans to make investments for the (1) construction of hydrogen production bases in Pyongtaek, which construction is expected to be completed by 2025, (2) establishment of a domestic hydrogen pipeline for combined cycle power plants based on the results of the Clean Hydrogen Portfolio Standard bidding process and (3) development of low-carbon energy sources, such as e-methane, while leveraging existing natural gas infrastructure.

The major hydrogen projects that the Company is currently pursuing are as follows:

- Construction of a hydrogen production base in Pyeongtaek, which construction is scheduled to commence in the second half of 2024.

- In October 2022, the Company established Hy Station, a joint venture in which it holds a 29% equity interest, to build convergence charging stations which will use natural gas to manufacture hydrogen on-site. The construction of the first charging station was completed in May 2024.

SAFETY

Safety standards and regulations in the LNG industry are issued, and compliance of such standards and regulations is monitored, by the MOTIE and the Gas Technology Standards Committee, a government body under the control of the MOTIE. Liability for gas-related accidents involving either the Company or the city gas companies is generally governed by the Korean Civil Code, the Labor Standards Act and the Industrial Accident Compensation Insurance Act. There are no specific provisions for civil liability relating to gas-related accidents in any relevant legislation for either the Company or the city gas companies.

The Company has undertaken various measures including replacing pipeline valves with newer and safer models, improving computer systems, increasing safety and maintenance training for employees and improving the Company's patrolling equipment (used to detect leaks and other defects in pipes). The Company believes that its safety standards surpass or are at least comparable to domestic and international safety standards relating to the gas industry. The Company has acquired ISO 45001, ISO 9001 and ISO 14001 and certifications for its safety and health management. The government also periodically conducts spot-checks of the Company's facilities to ensure that they are in compliance with environmental regulations. These spot-checks have never identified any major violations or resulted in material monetary fines or other penalties. There has not been a serious accident at any of the Company's workplaces since 1995.

EMPLOYEES

As of March 31, 2024, the Company had 4,120 employees. The following table provides a breakdown of employees by function as of the dates indicated.

Function	As of December 31, 2021	2022	2023	As of March 31, 2024
Planning	97	180	200	208
Administration	217	320	273	289
Marketing	103	107	134	138
Exploration & production	167	148	161	173
Production	1,164	1,108	1,113	1,115
Operations	1,778	1,771	1,684	1,650
Research & development	392	340	276	238
Others	389	280	321	309
Total	4,307	4,254	4,162	4,120

Labor Relations

As of March 31, 2024, 3,688 of the Company's employees, or approximately 89.5% of its total employees, were members of a labor union. The Company negotiates a collective bargaining agreement every two years as well as a wage agreement on an annual basis with its labor union. The latest collective bargaining agreement came into effect in December 2023. The Company entered into a new wage agreement with its labor union in December 2023. In the past, the Company has experienced opposition from its labor union for concerns over the government's plans to liberalize and privatize the natural gas wholesale and transport industry and restructure the Company to improve its operating efficiency and profitability by reducing its employee base. In recent years, the Company has not experienced any significant labor disputes and unrests that have interrupted its business operations. Although the Company believes that it has hired and trained appropriate personnel to ensure continuous operations in the event of a strike or work stoppages, there can be no assurance that this will be the case.

Remuneration

The Company, like most Korean companies, grants its employees annual increases in basic wages and pays periodic bonuses. Employees and directors with more than one year of service are entitled to receive a lump-sum payment upon termination of their service with the Company, based on their length of service and rate of pay at the time of termination.

PROPERTY

The Company's headquarters and principal offices are located at 120 Cheomdan-ro, Dong-gu, Daegu, 41062, Korea. As part of a wider government initiative to relocate public companies from the Seoul metropolitan area to other parts of Korea, the Company relocated its headquarters to Daegu in 2014. The Company owns nine branch offices in Seoul, Incheon, Gyeonggi, Gyeongnam, Choongchung, Chunbuk, Chunnam, Gyeongbuk and Gangwon.

The Company has title over the land used for the Incheon, Jeju, Pyongtaek, Tongyeong and Samcheok receiving terminals.

To construct the pipeline network, pipelines are laid underneath government-owned land whenever possible. The Company generally pays annual fees for the use of such land. In other cases, the Company either pays landowners for "right of use" permission, pursuant to which a single up-front right of use fee is paid to landowners and in exchange for which the landowners are required to restrict the future uses of such land, or else purchases the land outright.

INSURANCE

The Company maintains a comprehensive insurance policy that covers different aspects of its business and properties, including general commercial liability, bodily injury, fire, construction, property and cargo insurance policies with respect to the Pyongtaek, Incheon, Tongyeong, Samcheok and Jeju complexes, its distribution stations and its LNG and other raw materials. In addition, the Company maintains directors' and officers' liability insurance and insurance against damage from terrorism. In 2023, the Company paid premiums for its major insurance policies totaling approximately Won 11 billion. The Company is not delinquent on any of its insurance payments. The Company believes that its insurance coverage is comparable to that of other companies engaged in similar businesses.

RESEARCH AND DEVELOPMENT AND INTELLECTUAL PROPERTY

In May 1990, the Company opened its Research and Development Center in Ansan in Gyeonggi province. The center has a branch in Incheon to conduct further research and development activities. As of March 31, 2024, the Center employed 85 researchers and 49 other employees. The Company incurred research and development expenses of Won 36 billion in 2023.

Under the KOGAS Act, the Company is required to appropriate at least 1% of its net gas sales for research and development in its budget for each business year. In 2023, the Company appropriated 1.9% of its net gas sales for research and development in its annual budget on a separate basis. The Company's objective with regard to research and development is to develop internal technologies that (i) serve as a growth engine for the Company through increased operating efficiencies and increasing demand for natural gas, (ii) ensure the safety of its facilities, and (iii) provide the Company with a competitive advantage in its overseas gas exploration, development and production projects.

Current core projects focus on development of the following areas:

- core technologies such as LNG storage tanks and LNG cargo containers;
- safety control systems for ensuring safe operation of the Company's infrastructure;
- precise metering and quality measurement technologies; and
- carbon emission reduction technologies, including natural gas thermal decomposition, green methane and underground carbon storage technologies.

The Company has entered into cooperation agreements with other natural gas energy companies in order to pursue joint research and development activities. In addition, the Company is a member of various international organizations related to the natural gas industry, such as the International Gas Union, the International Group of LNG Importers and the Hydrogen Council.

The Company's general policy is to seek intellectual property protection for those inventions and improvements likely to be incorporated into its products or to give it a competitive advantage compared to other fuel sources. The Company relies on a variety of patents, utility model rights, copyrights, trade secrets, trademarks and proprietary information to maintain and enhance its competitive position. The Company's principal brand names are registered trademarks in Korea.

The Company held 454 patents and 17 utility model rights as of March 31, 2024. The Company does not believe that any individual property right or related group of intellectual property rights is of such importance that its expiration or termination would materially affect the business of the Company.

SUBSIDIARIES

For details of the Company's consolidated subsidiaries that engage in overseas operations, see note 1 to the Company's unaudited interim condensed consolidated financial statements, note 1 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2023 and 2022 and note 1 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2022 and 2021, included elsewhere in this offering circular.

LEGAL MATTERS

The Company is involved from time to time in legal and regulatory proceedings, including those arising in the ordinary course of its business.

Since 2017, Samsung Heavy Industries and SK Shipping Co., Ltd. filed four lawsuits against the Company in connection with alleged defects in KC-1, a cargo containment system that was designed by KC LNG Tech Co., Ltd., a subsidiary of the Company. Currently three cases are ongoing at the Seoul High Court and one case is ongoing at the Seoul Central District Court and the outcomes of such trials remain uncertain. There can be no assurance that the outcome of the ongoing cases will not have a material adverse effect on the Company, its reputation or its business.

As of the date of this offering circular, it is the Company's view that there are no other legal or regulatory proceedings involving the Company or any of its affiliates, the outcome of which may have a material adverse effect on the results of operations or financial position of the Company.

Management's Discussion and Analysis of Financial Condition and Results of Operations

All financial information included below is given on a consolidated basis, unless otherwise specified. The following discussion and analysis should be read in conjunction with the Company's financial statements, together with the accompanying notes, included elsewhere in this offering circular. The unaudited interim condensed consolidated financial information for the three-month period ended March 31, 2024 presented in this offering circular may not be indicative of the Company's full year results for 2024.

OVERVIEW

The Company is the only company in Korea engaged in the wholesale distribution of natural gas, and is one of the largest importers of LNG in the world. The Company supplied 34.6 million metric tons of natural gas in 2023 and 11.4 million metric tons in the first three months of 2024. The Company believes that natural gas supplied by the Company accounted for approximately 19.1% of the primary energy consumed in Korea in 2023. The Company's facilities consist primarily of its gas processing terminals, storage facilities and nation-wide pipeline network. The Company imports, receives and revaporizes LNG at its five LNG receiving terminals, and then distributes the natural gas to its customers through its network of pipelines which encompassed 5,178 kilometers as of March 31, 2024. The Company intends to expand both its pipeline network and storage capacity.

As of March 31, 2024, the government directly and indirectly held 46.7% of the Company's issued and outstanding shares, and local governments held an additional 7.9% of the Company's issued and outstanding shares. Accordingly, the government has historically influenced, and is likely to continue to influence, the Company's strategy, operations and management. The Company is heavily regulated by a variety of laws and regulatory bodies, including the MOTIE and the MOEF. The government also has the ability to influence and control other government-related entities, such as the five non-nuclear power generating subsidiaries of KEPCO, which are the Company's customers. From time to time, the Company is required to take actions in furtherance of public policy considerations and the government's broader objectives for the natural gas industry which are not necessarily in the Company's best commercial interests. For example, public policy considerations relating to the level of the Company's profitability affect the Company's prescribed rate of return.

The Company has two reportable operating segments – a natural gas wholesale segment and a segment related to the Company's other business operations, primarily consisting of its natural gas exploration, development and production activities abroad. See note 5 to the Company's unaudited interim condensed consolidated financial statements, note 4 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2023 and 2022 and note 4 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2022 and 2021, included elsewhere in this offering circular.

Sales Price Adjustment Mechanism and Guaranteed Return

The government, among other things, supervises the Company's forecasting process for natural gas demand, approves the Company's LNG supply contracts, and influences the Company's operating income and cash flow by regulating the Company's natural gas sales prices. Prior to the beginning of each calendar year, the MOTIE, after consultation with the MOEF and the Company, determines the unit "supply margin," which is based on the Company's target sales volume, estimated unit supply costs based on such target sales volume (including depreciation, selling, general and administrative expenses and labor costs) and a guaranteed return for the Company for the upcoming year. The guaranteed return amount is determined based on the Company's assets used in the distribution of natural gas, the Company's weighted average cost of capital and certain adjustments. The weighted average cost of capital is calculated by applying the Company's estimated borrowing rate as well as the Company's cost of equity calculated using a capital asset pricing model.

The Company adds the unit supply margin to the unit raw material costs (including LNG costs, transportation expenses, insurance costs and taxes and duties as well as reserves periodically allocated for the collection of the Company's outstanding receivables) to arrive at the Formula Price. This enables the Company to recover its supply costs, pass through its raw material costs and realize the guaranteed return. Such Formula Prices are adjusted periodically throughout the year to reflect fluctuations in raw material costs, which enables the Company to mitigate its commodity price risks and foreign exchange risks. In the case of raw material costs related to the Company's sales to power generating companies and to city gas companies for industrial end-users and other end-users, estimates for such costs are determined on a monthly basis and the Company is able to periodically settle any differences between its estimated costs and the actual costs it incurs. In the case of raw material costs related to the Company's sales to city gas

companies for residential and business heating end-users, such costs are typically adjusted every two months if the fluctuations in the raw material costs exceed 3%. Any such differences not reflected in the Formula Prices and outstanding at the end of the fiscal year are taken into account in determining the unit supply margin applicable to the subsequent fiscal year. The Company at times charges different supply prices based on seasonality and the ultimate end user.

The sales price adjustment mechanism for city gas companies is implemented pursuant to the Supply of Natural Gas Regulation under the City Gas Business Act and is designed to enable the Company to recover its reasonable costs (including supply costs and raw material costs) plus a guaranteed return. Accordingly, unlike most companies, gross margin and operating margin, which rates decrease in times of increasing raw material costs, are not useful parameters that the Company uses to measure its operating performance.

Suspension of Sales Price Adjustments

The government reserves the right to suspend the periodic adjustments to the sales price described above. During periods of substantial fluctuations in the price of LNG and the value of the Won relative to the U.S. dollar, as part of the government's efforts to mitigate the impact of such fluctuations as well as concerns over inflation, the MOTIE has temporarily suspended the periodic bi-monthly adjustments to the sales prices that the Company invoices to city gas companies. During such period, the amounts that the Company was entitled to collect from city gas companies based on the Formula Prices but was unable to collect due to the suspension of the adjustments were recorded as "current non-financial assets" (for amounts estimated to be collectible within one year subsequent to the statement of financial position date) or "non-current non-financial assets" (for amounts estimated to be collectible after one year subsequent to the statement of financial position date). For example, the MOTIE temporarily suspended from March 2008 to February 2013 the periodic bi-monthly adjustments to the sales price that the Company invoices to city gas companies. "Other non-financial assets" include the underpaid amounts (with respect to both city gas companies and power generating companies) due to the actual raw material costs being higher than the raw material costs used to calculate the Formula Price, while the Company also records "other non-financial liabilities" regarding the overpaid amounts (with respect to both city gas companies and power generating companies) due to the actual raw material costs being lower than the raw material costs used to calculate the Formula Price. Such suspension and the resulting inability by the Company to fully increase its invoice sales prices to city gas companies to reflect the Formula Prices in turn led to a substantial decrease in net cash inflows and a corresponding increase in the Company's borrowings during the suspension period.

In February 2013, the MOTIE lifted the suspension of the periodic bi-monthly adjustments and reformulated the Formula Prices at a level that enabled the Company to recoup from February 2013 to October 2017 the accumulated Won 5,341 billion to which the Company was entitled but unable to collect during the suspension period. Following such reformulation of the Formula Prices, when the Company recognizes sales, it reduces the amounts in other non-financial assets accumulated during the suspension period by an amount equal to the portion of the Formula Prices allocated over the relevant period to the recoupment of the prior guaranteed return that was not collected due to the suspension until all such amounts accumulated during the suspension period were recouped. Following the lifting of the suspension in February 2013 and the reformulation of the Formula Price, the Company recouped all such amounts accumulated during the suspension period by October 2017.

From October 2018 to June 2019, from July 2020 to March 2022, from November 2022 to April 2023 and since July 2023, in order to mitigate the impact of increases in the price of LNG, the MOTIE re-suspended the bi-monthly adjustments to the sales prices that the Company invoices to city gas companies. Such amounts that the Company was unable to collect due to the suspensions and estimated to be collectible within one year subsequent to the statement of financial position date amounted to Won 1,628 billion as of December 31, 2021, Won 3,796 billion as of December 31, 2022, Won 4,065 billion as of December 31, 2023 and Won 3,819 billion as of March 31, 2024 and were recorded as "other current non-financial assets." Such amounts that the Company was unable to collect due to the suspensions and estimated to be collectible after one year subsequent to the statement of financial position date amounted to Won 1,453 billion as of December 31, 2021, Won 8,292 billion as of December 31, 2022, Won 11,847 billion as of December 31, 2023 and Won 11,994 billion as of March 31, 2024 and were recorded as "other non-current non-financial assets." See note 11 to the Company's unaudited interim condensed consolidated financial statements, note 16 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2023 and 2022 and note 16 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2022 and 2021, included elsewhere in this offering circular. However, from April 2022 to October 2022 and from May 2023 to June 2023, the MOTIE had lifted the suspension of the periodic bi-monthly adjustments and reformulated the Formula Prices, which allowed the Company to recoup some of the accumulated amounts.

No assurance can be given as to when the Company will be able to recoup the accumulated amounts to which the Company was entitled but unable to collect or that the MOTIE will not change its policy or adopt other measures that may prevent or delay the Company from realizing its guaranteed return fully or at all.

Other Factors Affecting the Company's Results of Operations

In addition to the adjustments to natural gas sales prices described above, the Company's business, results of operations and financial condition have been affected, and may continue to be affected, by the following factors:

- the performance of the Korean economy;
- fluctuations in prices of natural gas, crude oil and other competing energy sources;
- the liberalization of the Korean LNG import and wholesale market;
- the Company's overseas investments; and
- the Company's capital expenditure plans.

Dependence on the Performance of the Korean Economy

The Company's performance and successful implementation of its operational strategies are dependent on the health of the overall Korean economy and the resulting impact on the demand for energy generally and, in particular, for natural gas. In general, the rate of growth in energy demand in Korea has been closely correlated to the rate of growth in the overall economy, reflected in such metrics as GDP growth. In addition to growth in the overall economy, other factors such as environmental regulations are expected to have a significant positive impact on the growth of natural gas demand as regulations that promote or mandate "clean energy" have the effect of encouraging greater use of natural gas compared to other conventional fuel sources.

The Korean market and the Korean economy are influenced by economic and market conditions in other countries, including the United States, countries in Europe and emerging market countries in Asia. See "Risk Factors – Risks related to Korea – Unfavorable financial and economic developments in Korea may have an adverse effect on the Company."

Fluctuations in Prices of Natural Gas, Crude Oil and Other Competing Energy Sources

The Company's purchase price for LNG is primarily determined by crude oil prices, and the purchase price in Won terms is also affected by the exchange rate between the Won and the U.S. dollar. As a result of significant fluctuations in crude oil prices in recent years, the price of natural gas has also fluctuated significantly. The market price and supply of imported natural gas are subject to a variety of factors that are beyond the control of the Company, including political developments and instability in crude oil and natural gas producing regions (in particular the Middle East), activities of the OPEC and other petroleum and natural gas producing nations in setting and maintaining production levels, and the development, market prices and supply levels of alternative or substitute energy sources, including the discovery and extraction of a large reserve of shale oil and gas in the United States. See "Risk Factors – Risks related to the Company and its Natural Gas Import and Wholesale Business – The volatility in the prices of natural gas, crude oil and other competing energy sources could affect demand for natural gas as a fuel source."

A substantial majority of the gas currently sold by the Company is sold under long-term contracts and therefore, in the short term, demand for gas is not materially affected by price volatility. However, long-term demand is dependent upon the relative prices of natural gas and competing alternative energy sources. If there is an increase in the price of crude oil, leading to an increase in the Company's gas sales price, there may be less demand for the Company's gas. For instance, when natural gas prices are unusually high, power generating companies may switch from natural gas to cheaper sources of fuel. To the extent that the market price of alternative energy sources drops to, and is sustained at, a low level, or the Company's gas sales price increases as a result of an increase in the price of LNG procured under future contracts, there may be a reduction in demand for the Company's natural gas. Government policies may also impact the prices of natural gas and other competing energy sources. Although the Company's sales price adjustment mechanism enables the Company to pass on a substantial portion of the fluctuation in costs of natural gas imports to its customers through adjustments of the Formula Price, there can be no assurance that the Company will continue to be able to pass on increased costs without negatively impacting customer demand or the Company's long-term relationship with its customers. In addition, a substantial decline in the market prices of crude oil and natural gas may result in impairment of the Company's assets related to natural gas exploration, development and production activities that the Company engages in abroad, as described below.

Liberalization of the Korean LNG Import and Wholesale Market

The Company relies on the power generating subsidiaries of KEPCO for a substantial portion of the Company's sales. As of March 31, 2024, KEPCO held 20.5% of the Company's issued and outstanding shares. Consequently, the Company's sales volume is substantially affected by the amount of natural gas the Company sells to the subsidiaries of KEPCO and their overall policy to utilize natural gas as a fuel source for power generation. In 1999, the government amended the Petroleum Business Act to allow gas consumers to import LNG for their own use from 2001, and Korea Midland Power, Korea Western Power and Korea Southern Power, power generating subsidiaries of KEPCO, started importing LNG directly from 2015, 2022 and 2023, respectively, which has had an adverse effect on the Company's sales and results of operations in recent periods. Sales volume to the subsidiaries of KEPCO has been decreasing in recent periods, accounting for 19.7%, 18.9%, 16.9% and 12.2% of the Company's sales volume in 2021, 2022, 2023 and the three-month period ended March 31, 2024, respectively. Furthermore, in June 2016, the MOEF announced broad-based measures to adjust the functions of government-controlled entities in the energy, environment and education sectors, which include, among others, the deregulation and gradual liberalization of the retail electricity market. There can be no assurance that the Company's key relationships with KEPCO or any of its subsidiaries will not be terminated or otherwise be adversely impacted, or that demand for natural gas from the power generating subsidiaries of KEPCO will not continue to decrease. Any such development may have a material and adverse effect on the Company's business and results of operations.

The Company's Overseas Investments

As part of its efforts to diversify its operations and prepare for the potential restructuring and liberalization of the natural gas industry in Korea as well as in response to the government's policy to promote procurement of natural resources, the Company has participated in exploration, development and production of natural gas outside Korea. As part of a consortium or through acquisition of a minority interest, the Company engages in overseas gas exploration and development in various locations, including Australia, Iraq and Mozambique, as well as participates in LNG terminal operation and maintenance activities and invests in gas supply companies located abroad.

In more recent years, the Company's strategic goal has been to enhance profitability and financial soundness through debt reduction, including through disposition of non-core or unprofitable assets and issuance of equity and/or equity-linked securities, as well as various other cost-saving measures. Such strategic goal is in line with the Company's debt reduction plan submitted to the MOEF and as part of its plan to bolster its overall financial health. Accordingly, the Company plans to concentrate on its core business of LNG import-related operations and pursue selective new business opportunities abroad. The Company invested approximately Won 495 billion in 2021, Won 417 billion in 2022, Won 337 billion in 2023 and Won 128 billion in the first three months of 2024, and it expects to invest approximately Won 499 billion in such projects in the remainder of 2024, substantially all of which relate to committed capital expenditures on its existing overseas projects.

Due to the risky nature of such projects, the Company may be subject to impairment loss, particularly during periods of expected decline in the market prices of crude oil and natural gas. The Company reviews its assets related to such projects at the end of each reporting period to determine whether there is any indication of impairment. If any such indication exists, the Company estimates the recoverable amount of the relevant assets. The recoverable amount of an asset is the greater of its value in use, which is the estimated future net cash flow expected to be generated by the asset adjusted by a discount rate that reflects current market assessments of the time value of money and the risks specific to the asset, and its fair value less costs to sell. If the book value exceeds the recoverable amount of an asset, an impairment loss will be recognized and the book value of such asset will be adjusted to their recoverable amount. The Company estimates the future net cash flows of its assets based on long-term forecasts from globally recognized research institutions. If such long-term forecasts estimate that oil and gas prices will decrease substantially, the Company may be required to recognize impairment loss on its assets. Likewise, certain of the entities in which the Company has made equity investments may be required to recognize impairment loss on their assets, which may contribute to the recognition of loss in investments in associates and joint ventures and impairment of available-for-sale financial assets by the Company.

The Company recognized net impairment loss on property, plant and equipment of Won 150 billion in 2022 and Won 657 billion in 2023, and net impairment loss on intangible assets of Won 67 billion in 2022 and Won 143 billion in 2023, primarily related to impairment of assets of the Company's wholly-owned subsidiaries (mainly attributable to KOGAS Prelude Pty. Ltd., KG Mozambique Ltd. and KOGAS Iraq B.V.) that invested in various overseas gas exploration, development and production projects. The Company recognized a net reversal of impairment loss on property, plant and equipment of Won 442 billion in 2021 mainly attributable to a reversal of impairment loss related to machinery of KOGAS Australia Pty. Ltd. and a reversal of impairment loss on intangible assets of Won 89 billion in 2021 mainly attributable to a reversal of impairment loss related to mineral rights of KOGAS Australia Pty. Ltd., in each case due to increases in forecasted prices of oil and gas and improvements in the business environment. The Company did not recognize impairment loss on property, plant and equipment or impairment loss on intangible assets in the first three months of 2024. The level of investments made by the Company for such projects, as well as the returns the Company is able to achieve on its investments, have affected and will continue to affect the Company's financial condition and results of operations. For additional details of the Company's consolidated subsidiaries that engage in overseas operations, including their total assets and liabilities, see note 1 to the Company's unaudited interim condensed consolidated financial statements, note 1 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2023 and 2022 and note 1 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2022 and 2021, included elsewhere in this offering circular.

The Company's Capital Expenditure Plans

The Company's business requires a significant amount of capital investment for the expansion, upgrading and maintenance of facilities and equipment on a timely and cost-effective basis. The Company plans to make additional capital expenditures to increase processing and storage capacity and further expand its pipeline network, and it anticipates that capital expenditures will represent a significant use of funds in the near future. The Company's cash outflows from acquisition of property, plant and equipment were Won 1,156 billion in 2021, Won 1,179 billion in 2022, Won 1,331 billion in 2023 and Won 486 billion in the first three months of 2024, primarily relating to the construction and maintenance of its pipeline network, expansion of its receiving terminals and overseas activities. The Company currently expects to incur capital expenditures of approximately Won 1,617 billion in the remainder of 2024 and Won 2,152 billion in 2025. The Company may adjust its future capital expenditures on an ongoing basis subject to market demand in Korea for natural gas, the production outlook of the global gas industry and global economic conditions in general. The level of capital expenditures made by the Company, as well as the returns the Company is able to achieve on its capital expenditure investments, have affected and will continue to affect the Company's financial condition and results of operations.

CRITICAL ACCOUNTING POLICIES

The preparation of the Company's financial statements requires the Company's management to select and apply significant accounting policies and to make estimates and judgments that affect the Company's reported financial condition and results of operations. See notes 2 and 3 to the unaudited interim condensed consolidated financial statements, notes 2 and 3 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2023 and 2022 and notes 2 and 3 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2022 and 2021, included elsewhere in this offering circular for a summary of the Company's significant accounting policies that are critical to the portrayal of the Company's financial condition.

RECENT ACCOUNTING CHANGES AND PRONOUNCEMENTS

For recent changes in accounting policies, including new and amended standards and interpretations adopted by the Company, see note 2.1.1 to the Company's unaudited interim condensed consolidated financial statements and note 2.2.1 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2023 and 2022. For new standards and interpretations not yet adopted by the Company, see note 2.2.2 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2023 and 2022.

RESULTS OF OPERATIONS – FIRST THREE MONTHS OF 2023 COMPARED TO FIRST THREE MONTHS OF 2024

The following table presents selected statement of comprehensive income data and changes therein for first three months of 2023 and the first three months of 2024.

	For the three months ended March 31,		Changes	
	2023	2024	Amount	%
	(in billions of Won)			
Revenue	₩ 17,930	₩ 12,811	₩ (5,119)	(28.6)%
Cost of sales	(17,219)	(11,780)	(5,439)	(31.6)
Gross profit	711	1,031	320	45.0
Selling and administrative expenses	(122)	(109)	13	(10.7)
Operating profit	588	922	333	56.6
Other income	7	2	(5)	(77.3)
Other expenses	(5)	(3)	2	(38.5)
Other gains, net	14	9	(5)	(34.6)
Finance income	821	671	(150)	(18.3)
Finance costs	(1,210)	(1,056)	154	(12.8)
Gains on investments in associates and joint ventures, net	22	87	66	305.1
Profit before income tax	237	632	395	166.8
Income tax expenses	(97)	(225)	(128)	130.9
Profit for the period	₩ 139	₩ 407	₩ 268	191.9

Revenue

The Company's revenue decreased by 28.6%, or Won 5,119 billion, from Won 17,930 billion in the first three months of 2023 to Won 12,811 billion in the first three months of 2024 primarily due to a decrease in revenue from the natural gas wholesale segment, which was offset in small part by an increase in revenue from the others segment.

The following table presents a breakdown of the Company's revenue by segment and category of customers and changes therein for the first three months of 2023 and the first three months of 2024.

	For the three months ended March 31,		Changes	
	2023	2024	Amount	%
	(in billions of Won)			
Natural gas wholesale segment:				
City gas companies	₩ 7,932	₩ 7,009	₩ (924)	(11.6)%
Power generating companies[(1)]	9,473	5,158	(4,314)	(45.5)
Others	112	199	86	76.8
Sub-total	17,517	12,365	(5,152)	(29.4)
Others segment	413	445	33	7.9
Total revenue	₩ 17,930	₩ 12,811	₩ (5,119)	(28.6)

(1) The sum of "power generation," which is the revenue from power generating companies applying the average tariff plan, and "individual charge," which is the revenue from power generating companies applying the individual tariff plan. See note 4 to the Company's unaudited interim condensed consolidated financial statements.

Natural Gas Wholesale Segment

Revenue from the natural gas wholesale segment decreased by 29.4%, or Won 5,152 billion, from Won 17,517 billion in the first three months of 2023 to Won 12,365 billion in the first three months of 2024 primarily due to decreases in revenue from sales to power generating companies and, to a lesser extent, revenue from sales to city gas companies.

Sales to power generating companies. Sales to power generating companies decreased by 45.5%, or Won 4,314 billion, from Won 9,473 billion in the first three months of 2023 to Won 5,158 billion in the first three months of 2024 due to decreases in the average Formula Price of natural gas sold to power generating companies and in the total volume of natural gas sold to such customers.

- The average Formula Price of natural gas sold to power generating companies decreased by 37.0%, or Won 704 thousand per metric ton, from Won 1,904 thousand per metric ton in the first three months of 2023 to Won 1,200 thousand per metric ton in the first three months of 2024 primarily due to a decrease in the average purchase price of LNG. This was partially offset by a depreciation of the Won against the dollar from an average rate of Won 1,275.6 to US$1.00 in the first three months of 2023 to Won 1,328.5 to US$1.00 in the first three months of 2024.

- The total volume of natural gas sold to power generating companies decreased by 13.6%, or 677 thousand metric tons, from 4,975 thousand metric tons in the first three months of 2023 to 4,298 thousand metric tons in the first three months of 2024, reflecting a 23.6% decrease in the sales volume to the five non-nuclear power generating subsidiaries of KEPCO and a 7.9% decrease in the sales volume to private sector power generating companies. The Company's sales to the five non-nuclear power generating subsidiaries of KEPCO decreased primarily due to increases in direct imports of LNG by these companies. The Company's sales volume to private sector power generating companies also decreased primarily due to increases in direct imports of LNG by them.

Sales to city gas companies. Revenue from sales to city gas companies decreased by 11.6% or Won 924 billion, from Won 7,932 billion in the first three months of 2023 to Won 7,009 billion in the first three months of 2024 due to a decrease in the average Formula Price of natural gas sold to city gas companies, which was partially offset by an increase in the total volume of natural gas sold to such customers.

- The average Formula Price of natural gas sold to city gas companies decreased by 16.3%, or Won 191 thousand per metric ton, from Won 1,177 thousand per metric ton in the first three months of 2023 to Won 986 thousand per metric ton in the first three months of 2024 primarily due to a decrease in the average purchase price of LNG, which was partially offset by a depreciation of the Won against the dollar as described above.

- The total volume of natural gas sold to city gas companies increased by 5.5%, or 371 thousand metric tons, from 6,740 thousand metric tons in the first three months of 2023 to 7,111 thousand metric tons in the first three months of 2024, reflecting a 17.6% increase in the sales volume to "others" (customers other than residential and business heating end-users and industrial end-users), a 3.0% increase in the sales volume to residential and business heating end-users and a 4.4% increase in the sales volume to industrial end-users. The Company's sales volume to others increased primarily due to an increase in demand for fuel cells, which use LNG for power generation. The Company's sales volume to residential and business heating end-users increased primarily due to colder weather during the traditional peak-demand winter months in the first three months of 2024 compared to those in the first three months of 2023. The Company's sales volume to industrial end-users increased primarily due to an increase in demand from the manufacturing industry.

Others Segment

Revenue from the others segment, primarily consisting of revenue from wholly-owned subsidiaries that engage in natural gas exploration, development and production activities abroad, increased by 7.9%, or Won 33 billion, from Won 413 billion in the first three months of 2023 to Won 445 billion in the first three months of 2024 primarily due to an increase in revenue from KG Mozambique Ltd., which holds interest in the Mozambique Project, and KOGAS Australia Pty. Ltd, which holds interest in the GLNG project. The Company's revenue from KG Mozambique increased from Won 28 billion in the first three months of 2023 to Won 42 billion in the first three months of 2024 primarily due to an increase in production from Area

4 of the Mozambique Project. The Company's revenue from KOGAS Australia Pty. Ltd. increased from Won 271 billion in the first three months of 2023 to Won 278 billion in the first three months of 2024 primarily due to an increase in volume of LNG sold from the GLNG project.

Cost of Sales

The Company's cost of sales decreased by 31.6%, or Won 5,439 billion, from Won 17,219 billion in the first three months of 2023 to Won 11,780 billion in the first three months of 2024 primarily due to a decrease in the average purchase price of LNG in dollar terms relating to the Company's purchases in the spot market. For example, the average market price of Dutch TTF Natural Gas as provided by S&P Global Commodity Insights decreased from U.S.$16.6/MMbtu in the first three months of 2023 to U.S.$ 8.8/MMbtu in the first three months of 2024. The impact of such decrease in the average purchase price of LNG in dollar terms in the first three months of 2024 compared to the first three months of 2023 was offset in part by a depreciation of the Won against the dollar in the first three months of 2024 compared to the first three months of 2023 as described above.

Selling and Administrative Expenses

Selling and administrative expenses decreased by 10.7%, or Won 13 billion, from Won 122 billion in the first three months of 2023 to Won 109 billion in the first three months of 2024, primarily due to a decrease in other expenses, which was offset in part by an increase in taxes and dues.

Other expenses decreased by 86.6%, or Won 18 billion, from Won 21 billion in the first three months of 2023 to Won 3 billion in the first three months of 2024 primarily due to re-classification of certain corporate tax expenses relating to the Company's overseas operations from other expense to income tax expenses at the end of 2023.

Taxes and dues increased by 16.9%, or Won 5 billion, from Won 32 billion in the first three months of 2023 to Won 37 billion in the first three months of 2024 primarily due to an increase in dues relating to safety management.

Operating Profit

As a result of the foregoing, the Company's operating profit increased by 56.6%, or Won 333 billion, from Won 588 billion in the first three months of 2023 to Won 922 billion in the first three months of 2024. Furthermore, the Company's operating profit margin, which represents the ratio of operating profit to revenue, increased from 3.3% in the first three months of 2023 to 7.2% in the first three months of 2024, as the decrease in cost of sales outpaced the decrease in revenue.

The following table presents a breakdown of the Company's operating profit by segment for the first three months of 2023 and the first three months of 2024.

	For the three months ended March 31,		Changes	
	2023	2024	Amount	%
	(in billions of Won)			
Natural gas wholesale segment	₩ 484	₩ 812	₩ 328	67.7%
Others segment	144	115	(29)	(20.2)
Intersegment adjustments	(40)	(5)	34	(87.3)
Total operating profit	₩ 588	₩ 922	₩ 333	56.6

Natural Gas Wholesale Segment

Operating profit of the Company's natural gas wholesale segment, prior to intersegment adjustments, increased by 67.7%, or Won 328 billion, from Won 484 billion in the first three months of 2023 to Won 812 billion in the first three months of 2024, and operating profit margin of the natural gas wholesale segment increased from 2.8% in the first three months of 2023 to 6.6% in the first three months of 2024, as the decrease in segment cost of sales outpaced the decrease in segment revenue.

Others Segment

Operating profit of the Company's others segment, prior to intersegment adjustments, decreased by 20.2%, or Won 29 billion, from Won 144 billion in the first three months of 2023 to Won 115 billion in the first three months of 2024 primarily due to deterioration in the financial performance of certain of the Company's wholly-owned subsidiaries that have made investments in natural gas exploration, development and production activities abroad, particularly KOGAS Prelude Pty. Ltd. Operating profit margin of the others segment decreased from 34.9% in the first three months of 2023 to 25.8% in the first three months of 2024.

Other Income and Expenses

The Company's other income decreased by 77.3%, or Won 5 billion, from Won 7 billion in the first three months of 2023 to Won 2 billion in the first three months of 2024 primarily due to a decrease in gains from compensation and reimbursement. The Company's gains from compensation and reimbursement decreased by 98.1%, or Won 4 billion, from Won 5 billion in the first three months of 2023 to Won 0.1 billion in the first three months of 2024 primarily due to compensation received in connection with lawsuits relating to bid rigging regarding the Company's uninterruptible power supply system in the first three months of 2023, compared to no such compensation received in the first three months of 2024.

The Company's other expenses decreased by 38.5%, or Won 2 billion, from Won 5 billion in the first three months of 2023 to Won 3 billion in the first three months of 2024 primarily due to a decrease in depreciation of idle assets, which was offset in part by an increase in compensation and indemnity losses. The Company's depreciation of idle assets decreased by 98.1%, or Won 4 billion, from Won 4 billion in the first three months of 2023 to Won 0.1 billion in the first three months of 2024 primarily due to the recognition of impairment losses in connection with right-of-use-assets of KC-1 at the end of 2023. The Company's compensation and indemnity losses increased by 1,695.2%, or Won 2 billion, from Won 0.1 billion in the first three months of 2023 to Won 2 billion in the first three months of 2024 primarily due to a recognition of provisions in connection with a litigation relating to defects in KC-1, a cargo containment system which was designed by KC LNG Tech Co., Ltd., a subsidiary of the Company, in the first three months of 2024 compared to no such recognition of provisions in the first three months of 2023.

Other Gains, Net

The Company's net other gains decreased by 34.6%, or Won 5 billion, from Won 14 billion in the first three months of 2023 to Won 9 billion in the first three months of 2024 primarily due to an increase in other miscellaneous losses as well as a decrease in other miscellaneous gains.

The Company's other miscellaneous losses increased by 233.1%, or Won 3 billion, from Won 1 billion in the first three months of 2023 to Won 4 billion in the first three months of 2024 primarily due to the temporary recognition of differences in provisional settlements of accounts of the Company's subsidiaries as miscellaneous losses.

The Company's other miscellaneous gains decreased by 16.0%, or Won 2 billion, from Won 15 billion in the first three months of 2023 to Won 13 billion in the first three months of 2024 primarily due to gains recognized in connection with leasing a LNG transporting vessel in the first three months of 2023 compared to no such gains in the first three months of 2024.

Finance Income and Costs

The following tables present a breakdown of the Company's finance income and costs and changes therein for the first three months of 2023 and the first three months of 2024.

	For the three months ended March 31,		Changes	
	2023	2024	Amount	%
	(in billions of Won)			
Interest income	₩ 24	₩ 30	₩ 6	26.0%
Gains on valuation of derivative instruments	99	137	38	38.0
Gains on transactions of derivative instruments	366	188	(178)	(48.6)
Foreign currency translation gains	189	271	82	43.2
Foreign currency transaction gains	143	45	(98)	(68.4)
Total finance income	₩ 821	₩ 671	₩ (150)	(18.3)

	For the three months ended March 31,		Changes	
	2023	2024	Amount	%
	(in billions of Won)			
Interest expense	₩ 426	₩ 415	₩ (11)	(2.6)%
Losses on valuation of financial assets at fair value through profit or loss	–	0	0	N.A.
Losses on valuation of derivative instruments	49	14	(35)	(70.7)
Losses on transaction of derivative instruments	119	20	(99)	(83.2)
Foreign currency translation losses	228	370	142	62.4
Foreign currency transaction losses	388	237	(152)	(39.0)
Total finance costs	₩ 1,210	₩ 1,056	₩ (154)	(12.8)

N.A. = not available.

The Company's net loss on foreign currency translation increased by 157.2%, or Won 60 billion, from Won 38 billion in the first three months of 2023 to Won 98 billion in the first three months of 2024, as the Won, which depreciated against the U.S. dollar in the first three months of 2023, depreciated at a steeper rate in the first three months of 2024. In terms of the market average exchange rates announced by Seoul Money Brokerage Services, Ltd., the Won depreciated against the U.S. dollar from Won 1,267.3 to US$1.00 as of December 31, 2022 to Won 1,303.8 to US$1.00 as of March 31, 2023, and depreciated against the U.S. dollar from Won 1,289.4 to US$1.00 as of December 31, 2023 to Won 1,346.8 to US$1.00 as of March 31, 2024. However,, the Company's net loss on foreign currency transactions decreased by 21.9%, or Won 54 billion, from Won 245 billion in the first three months of 2023 to Won 192 billion in the first three months of 2024 as the average value of the Won against the U.S. dollar fluctuated in the first three months of 2023 and the first three months of 2024. The market average exchange rate, which was Won 1,267.3 to US$1.00 as of December 31, 2022, depreciated during the first three months of 2023 to an average of Won 1,275.6 to US$1.00 in the first three months of 2023. The market average exchange rate, which was Won 1,289.4 to US$1.00 as of December 31, 2023, depreciated during the first three months of 2024 to an average of Won 1,328.5 to US$1.00 in the first three months of 2024. Against such fluctuations, the Company's net gain on transaction of derivative instruments decreased by 32.0%, or Won 79 billion, from Won 247 billion in the first three months of 2023 to Won 168 billion in the first three months of 2024 while its net gain on valuation of derivative instruments increased by 145.4%, or Won 72 billion, from Won 50 billion in the first three months of 2023 to Won 122 billion in the first three months of 2024.

The Company's interest expense decreased by 2.6%, or Won 11 billion, from Won 426 billion in the first three months of 2023 to Won 415 billion in the first three months of 2024 primarily due to a decrease in the Company's average balance of interest bearing liabilities in the first three months of 2024 compared to the first three months of 2023.

Gains on Investments in Associates and Joint Ventures, Net

Net gains on investments in associates and joint ventures increased by 305.1%, or Won 66 billion, from Won 22 billion in the first three months of 2023 to Won 87 billion in the first three months of 2024 primarily due to the Company's investments in Sulawesi LNG Development Limited and TOMORI E&P Limited. The Company's equity method gain related to its investment in Sulawesi LNG Development Limited increased by 1,001.9%, or Won 27 billion, from Won 3 billion in the first three months of 2023 to Won 30 billion in the first three months of 2024. The Company recognized equity method loss of Won 9 billion in the first three months of 2023 related to its investment in TOMORI E&P Limited, compared to equity method gain of Won 8 billion in the first three months of 2024 related to such investment.

Profit Before Income Tax

As a result of the foregoing, the Company's profit before income tax increased by 166.8%, or Won 395 billion, from Won 237 billion in the first three months of 2023 to Won 632 billion in the first three months of 2024.

Income Tax Expense

Income tax expense increased by 130.9%, or Won 128 billion, from Won 97 billion in the first three months of 2023 to Won 225 billion in the first three months of 2024 primarily due to an increase in the Company's profit before income tax as described above. The Company's effective tax rate (ratio of income tax expense to profit before income tax) decreased from 41.15% in the first three months of 2023 to 35.61% in the first three months of 2024. See note 26 to the Company's unaudited interim condensed consolidated financial statements.

Profit for the Period

As a result of the foregoing, the Company's profit for the period increased by 191.9%, or Won 268 billion, from Won 139 billion in the first three months of 2023 to Won 407 billion in the first three months of 2024.

RESULTS OF OPERATIONS – 2022 COMPARED TO 2023

The following table presents selected statement of comprehensive income data and changes therein for 2022 and 2023.

	For the year ended December 31,		Changes	
	2022	2023	Amount	%
	(in billions of Won)			
Revenue	₩ 51,724	₩ 44,556	₩ (7,168)	(13.9)%
Cost of sales	(48,828)	(42,599)	6,229	(12.8)
Gross profit	2,896	1,957	(939)	(32.4)
Selling and administrative expenses	(433)	(404)	29	(6.7)
Operating profit	2,463	1,553	(910)	(36.9)
Other income	239	36	(203)	(85.1)
Other expenses	(95)	(196)	(101)	105.8
Other losses, net	(188)	(766)	(579)	308.5
Finance income	2,675	1,438	(1,237)	(46.2)
Finance costs	(3,503)	(3,031)	472	(13.5)
Gains on investments in associates and joint ventures, net	354	105	(249)	(70.4)
Profit (Loss) before income tax	1,945	(862)	(2,807)	N.A.
Income tax (expenses) benefit	(448)	114	563	N.A.
Profit (Loss) for the year	₩ 1,497	₩ (747)	₩ (2,244)	N.A.

N.A. = not available.

Revenue

The Company's revenue decreased by 13.9%, or Won 7,168 billion, from Won 51,724 billion in 2022 to Won 44,556 billion in 2023 primarily due to decreases in revenue from the natural gas wholesale segment and, to a much lesser extent, the others segment.

The following table presents a breakdown of the Company's revenue by segment and category of customers and changes therein for 2022 and 2023.

	For the year ended December 31,		Changes	
	2022	2023	Amount	%
	(in billions of Won)			
Natural gas wholesale segment:				
City gas companies	₩ 20,195	₩ 19,063	₩ (1,132)	(5.6)%
Power generating companies[(1)]	28,890	22,920	(5,970)	(20.7)
Others	530	801	271	51.1
Sub-total	49,615	42,785	(6,831)	(13.8)
Others segment	2,109	1,771	(337)	(16.0)
Total revenue	₩ 51,724	₩ 44,556	₩ (7,168)	(13.9)

(1) The sum of "power generating," which is the revenue from power generating companies applying the average tariff plan, and "individual supply," which is the revenue from power generating companies applying the individual tariff plan. See note 37 to the Company's audited consolidated financial statements of and for the years ended December 31, 2023 and 2022.

Natural Gas Wholesale Segment

Revenue from the natural gas wholesale segment decreased by 13.8%, or Won 6,831 billion, from Won 49,615 billion in 2022 to Won 42,785 billion in 2023 primarily due to decreases in revenue from sales to power generating companies and, to a lesser extent, city gas companies.

Sales to power generating companies. Revenue from sales to power generating companies decreased by 20.7%, or Won 5,970 billion, from Won 28,890 billion in 2022 to Won 22,920 billion in 2023, due to decreases in the total volume of natural gas sold to power generating companies and in the average Formula Price of natural gas sold to such customers.

- The total volume of natural gas sold to power generating companies decreased by 12.1%, or 2,252 thousand metric tons, from 18,566 thousand metric tons in 2022 to 16,314 thousand metric tons in 2023, reflecting a 19.1% decrease in the sales volume to the five non-nuclear power generating subsidiaries of KEPCO and a 7.7% decrease in the sales volume to the private sector power generating companies. The Company's sales volume to the five non-nuclear power generating subsidiaries of KEPCO decreased primarily due to increases in direct imports of LNG by these companies as well as decreases in electricity production using LNG. The Company's sales volume to private sector power generating companies also decreased primarily due to decreases in power generation reflecting increases in direct imports of LNG by them as well as decreases in electricity production using LNG.

- The average Formula Price of natural gas sold to power generating companies decreased by 9.7%, or Won 151 thousand per metric ton, from Won 1,556 thousand per metric ton in 2022 to Won 1,405 thousand per metric ton in 2023 primarily due to a decrease in the average purchase price of LNG. This was offset in part by a depreciation of the Won against the dollar from an average rate of Won 1,292.0 to U.S.$1.00 in 2022 to an average rate of Won 1,305.4 to U.S.$1.00 in 2023.

Sales to city gas companies. Revenue from sales to city gas companies decreased by 5.6%, or Won 1,132 billion, from Won 20,195 billion in 2022 to Won 19,063 billion in 2023 due to a decrease in the total volume of natural gas sold to city gas companies, which was partially offset by an increase in the average Formula Price of natural gas sold to such customers.

- The total volume of natural gas sold to city gas companies decreased by 7.6%, or 1,504 thousand metric tons, from 19,832 thousand metric tons in 2022 to 18,328 thousand metric tons in 2023, reflecting an 11.2% decrease in the sales volume to residential and business heating end-users and an 8.7% decrease in the sales volume to industrial end-users, the impact of which was offset in small part by a 5.3% increase in sales volume to others. The Company's sales volume to residential and business heating end-users decreased primarily due to warmer weather during the traditional peak-demand winter months in 2023 compared to those in 2022. The Company's sales volume to industrial end-users decreased primarily due to a decrease in price competitiveness of LNG compared to liquefied petroleum gas, an alternative fuel source for industrial end-users, in 2023 compared to 2022. The Company's sales volume to others increased primarily due to an increase in demand of fuel cells, which use LNG for power generation.

- The average Formula Price for natural gas sold to city gas companies increased by 2.1%, or Won 22 thousand per metric ton, from Won 1,018 thousand per metric ton in 2022 to Won 1,040 thousand per metric ton in 2023 primarily due to the reformulation of Formula Prices in 2023, which was exacerbated by a depreciation of the Won against the dollar as discussed above.

Others Segment

Revenue from the others segment decreased by 16.0%, or Won 337 billion, from Won 2,109 billion in 2022 to Won 1,771 billion in 2023 primarily due to a decrease in revenue from KOGAS International Pte. Ltd., a wholly-owned subsidiary of the Company that engages in LNG trading. Revenue from KOGAS International Pte. Ltd. decreased by 62.3%, or Won 503 billion, from Won 807 billion in 2022 to Won 304 billion in 2023.

Cost of Sales

The Company's cost of sales decreased by 12.8%, or Won 6,229 billion, from Won 48,828 billion in 2022 to Won 42,599 billion in 2023 primarily due to a decrease in the average purchase price of LNG in dollar terms pursuant to long-term contracts, which is primarily determined by crude oil prices, as well as decreases in purchases of total volume of natural gas. For example, the average market price of Japanese Crude Cocktail decreased from U.S.$102.70 per barrel in 2022 to U.S.$86.7 per barrel in 2023. The impact of such decrease in the average purchase price of LNG in dollar terms from 2022 to 2023 was offset in part by a depreciation of the Won against the dollar in 2023 compared to 2022 as described above.

Selling and Administrative Expenses

Selling and administrative expenses decreased by 6.7%, or Won 29 billion, from Won 433 billion in 2022 to Won 404 billion in 2023 primarily due to decreases in resource and development expenses and employee welfare benefits.

Resource and development expenses decreased by 75.1%, or Won 18 billion, from Won 24 billion in 2022 to Won 6 billion in 2023 primarily due to decreases in overseas local tax payments relating to the Myanmar Project and the GLNG Project.

Employee welfare benefits decreased by 46.4%, or Won 10 billion, from Won 22 billion in 2022 to Won 12 billion in 2023 primarily due to decreased contributions to the employee welfare fund in 2022 following a revision in the payment criteria in 2023.

Operating Profit

As a result of the foregoing, the Company's operating profit decreased by 36.9%, or Won 910 billion, from Won 2,463 billion in 2022 to Won 1,553 billion in 2023. The Company's operating profit margin decreased from 4.8% in 2022 to 3.5% in 2023.

The following table presents a breakdown of the Company's operating profit by segment for 2022 and 2023.

	For the year ended December 31,		Changes	
	2022	2023	Amount	%
	(in billions of Won)			
Natural gas wholesale segment	₩ 2,016	₩ 1,200	₩ (816)	(40.5)%
Others segment	529	345	(184)	(34.8)
Intersegment adjustments	(81)	8	90	N.A.
Total operating profit	₩ 2,463	₩ 1,553	₩ (910)	(36.9)

N.A. = not available.

Natural Gas Wholesale Segment

Operating profit of the Company's natural gas wholesale segment, prior to intersegment adjustments, decreased by 40.5%, or Won 816 billion, from Won 2,016 billion in 2022 to Won 1,200 billion in 2023 primarily due to decreases in demand for natural gas as discussed above. Operating profit margin of the natural gas wholesale segment also decreased from 4.1% in 2022 to 2.8% in 2023, as the decrease in segment revenue outpaced the decrease in segment cost of sales.

Others Segment

Operating profit of the Company's others segment decreased by 34.8%, or Won 184 billion, from Won 529 billion in 2022 to Won 345 billion in 2023 primarily due to deterioration in the financial performance of certain of the Company's wholly-owned subsidiaries that have made investments in natural gas exploration, development and production activities abroad, particularly KOGAS Australia Pty. Ltd. Operating profit margin of the others segment decreased from 25.1% in 2022 to 19.5% in 2023.

Other Income and Expenses

The Company's other income decreased by 85.1%, or Won 203 billion, from Won 239 billion in 2022 to Won 36 billion in 2023 primarily due to a decrease in gains from compensation and reimbursement. The Company's gains from compensation and reimbursement decreased by 94.5%, or Won 219 billion, from Won 232 billion in 2022 to Won 13 billion in 2023 primarily due to compensations received in connection with certain lawsuits related to bids on constructions of pipelines and storage tanks in 2022 compared to no such gains in 2023.

The Company's other expenses increased by 105.8%, or Won 101 billion, from Won 95 billion in 2022 to Won 196 billion in 2023 primarily due to an increase in compensation and indemnity losses to Won 162 billion in 2023 from Won 7 billion in 2022 primarily in connection with a litigation relating to defects in KC-1 in 2023, compared to no such losses in 2022.

Other Losses, Net

The Company's net other losses increased by 308.5%, or Won 579 billion, from Won 188 billion in 2022 to Won 766 billion in 2023 primarily due to increases in losses on impairment of property, plant and equipment and losses on impairment of intangible assets.

Losses on impairment of property, plant and equipment increased by 339.3%, or Won 508 billion, from Won 150 billion in 2022 to Won 657 billion in 2023 primarily due to impairment losses in connection with right-of-use-assets of KC-1 and impairment losses on property, plant and equipment related to KOGAS Prelude Pty. Ltd., KG Mozambique Ltd. and KOGAS Iraq B.V. as a result of decreases in the value in use of such assets.

Losses on impairment of intangible assets increased by 112.1%, or Won 75 billion, from Won 67 billion in 2022 to Won 143 billion in 2023 primarily due to losses relating to intangible exploration and evaluation assets and mining rights of KG Mozambique Ltd. and KOGAS Prelude Pty. Ltd.

Finance Income and Costs

The following tables present a breakdown of the Company's finance income and costs and changes therein for 2022 and 2023.

	For the year ended December 31,		Changes	
	2022	2023	Amount	%
	(in billions of Won)			
Interest income	₩ 71	₩ 115	₩ 44	61.1%
Dividend income	0	0	(0)	(18.2)
Gains on valuation of derivative instruments	45	6	(39)	(86.4)
Gains on transactions of derivative instruments	917	739	(178)	(19.4)
Foreign currency translation gains	1,041	229	(812)	(78.0)
Foreign currency transaction gains	600	349	(251)	(41.9)
Total finance income	₩ 2,675	₩ 1,438	₩ (1,237)	(46.2)

	For the year ended December 31,		Changes	
	2022	2023	Amount	%
	(in billions of Won)			
Interest expense	₩ 965	₩ 1,676	₩ 711	73.7%
Losses on valuation of financial assets at fair value through profit or loss	0	0	(0)	(41.6)
Losses on valuation of derivative instruments	666	138	(527)	(79.2)
Losses on transaction of derivative instruments	452	283	(168)	(37.2)
Foreign currency translation losses	249	149	(100)	(40.2)
Foreign currency transaction losses	1,172	784	(388)	(33.1)
Total finance costs	₩ 3,503	₩ 3,031	₩ (472)	(13.5)

The Company's interest expense increased by 73.7%, or Won 711 billion, from Won 965 billion in 2022 to Won 1,676 billion in 2023 primarily due to an increase in the Company's average balance of interest bearing liabilities in 2023 compared to 2022, as well as a general increase in interest rates in Korea and globally in 2023 compared to 2022.

The Company's net gain on foreign currency translations decreased by 89.8%, or Won 712 billion, from Won 793 billion in 2022 to Won 81 billion in 2023 primarily due to significant gains on foreign currency translations during the last quarter of 2022 relating to substantial amounts of short term debt that had been incurred during the last quarter of 2022 which were scheduled to mature after December 31, 2022, compared to no such significant gains in 2023. In terms of the market average exchange rates announced by Seoul Money Brokerage Services, Ltd., the Won depreciated against the U.S. dollar from Won 1,185.5 to US$1.00 as of December 31, 2021 to Won 1,267.3 to US$1.00 as of December 31, 2022 and further depreciated to Won 1,289.4 to US$1.00 as of December 31, 2023. However, the Won, which had depreciated to Won 1,434.8 to US$1.00 as of September 30, 2022, appreciated to Won 1,267.3 to US$1.00 as of December 31, 2022. In addition, the Company's net loss on foreign currency transactions decreased by 23.8%, or Won 136 billion, from Won 571 billion in 2022 to Won 435 billion in 2023 as the average value of the Won against the U.S. dollar depreciated in 2022 and further depreciated in 2023. The market average exchange rate, which was Won 1,144.4 to US$1.00 in 2021 depreciated during 2022 to an average of Won 1,292.0 to US$1.00 in 2022 and further depreciated during 2023 to an average of Won 1,305.4 to US$1.00 in 2023. Against such fluctuations, the Company's net loss on valuation of derivative instruments decreased by 78.7%, or Won 489 billion, from Won 621 billion in 2022 to Won 132 billion in 2023 and its net gain on transaction of derivative instruments decreased by 2.2%, or Won 10 billion, from Won 466 billion in 2022 to Won 456 billion in 2023.

Gains on Investments in Associates and Joint Ventures, Net

Net gains on investments in associates and joint ventures decreased by 70.4%, or Won 249 billion, from Won 354 billion in 2022 to Won 105 billion in 2023 primarily due to the Company's investments in TOMORI E&P Limited, Korea Ras Laffan LNG Ltd., Kor-Uz Gas Chemical Investment Ltd. and Sulawesi LNG Development Limited. The Company recognized equity method loss of Won 5 billion in 2023 related to its investment in TOMORI E&P Limited, compared to equity method gain of Won 84 billion in 2022 related to such investment. The Company's equity method gain from Korea Ras Laffan LNG Ltd. decreased from Won 91 billion in 2022 to Won 40 billion in 2023. The Company's equity method gain from Kor-Uz Gas Chemical Investment Ltd. decreased from Won 78 billion in 2022 to Won 49 billion in 2023. The Company's equity method gain from Sulawesi LNG Development Limited decreased from Won 51 billion in 2022 to Won 24 billion in 2023.

Profit (Loss) Before Income Tax

As a result of the foregoing, the Company recognized profit before income tax of Won 1,945 billion in 2022 compared to loss before income tax of Won 862 billion in 2023.

Income Tax Expense (Benefit)

The Company recognized income tax expense of Won 448 billion in 2022 compared to income tax benefit of Won 115 billion in 2023, as the Company recognized profit before income tax of Won 1,945 billion in 2022 compared to loss before income tax of Won 862 billion in 2023 and, to a lesser extent, due to impacts related to deferred tax. More specifically, the Company's difference in tax rate of those subject to deferred tax decreased from Won 2,362 billion in 2022 to Won 687 billion in 2023 primarily due to decreases in marginal tax rates. The Company's effect of other changes in deferred tax decreased from Won (1,941) billion in 2022 to Won (942) billion in 2023 primarily due to the recognition of tax losses relating to increased other current and non-current financial assets following the suspension of bi-monthly adjustments to the Formula Prices from January 2023 to April 2023 and from July 2023 to December 2023. The Company's effective tax rate was not calculated in 2023 due to net loss before income tax as described above. The Company's effective tax rate (ratio of income tax expense to profit before income tax) was 23.04% in 2022. See note 43 to the Company's audited consolidated financial statements of and for the years ended December 31, 2023 and 2022.

Profit (Loss) for the Year

As a result of the foregoing, the Company recognized profit for the year of Won 1,497 billion in 2022 compared to loss for the year of Won 747 billion in 2023.

RESULTS OF OPERATIONS – 2021 COMPARED TO 2022

The following table presents selected statement of comprehensive income data and changes therein for 2021 and 2022.

	For the year ended December 31,		Changes	
	2021	2022	Amount	%
	(in billions of Won)			
Revenue	₩ 27,521	₩ 51,724	₩ 24,204	87.9%
Cost of sales	(25,859)	(48,828)	(22,969)	88.8
Gross profit	1,662	2,896	1,234	74.3
Selling and administrative expenses	(422)	(433)	(11)	2.5
Operating profit	1,240	2,463	1,224	98.7
Other income	35	239	204	576.2
Other expenses	(46)	(95)	(50)	108.3
Other gains (losses), net	549	(188)	(736)	N.A.
Finance income	881	2,675	1,793	203.5
Finance costs	(1,472)	(3,503)	(2,031)	137.9
Gains on investments in associates and joint ventures, net	180	354	174	96.3
Profit before income tax	1,367	1,945	578	42.3
Income tax expenses	(403)	(448)	(45)	11.3
Profit for the year	₩ 965	₩ 1,497	₩ 532	55.2

N.A. = not available.

Revenue

The Company's revenue increased by 87.9%, or Won 24,204 billion, from Won 27,521 billion in 2021 to Won 51,724 billion in 2022 primarily due to increases in revenue from the natural gas wholesale segment and, to a much lesser extent, the others segment.

The following table presents a breakdown of the Company's revenue by segment and category of customers and changes therein for 2021 and 2022.

	For the year ended December 31,		Changes	
	2021	2022	Amount	%
	(in billions of Won)			
Natural gas wholesale segment:				
City gas companies	₩ 12,972	₩ 20,195	₩ 7,223	55.7%
Power generating companies[(1)]	12,716	28,890	16,174	127.2
Others	467	530	63	13.5
Sub-total	26,156	49,615	23,460	89.7
Others segment	1,365	2,109	744	54.5
Total revenue	₩ 27,521	₩ 51,724	₩ 24,204	87.9

(1) The sum of "power generating," which is the revenue from power generating companies applying the average tariff plan, and "individual supply," which is the revenue from power generating companies applying the individual tariff plan. See note 37 to the Company's audited consolidated financial statements of and for the years ended December 31, 2022 and 2021.

Natural Gas Wholesale Segment

Revenue from the natural gas wholesale segment increased by 89.7%, or Won 23,460 billion, from Won 26,156 billion in 2021 to Won 49,615 billion in 2022 primarily due to increases in revenue from sales to power generating companies and, to a lesser extent, city gas companies.

Sales to power generating companies. Revenue from sales to power generating companies increased by 127.2%, or Won 16,174 billion, from Won 12,716 billion in 2021 to Won 28,890 billion in 2022, due to increases in the average Formula Price of natural gas sold to power generating companies and the total volume of natural gas sold to such customers.

- The average Formula Price of natural gas sold to power generating companies increased by 115.1%, or Won 833 thousand per metric ton, from Won 723 thousand per metric ton in 2021 to Won 1,556 thousand per metric ton in 2022 primarily due to an increase in the average Won price of raw materials reflecting a general increase in average LNG prices as well as an increase in our reliance on purchase of raw materials in the spot market in 2022 compared to 2021. The raw materials purchased in the spot market were mainly used for natural gas sold to power generating companies and the Company was not able to pass such costs to city gas companies. This was exacerbated by a depreciation of the Won against the dollar from an average rate of Won 1,144.4 to U.S.$1.00 in 2021 to an average rate of Won 1,292.0 to U.S.$1.00 in 2022.

- The total volume of natural gas sold to power generating companies increased by 5.6%, or 984 thousand metric tons, from 17,582 thousand metric tons in 2021 to 18,566 thousand metric tons in 2022, reflecting an 9.7% increase in the sales volume to the private sector power generating companies, the impact of which was offset in part by a 0.3% decrease in the sales volume to the five non-nuclear power generating subsidiaries of KEPCO. The Company's sales to private sector power generating companies increased primarily due to increases in power generation reflecting the recovering global economic activity and rising mobility. The Company's sales to the five non-nuclear power generating subsidiaries of KEPCO decreased primarily due to decrease in LNG-combined cycle power generation following preventative maintenance procedures.

Sales to city gas companies. Revenue from sales to city gas companies increased by 55.7%, or Won 7,223 billion, from Won 12,972 billion in 2021 to Won 20,195 billion in 2022 due to increases in the average Formula Price for natural gas sold to such customers and the total volume of natural gas sold to such customers.

- The average Formula Price for natural gas sold to city gas companies increased by 51.8%, or Won 347 thousand per metric ton, from Won 671 thousand per metric ton in 2021 to Won 1,018 thousand per metric ton in 2022 primarily due to an increase in the average Won price of raw materials reflecting a general increase in average LNG prices in 2022 compared to 2021, which was exacerbated by a depreciation of the Won against the dollar as discussed above.

- The total volume of natural gas sold to city gas companies increased by 2.6%, or 501 thousand metric tons, from 19,331 thousand metric tons in 2021 to 19,832 thousand metric tons in 2022, reflecting a 4.5% increase in the sales volume to residential and business heating end-users and a 9.4% increase in sales volume to others, the impact of which was offset in part by a 2.3% decrease in sales volume to industrial end-users. The Company's sales volume to residential and business heating end-users increased primarily due to colder weather during the traditional peak-demand winter months in 2022 compared to those in 2021. The Company's sales volume to others increased primarily due to an increase in demand of fuel cells, which use LNG for power generation. The Company's sales volume to industrial end-users decreased primarily due to a decrease in price competitiveness of LNG compared to liquefied petroleum gas, an alternative fuel source for industrial end-users, in 2022 compared to 2021.

Others Segment

Revenue from the others segment increased by 54.5%, or Won 744 billion, from Won 1,365 billion in 2021 to Won 2,109 billion in 2022 primarily due to increases in revenue from KOGAS Australia Pty. Ltd. and KOGAS Badra B.V., two of the Company's wholly-owned subsidiaries that engage in natural gas exploration, development and production activities abroad. Revenue from KOGAS Australia Pty. Ltd., which invested in the GLNG Project in Australia, increased by 82.0%, or Won 495 billion, from Won 603 billion in 2021 to Won 1,098 billion in 2022. Revenue from KOGAS Badra B.V., which invested in the Badra oilfield in Iraq, increased by 35.3%, or Won 53 billion, from Won 150 billion to Won 203 billion.

Cost of Sales

The Company's cost of sales increased by 88.8%, or Won 22,969 billion, from Won 25,859 billion in 2021 to Won 48,828 billion in 2022 primarily due to an increase in the average purchase price of LNG in dollar terms, which is primarily determined by crude oil prices. The average market price of Japanese Crude Cocktail increased from U.S.$69.12 per barrel in 2021 to U.S.$102.70 per barrel in 2022. The impact of such increase in the average purchase price of LNG in dollar terms from 2021 to 2022 was exacerbated by a depreciation of the Won against the dollar in 2022 compared to 2021 as described above.

Selling and Administrative Expenses

Selling and administrative expenses increased by 2.5%, or Won 11 billion, from Won 422 billion in 2021 to Won 433 billion in 2022 primarily due to an increase in employee welfare benefits and advertising expenses, which was offset in part by a decrease in research and development expenses.

Employee welfare benefits increased by 94.7%, or Won 11 billion, from Won 11 billion in 2021 to Won 22 billion in 2022 primarily due to an increase in contributions to employee welfare funds in 2022 following the Company's recognition of profit for the year in 2021.

Advertising expenses increased by 80.8%, or Won 6 billion, from Won 7 billion in 2021 to Won 13 billion in 2022 primarily relating to the acquisition of a professional basketball team in 2021.

Research and development expenses decreased by 19.7%, or Won 9 billion, from Won 49 billion in 2021 to Won 40 billion in 2022 mainly due to a decrease in execution expenses related to research projects and the Company's efforts to reduce expenses in general.

Operating Profit

As a result of the foregoing, the Company's operating profit increased by 98.7%, or Won 1,224 billion, from Won 1,240 billion in 2021 to Won 2,463 billion in 2022. The Company's operating profit margin increased from 4.5% in 2021 to 4.8% in 2022.

The following table presents a breakdown of the Company's operating profit by segment for 2021 and 2022.

	For the year ended December 31,		Changes	
	2021	2022	Amount	%
	(in billions of Won)			
Natural gas wholesale segment	₩ 1,002	₩ 2,016	₩ 1,014	101.2%
Others segment	233	529	296	126.6
Intersegment adjustments	4	(81)	(86)	N.A.
Total operating profit	₩ 1,240	₩ 2,463	₩ 1,224	98.7

N.A. = not available.

Natural Gas Wholesale Segment

Operating profit of the Company's natural gas wholesale segment, prior to intersegment adjustments, increased by 101.2%, or Won 1,014 billion, from Won 1,002 billion in 2021 to Won 2,016 billion in 2022 primarily due to recovery of electricity demand in 2022 after a slowdown in such demand in 2021 exacerbated by the COVID-19 pandemic. Operating profit margin of the natural gas wholesale segment also increased from 3.8% in 2021 to 4.1% in 2022, as the increase in segment revenue outpaced the increase in segment cost of sales.

Others Segment

Operating profit of the Company's others segment increased by 126.6%, or Won 296 billion, from Won 233 billion in 2021 to Won 529 billion in 2022 primarily due to improvements in financial performance of certain of the Company's wholly-owned subsidiaries that have made investments in natural gas exploration, development and production activities abroad, particularly KOGAS Badra B.V. Operating profit margin of the others segment increased from 17.1% in 2021 and 25.1% in 2022.

Other Income and Expenses

The Company's other income increased by 576.2%, or Won 204 billion, from Won 35 billion in 2021 to Won 239 billion in 2022 primarily due to an increase in gains from compensation and reimbursement. The Company's gains from compensation and reimbursement increased by 633.4%, or Won 200 billion, from Won 32 billion in 2021 to Won 232 billion in 2022 primarily related to reimbursements in connection with certain lawsuits related to bids on constructions of pipelines and storage tanks.

The Company's other expenses increased by 108.3%, or Won 50 billion, from Won 46 billion in 2021 to Won 95 billion in 2022 primarily due to the recognition of other bad debt expenses of Won 53 billion in 2022 related to write-downs of loans and accrued interest in connection with the Company's overseas joint ventures, compared to no such expenses in 2021.

Other Gains and Losses, Net

The Company recognized net other gains of Won 549 billion in 2021 compared to net other losses of Won 188 billion in 2022 primarily due to a the recognition of reversal of losses on impairment of property, plant and equipment in 2021 compared to no such reversal in 2022 and an increase in losses on impairment of property, plant and equipment from 2021 to 2022.

The Company recognized a reversal of losses on impairment of property, plant and equipment of Won 457 billion in 2021, which primarily related to KOGAS Australia Pty. Ltd. as a result of an increase in the value in use of such assets.

Losses on impairment of property, plant and equipment increased by 874.1%, or Won 134 billion, from Won 15 billion in 2021 to Won 150 billion in 2022 primarily due to losses on impairment of property, plant and equipment related to KG Mozambique Ltd. and KOGAS Iraq B.V. in 2022 as a result of decreases in the value in use of such assets.

Finance Income and Costs

The following tables present a breakdown of the Company's finance income and costs and changes therein for 2021 and 2022.

	For the year ended December 31,		Changes	
	2021	2022	Amount	%
	(in billions of Won)			
Interest income	₩ 24	₩ 71	₩ 48	202.7%
Gains on valuation of financial assets at fair value through profit or loss	1	–	(1)	(100.0)
Dividend income	0	0	0	10.0
Gains on valuation of derivative instruments	41	45	4	9.0
Gains on transactions of derivative instruments	220	917	697	316.5
Foreign currency translation gains	477	1,041	564	118.2
Foreign currency transaction gains	119	600	482	405.8
Total finance income	₩ 881	₩ 2,675	₩ 1,793	203.5

	For the year ended December 31,		Changes	
	2021	2022	Amount	%
	(in billions of Won)			
Interest expense	₩ 642	₩ 965	₩ 323	50.3%
Losses on valuation of financial assets at fair value through profit or loss	–	0	0	N.A.
Losses on valuation of derivative instruments	75	666	591	788.3
Losses on transaction of derivative instruments	63	452	388	613.3
Foreign currency translation losses	376	249	(127)	(33.9)
Foreign currency transaction losses	316	1,172	856	270.9
Total finance costs	₩ 1,472	₩ 3,503	₩ 2,031	137.9

N.A. = not available.

The Company's interest expense increased by 50.3%, or Won 323 billion, from Won 642 billion in 2021 to Won 965 billion in 2022 primarily due to an increase in the Company's average balance of interest bearing liabilities in 2022 compared to 2021, as well as a general increase in interest rates in Korea in 2022 compared to 2021.

The Company's net loss on foreign currency transactions increased by 189.7%, or Won 374 billion, from Won 197 billion in 2021 to Won 571 billion in 2022, as the average value of the Won against the U.S. dollar depreciated in 2021 and 2022. In terms of the market average exchange rates announced by Seoul Money Brokerage Services, Ltd., the market average exchange rate, which was Won 1,088.0 to US$1.00 as of December 31, 2020, depreciated during 2021 to an average of Won 1,144.4 to US$1.00 in 2021 and further depreciated during 2022 to an average of Won 1,292.0 to US$1.00 in 2022. In addition, the Company's net gain on foreign currency translation increased by Won 692 billion, from Won 101 billion in 2021 to Won 793 billion in 2022 primarily due to significant gains on foreign currency translations during the last quarter of 2022 relating to substantial amounts of short term debt that had been incurred during the last quarter of 2022 which are scheduled to mature after December 31, 2022. The Won depreciated against the U.S. dollar by year end 2021 and 2022. In terms of the market average exchange rates, the Won depreciated against the U.S. dollar from Won 1,088.0 to US$1.00 as of December 31, 2020 to Won 1,185.5 to US$1.00 as of December 31, 2021, and further depreciated to Won 1,267.3 to US$1.00

as of December 31, 2022. However, the Won which had depreciated to Won 1,434.8 to US$1.00 as of September 30, 2022 appreciated to Won 1,267.3 to US$1.00 as of December 31, 2022. Against such fluctuations, the Company's net gain on transaction of derivative instruments increased by 196.8%, or Won 309 billion, from Won 157 billion in 2021 to Won 466 billion in 2022, and its net loss on valuation of derivative instruments increased by Won 587 billion from Won 34 billion in 2021 to Won 621 billion in 2022.

Gains on Investments in Associates and Joint Ventures, Net

Net gains on investments in associates and joint ventures increased by 96.3%, or Won 174 billion, from Won 180 billion in 2021 to Won 354 billion in 2022 primarily due to the Company's investment in TOMORI E&P Limited and Sulawesi LNG Development Limited. The Company's equity method gain from TOMORI E&P Limited increased from Won 6 billion in 2021 to Won 84 billion in 2022. The Company's equity method gain from Sulawesi LNG Development Limited increased from Won 23 billion in 2021 to Won 51 billion in 2022.

Profit Before Income Tax

As a result of the foregoing, the Company's profit before income tax increased by 42.3%, or Won 578 billion, from Won 1,367 billion in 2021 to Won 1,945 billion in 2022.

Income Tax Expense

The Company's income tax expense increased by 11.3%, or Won 45 billion, from Won 403 billion in 2021 to Won 448 billion in 2022 primarily due to an increase in the Company's profit before income tax as described above and, to a lesser extent, due to impacts related deferred tax. More specifically, the Company's difference in tax rate of those subject to deferred tax increased from Won 146 billion in 2021 to Won 2,362 billion in 2022 primarily due increases in deferred tax liabilities relating to the suspension of sales price adjustments in 2022 as discussed above and it recognized effect of other changes in deferred tax of Won 27 billion in 2021 compared to Won (1,941) billion in 2022 primarily due to increases in deferred tax assets relating to increases in losses carried forward in connection with the suspension of sales price adjustments as discussed above. The Company's effective tax rate (ratio of income tax expense to profit before income tax) decreased from 29.5% in 2021 to 23.0% in 2022. See note 43 to the Company's audited consolidated financial statements of and for the years ended December 31, 2022 and 2021.

Profit for the Year

As a result of the foregoing, the Company's profit for the year increased by 55.2%, or Won 532 billion, from Won 965 billion in 2021 to Won 1,497 billion in 2022.

LIQUIDITY AND CAPITAL RESOURCES

Cash Flows

The following table sets forth a summary of the Company's cash flows for the periods indicated.

	For the year ended December 31,			For the three months ended March 31,	
	2021	2022	2023	2023	2024
	(in billions of Won)				
Net cash flows provided by (used in) operating activities	₩ (2,071)	₩ (14,581)	₩ 5,886	₩ 391	₩ 403
Net cash flows used in investing activities	(1,170)	(974)	(1,334)	(231)	(493)
Net cash flows provided by (used in) financing activities	3,476	15,802	(4,587)	(26)	240
Net increase in cash and cash equivalents	233	249	(33)	154	171
Cash and cash equivalents at the beginning of the year/period	332	565	813	813	781
Cash and cash equivalents at the end of the year/period	565	813	781	968	952

Net Cash Flows Provided by (Used in) Operating Activities

The Company's net cash flows provided by operating activities increased from Won 391 billion in the first three months of 2023 to Won 403 billion in the first three months of 2024. The Company's gross cash flows from its sales activities decreased as discussed above. However, the Company recognized cash inflow related to decrease in other non-financial assets of Won 75 billion in the first three months of 2024 compared to cash outflow related to increase in other non-financial assets of Won 2,313 billion in the first three months of 2023, which positively impacted net cash flows from operating activities in the first three months of 2024. The Company's cash inflow related to decrease in inventories increased to Won 1,384 billion in the first three months of 2024 from Won 5 billion in the first three months of 2023, which also positively impacted net cash flows from operating activities in the first three months of 2024. However, the Company recognized cash outflow related to increase in trade receivables of Won 760 billion in the first three months 2024 compared to cash inflow related to decrease in trade receivables of Won 2,217 billion in the first three months of 2023, which negatively impacted net cash flows from operating activities in the first three months of 2024.

The Company recognized net cash flows used in operating activities of Won 14,581 billion in 2022 compared to net cash flows provided by operating activities of Won 5,886 billion in 2023. The Company's gross cash flows from its sales activities decreased as discussed above. However, the Company recognized cash inflow related to decrease in trade receivables of Won 4,756 billion in 2023 compared to cash outflow related to increase in trade receivables of Won 4,608 billion in 2022, which positively impacted net cash flows from operating activities in 2023. The Company also recognized cash inflow related to decrease in inventories of Won 2,633 billion in 2023 compared to cash outflow related to increase in inventories of Won 4,060 billion in 2022, which also positively impacted net cash flows from operating activities in 2023. In addition, the Company's cash outflow related to increase in other non-financial assets decreased from Won 8,924 billion in 2022 to Won 3,810 billion in 2023, which positively impacted net cash flows from operating activities. Such significant decrease related primarily to the lifting of the suspension of the periodic bi-monthly adjustments and reformulation of Formula Prices in May 2023 to June 2023.

The Company's net cash flows used in operating activities increased from Won 2,071 billion in 2021 to Won 14,581 billion in 2022. The Company's gross cash flows from its sales activities increased as discussed above. However, the Company's cash outflow related to increase in other non-financial assets increased significantly from Won 1,286 billion in 2021 to Won 8,924 billion in 2022, which negatively impacted net cash flows from operating activities. Such significant increase related primarily to a suspension of sales price adjustments. In addition, the Company's cash outflow related to increase in trade receivables increased from Won 2,526 billion in 2021 to Won 4,608 billion in 2022, which negatively

impacted net cash flows from operating activities. The Company also recognized cash inflow related to increase in trade payables of Won 1,830 billion in 2021 compared to cash outflow related to decrease in trade payables of Won 136 billion 2022, which negatively impacted net cash flows from operating activities.

Net Cash Flows Used in Investing Activities

The Company's net cash flows used in investing activities increased from Won 231 billion in the first three months of 2023 to Won 493 billion in the first three months of 2024 primarily due to an increase in acquisition of property, plant and equipment. Cash used in acquisition of property, plant and equipment increased from Won 238 billion in the first three months of 2023 to Won 486 billion in the first three months of 2024 primarily due to acquisitions relating to expansions in the Company's pipeline network.

The Company's net cash flows used in investing activities increased from Won 974 billion in 2022 to Won 1,334 billion in 2023 primarily due to an increase in acquisition of property, plant and equipment and a decrease in proceeds from disposal of equity or debt instruments. Cash used in acquisition of property, plant and equipment increased from Won 1,179 billion in 2022 to Won 1,331 billion in 2023 primarily due to acquisitions relating to expansions in the Company's pipeline network. Cash provided by proceeds from disposal of equity or debt instruments decreased from Won 177 billion in 2022 to Won 76 billion in 2023 primarily due to a capital reduction in connection with TOMORI E&P Limited in 2022 that was not repeated in 2023.

The Company's net cash flows used in investing activities decreased from Won 1,170 billion in 2021 to Won 974 billion in 2022 primarily due to an increase in proceeds from disposal of equity or debt instruments from Won 75 billion in 2021 to Won 177 billion in 2022 primarily due to a capital reduction in connection with TOMORI E&P Limited. Acquisition of property, plant and equipment increased slightly from Won 1,156 billion in 2021 to Won 1,179 billion in 2022.

Net Cash Flows Provided by (Used in) Financing Activities

The Company recognized net cash flows used in financing activities of Won 26 billion in the first three months of 2023 compared to net cash flows provided by financing activities of Won 240 billion in the first three months of 2024 primarily due to net repayments of borrowings of Won 875 billion in the first three months of 2023 compared to net proceeds from borrowings of Won 736 billion in the first three months of 2024. Such impact was offset in part by the Company's recognition of net proceeds from issuance of debentures of Won 890 billion in the first three months of 2023 compared to net repayments of debentures of Won 433 billion in the first three months of 2024.

The Company recognized net cash flows provided by financing activities of Won 15,802 billion in 2022 compared to net cash flows used in financing activities of Won 4,587 billion in 2023 primarily due to net proceeds from borrowings of Won 15,879 billion in 2022 compared to net repayments of borrowings of Won 9,018 billion in 2023. Such impact was offset in part by an increase in the Company's net proceeds from issuance of debentures from Won 362 billion in 2022 to Won 4,618 billion in 2023.

The Company's net cash flows provided by financing activities increased from Won 3,476 billion in 2021 to Won 15,802 billion in 2022 primarily due to an increase in net proceeds from borrowings from Won 4,007 billion in 2021 to Won 15,879 billion in 2022. The Company also recorded net repayments of debentures of Won 693 billion in 2021 compared to net proceeds from issuance of debentures of Won 362 billion in 2022.

Capital Requirements

Historically, the Company's capital requirements have consisted primarily of financing its operating activities, including purchases of LNG, as well as capital expenditures relating to the construction and maintenance of receiving terminals and nation-wide pipeline network, repayments of outstanding debt, investments related to exploration, development and production of natural gas outside Korea and dividend payments. In recent years, the Company's strategic goal has been to enhance profitability and financial soundness through debt reduction, including through disposition of non-core or unprofitable assets and issuance of equity and/or equity-linked securities, as well as various other cost-saving measures. Accordingly, the Company plans to concentrate on its core business of LNG import-related operations and pursue selective new business opportunities abroad.

The Company anticipates that capital expenditures and repayments of outstanding debt will represent the most significant uses of funds for the next several years. For acquisition of property, plant and equipment, the Company incurred cash outflows of Won 1,156 billion in 2021, Won 1,179 billion in 2022, Won 1,331 billion in 2023 and Won 486 billion in the first three months of 2024. The Company expects that investment in its receiving terminals in Korea and in extending the length of the Company's pipelines primarily to increase the natural gas penetration rate throughout the country will continue to account for the majority of its capital expenditures. In addition, the Company expects to make additional investments in its liquid hydrogen production and supply business and pursuant to committed capital expenditures on its existing overseas gas exploration, development and production projects.

The following table sets out the Company's planned capital expenditures from 2024 until 2026 in Korea and abroad.

	Year ended December 31,		
	2024	2025	2026
	(in billions of Won)		
Korea	₩ 1,426	₩ 1,980	₩ 685
Abroad	666	752	823
Total planned capital expenditures	₩ 2,092	₩ 2,732	₩ 1,508

The Company may adjust its capital expenditure plans on an on-going basis subject to market demand for its products, the production outlook of the global natural gas industry and global economic conditions in general. The Company may delay or not implement some of its current capital expenditure plans based on its assessment of such market conditions.

Contractual Obligations

Payments of contractual obligations and commitments will also require considerable resources. In the ordinary course of its business, the Company routinely enters into commercial commitments for various aspects of its operations, as well as provides, from time to time, payment guarantees primarily in connection with the Company's investments in LNG supply companies and project financing relating to overseas gas exploration, development and production projects to which it has committed. As of March 31, 2024, the Company provided guarantees for others, excluding related parties, on the payment of debts amounting to Won 34,033 million, U.S.$73.3 million, CAD1,784.3 million and EUR1.5 million. See note 36 to the unaudited interim condensed consolidated financial statements included elsewhere in this offering circular.

The following table sets forth the amount of short-term borrowings and long-term debt obligations and minimum lease payments as of March 31, 2024.

	Payments Due by Period			
Contractual Obligations	**Total**	**Less than 1 Year**	**1 to 5 Years**	**After 5 Years**
	(in billions of Won)			
Short-term borrowings and long-term debt obligations[(1)]	₩ 39,760	₩ 18,121	₩ 15,613	₩ 6,026
Minimum lease payments [(2)]	2,661	352	1,064	1,245
Total	₩ 42,421	₩ 18,473	₩ 16,677	₩ 7,271

(1) Stated at principal amount before discounts.

(2) Stated at book value translated into Won amount at the market average exchange rate of Won 1,346.8 to U.S.$1.00 on March 31, 2024 as announced by the Seoul Money Brokerage Services, Ltd.

In addition, the Company has substantial purchase obligations under long-term contracts to purchase LNG. These contracts generally have terms of 20 years and provide for periodic price adjustments. See note 35 to the unaudited interim condensed consolidated financial statements included elsewhere in this offering circular. The Company also has entered into long-term transportation contracts for the exclusive use of 30 LNG delivery ships. Starting in 2011, in compliance with KIFRS, the Company began recognizing its lease obligations in 13 of its LNG transporting vessels as capital leases.

Capital Resources and Liquidity

The Company operates in an industry with significant financing requirements and has historically financed its operations primarily through short-term and long-term borrowings from Korean banks and Korea Energy Agency, issuances of debentures and cash generated from operations. The Company expects that these sources will continue to be its principal sources of cash in the future.

Total long-term borrowings and debentures (less discount) were Won 21,598 billion as of March 31, 2024, Won 21,022 billion as of December 31, 2023, Won 17,293 billion as of December 31, 2022 and Won 16,420 billion as of December 31, 2021 and total short-term borrowings and current portion of debentures (less discount) were Won 18,121 billion as of March 31, 2024, Won 17,835 billion as of December 31, 2023, Won 25,559 billion as of December 31, 2022 and Won 9,766 billion as of December 31, 2021.

The Company periodically increases its short-term borrowings and adjusts its long-term debt financing levels depending on changes in its capital requirements. In particular, the Company has increased its outstanding debt substantially from time to time in recent years in order to address additional funding needs resulting from periodic suspensions of the periodic adjustments to sales prices invoiced to city gas companies, and to a lesser extent, to fund its overseas exploration, development and production activities.

The Company had a working capital (deficit) (current assets minus current liabilities) of Won (4,650) billion as of March 31, 2024, Won (5,136) billion as of December 31, 2023, Won (5,543) billion as of December 31, 2022 and Won (874) billion as of December 31, 2021. The Company intends to meet its working capital and other capital requirements principally through debt financings.

MARKET RISKS

Market risk generally represents the risk that losses may occur in the values of financial instruments as a result of movements in interest rates and foreign exchange rates as well as risks related to raw material prices.

The Company is exposed to various market risks in its ordinary course business transactions.

Interest Rate Risk

The Company's debt consists of fixed and variable rate debt obligations with original maturities typically ranging from less than one year to 30 years. An increase in interest rates would adversely affect the Company's ability to service its existing debt and incur new debt for its operations and its ability to make payments on loans that it has guaranteed.

The Company's interest rate risk is mitigated through application by the MOTIE of the Company's estimated borrowing rate when calculating the Company's Formula Prices, which is subject to approval from the government. From time to time, the Company also uses interest rate swaps and currency swaps to reduce the impact of interest rate and exchange rate volatility on the Company's debentures issued overseas. A 100 basis point increase in interest rates for each of the years ended December 31, 2021, 2022 and 2023 and the three-month period ended March 31, 2024, with all other variables held constant, would have decreased the Company's profit before income tax by Won 7 billion, Won 8 billion, Won 7 billion and Won 8 billion, respectively, with a 100 basis point decrease in interest rates having the opposite effect. See note 33 to the Company's unaudited interim condensed consolidated financial statements, note 47 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2023 and 2022 and note 48 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2022 and 2021, included elsewhere in this offering circular.

Foreign Currency Risk

Anticipated foreign currency payments, which represent a substantial sum and are mostly denominated in U.S. dollars, relate primarily to imported raw material costs, transportation costs and interest and principal payments on the Company's foreign currency-denominated debt. With respect to the Company's exposure to foreign currency risks related to raw material costs and freight costs, such risks to the Company are mitigated because the MOTIE generally allows the Company to pass through its raw material costs (including transportation costs) by periodically adjusting the Company's Formula Prices. As for the Company's exposure to foreign currency risks related to foreign currency-denominated debt, the Company utilizes currency forward contracts as well as interest rate swaps and currency swap contracts mentioned above. See note 33 to the unaudited interim condensed consolidated financial statements included elsewhere in this offering circular.

For the years ended December 31, 2021, 2022 and 2023 and for the three-month period ended March 31, 2024, a 10% increase in exchange rates of all foreign currencies, with all other variables held constant, would have decreased the Company's profit before income tax by Won 18 billion, Won 30 billion, Won 16 billion and Won 130 billion, respectively, with a 10% decrease in exchange rates having the opposite effect. See note 33 to the Company's unaudited interim condensed consolidated financial statements, note 47 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2023 and 2022 and note 48 to the Company's audited consolidated financial statements as of December 31, 2022 and 2021, included elsewhere in this offering circular.

Commodity Price Risk

The Company's operations are affected by price fluctuations of LNG. However, the Company's exposure to LNG price risk is mitigated because the MOTIE generally allows the Company to pass through its raw material costs by periodically adjusting the Company's Formula Prices. The Company does not use any derivative instruments to manage its commodity price risks. The Company purchases a substantial portion of its LNG from overseas sources, including Australia, Indonesia, Malaysia, Oman, Qatar and the United States.

In order to ensure a stable source of supply, the Company selectively enters into long-term supply contracts typically for 20 years, and certain of such contracts generally provide for periodic price adjustments. The Company's long-term supply contracts for LNG are summarized in "The Company – Business – LNG Supply – LNG Sales and Purchase Agreements." See note 35 to the unaudited interim condensed consolidated financial statements included elsewhere in this offering circular.

The Company's Articles of Incorporation provide that the board of directors shall be made up of no more than seven standing directors (including the President, who also serves as the Chief Executive Officer of the Company) and eight non-standing directors. All non-standing directors are independent. The directors have terms of two years (with the exception of the President, whose term is for three years). The activities within the discretion of the board of directors are subject to applicable Korean laws including the Korean Commercial Code as well as the Company's Articles of Incorporation and the Board of Directors' Regulations and include calling a general meeting of shareholders, approving financial statements and issuing bonds or debentures.

Until October 1997, the Company was a government-owned entity and the Chairman of the Board and the President were appointed by the President of Korea upon the recommendation of the MOTIE. The other directors were appointed by the MOTIE upon the recommendation of the Chairman of the Board. In October 1997, the Company became a government-invested entity and, as a result of the change in status, the Chairman and the other directors are now selected by a general meeting of shareholders. Representation on the board of directors is not at present proportional to share ownership.

Under the Company's Articles of Incorporation, the President, who serves as the Company's chief executive, is recommended by the Executive Recommending Committee comprised of five members, a majority of whom must be non-standing directors. The Executive Recommending Committee recommends a pool of candidates, which is then deliberated by the Committee for Management of Public Institutions pursuant to the Act on Management of Public Institutions. After being appointed by the shareholders at a general meeting of shareholders and upon recommendation by the Minister of Trade, Industry and Energy, the President is appointed by the President of Korea. The President is deemed to have the capacity of a representative director where the Korean Commercial Code applies and thus administers most of the day-to-day business that is not specifically designated as a responsibility of the board of directors. The President must enter into a management contract (in a form approved by the shareholders) with the MOTIE pursuant to which the President must meet a certain minimum level of performance each year. Under the current management contract with the President, if the President fails to meet such performance level, then the board of directors may submit a resolution to discharge the President to the shareholders.

Other than the President, the standing directors who are not members of the Audit Committee are appointed by the President after being selected by the shareholders at a general meeting of shareholders. The standing directors who are members of the Audit Committee are appointed by the President of Korea, upon recommendation by the Minister of Economy and Finance, after selection by the shareholders at a general meeting of shareholders from a pool of candidates nominated after deliberation by the Committee for Management of Public Institutions and recommendation by the Executive Recommending Committee. The standing directors assist the President and act on his behalf when the President is unable to act. The non-standing directors are appointed by the Minister of Economy and Finance, after being selected by the shareholders at a general meeting of shareholders from a pool of candidates recommended by the Executive Recommending Committee subsequent to deliberation by the Committee for Management of Public Institutions. Furthermore, at least one non-standing director must be an employee who (i) has worked for the Company for at least three years, and (ii) either (x) has been recommended by a representative of the labor union (if there is a labor union organized by a majority of employees), or (y) has obtained consent from a majority of employees (if no labor union is organized by a majority of employees). The board of directors may establish sub-committees to delegate some of its management functions pursuant to the Articles of Incorporation of the Company, and the board of directors has established three committees, which consist of the Audit Committee, the ESG Committee and the Overseas Operations Committee.

The Audit Committee is comprised of three committee members, two of whom must be non-standing directors and at least one member must be an accounting or financial professional, as determined in accordance with the relevant provisions of the Enforcement Decree of the Korean Commercial Code. The Audit Committee is responsible for auditing the accounting records and practices and business activities of the Company, examining proposals and documents to be submitted to the shareholders and, pursuant to determining whether any matters violate the Articles of Incorporation of the Company or any applicable laws and regulations, submitting its opinion to the shareholders.

The Company's address is 120 Cheomdan-ro, Dong-gu, Daegu, 41062, Korea. Summary biographical information regarding the Company's directors is set out below.

STANDING DIRECTORS

Yeon-Hye Choi, age 68, was appointed as a standing director and as the president and chief executive officer of the Company on December 9, 2022. Ms. Choi previously served as a member of the Korean National Assembly and the chief executive officer of Korea Railroad Corporation.

Jong-Soon Im, age 61, was appointed as a standing director on March 29, 2023. Mr. Lee is currently serving as a senior executive vice president of Management of the Company. Mr. Lee previously served as the head of the Administration & Management Department of the Company.

Hwan-Yong Kim, age 56, was appointed as a standing director on June 12, 2023. Mr. Kim is currently serving as a senior executive vice president of Safety Technology of the Company. Mr. Kim previously served as the head of the Incheon Terminal Division and the head of the Samcheok Terminal Division.

Jin-Gu Kang, age 63, was appointed as a standing director on June 19, 2023. Mr. Kang is currently serving as a standing member of the Audit Committee. Mr. Kang previously served as the director general of the administrative bureau at the Seoul Supreme Prosecutor's Office and the Gwangju District Prosecutor's Office.

NON-STANDING DIRECTORS

Seok-Sun Lee, age 67, was appointed as a non-standing director on June 13, 2023. Mr. Lee previously served as the chief executive officer of Korea Gas Technology Corporation.

Hyun-Mi Ji, age 52, was appointed as a non-standing director on June 13, 2023. Ms. Ji is currently a professor at Keimyung University.

Ju-Chan Lee, age 53, was appointed as a non-standing director on June 13, 2023. Mr. Lee is currently serving as a senior manager of the Company.

Jung-Min Kim, age 67, was appointed as a non-standing director on September 27, 2023. Mr. Kim is currently a professor at the University of Suwon. Mr. Kim previously served as the chief executive officer of IBK Credit Information Corporation and a senior executive of general service at the MOEF.

Si-Heon Seong, age 63, was appointed as a non-standing director on September 27, 2023. Mr. Seong previously served as the chairman and president of the Korea Evaluation Institute of Industrial Technology.

Sang-Ho Park, age 64, was appointed as a non-standing director on September 27, 2023. Mr. Park is currently a professor at Dongguk Graduate School. Mr. Park previously served as the secretary-general of the Patent Court of Korea.

Hong-Chong Cho, age 50, was appointed as a non-standing director on September 27, 2023. Mr. Cho is currently a professor at Dankook University.

Principal Shareholders

The following table describes the Company's shareholders as of March 31, 2024 (the latest date such information is available).

Name	Amount of Paid in Capital (millions of Won)	Number of Shares	Percentage
The Republic of Korea	₩ 120,722	24,144,353	26.15%
KEPCO[(1)]	94,500	18,900,000	20.47%
Local governments	36,606	7,321,122	7.93%
National pension service	39,873	7,974,693	8.64%
Employee stock ownership association	10,615	2,123,094	2.30%
Others	126,819	25,363,688	27.48%
Treasury stock	32,430	6,486,050	7.03%
Total	₩ 461,565	92,313,000	100.00%

(1) The government directly and indirectly holds 51.10% of equity interest in KEPCO.

Under the KOGAS Act, the government is allowed, but has no obligation, to guarantee bonds issued by the Company. The Company has never received any guarantees from the government. The government is not required under Korean law or by contract or its shareholding position to maintain the solvency of the Company.

The Company is dedicated to a policy of maintaining a high dividend payout ratio and a high dividend yield ratio. The Company declared dividends on its common stock of Won 234 billion in respect of 2021. The Company did not declare any dividends in respect of 2022 or 2023.

The Korean Commercial Code requires the Company to appropriate as a legal reserve an amount equal to at least 10% of the cash dividends for each accounting period until the reserve equals 50% of its paid-in capital. The KOGAS Act further requires the Company to appropriate as a legal reserve an amount equal to at least 10% of its net profits for each accounting period until the reserve reaches 50% of its paid-in capital. The legal reserve is not available for cash dividends; however, the reserve may be (i) credited to paid-in capital, (ii) credited to accumulated deficit by resolution of the Company's general meeting of shareholders or (iii) reduced and transferred into profit available for dividend by resolution of the Company's shareholders if the amount of the accumulated legal reserve is over 1.5 times the amount of paid-in capital.

In addition to the legal reserve and prior to the distribution of dividends, the KOGAS Act also requires the Company to appropriate profits for an accident compensation reserve in the amount equal to at least 10% of net profits for each accounting period until it reaches the same amount as its paid-in capital.

Related Party Transactions

The Company engages in a variety of transactions with related parties.

The Company sold LNG to the power generating companies owned by KEPCO, which owns 20.5% of the Company's outstanding shares, amounting to Won 5,389 billion in 2021, Won 11,500 billion in 2022, Won 8,509 billion in 2023 and Won 1,754 billion for the three-month period ended March 31, 2024, which amounts include special consumption tax.

The table below provides a breakdown of the Company's sales to the five non-nuclear power generating subsidiaries of KEPCO for the periods indicated:

	For the year ended December 31,			For the three-month period ended March 31,
	2021[(1)]	2022[(1)]	2023[(1)]	2024[(1)]
	(in billions of Won)			
Korea Southern Power Co., Ltd.	₩ 1,715	₩ 3,721	₩ 2,433	₩ 479
Korea Midland Power Co., Ltd.	1,040	2,085	1,892	442
Korea Western Power Co., Ltd.	1,393	2,821	2,136	247
Korea East-West Power Co., Ltd.	897	2,055	1,379	344
Korea South-East Power Co., Ltd.	344	818	669	242

(1) Special consumption tax amounts are included.

The table below provides a breakdown of the Company's trade receivables from the five non-nuclear power generating subsidiaries of KEPCO for the periods indicated:

	For the year ended December 31,			For the three-month period ended March 31,
	2021	2022	2023	2024
	(in billions of Won)			
Korea Southern Power Co., Ltd.	₩ 221	₩ 501	₩ 142	₩ 173
Korea Midland Power Co., Ltd.	157	320	118	162
Korea Western Power Co., Ltd.	157	455	2	81
Korea East-West Power Co., Ltd.	142	332	118	109
Korea South-East Power Co., Ltd.	98	216	94	71

The Company also receives dividend income from its subsidiaries and affiliates. The Company received dividend income of Won 60 billion in 2021, Won 103 billion in 2022, Won 84 billion in 2023 and Won 44 billion for the three-month period ended March 31, 2024 from its associate, Korea Ras Laffan LNG Ltd. The Company received dividend income of Won 11 billion in 2021, Won 25 billion in 2022, Won 25 billion in 2023 and Won 6 billion for the three-month period ended March 31, 2024 from its associate, Korea LNG Ltd.

For further information relating to the Company's transactions with related parties, see note 34 to the unaudited interim condensed consolidated financial statements, note 48 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2023 and 2022 and note 48 to the Company's audited consolidated financial statements as of and for the years ended December 31, 2022 and 2021 included elsewhere in this offering circular.

GUARANTEED ISSUERS

A subsidiary of the Company may become a Guaranteed Issuer by executing an accession agreement pursuant to the terms of the Agency Agreement. By executing the accession agreement, such subsidiary agrees to be bound by all the terms of the Program.

REGULATION OF THE KOREAN GAS INDUSTRY

The Company was established as a juridical entity under the KOGAS Act, and it is subject to the rules and regulations of that Act and the Act on the Improvement of Managerial Structure and Privatization of Public Enterprises (the "**Privatization Act**"). The Company is also subject to all general rules and regulations applicable to corporations under the Korean Commercial Code ("**KCC**"), unless otherwise provided for in the KOGAS Act and the Privatization Act.

Under the KOGAS Act and the City Gas Business Act, the Company is licensed by the MOTIE as a "wholesale gas supplier." Under the City Gas Business Act, a wholesale gas supplier has the right to supply natural gas on a wholesale basis to the city gas companies and bulk purchasing customers. At present, the Company is the only entity that is licensed as such, and the Company retains effective monopoly rights to supply gas on a wholesale basis to all city gas companies and all substantial power generating companies throughout Korea.

In Korea, primary legislation is supported by a presidential decree or ordinance, which in turn is supported by regulations. This section examines the legislation concerning the regulation of the gas industry in Korea. It does not consider any other facets of regulation such as company law and taxation.

CURRENT FRAMEWORK

The main regulatory bodies of the gas industry in Korea are the MOTIE and the MOEF. At present, the MOTIE is responsible for the primary regulation of the Company while local governments are responsible for the primary regulation of the city gas companies. In addition, the MOEF is involved in planning amendments to the broad principles of the regulatory environment insofar as this impacts the government's dual goals of market liberalization and revenue maximization from the privatization program.

KOGAS ACT OF 1982 (AS LAST AMENDED IN DECEMBER 2022)

Under the KOGAS Act, the Company is established as a statutory juridical entity for the purpose of "preparing a basis for long-term supply of natural gas, promoting the convenience and benefit of national life and contributing to the promotion of public welfare." To achieve these objectives, the Act allows the Company to undertake the following activities:

- manufacture and supply natural gas and refine and sell by-products;
- construct and operate natural gas receiving terminals and supply networks;
- develop, export and import natural gas;
- develop, export and import LPG;
- manufacture and supply hydrogen energy pursuant to the Act on the Promotion of the Development, Use and Diffusion of New and Renewable Energy (the "**New and Renewable Energy Act**");
- develop, export and import hydrogen energy pursuant to the New and Renewable Energy Act;
- research and develop gas-related technologies relevant to the above activities;
- engage in incidental activities relevant to the above activities;
- engage in other activities entrusted by the nation or local autonomous bodies; and
- engage in the business of developing and exploring oil resources (other than natural gas and LPG) and other related business subject to the approval of the MOTIE when it is deemed necessary taking into consideration international oil market conditions.

Under Article 16 of the KOGAS Act, the MOTIE is granted the power to direct and supervise the Company's activities relating to its business plan to supply natural gas throughout the country, its investment plan for safety control, matters relating to the use of the Company's gas pipeline network by other parties and matters relating to participation in overseas natural gas development activities and long-term import of natural gas.

The Company is required to obtain approval from the MOTIE of its business plan under Article 16-2 of the KOGAS Act. This approval by the MOTIE is deemed as approval of the related activities falling under various laws concerning land use and resource planning regarding public facilities. Public notice of such approval is also deemed as a public notice of approval of such related activities.

CITY GAS BUSINESS ACT (AS LAST AMENDED IN FEBRUARY 2022)

The purpose of the City Gas Business Act is to develop the city gas business while protecting consumer interest by devising rational and sound strategies and ensuring public safety by prescribing matters on the installation, maintenance and safety management of gas services and facilities that use gas as a fuel source. It classifies city gas business into four types: wholesale gas supply business, city gas supply business, city gas charge business and business of producing byproduct gas from naphtha or biogas and producing synthetic natural gas. Under Article 3 of the City Gas Business Act, the MOTIE is responsible for the licensing of wholesale gas suppliers while local or municipal governments are responsible for licensing city gas companies. The Company is at present the only entity in Korea with a wholesale license.

All wholesale natural gas prices are regulated under the City Gas Business Act. In setting prices, the Company prepares a proposal using traditionally accepted formula that is based on the Company's costs. The proposal is submitted to the MOTIE followed by discussions with the MOEF under the Price Stabilization Act. Although not required by the Act, the MOTIE's practice is to allow the MOEF to review the pricing proposal to determine its acceptability to the public and with a view to managing its impact on inflation. The Company's wholesale pricing mechanism is further described in "The Company – Business – Sales – Wholesale Pricing of Natural Gas."

General license conditions for wholesale gas suppliers are set out in Article 5 of the City Gas Business Act Enforcement Rule. For a gas wholesaler, such conditions are as follows:

- the geographic supply area granted to a licensee cannot overlap with the geographic supply area of another licensee;

- the business plan provides for the licensee to maintain at least a 30% equity capital ratio for the first operating year and at least a 20% equity capital ratio thereafter; and

- the business plan provides for the stable procurement of raw materials and construction of main distribution pipelines.

Under Article 2 of the City Gas Business Act, the Company, as a holder of a wholesale license, is permitted to supply gas to city gas companies and bulk purchasing customers, as designated by the MOTIE. The regulations define bulk purchasing customers as:

- users who buy through pipelines at least 100,000 cubic meters of natural gas per month and are located outside the geographic supply areas covered by the city gas companies or are refused supply of natural gas for a justifiable reason by the city gas companies under the City Gas Business Act even though such users are located in the geographic supply areas covered by city gas companies;

- users of natural gas for the purpose of power generation with installed generation capacity of 100 megawatts or more;

- users of natural gas for the purpose of power and heat generation with installed generation capacity of 100 megawatts or more;

- users of high pressure natural gas with pressure of at least one mega pascal for the purpose of hydrogen generation to be supplied to fuel cells installed in the facilities specified under the Act on the Promotion of Hydrogen Economy and Safety of Hydrogen and the regulation thereunder; or

- users who are equipped with storage facilities for LNG.

The City Gas Business Act also sets the technical standards for each gas distribution facility and determines the safety obligations of the city gas companies.

LONG-TERM SUPPLY-DEMAND PLAN

Under Article 18-2 of the City Gas Business Act, the MOTIE is required every year to establish a gas supply-demand plan (the "**Gas Plan**") for the next five years and every two years to establish a Long-Term Plan for the next ten or more years.

The Gas Plan must include:

- a supply-demand plan for city gas (including by region);
- a plan for expanding gas service facilities and facility investments;
- a plan for importing city gas and a plan for gas storage in preparation for emergencies;
- current status of the city gas business and a plan for fostering the city gas business (including fundraising plans);
- a plan for promoting the supply of city gas; and
- a plan to manage the demand of city gas.

The Long-Term Plan must include:

- long-term prospects for the supply and demand of natural gas;
- an equipment supply plan; and
- a plan for investing in natural gas.

POWERS GRANTED TO THE MOTIE

The City Gas Business Act endows the MOTIE with extensive regulatory powers over the Company. Under Article 40 of the City Gas Business Act, the MOTIE has the power to order the Company to make various "adjustments" deemed necessary for balanced demand and supply. An order of adjustment may apply to the following items:

- gas service facilities construction plans;
- gas service (supply) plan;
- service areas, if the service area extends to two or more municipalities or provinces;
- service conditions including gas prices;
- calorific value, pressure and flammability of gas;
- joint usage of gas supply and delivery facilities; and
- timing and quantities of LNG imports and exports.

Under Article 41 of the City Gas Business Act, the Company may be required to report to the MOTIE on implementation of the adjustment order.

ENERGY USAGE RATIONALIZATION ACT (AS LAST AMENDED IN OCTOBER 2022)

The Energy Usage Rationalization Act was established to "contribute to the sound growth of the national economy, the national welfare and the international efforts to minimize global warming by securing a stable supply and demand of energy, facilitating the rationalized and efficient usage of energy and reducing environmental deterioration caused by energy consumption." Article 3 of the Energy Usage Rationalization Act assigns to the government the ultimate responsibility for ensuring stable and efficient energy usage and reducing the emission of greenhouse gases while the participation and co-operation of energy users and suppliers is called for in the formulation of energy policy.

Under Article 4 of the Energy Usage Rationalization Act, the MOTIE is required to prepare the Energy Usage Rationalization Basic Plan (the "**Energy Usage Plan**"), the contents of which are to include plans relating to:

- conversion to an energy-conserving economic structure;
- increasing efficiency in energy use;
- development of technology to promote rational and efficient energy use;
- education and public awareness campaigns to promote rational and efficient energy use;
- interfuel substitution;
- safe handling of heat bearing or heat using materials;
- providing a system for forecasting prices in order to promote rational and efficient energy use;
- measures to reduce greenhouse gas emissions through efficient energy use; and
- any other matters determined by the MOTIE as necessary to promote efficient use of energy.

Similarly, under Article 6 of the Energy Usage Rationalization Act, plans for rational and efficient energy use are produced by municipal governments to implement relevant policies at the local and regional levels.

Under Article 9 of the Energy Usage Rationalization Act, the Company is required to submit an annual investment plan to the MOTIE outlining demand, management initiatives, and covering issues including improving efficiency in production, conversion, transportation, storage and use of energy, decreasing energy consumption and reducing the emission of greenhouse gases. Upon review, the MOTIE may request the Company to revise or supplement such plan.

ENERGY USAGE RATIONALIZATION BASIC PLAN

Pursuant to the requirements of the Energy Usage Rationalization Act, an Energy Usage Plan is required to be formulated and issued by the MOTIE. In order for the plan to be issued, the relevant central administrative agencies must be consulted and the plan also has to pass a review conducted by the Energy Committee under the Energy Usage Rationalization Act.

The most recent Energy Usage Plan was issued in 2020 and included plans relating to the following:

- improvement of energy efficiency through expanding energy-related investments and local government participation;
- management of energy consumption through digitalization and public participation; and
- introduction of energy regulations promoting energy conversion.

The most recent Energy Usage Plan establishes policies for improving energy efficiency by promoting energy-related investments and local government participation. It also establishes policies in response to climate change issues by, among others, managing energy demand flexibly.

Details of the Energy Usage Plan was announced as a subsidiary plan of third Basic Plan. Among a total of eight subsidiary plans, the Energy Usage Plan, Basic Plan for Electricity Supply and Demand, Plan for Long-term Natural Gas Supply and Demand, Basic Plan for Integrated Energy Supply, Regional Energy Plan, Basic Plan for Overseas Resource Development and Energy Technology Development Plan have been announced.

FRAMEWORK ACT ON CARBON NEUTRALITY AND GREEN GROWTH TO COPE WITH THE CLIMATE CRISIS (AS LAST AMENDED IN MARCH 2023)

The objective of the Carbon Neutrality Act is to (i) facilitate greenhouse gas reduction and strengthen adaptation measures to prevent material impact of the climate crisis, (ii) resolve economic, environmental and social inequalities that may arise in the process of transitioning to a carbon-neutral society, (iii) promote the congruous development of the economy and the environment through fostering, promoting and revitalizing green technology and green industries and (iv) ultimately contribute to the sustainable development of the international community by improving the quality of life of the present and future generations and protecting the ecosystem and climate system.

The Carbon Neutrality Act allows the government to support local governments in transforming their entire energy production, delivery and consumption system to respond to the climate crisis and pursue environmental protection, safety, energy security and sustainability.

NATIONAL CARBON NEUTRAL AND GREEN GROWTH BASIC PLAN

Pursuant to the Carbon Neutrality Act, the Carbon Neutral Basic Plan is formulated and announced every five years upon deliberation by the State Council and review of the 2050 Carbon Neutrality Green Growth Council. Each Carbon Neutral Basic Plan contains a long-term strategy to implement the plan over a period of 20 years.

The first Carbon Neutral Basic Plan, which was established in April 2023, aims to reduce the use of fossil fuels and substitute fossil fuels with nuclear power and renewable energy and includes plans related to the following:

- Fossil Fuels: close down 28 coal power plants that have an operational lifespan of 30 years or more by 2036 and promote mixed hydrogen and ammonia power generation by developing eco-friendly technologies;

- Nuclear: expedite construction of Shin-hanul units #3 and #4 and continue operating existing nuclear power plants by addressing economic feasibility, energy security and safety;

- Renewables: promote balanced distribution of energy sources by expanding offshore wind power generation and by increasing the share of renewable power generation from 9.2% in 2022 to over 21.6% of total power generation in Korea by 2030; and

- Hydrogen: increase the share of hydrogen power generation from nil in 2022 to 2.1% of total power generation in Korea in 2030 and to 7.1% in 2036, expand hydrogen transportation infrastructure, including hydrogen ships, trams and drones, establish a pipeline network for utilization of hydrogen and create demonstration ports in two locations by 2028.

BASIC NATIONAL ENERGY PLAN

A Basic Plan is formulated and announced every five years after obtaining the consent of central administrative agencies and passing the review of the National Energy Commission under the Green Act. Each Basic Plan contains a long-term strategy to implement the plan over a period of 20 years. The Basic Plan also includes more specific energy-related plans, including the Long-Term Plan and the Energy Usage Plan. Due to administrative errors in the law amendment process, the statute that stipulates the establishment and amendment procedure of the Basic Plan is currently absent, but the Korean government is planning to resolve this issue through amendments in the near future.

The Basic Plan issued in June 2019 provides for, among other things, the following:

- reducing energy consumption by 18.6% from the currently expected energy demand for 2040 through innovating the structure of energy consumption;

- expanding the usage of non-electricity energy through, among others, establishing a national heat utilization platform and a regional connection system for non-utilized heat and enlarging gas cooling facilities;

- increasing power generation by renewable energy to 30%~35% of total energy production by 2040 and reducing nuclear power generation through increases in power generation by LNG and hydrogen power; and

- reducing greenhouse gas emission to 536 million tons by 2030.

ENVIRONMENTAL LEGISLATION

Air Environment Preservation Act (as last amended in August 2023)

The purpose of the Air Environment Preservation Act (the "**Air Act**") is to protect public health and prevent environmental damage arising from air pollution.

Articles 41 and 42 of the Air Act provide for the Ministry of Environment to determine standards for the sulphur content of fuel and that the Ministry of Environment can determine the supply area and range of facilities to use the respective fuels and may in some circumstances prohibit or restrict the production, sale or use of certain fuels. According to Article 43 of the Enforcement Decree issued in connection with Article 42 of the Air Act, in the areas that fail, or are likely to fail, to meet minimum air quality standards, only clean energy such as LNG may be used.

TAXATION

CERTAIN U.S. FEDERAL INCOME TAX CONSIDERATIONS

The following is a summary of certain U.S. federal income tax considerations that may be relevant to a beneficial owner of a Note that is a citizen or resident of the United States or a domestic corporation or that otherwise is subject to U.S. federal income taxation on a net income basis in respect of the Note (a "United States holder"). This summary is based on laws, regulations, rulings and decisions now in effect, all of which are subject to change (possibly with retroactive effect). This summary deals only with United States holders that will hold Notes as capital assets, and does not address tax considerations applicable to investors that may be subject to special tax rules, such as financial institutions, real estate investment trusts, tax-exempt entities, entities taxed as partnerships and partners therein, insurance companies, regulated investment companies, dealers in securities or currencies, traders in securities electing to mark to market, persons liable for alternative minimum tax, U.S. expatriates, nonresident alien individuals present in the United States for more than 182 days in a taxable year, persons that will hold Notes as a position in a "straddle" or conversion transaction, or as part of a "synthetic security" or other integrated financial transaction or persons that have a "functional currency" other than the U.S. dollar. Except as specifically set forth below, any special U.S. federal income tax considerations relevant to a particular issue of Notes, including any Floating Rate Notes, Index Linked Notes, Dual Currency Notes, or Zero Coupon Notes will be provided in the applicable Pricing Supplement.

This summary does not discuss tax considerations relevant to the ownership and disposal of Bearer Notes. In addition, this summary does not address the tax consequences of a redenomination. If an Issuer effects a redenomination, investors should consult their own advisors regarding the tax consequences to them, including the possibility that an investor will recognize foreign currency gain or loss as a result of the redenomination.

Further, this summary addresses only U.S. federal income tax consequences, and does not address the effects of the Medicare contribution tax on net investment income, the special timing rules prescribed under section 451(b) of the U.S. Internal Revenue Code of 1986, as amended (the "**Code**"), or foreign, state, local or other tax considerations that may be relevant to United States holders in light of their particular circumstances. Investors should consult their own tax advisors in determining the tax consequences to them of holding Notes, including the application to their particular situation of the U.S. federal income tax considerations discussed below, as well as the application of state, local, foreign or other tax laws.

Payments of Interest

Payments of "qualified stated interest" (as defined below under "– Original Issue Discount") on a Note, including any taxes withheld and any additional amounts paid in respect thereof, but excluding any pre-issuance accrued interest, will be taxable to a United States holder as ordinary interest income at the time that such payments are accrued or are received (in accordance with the United States holder's method of tax accounting).

If such payments of interest are made with respect to a Note denominated in a single currency other than the U.S. dollar (a "**Foreign Currency Note**"), the amount of interest income realized by a United States holder that uses the cash method of tax accounting will be the U.S. dollar value of the Specified Currency payment based on the exchange rate in effect on the date of receipt regardless of whether the payment in fact is converted into U.S. dollars. A United States holder that uses the accrual method of accounting for tax purposes will accrue interest income on the Note in the Specified Currency and translate the amount accrued into U.S. dollars based on the average exchange rate in effect during the interest accrual period (or portion thereof within the United States holder's taxable year), or, at the accrual basis United States holder's election, at the spot rate of exchange on the last day of the accrual period (or the last day of the taxable year within such accrual period if the accrual period spans more than one taxable year), or at the spot rate of exchange on the date of receipt, if such date is within five business days of the last day of the accrual period. A United States holder that makes such election must apply it consistently to all debt instruments from year to year and cannot change the election without the consent of the Internal Revenue Service (the "**IRS**"). A United States holder that uses the accrual method of accounting for tax purposes will recognize foreign currency gain or loss, as the case may be, on the receipt of an interest payment made with respect to a Foreign Currency Note if the exchange rate in effect on the date the payment is received

differs from the rate applicable to a previous accrual of that interest income regardless of whether the payment is in fact converted into U.S. dollars. Amounts attributable to pre-issuance accrued interest will generally not be includable in income, except to the extent of foreign currency gain or loss attributable to any changes in exchange rates during the period between the date the United States holder acquired the Note and the first Interest Payment Date. This foreign currency gain or loss will be treated as U.S. source ordinary income or loss but generally will not be treated as an adjustment to interest income received on the Note.

Subject to generally applicable limitations and conditions, any Korean interest withholding tax paid at the appropriate rate applicable to the United States holder may be eligible for credit against such United States holder's U.S. federal income tax liability. These generally applicable limitations and conditions include new requirements recently adopted by the IRS in regulations promulgated in December 2021 and any Korean tax will need to satisfy these requirements in order to be eligible to be a creditable tax for a United States holder. In the case of a United States holder that consistently elects to apply a modified version of these rules under recently issued temporary guidance and complies with specific requirements set forth in such guidance, the Korean tax on interest generally will be treated as meeting the new requirements and therefore as a creditable tax. In the case of all other United States holders, the application of these requirements to the Korean tax on interest is uncertain and we have not determined whether these requirements have been met. If the Korean interest tax is not a creditable tax for a United States holder or the United States holder does not elect to claim a foreign tax credit for any foreign income taxes paid or accrued in the same taxable year, the United States holder may be able to deduct the Korean tax in computing such United States holder's taxable income for U.S. federal income tax purposes. Interest and Additional Amounts will constitute income from sources without the United States and, for United States holders that elect to claim foreign tax credits, generally will constitute "passive category income" for foreign tax credit purposes.

The availability and calculation of foreign tax credits and deductions for foreign taxes depend on a United States holder's particular circumstances and involve the application of complex rules to those circumstances. The temporary guidance discussed above also indicates that the U.S. Treasury and the IRS are considering proposing amendments to the December 2021 regulations and that the temporary guidance can be relied upon until additional guidance is issued that withdraws or modifies the temporary guidance. United States holders should consult their own tax advisors regarding the application of these rules to their particular situations.

Purchase, Sale and Retirement of Notes

A United States holder's adjusted tax basis in a Note generally will equal the cost of such Note to such holder, increased by any amounts includible in income by the holder as original issue discount and market discount and reduced by any amortized premium (each as described below) and any payments other than payments of qualified stated interest made on such Note. In the case of a Foreign Currency Note, the cost of such Note to a United States holder will be the U.S. dollar value of the foreign currency purchase price on the date of purchase. In the case of a Foreign Currency Note that is traded on an established securities market, a cash basis United States holder (and, if it so elects, an accrual basis United States holder) will determine the U.S. dollar value of the cost of such Note by translating the amount paid at the spot rate of exchange on the settlement date of the purchase. The amount of any subsequent adjustments to a United States holder's adjusted tax basis in a Note in respect of original issue discount, market discount and premium denominated in a Specified Currency will be determined in the manner described under "–Original Issue Discount" and "–Premium and Market Discount" below. The conversion of U.S. dollars to the Specified Currency and the immediate use of the Specified Currency to purchase a Foreign Currency Note generally will not result in taxable gain or loss for a United States holder.

Upon the sale, exchange or retirement of a Note, a United States holder generally will recognize gain or loss equal to the difference between the amount realized on the sale, exchange or retirement (less any accrued qualified stated interest, which will be taxable as such) and the United States holder's adjusted tax basis in such Note. If a United States holder receives a currency other than the U.S. dollar in respect of the sale, exchange or retirement of a Note, the amount realized will be the U.S. dollar value of the Specified Currency received calculated at the exchange rate in effect on the date the instrument is disposed of or retired. In the case of a Foreign Currency Note that is traded on an established securities market, a cash basis United States holder, and if it so elects, an accrual basis United States holder will determine the U.S. dollar value of the amount realized by translating such amount at the spot rate on the settlement

date of the sale. The election available to accrual basis United States holders in respect of the purchase and sale of Foreign Currency Notes traded on an established securities market, discussed above, must be applied consistently to all debt instruments from year to year and cannot be changed without the consent of the IRS.

Except as described below with respect to market discount, Short-Term Notes (as defined below) and foreign currency gain or loss, gain or loss recognized by a United States holder generally will be U.S. source long-term capital gain or loss if the United States holder has held the Note for more than one year at the time of disposition. Long-term capital gains recognized by a non-corporate holder (including an individual holder) generally are subject to tax at a lower rate than short-term capital gains or ordinary income. The deductibility of capital losses is subject to limitations.

A United States holder will recognize foreign currency gain or loss, generally taxable as U.S. source ordinary income or loss, on the sale, exchange or retirement of a Note equal to the difference, if any, between the U.S. dollar values of the United States holder's purchase price for the Note (as adjusted for amortized bond premium, if any) (i) on the date of sale or retirement and (ii) the date on which the United States holder acquired the Note. However, any such foreign currency gain or loss (including any foreign currency gain or loss with respect to the receipt of accrued but unpaid interest) will be realized only to the extent of total gain or loss realized on the sale or retirement. This foreign currency gain or loss will not be treated as an adjustment to interest income received on the Notes.

Under the new foreign tax credit requirements recently adopted by the IRS, any Korean tax imposed on the sale or other disposition of the Notes generally will not be treated as a creditable tax for U.S. foreign tax credit purposes, except in the case of a United States holder that consistently elects to apply a modified version of the U.S. foreign tax credit rules that is permitted under recently issued temporary guidance and complies with the specific requirements set forth in such guidance. Additionally, capital gain or loss recognized by a United States holder on the sale or other disposition of the Notes generally will be U.S. source gain or loss for U.S. foreign tax credit purposes. Consequently, even if the Korean tax qualifies as a creditable tax, a United States holder may not be able to credit the tax against its U.S. federal income tax liability unless such credit can be applied (subject to generally applicable conditions and limitations) against tax due on other income treated as derived from foreign sources. If the Korean tax is not a creditable tax, the tax would reduce the amount realized on the sale or other disposition of the Notes even if the United States holder has elected to claim a foreign tax credit for other taxes in the same year. The temporary guidance discussed above also indicates that the U.S. Treasury and the IRS are considering proposing amendments to the December 2021 regulations and that the temporary guidance can be relied upon until additional guidance is issued that withdraws or modifies the temporary guidance. United States holders should consult their own tax advisors regarding the application of the foreign tax credit rules to a sale or other disposition of the Notes and any Korean tax imposed on such sale or disposition.

Original Issue Discount

If an Issuer issues Notes at a discount from their stated redemption price at maturity (as defined below), and the discount is equal to or more than the product of one-fourth of one percent (0.25%) of the stated redemption price at maturity of the Notes multiplied by the number of full years to their maturity (the "***de minimis* **threshold**"), the Notes will be "Original Issue Discount Notes." The difference between the issue price and the stated redemption price at maturity of the Notes will be the "original issue discount" ("**OID**"). The "issue price" of the Notes will be the first price at which a substantial amount of the notes are sold to the public (i.e., excluding sales of Notes to underwriters, placement agents, wholesalers, or similar persons). The "stated redemption price at maturity" will include all payments under the Notes other than payments of "qualified stated interest" (as determined below).

United States holders of Original Issue Discount Notes generally will be subject to the special tax accounting rules for obligations issued with OID provided by the Code and certain regulations promulgated thereunder (the "**OID Regulations**"). United States holders of such Notes should be aware that, as described in greater detail below, they generally must include OID in ordinary gross income for U.S. federal income tax purposes as it accrues, in advance of the receipt of cash attributable to that income.

In general, each United States holder of an Original Issue Discount Note, whether such holder uses the cash or the accrual method of tax accounting, will be required to include in ordinary gross income the sum of the "daily portions" of OID on the Note for all days during the taxable year that the United States holder owns the Note. The daily portions of OID on an Original Issue Discount Note are determined by allocating to each day in any accrual period a ratable portion of the OID allocable to that accrual period. Accrual periods may be of any length and may vary in length over the term of an Original Issue Discount Note, provided that no accrual period is longer than one year and each scheduled payment of principal or interest occurs on either the final day or the first day of an accrual period. In the case of an initial holder, the amount of OID on an Original Issue Discount Note allocable to each accrual period is determined by (a) multiplying the "adjusted issue price" (as defined below) of the Original Issue Discount Note at the beginning of the accrual period by the yield to maturity of such Original Issue Discount Note (appropriately adjusted to reflect the length of the accrual period) and (b) subtracting from that product the amount (if any) of qualified stated interest (as defined below) allocable to that accrual period. The "yield to maturity" of a Note is the discount rate that causes the present value of all payments on the Note as of its original issue date to equal the issue price of such Note. The "adjusted issue price" of an Original Issue Discount Note at the beginning of any accrual period will generally be the sum of its issue price (generally including accrued interest, if any) and the amount of OID allocable to all prior accrual periods, reduced by the amount of all payments other than payments of qualified stated interest (if any) made with respect to such Note in all prior accrual periods. The term "qualified stated interest" generally means stated interest that is unconditionally payable in cash or property (other than debt instruments of the issuer) at least annually during the entire term of an Original Issue Discount Note at a single fixed rate of interest or, subject to certain conditions, based on one or more interest indices. As a result of this "constant yield" method of including OID in income, the amounts includible in income by a United States holder in respect of an Original Issue Discount Note denominated in U.S. dollars generally are lesser in the early years, and greater in the later years, than the amounts that would be includible on a straight-line basis.

A United States holder generally may make an irrevocable election to include in its income its entire return on a Note (i.e., the excess of all remaining payments to be received on the Note, including payments of qualified stated interest, over the amount paid by such United States holder for such Note) under the constant-yield method described above. For Notes purchased at a premium or bearing market discount in the hands of the United States holder, the United States holder making such election will also be deemed to have made the election (discussed below in "– Premium and Market Discount") to amortize premium or to accrue market discount in income currently on a constant-yield basis.

In the case of an Original Issue Discount Note that is also a Foreign Currency Note, a United States holder should determine the U.S. dollar amount includible in income as OID for each accrual period by (a) calculating the amount of OID allocable to each accrual period in the Specified Currency using the constant-yield method described above, and (b) translating the amount of the Specified Currency so derived at the average exchange rate in effect during that accrual period (or portion thereof within a United States holder's taxable year) or, at the United States holder's election (as described above under "– Payments of Interest"), at the spot rate of exchange on the last day of the accrual period (or the last day of the taxable year within such accrual period if the accrual period spans more than one taxable year), or at the spot rate of exchange on the date of receipt, if such date is within five business days of the last day of the accrual period. Because exchange rates may fluctuate, a United States holder of an Original Issue Discount Note that is also a Foreign Currency Note may recognize a different amount of OID income in each accrual period than would the holder of an otherwise similar Original Issue Discount Note denominated in U.S. dollars. All payments on an Original Issue Discount Note (other than payments of qualified stated interest) will generally be viewed first as payments of previously-accrued OID (to the extent thereof), with payments attributed first to the earliest-accrued OID, and then as payments of principal. Upon the receipt of an amount attributable to OID (whether in connection with a payment of an amount that is not qualified stated interest or the sale or retirement of the Original Issue Discount Note), a United States holder will recognize ordinary income or loss measured by the difference between the amount received (translated into U.S. dollars at the exchange rate in effect on the date of receipt or on the date of disposition of the Original Issue Discount Note, as the case may be) and the amount accrued (using the exchange rate applicable to such previous accrual).

A subsequent United States holder of an Original Issue Discount Note that purchases the Note at a cost less than its remaining redemption amount (as defined below), or an initial United States holder that purchases an Original Issue Discount Note at a price other than the Note's issue price, also generally will be required to include in gross income the daily portions of OID, calculated as described above. However, if the United States holder acquires the Original Issue Discount Note at a price greater than its adjusted issue price, such holder is required to reduce its periodic inclusions of OID income to reflect the premium paid over the adjusted issue price. The "remaining redemption amount" for a Note is the total of all future payments to be made on the Note other than payments of qualified stated interest.

Floating Rate Notes generally will be treated as "variable rate debt instruments" under the OID Regulations. Accordingly, the stated interest on a Floating Rate Note generally will be treated as "qualified stated interest" and such a Note will not have OID solely as a result of the fact that it provides for interest at a variable rate. If a Floating Rate Note qualifying as a "variable rate debt instrument" is an Original Issue Discount Note, for purposes of determining the amount of OID allocable to each accrual period under the rules above, the Note's "yield to maturity" and "qualified stated interest" will generally be determined as though the Note bore interest in all periods at a fixed rate determined at the time of issuance of the Note. Additional rules may apply if interest on a Floating Rate Note is based on more than one interest index. If a Floating Rate Note does not qualify as a "variable rate debt instrument," such Note will be subject to special rules (the "**Contingent Payment Regulations**") that govern the tax treatment of debt obligations that provide for contingent payments ("**Contingent Debt Obligations**"). A detailed description of the tax considerations relevant to United States holders of any such Notes will be provided in the applicable Pricing Supplement.

Certain of the Notes may be subject to special redemption, repayment or interest rate reset features, as indicated in the applicable Pricing Supplement. Notes containing such features, in particular Original Issue Discount Notes, may be subject to special rules that differ from the general rules discussed above. Purchasers of Notes with such features should carefully examine the applicable Pricing Supplement and should consult their own tax advisors with respect to such Notes since the tax consequences with respect to such features, and especially with respect to OID, will depend, in part, on the particular terms of the purchased Notes.

If a Note provides for a scheduled Accrual Period that is longer than one year (for example, as a result of a long initial period on a Note with interest that is generally paid on an annual basis), then stated interest on the Note will not qualify as "qualified stated interest" under the OID Regulations. As a result, the Note would be an Original Issue Discount Note. In that event, among other things, cash-method United States holders will be required to accrue stated interest on the Note under the rules for OID described above, and all United States holders will be required to accrue OID that would otherwise fall under the *de minimis* threshold.

Premium and Market Discount

A United States holder of a Note that purchases the Note at a cost greater than its remaining redemption amount (as defined in the fourth preceding paragraph) will be considered to have purchased the Note at a premium, and may elect to amortize such premium (as an offset to interest income), using a constant-yield method, over the remaining term of the Note. Such election, once made, generally applies to all bonds held or subsequently acquired by the United States holder on or after the first day of the first taxable year to which the election applies and may not be revoked without the consent of the IRS. A United States holder that elects to amortize such premium must reduce its tax basis in a Note by the amount of the premium amortized during its holding period. Original Issue Discount Notes purchased at a premium will not be subject to the OID rules described above. In the case of premium in respect of a Foreign Currency Note, a United States holder should calculate the amortization of such premium in the Specified Currency. Amortization deductions attributable to a period reduce interest payments in respect of that period and therefore are translated into U.S. dollars at the exchange rate used by the United States holder for such interest payments. Exchange gain or loss will be realized with respect to amortized bond premium on such a Note based on the difference between the exchange rate on the date or dates such premium is recovered through interest payments on the Note and the exchange rate on the date on which the United States holder acquired the Note. With respect to a United States holder that does not elect to amortize bond premium, the amount of bond premium will be included in the United States holder's adjusted tax basis when the Note matures or is disposed of by the United States holder. Therefore, a United States holder that does not elect to amortize such premium and that holds the Note to maturity generally will be required to treat the premium as capital loss when the Note matures.

If a United States holder of a Note purchases the Note at a price that is lower than its remaining redemption amount, or in the case of an Original Issue Discount Note, a price that is lower than its adjusted issue price, by at least 0.25% of its remaining redemption amount multiplied by the number of remaining whole years to maturity, the Note will be considered to have "market discount" in the hands of such United States holder. In such case, gain realized by the United States holder on the disposition of the Note generally will be treated as ordinary income to the extent of the market discount that accrued on the Note while held by such United States holder. In addition, the United States holder could be required to defer the deduction of a portion of the interest paid on any indebtedness incurred or maintained to purchase or carry the Note. In general terms, market discount on a Note will be treated as accruing ratably over the term of such Note, or, at the election of the holder, under a constant-yield method. Market discount on a Foreign Currency Note will be accrued by a United States holder in the Specified Currency. The amount includible in income by a United States holder in respect of such accrued market discount will be the U.S. dollar value of the amount accrued, generally calculated at the exchange rate in effect on the date that the Note is disposed of by the United States holder.

A United States holder may elect to include market discount in income on a current basis as it accrues (on either a ratable or constant-yield basis), in lieu of treating a portion of any gain realized on a sale of a Note as ordinary income. If a United States holder elects to include market discount on a current basis, the interest deduction deferral rule described above will not apply. Any accrued market discount on a Foreign Currency Note that is currently includible in income will be translated into U.S. dollars at the average exchange rate for the accrual period (or portion thereof within the United States holder's taxable year). Any such election, if made, applies to all market discount bonds acquired by the taxpayer on or after the first day of the first taxable year to which such election applies and is revocable only with the consent of the IRS.

Short-Term Notes

The rules set forth above will also generally apply to Notes having maturities of not more than one year ("**Short-Term Notes**"), but with certain modifications.

The OID Regulations treat none of the interest on a Short-Term Note as qualified stated interest. Thus, all Short-Term Notes will be Original Issue Discount Notes. OID will be treated as accruing on a Short-Term Note ratably, or at the election of a United States holder, under a constant yield method.

A United States holder of a Short-Term Note that uses the cash method of tax accounting generally will not be required to include OID in income on a current basis. Such a United States holder may not be allowed to deduct all of the interest paid or accrued on any indebtedness incurred or maintained to purchase or carry such Note until the maturity of the Note or its earlier disposition in a taxable transaction. In addition, such a United States holder will be required to treat any gain realized on a sale, exchange or retirement of the Note as ordinary income to the extent such gain does not exceed the OID accrued with respect to the Note during the period the United States holder held the Note. Notwithstanding the foregoing, a cash-basis United States holder of a Short-Term Note may elect to accrue OID into income on a current basis or to accrue the "acquisition discount" on the Note under the rules described below. If the United States holder elects to accrue OID or acquisition discount, the limitation on the deductibility of interest described above will not apply.

A United States holder using the accrual method of tax accounting and certain cash-basis United States holders (including banks, securities dealers, regulated investment companies and common trust funds) generally will be required to include original issue discount on a Short-Term Note in income on a current basis. Alternatively, a United States holder of a Short-Term Note can elect to accrue the "acquisition discount," if any, with respect to the Note on a current basis. If such an election is made, the OID rules will not apply to the Note. Acquisition discount is the excess of the Short-Term Note's stated redemption price at maturity (i.e., all amounts payable on the Short-Term Note) over the purchase price. Acquisition discount will be treated as accruing ratably or, at the election of the United States holder, under a constant-yield method based on daily compounding. The market discount rules will not apply to a Short-Term Note.

Index Linked Notes and Other Notes Providing for Contingent Payments

The Contingent Payment Regulations, which govern the tax treatment of Contingent Debt Obligations, generally require accrual of interest income on a constant-yield basis in respect of such obligations at a yield determined at the time of their issuance, and may require adjustments to such accruals when any contingent payments are made. A detailed description of the tax considerations relevant to United States holders of any Contingent Debt Obligations will be provided in the applicable Pricing Supplement.

Information Reporting and Backup Withholding

Information returns will be filed with the IRS in connection with payments on the Notes made to, and the proceeds of dispositions of Notes effected by, certain U.S. taxpayers. In addition, certain U.S. taxpayers may be subject to backup withholding tax in respect of such payments if they do not provide their taxpayer identification numbers or certifications of exempt status to the applicable withholding agent or fail to report all interest and dividends required to be shown on their U.S. federal income tax returns. Persons holding Notes who are not U.S. taxpayers may be required to comply with applicable certification procedures to establish that they are not U.S. taxpayers in order to avoid the application of such information reporting requirements and backup withholding tax. The amount of any backup withholding from a payment to a U.S. or non-U.S. taxpayer will be allowed as a credit against the holder's U.S. federal income tax liability and may entitle the holder to a refund, provided that the required information is timely furnished to the IRS.

Information with Respect to Foreign Financial Assets

Certain United States holders that own "specified foreign financial assets" with an aggregate value in excess of US$50,000 on the last day of the taxable year or US$75,000 at any time during the taxable year are generally required to file an information statement along with their tax returns, currently on IRS Form 8938, with respect to such assets. "Specified foreign financial assets" include any financial accounts held at a non-U.S. financial institution, as well as securities issued by a non-U.S. issuer (which would include the Notes) that are not held in accounts maintained by financial institutions. Higher reporting thresholds apply to certain individuals living abroad and to certain married individuals. Regulations extend this reporting requirement to certain entities that are treated as formed or availed of to hold direct or indirect interests in specified foreign financial assets based on certain objective criteria. United States holders who fail to report the required information could be subject to substantial penalties. In addition, the statute of limitations for assessment of tax would be suspended, in whole or part. Prospective investors should consult their own tax advisors concerning the application of these rules to their investment in the Notes, including the application of the rules to their particular circumstances.

Reportable Transactions

A U.S. taxpayer that participates in a "reportable transaction" will be required to disclose its participation to the IRS. The scope and application of these rules is not entirely clear. A United States holder may be required to treat a foreign currency exchange loss from Foreign Currency Notes as a reportable transaction if the loss exceeds US$50,000 in a single taxable year if the United States holder is an individual or trust, or higher amounts for other United States holders. In the event the acquisition, ownership or disposition of the Foreign Currency Notes constitutes participation in a "reportable transaction" for purposes of these rules, a United States holder will be required to disclose its investment to the IRS, currently on IRS Form 8886. Prospective investors should consult their own tax advisors regarding the application of these rules to the acquisition, ownership or disposition of Foreign Currency Notes.

KOREAN TAXATION

Republic of Korea

The information provided below does not purport to be a complete summary of Korean tax law and practice currently applicable. Prospective investors who are in any doubt as to their tax position should consult with their own professional advisors.

The taxation of non-resident individuals and non-Korean corporations ("**Non-Residents**") depends on whether they have a "permanent establishment" (as defined under Korean law and applicable tax treaty) in Korea to which the relevant Korean source income is attributable or with which such income is effectively connected. Non-Residents without a permanent establishment in Korea are taxed in the manner described below. Non-Residents with permanent establishments in Korea are taxed in accordance with different rules.

Tax on Interest on the Senior Notes

Interest on the Senior Notes paid to Non-Residents (except for their permanent establishments in Korea), being foreign currency denominated bonds issued by the Company and/or its Korean subsidiaries outside of Korea, is exempt from income tax and corporation tax (whether payable by withholding or otherwise) pursuant to the Special Tax Treatment Control Law (the "**STTCL**"). The term "foreign currency denominated bonds" in this context is not defined under the STTCL. In this regard, the Korean tax authority issued a ruling on September 1, 1990 to the effect that "a notes issuance facility, commercial paper issued in U.S. dollars or Euros or a banker's acceptance" are not treated as "foreign currency denominated bonds."

If the tax exemption under the STTCL referred to above were to cease to be in effect, the rate of income tax or corporation tax applicable to interest on the Senior Notes paid by the Company and its Korean subsidiary, for a Non-Resident without a permanent establishment in Korea, would be 14% of income. In addition, a tax surcharge called a local income tax would be imposed at the rate of 10% of the income tax or corporation tax (raising the total tax rate to 15.4%).

The tax rates may be reduced by an applicable tax treaty, convention or agreement between Korea and the country of the beneficial owner of the income. The relevant tax treaties are discussed below.

Tax on Capital Gains

Korean tax laws currently exclude from Korean taxation gains made by a Non-Resident without a permanent establishment in Korea from the sale of the Senior Notes to other Non-Residents (other than to their permanent establishments in Korea). In addition, capital gains earned by Non-Residents with or without permanent establishments in Korea from the transfer taking place outside Korea of the Senior Notes issued by the Company and/or its Korean subsidiaries are currently exempt from taxation by virtue of the STTCL, provided that the issuance of the Senior Notes issued by the Company and/or its Korean subsidiaries is deemed to be an overseas issuance under the STTCL.

If the exclusion or exemption from Korean taxation referred to above were to cease to be in effect, in the absence of an applicable tax treaty reducing or eliminating tax on capital gains, the applicable rate of tax would be the lower of 11% (including local income tax) of the gross realization proceeds or (subject to the production of satisfactory evidence of the acquisition cost and certain direct transaction costs of the relevant Senior Note issued by the Company and/or its Korean subsidiaries) 22% (including local income tax) of the realized gain (i.e., the excess of the gross realization proceeds over the acquisition cost and certain direct transaction costs) made. If such evidence shows that no gain (or a loss) was made on the sale, no Korean tax is payable. There is no provision under relevant Korean law to allow offsetting of gains and losses or otherwise aggregating transactions for the purpose of computing the net gain attributable to sales of the Senior Notes issued by Korean companies. The purchaser or any other designated withholding agent of the Senior Notes issued by the Company and/or its Korean subsidiaries is obliged under Korean law to withhold the applicable amount of Korean tax and make payment thereof to the relevant Korean tax authority. Unless the seller can claim the benefit of an exemption from tax under an applicable tax treaty or on the failure of the seller to produce satisfactory evidence of his acquisition cost and certain direct transaction costs in relation to the instruments being sold, the purchaser or such withholding agent must withhold an amount equal to 11% of the gross realization proceeds. Any amounts withheld by the purchaser or such withholding agent must be paid to the competent Korean tax office. The purchaser or withholding agent must pay any withholding tax no later than the tenth day of the month following the month in which the payment for the purchase of the relevant instruments occurred. Failure to transmit the withheld tax to the Korean tax authorities in time subjects the purchaser or such withholding agent to penalties under Korean tax laws. The Korean tax authorities may attempt to collect such tax from a Non-Resident who is liable for payment of any Korean tax on gains, as a purchaser or withholding agent who is obliged to withhold such tax, through proceedings against payments due to the Non-Resident from its Korean investments and the assets or revenues of any of the Non-Resident's branch or representative offices in Korea.

Inheritance Tax and Gift Tax

Korean inheritance tax is imposed upon (a) all assets (wherever located) of the deceased if at the time of his death he was a resident of Korea and (b) all property located in Korea that passes on death (irrespective of whether or not the deceased was a resident of Korea). Gift tax is imposed in similar circumstances to the above. The taxes are imposed if the value of the relevant property is above a certain limit and the rate varies from 10% to 50%. At present, Korea has not entered into any tax treaties regarding its inheritance or gift taxes.

Under Korean inheritance and gift tax laws, bonds issued by Korean corporations are deemed located in Korea irrespective of where they are physically located or by whom they are owned, and, consequently, the Korean inheritance and gift taxes may be imposed on transfers of the Senior Notes issued by the Company and/or its Korean subsidiaries by inheritance or gift. Prospective purchasers should consult their personal tax advisors regarding the consequences of the imposition of the Korean inheritance or gift tax.

Stamp Duty and Securities Transaction Tax

No stamp, issue or registration duties will be payable in Korea by the Holders in connection with the issue of the Senior Notes except for a nominal amount of stamp duty on certain documents executed in Korea which will be paid by the Issuer. No securities transaction tax will be imposed upon the transfer of the Senior Notes.

Tax Treaties

At the date of this offering circular, Korea has tax treaties with, inter alia, Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Luxembourg, The Netherlands, New Zealand, Norway, Singapore, Sweden, Switzerland, the UK and the United States of America, under which the rate of withholding tax on interest is reduced, generally to between 5 and 15% (including local income tax), and the tax on capital gains is often eliminated.

Each Holder should inquire whether he is entitled to the benefit of a tax treaty with respect to any transaction involving the Senior Notes. It is the responsibility of the party claiming the benefits of a tax treaty in respect of interest payments to file with the payer or the Issuer a certificate as to his residence. In the absence of sufficient proof, the payer or the Issuer must withhold taxes in accordance with the above discussion.

In order to claim the benefit of a tax rate reduction or tax exemption available under the applicable tax treaties, a non-resident holder should submit to the payer of such Korean source income an application (for a reduced withholding tax rate, the "application for entitlement to reduced tax rate," and for an exemption from withholding tax, the "application for exemption" under a tax treaty along with a certificate of the non-resident holder's tax residence issued by a competent authority of the non-resident holder's residence country) as the beneficial owner of such Korean source income ("**BO Application**"). Such application should be submitted to the withholding agent prior to the payment date of the relevant income. Subject to certain exceptions, where the relevant income is paid to an overseas investment vehicle (which is not the beneficial owner of such income) ("**OIV**"), a beneficial owner claiming the benefit of an applicable tax treaty with respect to such income must submit its BO Application to such OIV, which must submit an OIV report and a schedule of beneficial owners to the withholding agent prior to the payment date of such income. In the case of a tax exemption application, the withholding agent is required to submit such application (together with the applicable OIV report in the case of income paid to an OIV) to the relevant district tax office by the ninth day of the month following the date of the payment of such income.

Withholding and Gross Up

As mentioned above, interest paid on the Senior Notes is exempt from any withholding or deduction on account of income tax or corporation tax pursuant to the STTCL. However, in the event that the payer or the Issuer is required by law to make any withholding or deduction for or on account of any Korean taxes (as more fully described in "Terms and Conditions of the Notes – Taxation") the Issuer has agreed to pay (subject to the customary exceptions as set out in "Terms and Conditions of the Notes – Taxation") such additional amounts as may be necessary in order that the net amounts received by the Holder of any Senior Note after such withholding or deduction shall equal the respective amounts which would have been received by such Holder in the absence of such withholding or deduction.

Payment of the Guarantee

On January 14, 2016, the Supreme Court of Korea held that interest income paid by a guarantor who is a resident of Korea to a non-Resident of Korea or a creditor who is a foreign corporation, for the benefit of the principal obligor who is a non-resident of Korea, is a domestic source income and that, therefore, such Korea resident guarantor is required to withhold corporate tax. Based on this ruling, interest paid by the Guarantor to a Non-Resident under the Guarantee would be subject to Korean withholding tax (which, if applicable, would be at the rate of 22% (including the local income tax) or such lower rate as is applicable under the tax treaty between Korea and the country in which the Non-Resident resides). In the event that any withholding or deduction is imposed on such interest paid under the Guarantee by law or by any Korean tax authority, the Issuer has agreed that such payment shall be increased by such amount as may be necessary to ensure that the Non-Resident receives a net amount, free and clear of all Korean taxes, equal to the full amount which such Non-Resident would have received had such payment not been subject to such taxes, subject to certain exceptions.

THE PROPOSED FINANCIAL TRANSACTION TAX

The European Commission has published a proposal (the "**Commission's Proposal**") for a Directive for a common financial transaction tax ("**FTT**") in Austria, Belgium, Estonia, France, Germany, Greece, Italy, Portugal, Slovakia, Slovenia and Spain (the "**participating Member States**"). However, Estonia has since stated that it will not participate.

The Commission's Proposal has very broad scope and could, if introduced in its current form, apply to certain dealings in the Notes in certain circumstances.

Under the Commission's Proposal, the FTT could apply in certain circumstances to persons both within and outside of the participating Member States. Generally, it would apply to certain dealings in the Notes where at least one party is a financial institution, and at least one party is established in a participating Member State. A financial institution may be, or be deemed to be, "established" in a participating Member State in a broad range of circumstances, including (a) by transacting with a person established in a participating Member State or (b) where the financial instrument which is subject to the dealings is issued in a participating Member State.

The FTT remains subject to negotiation between participating Member States and the legality of the proposal is uncertain. It may therefore be altered prior to any implementation, the timing of which remains unclear. Additional EU Member States may decide to participate and/or certain of the participating Member States may decide to withdraw.

Prospective holders of the Notes are advised to seek their own professional advice in relation to the FTT.

INDEPENDENT AUDITORS

The Company's unaudited interim condensed consolidated financial statements as of March 31, 2024 and for the three months ended March 31, 2024 and 2023, included elsewhere in this offering circular, have been reviewed by Deloitte Anjin LLC, independent accountants, as stated in their review report appearing herein. With respect to the unaudited interim condensed consolidated financial statements as of March 31, 2024 and for the three months ended March 31, 2024 and 2023, included elsewhere in this offering circular, Deloitte Anjin LLC reported that they have conducted their review in accordance with the Review Standards for Quarterly and Semiannual Financial Statements established by the Securities and Futures Commission of the Republic of Korea. A review of interim financial information consists of making inquiries, primarily of persons responsible for financial and accounting matters and applying analytical and other review procedures. However, their separate report on review of interim condensed consolidated financial statements dated May 14, 2024 appearing herein states that they did not audit and they do not express an opinion on such unaudited interim condensed consolidated financial statements. Accordingly, the degree of reliance on their report on review of interim condensed consolidated financial statements dated May 14, 2024 on such information should be restricted in light of the limited nature of the review procedures applied.

The Company's consolidated financial statements as of and for the year ended December 31, 2021, December 31, 2022 and December 31, 2023, included elsewhere in this offering circular, have been audited by Ernst & Young Han Young, independent auditors, as stated in their independent auditor's reports dated March 20, 2024 and March 21, 2023 appearing herein. The Company's unaudited interim condensed consolidated financial statements as of and for the three months ended March 31, 2023, included in the Company's unaudited interim condensed consolidated financial statements as of March 31, 2024 and for the three months ended March 31, 2024 and 2023, included elsewhere in this offering circular, have been reviewed by Ernst & Young Han Young, as stated in their review report appearing herein.

SUBSCRIPTION AND SALE AND TRANSFER AND SELLING RESTRICTIONS

The Dealers have, in a program agreement dated September 30, 2010, as further amended, supplemented and/or restated from time to time (the "**Program Agreement**"), agreed with the Issuer and the Guarantor a basis upon which they or any of them may from time to time agree to purchase Notes or, in the case of Definitive IAI Registered Notes, procure purchasers of Notes. Any such agreement will extend to those matters stated under "Form of the Notes" and "Terms and Conditions of the Notes" above. In the Program Agreement, the Company and Guaranteed Issuers have agreed to reimburse the Dealers for certain of their expenses in connection with the establishment of the Program and the issue of Notes under the Program and to indemnify the Dealers against certain liabilities incurred by them in connection therewith.

In order to facilitate the offering of any Tranche of the Notes, certain persons participating in the offering of the Tranche may to the extent permitted by applicable laws and regulations engage in transactions that stabilize, maintain or otherwise affect the market price of the relevant Notes during and after the offering of the Tranche. Specifically, such persons may over-allot or create a short position in the Notes for their own account by selling more Notes than have been sold to them by the Issuer. Such persons may also elect to cover any such short position by purchasing Notes in the open market. In addition, such persons may stabilize or maintain the price of the Notes by bidding for or purchasing Notes in the open market and may impose penalty bids, under which selling concessions allowed to syndicate members or other broker-dealers participating in the offering of the Notes are reclaimed if Notes previously distributed in the offering are repurchased in connection with stabilization transactions or otherwise. The effect of these transactions may be to stabilize or maintain the market price of the Notes at a level above that which might otherwise prevail in the open market. The imposition of a penalty bid may also affect the price of the Notes to the extent that it discourages resales thereof. No representation is made as to the magnitude or effect of any such stabilizing or other transactions. Such transactions, if commenced, may be discontinued at any time. Stabilization activities are subject to certain prescribed time limits in certain jurisdictions.

CERTAIN RELATIONSHIPS

Certain of the Dealers and their affiliates may from time to time perform various investment banking, commercial banking or advisory services for the Issuer, the Guarantor and their respective affiliates, for which they have received and may in the future receive customary compensation. The Dealers or their affiliates may own securities issued by the Issuer or the Guarantor. The Dealers or their affiliates may purchase the Notes and be allocated Notes for asset management and/or proprietary purposes but not with a view to distribution. Such persons do not intend to disclose the extent of any such investment or transactions otherwise than in accordance with any legal or regulatory obligation to do so.

The Dealers or their respective affiliates may purchase Notes for its or their own account and enter into transactions, including credit derivatives, such as asset swaps, repackaging and credit default swaps relating to Notes and/or other securities of the Issuer, the Guarantor or their respective subsidiaries or associates at the same time as the offer and sale of Notes or in secondary market transactions. Such transactions would be carried out as bilateral trades with selected counterparties and separately from any existing sale or resale of Notes to which this Offering Circular relates (notwithstanding that such selected counterparties may also be purchasers of Notes).

If a jurisdiction requires that an offering of Notes be made by a licensed broker or dealer and the Dealers or any affiliate of the Dealers is a licensed broker or dealer in that jurisdiction, such offering shall be deemed to be made by the Dealers or such affiliate on behalf of the Issuer or the Guarantor in such jurisdiction.

TRANSFER RESTRICTIONS

As a result of the following restrictions, purchasers of Notes in the United States are advised to consult legal counsel prior to making any purchase, offer, sale, resale or other transfer of such Notes.

Each purchaser of Registered Notes (other than a person purchasing an interest in a Registered Global Note with a view to holding it in the form of an interest in the same Global Note) will be deemed to have acknowledged, represented and agreed as follows (terms used in this paragraph that are defined in Rule 144A or in Regulation S are used herein as defined therein):

(i) that either: (a) it is a QIB, purchasing (or holding) the Notes for its own account or for the account of one or more QIBs and it is aware that any sale to it is being made in reliance on Rule 144A or (b) it is an Institutional Accredited Investor, that, prior to its purchase of the Notes has delivered to the Registrar an IAI Investment Letter in the form as set forth below or (c) it is outside the United States and is not a U.S. person;

(ii) that the Notes have not been and will not be registered under the Securities Act or any other applicable U.S. state securities laws and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons except as set forth below;

(iii) that, unless it holds an interest in a Regulation S Global Note and either is a person located outside the United States or is not a U.S. person, if in the future it decides to resell, pledge or otherwise transfer the Notes or any beneficial interests in the Notes, it will do so, prior to the date which is one year after the later of the last Issue Date for the Series and the last date on which the Issuer or an affiliate of the Issuer was the owner of such Notes, only (a) to the Issuer or any affiliate thereof, (b) inside the United States to a person whom the seller reasonably believes is a QIB purchasing for its own account or for the account of a QIB in a transaction meeting the requirements of Rule 144A, (c) outside the United States in compliance with Rule 903 or Rule 904 under the Securities Act, (d) pursuant to the exemption from registration provided by Rule 144 under the Securities Act (if available) or (e) pursuant to an effective registration statement under the Securities Act, in each case in accordance with all applicable U.S. state securities laws;

(iv) it will, and will require each subsequent holder to, notify any purchaser of the Notes from it of the resale restrictions referred to in paragraph (iii) above, if then applicable;

(v) that Notes initially offered in the United States to QIBs will be represented by one or more Rule 144A Global Notes, that Notes offered to Institutional Accredited Investors will be in the form of Definitive IAI Registered Notes and that Notes offered outside the United States in reliance on Regulation S will be represented by one or more Regulation S Global Notes;

(vi) that the Notes, other than the Regulation S Global Notes, will bear a legend to the following effect unless otherwise agreed to by the Company and Guaranteed Issuers:

"THE NOTES [AND THE RELATED GUARANTEE] ([COLLECTIVELY,] THE "SECURITIES") HAVE NOT BEEN AND WILL NOT BE REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY OTHER APPLICABLE U.S. STATE SECURITIES LAWS AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD WITHIN THE UNITED STATES OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, U.S. PERSONS EXCEPT AS SET FORTH IN THE FOLLOWING SENTENCE. BY ITS ACQUISITION HEREOF, THE HOLDER (A) REPRESENTS THAT (1) IT IS A "QUALIFIED INSTITUTIONAL BUYER" (AS DEFINED IN RULE 144A UNDER THE SECURITIES ACT) PURCHASING THE SECURITIES FOR ITS OWN ACCOUNT OR FOR THE ACCOUNT OF ONE OR MORE QUALIFIED INSTITUTIONAL BUYERS OR (2) IT IS AN INSTITUTIONAL "ACCREDITED INVESTOR" (AS DEFINED IN RULE 501(A)(1), (2), (3) OR (7) UNDER THE SECURITIES ACT) (AN "INSTITUTIONAL ACCREDITED INVESTOR"); (B) AGREES THAT IT WILL NOT RESELL OR OTHERWISE TRANSFER THE SECURITIES EXCEPT IN ACCORDANCE WITH THE AGENCY AGREEMENT AND, PRIOR TO THE DATE WHICH IS ONE YEAR AFTER THE LATER OF THE LAST ISSUE DATE FOR THE SERIES AND THE LAST DATE ON WHICH THE ISSUER OR AN AFFILIATE OF THE ISSUER WAS THE OWNER OF SUCH SECURITIES OTHER THAN (1) TO THE ISSUER OR ANY AFFILIATE THEREOF, (2) INSIDE THE UNITED STATES TO A PERSON WHOM THE SELLER REASONABLY BELIEVES IS A QUALIFIED INSTITUTIONAL BUYER WITHIN THE MEANING OF RULE 144A UNDER THE SECURITIES ACT PURCHASING FOR ITS OWN ACCOUNT OR FOR THE ACCOUNT OF A QUALIFIED INSTITUTIONAL BUYER IN A TRANSACTION MEETING THE REQUIREMENTS OF RULE 144A, (3) OUTSIDE THE UNITED STATES IN COMPLIANCE WITH RULE 903 OR RULE 904 UNDER THE SECURITIES ACT, (4) PURSUANT TO THE EXEMPTION FROM REGISTRATION PROVIDED BY RULE 144 UNDER THE SECURITIES ACT (IF AVAILABLE) OR (5) PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT, IN EACH CASE IN ACCORDANCE WITH ALL APPLICABLE SECURITIES LAWS OF THE STATES OF THE UNITED STATES AND ANY OTHER JURISDICTION; AND (C) IT AGREES THAT IT WILL DELIVER TO EACH PERSON TO WHOM THESE SECURITIES IS TRANSFERRED A NOTICE SUBSTANTIALLY TO THE EFFECT OF THIS LEGEND.

THESE SECURITIES AND RELATED DOCUMENTATION (INCLUDING, WITHOUT LIMITATION, THE AGENCY AGREEMENT REFERRED TO HEREIN) MAY BE AMENDED OR SUPPLEMENTED FROM TIME TO TIME, WITHOUT THE CONSENT OF, BUT UPON NOTICE TO, THE HOLDERS OF SUCH SECURITIES SENT TO THEIR REGISTERED ADDRESSES, TO MODIFY THE RESTRICTIONS ON AND PROCEDURES FOR RESALES AND OTHER TRANSFERS OF THESE SECURITIES TO REFLECT ANY CHANGE IN APPLICABLE LAW OR REGULATION (OR THE INTERPRETATION THEREOF) OR IN PRACTICES RELATING TO RESALES OR OTHER TRANSFERS OF RESTRICTED SECURITIES GENERALLY. THE HOLDER OF THESE SECURITIES SHALL BE DEEMED, BY THEIR ACCEPTANCE OR PURCHASE HEREOF, TO HAVE AGREED TO ANY SUCH AMENDMENT OR SUPPLEMENT (EACH OF WHICH SHALL BE CONCLUSIVE AND BINDING ON THE HOLDER HEREOF AND ALL FUTURE HOLDERS OF THESE SECURITIES AND ANY SECURITIES ISSUED IN EXCHANGE OR SUBSTITUTION THEREFOR, WHETHER OR NOT ANY NOTATION THEREOF IS MADE HEREON).";

(vii) if it is outside the United States and is not a U.S. person, that if it should resell or otherwise transfer the Notes prior to the expiration of the distribution compliance period (defined as 40 days after the later of the commencement of the offering and the closing date with respect to the original issuance of the Notes), it will do so only (a)(i) outside the United States in compliance with Rule 903 or Rule 904 under the Securities Act or (ii) to a QIB in compliance with Rule 144A and (b) in accordance with all applicable U.S. state securities laws; and it acknowledges that the Regulation S Global Notes will bear a legend to the following effect unless otherwise agreed to by the Issuer:

"THE NOTES [AND THE RELATED GUARANTEE] ([COLLECTIVELY,] THE "SECURITIES") HAVE NOT BEEN AND WILL NOT BE REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED, OR ANY OTHER APPLICABLE U.S. STATE SECURITIES LAWS AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD WITHIN THE UNITED STATES OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, U.S. PERSONS EXCEPT IN ACCORDANCE WITH THE AGENCY AGREEMENT AND PURSUANT TO AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OR PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT. THIS LEGEND SHALL CEASE TO APPLY UPON THE EXPIRY OF THE PERIOD OF 40 DAYS AFTER THE COMPLETION OF THE DISTRIBUTION OF ALL THE NOTES OF THE TRANCHE OF WHICH THIS NOTE FORMS A PART"; and

(viii) that the Company, the Guaranteed Issuers and others will rely upon the truth and accuracy of the foregoing acknowledgements, representations and agreements and agrees that if any of such acknowledgements, representations or agreements made by it are no longer accurate, it shall promptly notify the Issuer and the Guarantor; and if it is acquiring any Notes as a fiduciary or agent for one or more accounts it represents that it has sole investment discretion with respect to each such account and that it has full power to make the foregoing acknowledgements, representations and agreements on behalf of each such account.

Persons wishing to transfer an interest from one Registered Global Note to another or from global to definitive form or vice versa will be required to deliver to certain transfer certificate in the form attached to the Agency Agreement.

Institutional Accredited Investors who purchase Registered Notes in definitive form offered and sold in the United States in reliance upon the exemption from registration provided by Regulation D of the Securities Act are required to execute and deliver to the Registrar an IAI Investment Letter. Upon execution and delivery of an IAI Investment Letter by an Institutional Accredited Investor, Notes will be issued in definitive registered form; see "Form of the Notes."

The IAI Investment Letter will state, among other things, the following:

(i) that the Institutional Accredited Investor has received a copy of this offering circular and such other information as it deems necessary in order to make its investment decision;

(ii) that the Institutional Accredited Investor understands that any subsequent transfer of the Notes is subject to certain restrictions and conditions set forth in this offering circular and the Notes (including those set out above) and that it agrees to be bound by, and not to resell, pledge or otherwise transfer the Notes except in compliance with, such restrictions and conditions and the Securities Act;

(iii) that, in the normal course of its business, the Institutional Accredited Investor invests in or purchases securities similar to the Notes;

(iv) that the Institutional Accredited Investor is an Institutional Accredited Investor within the meaning of Rule 501(a)(1), (2), (3) or (7) of Regulation D under the Securities Act that is an institution and has such knowledge and experience in financial and business matters as to be capable of evaluating the merits and risks of its investment in the Notes, and it and any accounts for which it is acting are each able to bear the economic risk of its or any such accounts' investment for an indefinite period of time;

(v) that the Institutional Accredited Investor is acquiring the Notes purchased by it for its own account or for one or more accounts (each of which is an Institutional Accredited Investor) as to each of which it exercises sole investment discretion and not with a view to any distribution of the Notes, subject, nevertheless, to the understanding that the disposition of its property shall at all times be and remain within its control; and

(vi) that, in the event that the Institutional Accredited Investor purchases Notes, it will acquire Notes having a minimum purchase price of at least U.S.$500,000 (or the approximate equivalent in another Specified Currency).

No sale of Legended Notes in the United States to any one purchaser will be for less than U.S.$200,000 (or its foreign currency equivalent) principal amount or, in the case of sales to Institutional Accredited Investors, U.S.$500,000 (or its foreign currency equivalent) principal amount and no Legended Note will be issued in connection with such a sale in a smaller principal amount. If the purchaser is a non-bank fiduciary acting on behalf of others, each person for whom it is acting must purchase at least U.S.$200,000 (or its foreign currency equivalent) or, in the case of sales to Institutional Accredited Investors, U.S.$500,000 (or its foreign currency equivalent) principal amount of Registered Notes.

SELLING RESTRICTIONS

United States of America

1.1 The Notes have not been and will not be registered under the Securities Act and the Notes may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons except in accordance with Regulation S or pursuant to an exemption from the registration requirements of the Securities Act. Each Relevant Dealer represents that it has offered and sold, and agrees that it will offer and sell, Notes of any Tranche (i) as part of their distribution at any time and (ii) otherwise until 40 days after the completion of the distribution of an identifiable tranche of which such Notes are a part, as determined and certified to the Agent by such Relevant Dealer (or in the case of a sale of an identifiable tranche of Notes to or through more than one Relevant Dealer, by such Relevant Dealers with respect to the Notes of an identifiable tranche purchased by or through it, in which case the Agent shall notify each Relevant Dealer when all such Relevant Dealers have so certified), only in accordance with Rule 903 of Regulation S or Rule 144A. Accordingly, neither it, its affiliates nor any persons acting on its or their behalf have engaged or will engage in any directed selling efforts with respect to the Notes, and it and they have complied and will comply with the offering restrictions requirement of Regulation S. Each Relevant Dealer and its affiliates also agree that, at or prior to confirmation of sale of Notes (other than a sale pursuant to Rule 144A), it will have sent to each distributor, dealer or person receiving a selling concession, fee or other remuneration that purchases Notes from it during the distribution compliance period a confirmation or notice to substantially the following effect:

"The securities covered hereby have not been registered under the U.S. Securities Act of 1933 (the "Securities Act") and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons (i) as part of their distribution at any time or (ii) otherwise until 40 days after the completion of the distribution of an identifiable tranche of which such Notes are a part, except in either case in accordance with Regulation S or Rule 144A under the Securities Act. Terms used above have the meanings given to them by Regulation S under the Securities Act."

Terms used in this paragraph have the meanings given to them by Regulation S.

1.2 Each Relevant Dealer represents that it has not entered and agrees that it will not enter into any contractual arrangement with any distributor (as that term is defined in Regulation S) with respect to the distribution or delivery of the Notes, except with its affiliates or with the prior written consent of the Issuer.

In addition:

(1) except to the extent permitted under U.S. Treas. Reg. §1.163- 5(c)(2)(i)(D) (or any successor rules in substantially the same form that are applicable for purposes of Section 4701 of the U.S. Internal Revenue Code of 1986, as amended (the "**Code**")) (the "**D Rules**"), each Relevant Dealer (a) represents that it has not offered or sold, and agrees that during the restricted period it will not offer or sell, Notes to a person who is within the United States or its possessions or to a United States person, and (b) represents that it has not delivered and agrees that it will not deliver within the United States or its possessions definitive Notes that are sold during the restricted period;

(2) each Relevant Dealer represents that it has and agrees that throughout the restricted period it will have in effect procedures reasonably designed to ensure that its employees or agents who are directly engaged in selling Notes are aware that such Notes may not be offered or sold during the restricted period to a person who is within the United States or its possessions or to a United States person, except as permitted by the D Rules;

(3) if a Relevant Dealer is a United States person, such Relevant Dealer represents that it is acquiring the Notes for purposes of resale in connection with their original issue and if it retains Notes for its own account, it will only do so in accordance with the requirements of U.S. Treas. Reg. §1.163-5(c)(2)(i)(D)(6); and

(4) with respect to each affiliate that acquires from it Notes for the purpose of offering or selling such Notes during the restricted period, each Relevant Dealer either (a) repeats and confirms the representations and agreements contained in clauses (1), (2) and (3) on its behalf or (b) agrees that it will obtain from such affiliate for the benefit of the Issuer the representations and agreements contained in clauses (1), (2) and (3).

Terms used in this paragraph have the meanings given to them by the Code, as amended, and regulations thereunder, including the D Rules.

1.3 In respect of Notes that are expressed in the applicable Pricing Supplement to be subject to the C Rules, the following applies:

Under U.S. Treas. Reg. § 1.163-5(c)(2)(i)(C) (or any successor rules in substantially the same form that are applicable for purposes of Section 4701 of the Code (the "**C Rules**")), to set out the criteria for "foreign targeted obligations" that are exempt from the excise tax under Section 4701(b)(1)(B) of the Code, Notes in bearer form must be issued and delivered outside the United States and its possessions in connection with their original issuance. Each Relevant Dealer represents and agrees that it has not offered, sold or delivered, and will not offer, sell or deliver, directly or indirectly, Notes in bearer form within the United States or its possessions in connection with their original issuance. In connection with the original issuance of Notes in bearer form, each Relevant Dealer represents that it has not communicated, and will not communicate, directly or indirectly, with a prospective purchaser if either of them is within the United States or its possessions, and will not otherwise involve its U.S. office in the offer and sale of Notes in bearer form. Terms used in this paragraph have the meanings given to them by the Code, as amended, and regulations thereunder, including the C Rules and Notice 2012-20.

1.4 Notwithstanding anything above to the contrary, it is understood that Registered Notes may be offered and sold pursuant to a private placement in the United States, and in connection therewith, each Relevant Dealer, severally and not jointly, represents and agrees:

(a) offers, sales, resales and other transfers of Notes made in the United States made or approved by a Relevant Dealer (including offers, resales or other transfers made or approved by a Relevant Dealer in connection with secondary trading) shall be made with respect to Registered Notes only and shall be effected pursuant to an exemption from the registration requirements of the Securities Act;

(b) offers, sales, resales and other transfers of Notes made in the United States will be made only in private transactions to (1) a limited number of Institutional Accredited Investors that have executed and delivered to a Dealer an IAI Investment Letter (attached to the Agency Agreement as Schedule 3 thereto), or (2) institutional investors that are reasonably believed to qualify as QIBs;

(c) the Notes will be offered in the United States only by approaching prospective purchasers on an individual basis. No general solicitation or general advertising within the meaning of Rule 502(c) under the Securities Act will be used in connection with the offering of the Notes in the United States;

(d) no sale of the Notes in the United States to any one purchaser will be for less than (in the case of an Institutional Accredited Investor) US$500,000 (or its foreign currency equivalent) principal amount and (in the case of a QIB) US$100,000 (or its foreign currency equivalent) principal amount and no Note will be issued in connection with such a sale in a smaller principal amount. If the purchaser is a non-bank fiduciary acting on behalf of others, each person for whom it is acting must purchase at least US$100,000 (or its foreign currency equivalent) principal amount of the Notes; and

(e) each Note sold as a part of a private placement in the United States shall contain a legend stating that such Note has not been, and will not be, registered under the Securities Act,

that any resale or other transfer of such Note or any interest therein may be made only:

(i) to a Relevant Dealer;

(ii) to a qualified institutional buyer in a transaction which meets the requirements of Rule 144A;

(iii) outside the United States pursuant to Regulation S under the Securities Act;

(iv) pursuant to an exemption from registration under the Securities Act provided by Rule 144 thereunder (if available); or

(v) pursuant to an effective registration statement under the Securities Act.

Resale or secondary market transfer of Notes in the United States may be made in the manner and to the parties specified above and to qualified institutional buyers in transactions which meet the requirements of Rule 144A.

1.5 The Issuer and the Guarantor, jointly and severally, represent and agree that any resale or other transfer, or attempted resale or other transfer of Notes sold as part of a private placement in the United States made other than in compliance with the restrictions set out in paragraph 1.4 above shall not be recognized by the Issuer, the Guarantor or any agent of any of them and shall be void. The certificates for the Notes sold in the United States shall bear a legend to this effect.

1.6 An issuance of index-, commodity- or currency-linked Notes may be subject to such additional U.S. selling restrictions as the Relevant Dealer(s) may agree with the Issuer as a term of the issuance and purchase or, as the case may be, subscription of such Notes. Each Relevant Dealer agrees that it shall offer, sell and deliver such Notes only in compliance with such additional U.S. selling restrictions.

1.7 Each Relevant Dealer, severally and not jointly, represents and agrees that neither it nor any affiliate nor any person acting on behalf of either of them has engaged or will engage in any form of general solicitation or general advertising (within the meaning of Regulation D under the Securities Act) in connection with any offer or sale of the Notes in the United States.

European Economic Area

The final terms (or the Pricing Supplement, as the case may be) in respect of any Series of Notes may include a legend entitled "MiFID II Product Governance," which will outline the target market assessment in respect of the Notes of any such Series and which channels for distribution of the Notes are appropriate. If such information is included, any person subsequently offering, selling or recommending the Notes (a "**distributor**") should take into consideration the target market assessment; however, a distributor subject to MiFID II will be responsible for undertaking its own target market assessment in respect of the Notes (by either adopting or refining the target market assessment) and determining the appropriate distribution channels.

A determination will be made in relation to each issue of Notes about whether, for the purpose of the MiFID Product Governance Rules, each of the Arranger and Dealers subscribing for any Notes is a manufacturer in respect of such Notes, but otherwise neither the Arranger nor the Dealers nor any of their respective affiliates will be a manufacturer for the purpose of the MiFID Product Governance Rules.

Unless the final terms (or the Pricing Supplement, as the case may be) in respect of any Series of Notes specifies "Prohibition of Sales to EEA Retail Investors" as "Not Applicable," each Dealer has represented and agreed, and each further Dealer appointed under the Program will be required to represent and agree, that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Notes which are the subject of the offering contemplated by this Offering Circular as completed by the final terms (or the Pricing Supplement, as the case may be) in relation thereto to any retail investor in the EEA. For the purposes of this provision: (a) the expression "retail investor" means a person who is one (or more) of the following: (i) a retail client as defined in point (11) of Article 4(1) of MiFID II; (ii) a customer within the meaning of Directive (EU) 2016/97 (the "**Insurance Distribution Directive**"), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (iii) not a qualified investor as defined in the Prospectus Regulation; and (b) the expression "offer" includes the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes.

If the final terms (or the Pricing Supplement, as the case may be) in respect of any Notes specifies the "Prohibition of sales to EEA retail investors" as "Not Applicable," in relation to each Member State of the EEA, each Dealer has represented and agreed, and each further Dealer appointed under the Program will be required to represent and agree, that it has not made and will not make an offer of Notes which are the subject of the offering contemplated by this Offering Circular, as completed by the final terms in relation thereto, to the public in that Member State except that it may make an offer of such Notes to the public in that Member State:

(a) if the final terms in relation to the Notes specify that an offer of those Notes may be made other than pursuant to Article 1(4) of the Prospectus Regulation in that Member State (a "**Non-exempt Offer**"), following the date of publication of a prospectus in relation to such Notes which has been approved by the competent authority in that Member State or, where appropriate, approved in another Member State and notified to the competent authority in that Member State, provided that any such prospectus has subsequently been completed by the final terms contemplating such Non-exempt Offer, in accordance with the Prospectus Regulation in the period beginning and ending on the dates specified in such prospectus or final terms, as applicable, and the Issuer has consented in writing to its use for the purpose of that Non-exempt Offer;

(b) at any time to any legal entity which is a qualified investor as defined in the Prospectus Regulation;

(c) subject to any other restriction and obtaining the prior consent of the relevant Dealer or Dealers nominated by the Issuer for any such offer, at any time to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Regulation); or

(d) at any time in any other circumstances falling within Article 1(4) of the Prospectus Regulation;

provided that no such offer of Notes referred to in (b) to (d) above shall require the Issuer or any Dealer to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

For the purposes of this provision, the expression an "offer of Notes to the public" in relation to any Notes in any Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes, and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129 (as amended).

The EEA selling restrictions described above are in addition to any other applicable selling restriction set out below.

United Kingdom

The final terms (or the Pricing Supplement, as the case may be) in respect of any Series of Notes may include a legend entitled "UK MiFIR Product Governance" which will outline the target market assessment in respect of the Notes of any such Series and which channels for distribution of the Notes are appropriate. If such information is included, any person subsequently offering, selling or recommending the Notes (a "**UK MiFIR distributor**") should take into consideration the target market assessment; however, a UK MiFIR distributor subject to the FCA Handbook Product Intervention and Product Governance Sourcebook (the "**UK MiFIR Product Governance Rules**") will be responsible for undertaking its own target market assessment in respect of the Notes (by either adopting or refining the target market assessment) and determining the appropriate distribution channels.

A determination will be made in relation to each issue of Notes about whether, for the purpose of the UK MiFIR Product Governance Rules, each of the Arranger and Dealers subscribing for any Notes is a UK MiFIR manufacturer in respect of such Notes, but otherwise neither the Arranger nor the Dealers nor any of their respective affiliates will be a UK MiFIR manufacturer for the purpose of the UK MiFIR Product Governance Rules.

Unless the final terms (or the Pricing Supplement, as the case may be) in respect of any Series of Notes specifies "Prohibition of Sales to UK Retail Investors" as "Not Applicable," each Dealer has represented and agreed, and each further Dealer appointed under the Program will be required to represent and agree, that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Notes which are the subject of the offering contemplated by this Offering Circular as completed by the final terms (or Pricing Supplement, as the case may be) in relation thereto to any retail investor in the UK. For the purposes of this provision: (a) the expression "retail investor" means a person who is one (or more) of the following: (i) a retail client as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the EUWA; (ii) a customer within the meaning of the FSMA and any rules or regulations made under the FSMA to implement the Insurance Distribution Directive, where that customer would not qualify as a professional client as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the EUWA; or (iii) not a qualified investor as defined in Article 2 of the UK Prospectus Regulation; and (b) the expression "offer" includes the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes.

If the final terms (or the Pricing Supplement, as the case may be) in respect of any Notes specifies the "Prohibition of sales to UK retail investors" as "Not Applicable," in relation to the UK, each Dealer has represented and agreed, and each further Dealer appointed under the Program will be required to represent and agree, that it has not made and will not make an offer of Notes which are the subject of the offering contemplated by this Offering Circular, as completed by the final terms in relation thereto, to the public in the UK except that it may make an offer of such Notes to the public in the UK:

(a) if the final terms in relation to the Notes specify that an offer of those Notes may be made other than pursuant to section 86 of the FSMA (a "**Public Offer**"), following the date of publication of a prospectus in relation to such Notes which either (i) has been approved by the Financial Conduct Authority, or (ii) is to be treated as if it had been approved by the Financial Conduct Authority in accordance with the transitional provision in Regulation 74 of the Prospectus (Amendment etc.) (EU Exit) Regulations 2019, provided that any such prospectus has subsequently been completed by the final terms contemplating such Public Offer, in the period beginning and ending on the dates specified in such prospectus or final terms, as applicable, and the Issuer has consented in writing to its use for the purpose of that Public Offer;

(b) at any time to any legal entity which is a qualified investor as defined in Article 2 of the UK Prospectus Regulation;

(c) at any time to fewer than 150 natural or legal persons (other than qualified investors as defined in Article 2 of the UK Prospectus Regulation) in the UK subject to obtaining the prior consent of the relevant Dealer or Dealers nominated by the Issuer for any such offer; or

(d) at any time in any other circumstances falling within section 86 of the FSMA;

provided that no such offer of Notes referred to in (b) to (d) above shall require the Issuer or any Dealer to publish a prospectus pursuant to section 85 of the FSMA or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation.

For the purposes of this provision, the expression an "offer of Notes to the public" in relation to any Notes means the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes, and the expression "UK Prospectus Regulation" means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the EUWA.

Each Dealer has represented, warranted and agreed, and each further Dealer appointed under the Program will be required to represent, warrant and agree that:

(a) in relation to any Notes having a maturity of less than one year, (i) it is a person whose ordinary activities involve it in acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of its business and (ii) it has not offered or sold and will not offer or sell any Notes other than to persons whose ordinary activities involve them in acquiring, holding, managing or disposing of investments (as principal or as agent) for the purposes of their businesses or who it is reasonable to expect will acquire, hold, manage or dispose of investments (as principal or agent) for the purposes of their businesses where the issue of the Notes would otherwise constitute a contravention of Section 19 of the FSMA by the Issuer; and

(b) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the FSMA) received by it in connection with the issue or sale of any Notes in circumstances in which Section 21(1) of the FSMA would not, if the Issuer was not an authorised person, apply to the Issuer; and

(c) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to any Notes in, from or otherwise involving the UK.

The UK selling restrictions described above are in addition to any other applicable selling restriction set out below.

Italy

The offering of the Notes has not been registered with the *Commissione Nazionale per le Società e la Borsa* ("**CONSOB**") pursuant to Italian securities legislation and, accordingly, the Notes may not be offered, sold or delivered, nor may copies of this offering circular or of any other document relating to any Notes be distributed in Italy, except in accordance with any Italian securities, tax and other applicable laws and regulations.

Each Dealer has represented and agreed that it has not offered, sold or delivered, and will not offer, sell or deliver, any Notes or distribute any copy of this offering circular or any other document relating to the Notes in Italy except:

(a) to qualified investors (*investitori qualificati*), as defined pursuant to Article 100 of Legislative Decree No. 58 of 24 February 1998 (the "**Financial Services Act**") and Article 34-ter, paragraph 1, letter (b) of CONSOB Regulation No. 11971 of 14 May 1999 (the "**Issuers Regulation**"), all as amended from time to time; or

(b) in other circumstances which are exempted from the rules on public offerings pursuant to Article 100 of the Financial Services Act and Issuers Regulation.

In any event, any offer, sale or delivery of the Notes or distribution of copies of this offering circular or any other document relating to the Notes in Italy under paragraphs (a) or (b) above must be:

(i) made by an investment firm, bank or financial intermediary permitted to conduct such activities in Italy in accordance with the Financial Services Act, Legislative Decree No. 385 of 1 September 1993 (the "**Banking Act**") and CONSOB Regulation No. 20307 of 15 February 2018, all as amended from time to time;

(ii) in compliance with Article 129 of the Banking Act, as amended from time to time, and the implementing guidelines of the Bank of Italy, as amended from time to time; and

(iii) in compliance with any other applicable laws and regulations, including any limitation or requirement which may be imposed from time to time by CONSOB or the Bank of Italy or other competent authority.

Japan

The Notes have not been and will not be registered under the Financial Instruments and Exchange Act of Japan (Act No. 25 of 1948, as amended, the "**Financial Instruments and Exchange Act**"). Accordingly, each Relevant Dealer represents and agrees that it has not, directly or indirectly, offered or sold and will not, directly or indirectly, offer or sell any Notes in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan) or to others for re-offering or re-sale, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Act and other relevant laws and regulations of Japan.

Singapore

Unless the Pricing Supplement in respect of any Notes specifies "Singapore Sales to Institutional Investors and Accredited Investors only" as "Not Applicable", each Dealer has acknowledged, and each further Dealer appointed under the Program will be required to acknowledge, that this offering circular has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, each Dealer has represented, warranted and agreed and each further Dealer appointed under the Program will be required to represent, warrant and agree, that it has not offered or sold any Notes or caused the Notes to be made the subject of an invitation for subscription or purchase and will not offer or sell any Notes or cause the Notes to be made the subject of an invitation for subscription or purchase, and has not circulated or distributed, nor will it circulate or distribute, this offering circular or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the Notes, whether directly or indirectly, to any person in Singapore other than (i) to an institutional investor (as defined in Section 4A of the Securities and Futures Act 2001 of Singapore, as modified or amended from time to time (the "**SFA**")) pursuant to Section 274 of the SFA or (ii) to an accredited investor (as defined in Section 4A of the SFA) pursuant to and in accordance with the conditions specified in Section 275 of the SFA.

If the Pricing Supplement in respect of any Notes specifies "Singapore Sales to Institutional Investors and Accredited Investors only" as "Not Applicable", each Dealer has acknowledged, and each further Dealer appointed under the Program will be required to acknowledge, that this offering circular has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, each Dealer has represented, warranted and agreed, and each further Dealer appointed under the Program will be required to represent, warrant and agree, that it has not offered or sold any Notes or caused the Notes to be made the subject of an invitation for subscription or purchase and will not offer or sell any Notes or cause the Notes to be made the subject of an invitation for subscription or purchase, and has not circulated or distributed, nor will it circulate or distribute, this offering circular or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the Notes, whether directly or indirectly, to any person in Singapore other than (i) to an institutional investor (as defined in Section 4A of the SFA) pursuant to Section 274 of the SFA, (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Hong Kong

Each Dealer has represented, warranted and agreed and each further Dealer appointed under the Program will be required to represent, warrant and agree that:

(a) it has not offered or sold and will not offer or sell in Hong Kong, by means of any document, any Notes other than (i) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong (the "**SFO**") and any rules made under the SFO; or (ii) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong (the "**C(WUMP)O**"); and

(b) it has not issued or had in its possession for the purposes of issue, and will not issue or have in its possession for the purposes of issue, whether in Hong Kong or elsewhere, any advertisement, invitation or document relating to the Notes, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to the Notes which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the SFO and any rules made under the SFO.

Taiwan

The offer of the Notes has not been and will not be registered with the Financial Supervisory Commission of the Republic of China (the "**ROC**") pursuant to relevant securities laws and regulations and may not be sold, issued or offered within the ROC through a public offering or in a circumstance which constitutes an offer within the meaning of the Securities and Exchange Act of the ROC that requires a registration or approval of the Financial Supervisory Commission of the ROC. No person or entity in the ROC has been authorized to offer, sell, give advice regarding or otherwise intermediate the offering and sale of any Notes in the ROC.

Korea

Each Dealer has represented and agreed and each further Dealer appointed under the Program will be required to represent and agree that the Notes have not been offered, sold or delivered, and will not be offered, sold or delivered, directly or indirectly, to, or for the account or benefit of, any resident of Korea (as defined under the Foreign Exchange Transactions Law of Korea and the regulations thereunder), or to others for re-offering or resale directly or indirectly in Korea, to, or for the account or benefit of, any resident of Korea, except as otherwise permitted under applicable Korean laws and regulations.

Furthermore, each issuance of Senior Guaranteed Notes may be subject to additional selling restrictions as the Issuer, the Guarantor and the relevant Dealer may agree and such additional selling restrictions shall be set out in the applicable Pricing Supplement and purchase agreement.

General

Each Dealer has agreed and each further Dealer appointed under the Program will be required to agree that it will (to the best of its knowledge and belief) comply with all applicable securities laws and regulations in force in any jurisdiction in which it purchases, offers, sells or delivers Notes or possesses or distributes this offering circular and will obtain any consent, approval or permission required by it for the purchase, offer, sale or delivery by it of Notes under the laws and regulations in force in any jurisdiction to which it is subject or in which it makes such purchases, offers, sales or deliveries and neither the Issuer, the Guarantor nor any other Dealer shall have any responsibility therefor.

If a jurisdiction requires that any offering of Notes under the Program be made by a licensed broker or dealer and the Dealers or any affiliate of the Dealers is a licensed broker or dealer in that jurisdiction, the offering shall be deemed to be made by that Dealer or its affiliate on behalf of the Issuer in such jurisdiction.

Neither the Company, the Guaranteed Issuers nor any of the Dealers represents that Notes may at any time lawfully be sold in compliance with any applicable registration or other requirements in any jurisdiction, or pursuant to any exemption available thereunder, or assumes any responsibility for facilitating such sale.

With regard to each Tranche, the Relevant Dealer will be required to comply with such other additional restrictions as the Issuer, the Guarantor and the Relevant Dealer shall agree and as shall be set out in the applicable Pricing Supplement.

BOOK-ENTRY CLEARANCE SYSTEMS

*The information set out below is subject to any change in or reinterpretation of the rules, regulations and procedures of DTC, Euroclear or Clearstream (each a "**Clearing System**" and together, the "**Clearing Systems**") currently in effect. The information in this section concerning the Clearing Systems has been obtained from sources that the Issuer and the Guarantor believe to be reliable, but none of the Company, the Guaranteed Issuers nor any Dealer takes any responsibility for the accuracy thereof. Investors wishing to use the facilities of any of the Clearing Systems are advised to confirm the continued applicability of the rules, regulations and procedures of the relevant Clearing System. None of the Company, the Guaranteed Issuers, the Arranger, any Dealer nor any other party to the Agency Agreement will have any responsibility or liability for any aspect of the records relating to, or payments made on account of, beneficial ownership interests in the Notes held through the facilities of any Clearing System or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests. The relevant Pricing Supplement will specify the Clearing System(s) applicable for each Series.*

BOOK-ENTRY SYSTEMS

DTC

DTC has advised the Company and the Guaranteed Issuers that it is a limited purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code and a "clearing agency" registered pursuant to Section 17A of the Exchange Act. DTC holds securities that its participants ("**Participants**") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities through electronic computerized book-entry transfers and pledges between Direct Participants' accounts, thereby eliminating the need for physical movement of securities certificates. Direct Participants include securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("**DTCC**"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC System is also available to others such as securities brokers and dealers, banks, trust companies and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("**Indirect Participants**").

Under the rules, regulations and procedures creating and affecting DTC and its operations (the "**Rules**"), DTC makes book-entry transfers of Registered Notes among Direct Participants on whose behalf it acts with respect to Notes accepted into DTC's book-entry settlement system ("**DTC Notes**") as described below and receives and transmits distributions of principal and interest on DTC Notes. The Rules are on file with the U.S. Securities and Exchange Commission. Direct Participants and Indirect Participants with which beneficial owners of DTC Notes ("**Owners**") have accounts with respect to the DTC Notes similarly are required to make book-entry transfers and receive and transmit such payments on behalf of their respective Owners. Accordingly, although Owners who hold DTC Notes through Direct Participants or Indirect Participants will not possess Registered Notes, the Rules, by virtue of the requirements described above, provide a mechanism by which Direct Participants will receive payments and will be able to transfer their interest in respect of the DTC Notes.

Purchases of DTC Notes under the DTC system must be made by or through Direct Participants, which will receive a credit for the DTC Notes on DTC's records. The ownership interest of each actual purchaser of each DTC Note ("**Beneficial Owner**") is in turn to be recorded on the Direct and Indirect Participant's records. Beneficial Owners will not receive written confirmation from DTC of their purchase, but Beneficial Owners are expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the DTC Notes are to be accomplished by entries made on the books of Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in DTC Notes, except in the event that use of the book-entry system for the DTC Notes is discontinued.

To facilitate subsequent transfers, all DTC Notes deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co, or such other name as may be requested by an authorized representative of DTC. The deposit of DTC Notes with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the DTC Notes; DTC's records reflect only the identity of the Direct Participants to whose accounts such DTC Notes are credited, which may or may not be the Beneficial Owners. The Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

Redemption notices shall be sent to DTC. If less than all of the DTC Notes within an issue are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such issue to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to DTC Notes unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the Issuer and the Guarantor as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the DTC Notes are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal and interest payments on the DTC Notes will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the Issuer, the Guarantor or the Principal Paying Agent on the due date for payment in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the Issuer or the Guarantor, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal and interest to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the Issuer (and failing whom, the Guarantor), disbursement of such payments to Direct Participants is the responsibility of DTC, and disbursement of such payments to the Beneficial Owners is the responsibility of Direct and Indirect Participants.

Under certain circumstances, including if there is an Event of Default under the Notes, DTC will exchange the DTC Notes for definitive Registered Notes, which it will distribute to its Participants in accordance with their proportionate entitlements and which, if representing interests in a Rule 144A Global Note, will be legended as set forth under "Subscription and Sale and Transfer and Selling Restrictions."

Since DTC may only act on behalf of Direct Participants, who in turn act on behalf of Indirect Participants, any Owner desiring to pledge DTC Notes to persons or entities that do not participate in DTC, or otherwise take actions with respect to such DTC Notes, will be required to withdraw its Registered Notes from DTC as described below.

Euroclear and Clearstream

Euroclear and Clearstream each holds securities for its customers and facilitates the clearance and settlement of securities transactions by electronic book-entry transfer between their respective account holders. Euroclear and Clearstream provide various services including safekeeping, administration, clearance and settlement of internationally traded securities and securities lending and borrowing. Euroclear and Clearstream also deal with domestic securities markets in several countries through established depository and custodial relationships. Euroclear and Clearstream have established an electronic bridge between their two systems across which their respective participants may settle trades with each other.

Euroclear and Clearstream customers are world-wide financial institutions, including underwriters, securities brokers and dealers, banks, trust companies and clearing corporations. Indirect access to Euroclear and Clearstream is available to other institutions that clear through or maintain a custodial relationship with an account holder of either system.

BOOK-ENTRY OWNERSHIP OF AND PAYMENTS IN RESPECT OF DTC NOTES

The Issuer and the Guarantor may apply to DTC in order to have any Tranche of Notes represented by a Registered Global Note accepted in its book-entry settlement system. Upon the issue of any such Registered Global Note, DTC or its custodian will credit, on its internal book-entry system, the respective nominal amounts of the individual beneficial interests represented by such Registered Global Note to the accounts of persons who have accounts with DTC. Such accounts initially will be designated by or on behalf of the Relevant Dealer. Ownership of beneficial interests in such a Registered Global Note will be limited to Direct Participants or Indirect Participants, including, in the case of any Regulation S Global Note, the respective depositaries of Euroclear and Clearstream. Ownership of beneficial interests in a Registered Global Note accepted by DTC will be shown on, and the transfer of such ownership will be effected only through, records maintained by DTC or its nominee (with respect to the interests of Direct Participants) and the records of Direct Participants (with respect to interests of Indirect Participants).

Payments in U.S. dollars of principal and interest in respect of a Registered Global Note accepted by DTC will be made to the order of DTC or its nominee as the registered holder of such Note. In the case of any payment in a currency other than U.S. dollars, payment will be made to the Exchange Agent on behalf of DTC or its nominee and the Exchange Agent will (in accordance with instructions received by it) remit all or a portion of such payment for credit directly to the beneficial holders of interests in the Registered Global Note in the currency in which such payment was made and/or cause all or a portion of such payment to be converted into U.S. dollars and credited to the applicable Participants' account.

The Issuer and the Guarantor expect DTC to credit accounts of Direct Participants on the applicable payment date in accordance with their respective holdings as shown in the records of DTC unless DTC has reason to believe that it will not receive payment on such payment date. The Issuer and the Guarantor also expect that payments by Participants to beneficial owners of Notes will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers, and will be the responsibility of such Participant and not the responsibility of DTC, the Principal Paying Agent, the Registrar, the Issuer or the Guarantor. Payment of principal, premium, if any, and interest, if any, on Notes to DTC is the responsibility of the Issuer (and failing whom, the Guarantor).

TRANSFERS OF NOTES REPRESENTED BY REGISTERED GLOBAL NOTES

Transfers of any interests in Notes represented by a Registered Global Note within DTC, Euroclear and Clearstream will be effected in accordance with the customary rules and operating procedures of the relevant clearing system. The laws in some States within the United States require that certain persons take physical delivery of securities in definitive form. Consequently, the ability to transfer Notes represented by a Registered Global Note to such persons may depend upon the ability to exchange such Notes for Notes in definitive form. Similarly, because DTC can only act on behalf of Direct Participants in the DTC system who in turn act on behalf of Indirect Participants, the ability of a person having an interest in Notes represented by a Registered Global Note accepted by DTC to pledge such Notes to persons or entities that do not participate in the DTC system or otherwise to take action in respect of such Notes may depend upon the ability to exchange such Notes for Notes in definitive form. The ability of any holder of Notes represented by a Registered Global Note accepted by DTC to resell, pledge or otherwise transfer such Notes may be impaired if the proposed transferee of such Notes is not eligible to hold such Notes through a direct or indirect participant in the DTC system.

Subject to compliance with the transfer restrictions applicable to the Registered Notes described under "Subscription and Sale and Transfer and Selling Restrictions," cross-market transfers between DTC, on the one hand, and directly or indirectly through Clearstream or Euroclear accountholders, on the other, will be effected by the relevant clearing system in accordance with its rules and through action taken by the Registrar, the Principal Paying Agent and any custodian ("**Custodian**") with whom the relevant Registered Global Notes have been deposited.

On or after the Issue Date for any Series, transfers of Notes of such Series between accountholders in Clearstream and Euroclear and transfers of Notes of such Series between participants in DTC will generally have a settlement date three business days after the trade date (T+3). The customary arrangements for delivery versus payment will apply to such transfers.

Cross-market transfers between accountholders in Clearstream or Euroclear and DTC participants will need to have an agreed settlement date between the parties to such transfer. Because there is no direct link between DTC, on the one hand, and Clearstream and Euroclear, on the other, transfers of interests in the relevant Registered Global Notes will be effected through the Registrar, the Principal Paying Agent and the Custodian receiving instructions (and, where appropriate, certification) from the transferor and arranging for delivery of the interests being transferred to the credit of the designated account for the transferee. In the case of cross-market transfers, settlement between Euroclear or Clearstream accountholders and DTC participants cannot be made on a delivery versus payment basis. The securities will be delivered on a free delivery basis and arrangements for payment must be made separately.

DTC, Clearstream and Euroclear have each published rules and operating procedures designed to facilitate transfers of beneficial interests in Registered Global Notes among participants and accountholders of DTC, Clearstream and Euroclear. However, they are under no obligation to perform or continue to perform such procedures, and such procedures may be discontinued or changed at any time. None of the Issuer, the Guarantor, the Agents or any Dealer will be responsible for any performance by DTC, Clearstream or Euroclear or their respective direct or indirect participants or accountholders of their respective obligations under the rules and procedures governing their operations and none of them will have any liability for any aspect of the records relating to or payments made on account of beneficial interests in the Notes represented by Registered Global Notes or for maintaining, supervising or reviewing any records relating to such beneficial interests.

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Report on review of interim condensed consolidated financial statements

(English Translation of a Report Originally Issued in Korean)

The Stockholders and Board of Directors
Korea Gas Corporation

We have reviewed the accompanying interim condensed consolidated financial statements of Korea Gas Corporation (the "Corporation") and its subsidiaries (collectively referred to as the "Group"), which comprise the interim condensed consolidated statement of financial position as of March 31, 2023, and the related interim condensed consolidated statements of comprehensive income, interim condensed consolidated statements of changes in equity and interim condensed consolidated statements of cash flows for the three-month periods ended March 31, 2023 and 2022, and a summary of material accounting policy information and other explanatory information.

Management's responsibility for the interim condensed consolidated financial statements
Management is responsible for the preparation and presentation of these interim condensed consolidated financial statements in accordance with International Financial Reporting Standards as adopted by the Republic of Korea ("KIFRS") 1034 *Interim Financial Reporting,* and for such internal control as management determines is necessary to enable the preparation of interim condensed consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's responsibility
Our responsibility is to express a conclusion on these interim condensed consolidated financial statements based on our review.

We conducted our review in accordance with the Review Standards for Quarterly and Semiannual Financial Statements established by the Securities and Futures Commission of the Republic of Korea. A review of interim financial information consists of making inquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with Korean Standards on Auditing ("KSA") and, consequently, does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

Conclusion
Based on our review, nothing has come to our attention that causes us to believe that the accompanying interim condensed consolidated financial statements are not prepared, in all material respects, in accordance with KIFRS 1034 *Interim Financial Reporting*.

Other matter
We have audited the consolidated statement of financial position of the Group as of December 31, 2022, and the related consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended (not presented herein) in accordance with KSA, and our report dated March 21, 2023 expressed an unqualified opinion thereon. The accompanying consolidated statement of financial position as of December 31, 2022, presented for comparative purposes is not different, in all material respects, from the above audited consolidated statement of financial position.

Ernst & Young Han Young

May 15, 2023

This review report is effective as of May 15, 2023, the independent auditor's review report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the independent auditor's review report date to the time this review report is used. Such events and circumstances could significantly affect the accompanying interim condensed consolidated financial statements and may result in modifications to this review report.

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INDEPENDENT ACCOUNTANT'S REVIEW REPORT

English Translation of a Report Originally Issued in Korean on May 14, 2024.

To the Shareholders and the Board of Directors of
Korea Gas Corporation:

Report on the Interim Condensed Consolidated Financial Statements

We have reviewed the accompanying interim condensed consolidated financial statements of Korea Gas Corporation and its subsidiaries (the "Group"). The interim condensed consolidated financial statements consist of the interim condensed consolidated statement of financial position as of March 31, 2024, the interim condensed consolidated statements of comprehensive income for the three-month period ended March 31, 2024, and the interim condensed consolidated statements of changes in equity and the interim condensed consolidated statements of cash flows for the three-month period ended March 31, 2024, all expressed in Korean won, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Interim Condensed Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the accompanying interim condensed consolidated financial statements in accordance with Korean International Financial Reporting Standard ("K-IFRS") No. 1034, *Interim Financial Reporting*, and for such internal control as management determines is necessary to enable the preparation of interim condensed consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Independent Accountant's Responsibility

Our responsibility is to express a conclusion on the accompanying interim condensed consolidated financial statements based on our reviews.

We conducted our reviews in accordance with the Review Standards for Quarterly and Semi-annual Financial Statements established by the Securities and Futures Commission of the Republic of Korea. A review of interim condensed consolidated financial statements consists of making inquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with Korean Standards on Auditing and, consequently, does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

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Deloitte.

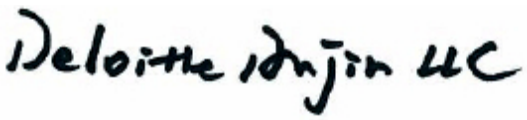
Conclusion

Based on our reviews, nothing has come to our attention that causes us to believe that the accompanying interim condensed consolidated financial statements of the Group are not presented fairly, in all material respects, in accordance with K-IFRS No. 1034, *Interim Financial Reporting*.

Other

The accompanying interim condensed consolidated statement of comprehensive income for the three-month period ended March 31, 2023, and the interim condensed consolidated statement of changes in equity and the interim condensed consolidated statement of cash flows for the three-month period ended March 31, 2023, prepared in accordance with K-IFRS No. 1034, *Interim Financial Reporting* and presented for comparative purpose, have been reviewed by other auditors, whose review report dated May 15, 2023, expressed an unqualified review opinion.

Moreover, the consolidated statement of financial position as of December 31, 2023, and the related consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended have been audited by other auditors in accordance with the Korean Standards on Auditing (not presented herein), whose report dated March 20, 2024, expressed an unqualified opinion. The accompanying condensed consolidated statement of financial position as of December 31, 2023, presented for comparative purposes is not different, in all material respects, from the above audited consolidated statement of financial position.



Notice to Readers

This report is effective as of May 14, 2024, the independent accountant's review report date. Certain subsequent events or circumstances may have occurred between the independent accountant's review report date and the time the independent accountant's review report is read. Such events or circumstances could significantly affect the interim condensed consolidated financial statements and may result in modifications to the independent accountant's review report.

Korea Gas Corporation and its subsidiaries
Interim condensed consolidated statements of financial position
as of March 31, 2024, and December 31, 2023
(Korean won in millions)

	Notes	March 31, 2024 (Unaudited)	December 31, 2023
Assets			
Current assets:			
Cash and cash equivalents	6,32,33	₩ 951,871	₩ 780,588
Current financial assets	7,32,33	183,558	51,848
Trade and other receivables	8,32,33,34	7,587,095	7,037,795
Short-term contract assets	14	23,518	20,110
Inventories	9,35	3,665,687	5,043,154
Current tax assets		6,269	5,512
Current non-financial assets	10,11,33,34	4,215,091	4,491,298
		16,633,089	17,430,305
Non-current assets:			
Non-current financial assets	6,7,32,33	944,809	917,388
Long-term trade and other receivables	8,32,33,34	213,425	209,982
Property, plant and equipment	13,19,35	22,665,270	22,351,509
Intangible assets other than goodwill	15	1,582,793	1,552,715
Goodwill	16	145	145
Investments in associates and joint ventures	5,12	1,950,461	1,840,220
Net defined benefit assets	20	70,494	78,820
Deferred tax assets		945,608	921,853
Non-current non-financial assets	10,11	12,110,675	11,951,729
		40,483,680	39,824,361
Total assets		**₩ 57,116,769**	**₩ 57,254,666**

(Continued)

	Notes	March 31, 2024 (Unaudited)	December 31, 2023
Liabilities			
Current liabilities:			
Trade and other payables	17,19,32,33,34	₩ 2,645,648	₩ 4,189,078
Current financial liabilities	7,18,32,33	18,128,986	17,933,261
Short-term contract liabilities	14	36,413	31,113
Current tax liabilities		66,493	41,459
Current non-financial liabilities	22	295,783	271,711
Current provisions	21,33	110,152	99,750
		21,283,475	22,566,372
Non-current liabilities:			
Long-term trade and other payables	17,19,32,33,34	1,587,257	1,538,650
Non-current financial liabilities	7,18,32,33	21,629,341	21,060,424
Non-current non-financial liabilities	22	65,000	58,376
Net defined benefit liabilities	20	507	453
Deferred tax liabilities		2,147,735	2,021,177
Non-current provisions	21,33	184,731	183,176
		25,614,571	24,862,256
Total liabilities		**46,898,046**	**47,428,628**
Equity			
Share capital	1,23	461,565	461,565
Share premium	23	1,303,548	1,303,548
Hybrid bonds	25	334,520	334,520
Retained earnings	24	7,083,300	6,678,622
Other components of equity		957,874	848,722
Equity attributable to owners of the parent		10,140,807	9,626,977
Non-controlling interests		77,916	199,061
Total equity		**10,218,723**	**9,826,038**
Total liabilities and equity		₩ **57,116,769**	₩ **57,254,666**

(Concluded)

The accompanying notes are an integral part of the interim condensed consolidated financial statements.

Korea Gas Corporation and its subsidiaries
Interim condensed consolidated statements of comprehensive income
for the three-month periods ended March 31, 2024 and 2023
(Korean won in millions, except for earnings per share)

	Notes	2024 (Unaudited)	2023 (Unaudited)
Revenue	4,5,34	₩ 12,810,655	₩ 17,929,949
Cost of sales	27,34	11,779,733	17,219,079
Gross profit		1,030,922	710,870
Selling and administrative expenses	27,34	109,346	122,492
Operating profit	5	921,576	588,378
Other income	28,34	1,509	6,651
Other expenses	28	3,238	5,265
Other gains	29	9,242	14,130
Finance income	7,30,32,34	671,111	821,387
Finance costs	7,31,32,34	1,055,688	1,210,007
Gains on investments in associates and joint ventures, net	12	87,475	21,593
Profit before income tax expenses		631,987	236,867
Income tax expenses	26	225,062	97,480
Profit for the period		406,925	139,387
Other comprehensive income for the period, net of tax			
Items that will not be reclassified subsequently to profit or loss			
Remeasurement gain (loss) of defined benefit plans	20	35	(675)
Net gain (loss) on valuation of equity instruments at FVOCI		(6,707)	7,685
Share of other comprehensive income of associates and joint ventures	12	(8,468)	(1,926)
Items that may be reclassified subsequently to profit or loss			
Net loss on cash flow hedges	7	(35,079)	(38,499)
Exchange differences on translation of foreign operations		161,924	136,449
Net loss on hedge of net investments in foreign operations		(106,474)	(71,692)
Share of other comprehensive income of associates and joint ventures	12	68,851	42,460
		74,082	73,802
Total comprehensive income for the period, net of tax		481,007	213,189
Profit for the period attributable to:			
Owners of the parent		406,356	133,283
Non-controlling interests		569	6,104
		406,925	139,387
Total comprehensive income attributable to:			
Owners of the parent		494,435	202,802
Non-controlling interests		(13,428)	10,387
		481,007	213,189
Earnings per share in Korean won from continuing operations			
Basic earnings per share		4,715	1,533
Diluted earnings per share		₩ 4,402	₩ 1,444

The accompanying notes are an integral part of the interim condensed consolidated financial statements.

Korea Gas Corporation and its subsidiaries
Interim condensed consolidated statements of changes in equity
for the three-month periods ended March 31, 2024 and 2023

(Korean won in millions)

	Share capital and share premium	Retained earnings	Hybrid bonds	Other components of equity	Equity attributable to owners of the parent	Non-controlling interests	Total equity
As of January 1, 2023	₩ 1,765,113	₩ 7,476,257	334,520	₩ 611,191	₩ 10,187,081	₩ 223,659	₩ 10,410,740
Comprehensive income							
Profit for the period	-	133,283	-	-	133,283	6,104	139,387
Other comprehensive income (loss)							
Remeasurement gain of defined benefit plans	-	(675)	-	-	(675)	-	(675)
Gain on valuation of equity instruments at fair value through other comprehensive income	-	-	-	7,685	7,685	-	7,685
Net loss on cash flow hedges	-	-	-	(38,499)	(38,499)	-	(38,499)
Net loss on hedge of net investments in foreign operations	-	-	-	(71,692)	(71,692)	-	(71,692)
Share of other comprehensive income of associates and joint ventures	-	-	-	40,534	40,534	-	40,534
Exchange differences on translation of foreign operations	-	-	-	132,167	132,167	4,282	136,449
Transactions with the owners of the parent							
Dividends paid	-	-	-	-	-	(4,447)	(4,447)
Capital reduction of subsidiaries	-	-	-	-	-	(14,118)	(14,118)
Others							
Interest payment of hybrid bonds	-	(1,713)	-	-	(1,713)	-	(1,713)
As of March 31, 2023 (Unaudited)	1,765,113	7,607,152	334,520	681,386	10,388,171	215,480	10,603,651
As of January 1, 2024 (unaudited)	1,765,113	6,678,622	334,520	848,722	9,626,977	199,061	9,826,038
Comprehensive income							
Profit for the period	-	406,356	-	-	406,356	569	406,925
Other comprehensive income (loss)							
Remeasurement loss of defined benefit plans	-	35	-	-	35	-	35
Gain on valuation of equity instruments at fair value through other comprehensive income	-	-	-	(6,707)	(6,707)	-	(6,707)
Net loss on cash flow hedges	-	-	-	(35,079)	(35,079)	-	(35,079)
Net loss on hedge of net investments in foreign operations	-	-	-	(106,474)	(106,474)	-	(106,474)
Share of other comprehensive income of associates and joint ventures	-	-	-	60,383	60,383	-	60,383
Exchange differences on translation of foreign operations	-	-	-	175,922	175,922	(13,998)	161,924
Transactions with the owners of the parent				21,107	21,107		21,107
Dividends paid	-	-	-	-	-	(15,064)	(15,064)
Capital reduction of subsidiaries	-	-	-	-	-	(17,024)	(17,024)
Preference share redemption of subsidiaries					-	(75,628)	(75,628)
Others					-	-	-
Interest payment of hybrid bonds	-	(1,713)	-	-	(1,713)	-	(1,713)
As of March 31, 2024 (Unaudited)	₩ 1,765,113	₩ 7,083,300	₩ 334,520	₩ 957,874	₩ 10,140,807	₩ 77,916	₩ 10,218,723

The accompanying notes are an integral part of the interim condensed consolidated financial statements.

Korea Gas Corporation and its subsidiaries
Interim condensed consolidated statements of cash flows
for the three-month periods ended March 31, 2024 and 2023
(Korean won in millions)

	2024 (Unaudited)	2023 (Unaudited)
Cash flows from operating activities:		
Profit for the period	₩ 406,925	₩ 139,387
Adjustments to reconcile profit for the period to net cash provided by operating activities:		
Income tax expenses	225,062	97,480
Interest expenses	414,818	425,771
Depreciation and amortization	478,955	461,175
Loss on foreign currency translation, net	98,368	38,252
Gain on fair value	(122,156)	(49,768)
Gain on disposal of non-current assets	(376)	(148)
Interest income	(29,962)	(23,779)
Others, net	17,637	94,307
Changes in operating assets and liabilities:		
Decrease in inventories	1,384,096	4,898
(Increase) decrease in trade receivables	(759,806)	2,216,957
Decrease in other receivables	264,891	259,550
(Increase) decrease in financial assets at FVTPL	(41,390)	1,872
Decrease (increase) in other non-financial assets	75,422	(2,313,277)
Decrease (increase) in other operating assets	70,917	(1,637)
(Decrease) increase in trade payables	(1,547,190)	11,356
(Decrease) increase in other payables	(33,829)	22,611
Decrease in financial liabilities at fair value through profit or loss	(57,623)	(399,670)
Decrease in other current liabilities	(25,909)	(171,522)
(Decrease) increase in other non-current non-financial liabilities	(10,499)	9,338
Increase in other operating liabilities	22,179	19,761
Cash generated from operations	830,530	842,914
Dividends received	41,287	27,936
Interest paid	(478,266)	(480,222)
Interest received	18,095	13,322
Income taxes paid	(8,581)	(13,369)
Net cash provided by operating activities	403,065	390,581
Cash flows from investing activities:		
Proceeds from disposal of equity or debt instruments (cash inflows)	2,495	1,065
Proceeds from disposal of equity or debt instruments (cash outflows)	(2,320)	-
Proceeds from disposal of property, plant and equipment	1,378	365
Acquisition of property, plant and equipment	(485,670)	(237,971)
Receipt of government grants	5,218	3,770
Proceeds from disposal of intangible assets	-	3
Acquisition of intangible assets	(5,932)	(597)
Proceeds from disposal of financial assets at amortized cost	21,381	19,891
Acquisition of financial assets at amortized cost	(27,566)	(11,000)
Increase in advanced payments and loans	(7,425)	(9,856)
Receipt of advanced payments and loans	5,055	3,857
Others, net	828	(117)
Net cash used in investing activities	₩ (492,558)	₩ (230,590)

(Continued)

Korea Gas Corporation and its subsidiaries
Interim condensed consolidated statements of cash flows
for the three-months periods ended March 31, 2024 and 2023 (cont'd)

(Korean won in millions)

	2024 (Unaudited)	2023 (Unaudited)
Cash flows from financing activities:		
Proceeds from borrowings	₩ 20,989,072	₩ 28,369,264
Repayments of borrowings	(20,253,305)	(29,244,450)
Proceeds from issuance of debentures	600,000	990,000
Repayments of debentures	(1,032,580)	(100,000)
Payments of lease liabilities	(29,563)	(20,564)
Decrease in equity of non-controlling interests	(17,024)	(14,118)
Dividends paid	(15,064)	(4,447)
Interest payment of hybrid bonds	(1,713)	(1,713)
Net cash provided by (used in) financing activities	239,823	(26,028)
Effects of exchange rate changes on cash and cash equivalents	20,953	20,501
Net increase in cash and cash equivalents	171,283	154,464
Cash and cash equivalents at the beginning of period	780,588	813,275
Cash and cash equivalents at the end of period	₩ 951,871	₩ 967,739

(Concluded)

The accompanying notes are an integral part of the interim condensed consolidated financial statements.

1. GENERAL INFORMATION:

Korea Gas Corporation ("KOGAS" or the "Corporation") was incorporated as a government-invested entity on August 18, 1983, under the *Korea Gas Corporation Act* to engage in the development, production and distribution of liquefied natural gas ("LNG"). Under the Articles 3 and 5 of the supplementary provisions of the *Act on the Management of Public Institution*, the Corporation was designated as "Market-type Public Corporation" on April 2, 2007.

The Corporation's share was listed on the Korea Stock Exchange since December 15, 1999, and share capital as of March 31, 2024, amounts to ₩461,565 million. The shareholders of the Corporation and their shareholdings as of March 31, 2024, are as follows:

Shareholders	Number of shares	Percentage of ownership (%)
Government of the Republic of Korea	24,144,353	26.2%
Korea Electric Power Corporation	18,900,000	20.5%
Local governments	7,321,122	7.9%
Treasury share[1]	6,486,050	7.0%
Others	35,461,475	38.4%
	92,313,000	100.0%

[1]Exchangeable shares for hybrid bonds issued by the Corporation are deposited with the Korea Securities Depository as of March 31, 2024.

(1) Details of the consolidated subsidiaries as of March 31, 2024, and December 31, 2023, are as follows:

Subsidiary	Business	Country of incorporation	Country of domicile	Percentage of ownership (%)	
				March 31, 2024	December 31, 2023
Korea Gas Technology Corporation	Construction and service	Korea	Korea	100.00%	100.00%
KOGAMEX Investment Manzanillo B.V.	LNG terminal construction	Netherlands	Mexico	100.00%	100.00%
KOMEX-GAS, S.de R.L. de C.V.	Service	Mexico	Mexico	99.97%	99.97%
KOGAS Iraq B.V.	Resource development	Netherlands	Iraq	100.00%	100.00%
KOGAS Badra B.V.	Resource development	Netherlands	Iraq	100.00%	100.00%
KOGAS Akkas B.V.	Resource development	Netherlands	Iraq	100.00%	100.00%
KOGAS Mansuriya B.V.	Resource development	Netherlands	Iraq	100.00%	100.00%
KOGAS Canada Energy Ltd.	Resource development and LNG plant management	Canada	Canada	100.00%	100.00%
KOGAS Australia Pty. Ltd.	Resource development	Australia	Australia	100.00%	100.00%
KOGAS Prelude Pty. Ltd.	Resource development	Australia	Australia	100.00%	100.00%
KG Timor Leste Ltd. [1]	Resource development	Marshall Islands	Timor Leste	-	100.00%
KG Krueng Mane Ltd.	Resource development	Marshall Islands	Indonesia	100.00%	100.00%
KG Mozambique Ltd.	Resource development	Marshall Islands	Mozambique	100.00%	100.00%
KOGAS Mozambique, Lda.	Construction and service	Mozambique	Mozambique	99.99%	99.99%
KGLNG E&P Pty Ltd.	Resource development	Australia	Australia	100.00%	100.00%
KGLNG E&P II Pty Ltd.	Resource development	Australia	Australia	100.00%	100.00%
KGLNG Liquefaction Pty Ltd.	LNG plant management	Australia	Australia	100.00%	100.00%

1. General information (cont'd)

(1) Details of the consolidated subsidiaries as of March 31, 2024, and December 31, 2023, are as follows (cont'd):

Subsidiary	Business	Country of incorporation	Country of domicile	Percentage of ownership (%)	
				March 31, 2024	December 31, 2023
KOGAS Cyprus Ltd.	Resource development	Cyprus	Cyprus	100.00%	100.00%
KC LNG Tech Co., Ltd.	Engineering	Korea	Korea	50.20%	50.20%
KG-SEAGP Company Limited[2]	Resource development	Hong Kong	Myanmar	100.00%	69.72%
KG Myanmar Ltd.[3]	Resource development and others	Korea	Myanmar	100.00%	100.00%
KOGAS International Pte. Ltd.	LNG trading	Singapore	Singapore	100.00%	100.00%
Kogas Canada Partner Ltd.	LNG plant management	Canada	Canada	100.00%	100.00%
Kogas Canada LNG Partnership	Resource development and LNG plant management	Canada	Canada	99.99%	99.99%
Kogas Canada E&P Partnership	Resource development	Canada	Canada	99.99%	99.99%
Korea LNG Bunkering Co., Ltd.	LNG Bunkering	Korea	Korea	100.00%	100.00%
KOREA LNG BUNKERING LINES Ltd.	Ship rental	Liberia	Korea	100.00%	100.00%
KOGAS Service Alliance Co., Ltd.[4]	Service	Korea	Korea	100.00%	-
KOGAS Security Management Co., Ltd.[4]	Service	Korea	Korea	100.00%	-

[1] KG Timor Leste Ltd. was liquidated during the three-month period ended March 31, 2024.
[2] KG-SEAGP Company Limited exercised its right of redemption for voting preference shares during the three-month period ended March 31, 2024. Accordingly, the ownership of the Corporate is 100% on March 31, 2024.
[3] The Corporation has the right to exercise 100% voting rights at the shareholders' meeting of KG Myanmar Ltd. However, voting rights ratio and ownership share may be different according to the shareholders' agreement. The ownership share is calculated based on the ratio of cash flows expected to be distributed during the investment period, and the ownership share of the Corporation is 37.69%.
[4] KOGAS Service Alliance Co., Ltd. and KOGAS Security Management Co., Ltd. were newly established during the three-month period ended March 31, 2024.

1. General information (cont'd)

(2) Summarized financial information of consolidated subsidiaries as of March 31, 2024, and December 31, 2023, and for the three-month periods ended March 31, 2024 and 2023, are as follows (Korean won in millions):

	March 31, 2024			
Subsidiary	Total assets	Total liabilities	Sales	Profit (loss) for the period
Korea Gas Technology Group	₩ 266,272	₩ 124,535	₩ 80,770	₩ 4,572
KOGAMEX Investment Manzanillo B.V.	143,454	97,425	-	2,657
KOMEX-GAS, S. de R.L. de C.V.	83	-	-	(17)
KOGAS Iraq B.V.	991,161	186,435	125,302	14,314
KOGAS Badra B.V.	461,144	52,738	24,832	(1,176)
KOGAS Akkas B.V.	16,917	16,804	-	(273)
KOGAS Mansuriya B.V.	214	1	-	(18)
KOGAS Canada Energy Ltd. [1]	1,554,534	966,482	2,004	(2,905)
KOGAS Australia Pty. Ltd. [2]	4,318,947	3,466,198	278,262	23,838
KOGAS Prelude Pty. Ltd.	2,137,307	1,531,100	137,076	20,541
KG Krueng Mane Ltd.	-	94,493	-	(723)
KG Mozambique Ltd.	1,364,792	1,063,886	41,822	5,003
KOGAS Mozambique, Lda.	25,197	40	-	1,411
KOGAS Cyprus Ltd.	6,880	12	-	(203)
KC LNG Tech Co., Ltd.	6,938	12,069	-	(842)
KG-SEAGP Company Limited	185,602	54,564	-	1,543
KG Myanmar Ltd.	147,407	234	-	1,586
KOGAS International Pte. Ltd.	56,070	27,808	118,952	4,165
Korea LNG Bunkering Co., Ltd. [3]	95,968	51,543	13,685	(115)
KOGAS Service Alliance Co., Ltd.	1,750	66	-	(116)
KOGAS Security Management Co., Ltd.	754	60	-	(105)

[1] The interim condensed consolidated statements of financial position and comprehensive income of KOGAS Canada Energy Ltd. include financial information of KOGAS Canada Partner Ltd., KOGAS Canada LNG Partnership. and KOGAS Canada E&P Partnership.
[2] The interim condensed consolidated statements of financial position and comprehensive income of KOGAS Australia Pty. Ltd. include financial information of KGLNG E&P Pty Ltd., KGLNG E&PⅡ Pty Ltd. and KGLNG Liquefaction Pty Ltd.
[3] The interim condensed consolidated statements of financial position and comprehensive income of Korea LNG Bunkering Co Ltd. include financial information of KOREA LNG BUNKERING LINES Ltd.

1. General information (cont'd)

(2) Summarized financial information of consolidated subsidiaries as of March 31, 2024, and December 31, 2023, and for the three-month periods ended March 31, 2024 and 2023, are as follows (Korean won in millions): (cont'd)

	December 31, 2023		March 31, 2023	
Subsidiary	Total assets	Total liabilities	Sales	Profit (loss) for the period
Korea Gas Technology Corporate	₩ 255,832	₩ 113,347	₩ 72,984	₩ (479)
KOGAMEX Investment Manzanillo B.V.	133,233	92,278	-	963
KOMEX-GAS, S. de R.L. de C.V.	93	-	-	(18)
KOGAS Iraq B.V.	932,718	176,183	117,962	19,544
KOGAS Badra B.V.	442,287	50,146	30,746	5,595
KOGAS Akkas B.V.	16,550	16,176	-	(346)
KOGAS Mansuriya B.V.	259	38	-	(44)
KOGAS Canada Energy Ltd. [1]	1,458,113	916,803	1,969	(92)
KOGAS Australia Pty. Ltd. [2]	4,112,400	3,321,514	270,523	29,961
KOGAS Prelude Pty. Ltd.	1,996,157	1,435,724	168,940	57,369
KG Timor Leste Ltd.	16	62,618	-	(524)
KG Krueng Mane Ltd.	-	89,764	-	(744)
KG Mozambique Ltd.	1,264,991	983,183	28,396	(47,034)
KOGAS Mozambique, Lda	25,636	2,876	-	1,862
KOGAS Cyprus Ltd.	6,945	22	-	(94)
KC LNG Tech Co., Ltd.	8,979	13,269	82	(601)
KG-SEAGP Company Limited	190,811	47	-	3,498
KG Myanmar Ltd.	178,255	1,520	-	5,762
KOGAS International Pte. Ltd.	79,783	56,768	156,909	2,125
Korea LNG Bunkering Co., Ltd. [3]	100,784	56,244	12,196	593

[1] The interim condensed consolidated statements of financial position and comprehensive income of KOGAS Canada Energy Ltd. include financial information of KOGAS Canada Partner Ltd., KOGAS Canada LNG Partnership. and KOGAS Canada E&P Partnership.
[2] The interim condensed consolidated statements of financial position and comprehensive income of KOGAS Australia Pty. Ltd. include financial information of KGLNG E&P Pty Ltd., KGLNG E&PⅡ Pty Ltd. and KGLNG Liquefaction Pty Ltd.
[3] The interim condensed consolidated statements of financial position and comprehensive income of Korea LNG Bunkering Co Ltd. include financial information of KOREA LNG BUNKERING LINES Ltd.

1. General information (cont'd)

(3) Information on non-controlling interests

(Korean won in millions)

	As of March 31, 2024, and for the three-month period ended March 31, 2024			
	KC LNG Tech Co., Ltd.	KG Myanmar Ltd.	Others	Total
Voting rights ratio	50.20%	100.00%	-	-
Current assets	₩ 778	₩ 33,289	₩ 7,295	₩ 41,362
Non-current assets	6,160	114,118	17,985	138,263
Current liabilities	11,695	-	40	11,735
Non-current liabilities	374	234	-	608
Net assets	(5,131)	147,173	25,240	167,282
Carrying amount of non-controlling interests	(2,556)	80,469	3	77,916
Revenue	-	-	-	-
Net profit (loss) for the year	(842)	1,586	1,394	2,138
Profit (loss) for the year attributable to non-controlling interests	(419)	988	-	569
Cash flows from operating activities	1,376	3,079	2,818	7,273
Cash flows from investing activities	(4)	24,997	(3,390)	21,603
Cash flows from financing activities prior to payment of non-controlling interest dividends	(734)	(25,006)	-	(25,740)
Dividends paid to non-controlling interests	-	(3,061)	(2,923)	(5,984)
Net foreign exchange difference	-	-	115	115
Net increase (decrease) in cash and cash equivalents	638	9	(3,380)	(2,733)

(Korean won in millions)

	As of December 31, 2023, and for the three-month period ended March 31, 2023				
	KC LNG Tech Co., Ltd.	KG-SEAGP Company Limited	KG Myanmar Ltd.	Others	Total
Voting rights ratio [1]	50.20%	69.72%	100.00%	-	-
Current assets	₩ 2,666	₩ 136,078	₩ 55,002	₩ 7,055	₩ 200,801
Non-current assets	6,313	54,733	123,253	18,674	202,973
Current liabilities	12,893	47	-	2,876	15,816
Non-current liabilities	376	-	1,520	-	1,896
Net assets	(4,290)	190,764	176,735	22,853	386,062
Carrying amount of non-controlling interests	(2,136)	103,655	97,539	3	199,061
Revenue	82	-	-	-	82
Net profit (loss) for the year	(601)	3,498	5,762	1,844	10,503
Profit (loss) for the year attributable to non-controlling interests	(300)	2,799	3,605	-	6,104
Cash flows from operating activities	141	(9,462)	6,879	(24)	(2,466)
Cash flows from investing activities	(2)	10,496	23,530	-	34,024
Cash flows from financing activities prior to payment of non-controlling interest dividends	(23)	-	(26,494)	-	(26,517)
Dividends paid to non-controlling interests	-	-	(4,447)	-	(4,447)
Net foreign exchange difference	-	99	-	12	111
Net increase in cash and cash equivalents	116	1,133	(532)	(12)	705

[1] Non-controlling interests of KG-SEAGP Company Limited and KG Myanmar Ltd. are calculated based on ownership interest ratio, not voting rights ratio.

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES:

2.1 Basis of preparation

The Corporation and its subsidiaries (collectively referred to as the "Group") maintain its accounting records in Korean won and prepares statutory interim condensed consolidated financial statements as of and for the three-month period ended March 31, 2024, in the Korean language in accordance with International Financial Reporting Standards as adopted by the Republic of Korea ("K-IFRS") 1034 *Interim Financial Reporting*, enacted by *Act on External Audit of Stock Companies*. The accompanying interim condensed consolidated financial statements have been condensed, restructured and translated into English from the Korean language financial statements. In the event of any differences in interpreting the financial statements or the independent accountant's review report thereon, the Korean version, which is used for regulatory reporting purposes, shall prevail. These interim condensed consolidated financial statements have been prepared in accordance with K-IFRS, which is effective or early adopted as of March 31, 2024.

2.1.1 New and amended standards and interpretations

The accounting policies adopted in the preparation of the interim condensed consolidated financial statements are consistent with those followed in the preparation of the Group's annual consolidated financial statements as of and for the year ended December 31, 2023, except for the adoption of new standards effective as of January 1, 2024.

(1) Amendments to K-IFRS 1001 'Presentation of Financial statements' - Classification of Liabilities as Current or Non-current and Non-current Liabilities with covenants

The amendments, published in 2020 and 2022, clarify the requirements for classifying the liquidity of liabilities and require disclosure of information on non-current liabilities with future borrowing arrangements that must be complied with. There is no significant impact of the amendments to those standards on financial statements.

(2) Amendments to K-IFRS 1007 'Statement of Cash Flows' and K-IFRS 1107 'Financial Instruments: Disclosures' - Supplier finance arrangements

The amendments require commentary disclosure on the arrangements to help users of financial statements understand the impact of supplier financial arrangements on the entity's liabilities and the extent to which it is exposed to cash flow and liquidity risks. There is no significant impact of the amendments to those standards on financial statements.

(3) The following new and amended standards are not expected to have a significant impact on the Group:
- Lease Liability in a Sale and Leaseback (K-IFRS 1116 'Leases')
- Lack of salability (K-IFRS 1021 'The Effects of Changes in Foreign Exchange Rates')

2.1.2 New and amended standards and interpretations issued, but not adopted

The new and amended standards and interpretations that are issued, but not yet effective as of January 1, 2024, which the Group has not early adopted are as follows:

(1) Amendments to K-IFRS 1021 'The Effects of Changes in Foreign Exchange Rates' - Exchangeability assessment and determination of spot exchange rates if exchangeability is not possible

A regulation has been added to estimate the spot exchange rate to be applied if it is judged that exchangeability between the two currencies is insufficient by evaluating whether exchangeability between the two currencies is possible. The amendment will take effect in the financial year beginning on or after January 1, 2025, and early application is permitted. The consolidated company is reviewing the impact on the financial statements resulting from the amendment.

3. SIGNIFICANT ACCOUNTING ESTIMATES AND ASSUMPTIONS:

The preparation of the interim condensed consolidated financial statements requires management to make estimates and assumptions that affect amounts reported therein. Estimations and assumptions are continuously evaluated with consideration to factors such as events reasonably predictable in the foreseeable future within the present circumstance according to historical experience. The resulting accounting estimates will, by definition, seldom equal the related actual results.

These estimations and assumptions have been consistently applied to all the periods presented, except for the estimation method to determine income tax.

4. REVENUE FROM CONTRACTS WITH CUSTOMERS:

(1) Details of revenue for the years ended March 31, 2024 and 2023, are as follows (Korean won in millions):

Classification	2024 (Unaudited)	2023 (Unaudited)
Revenue from contracts with customers	₩ 12,808,011	₩ 17,928,457
Revenue from government grant	2,601	1,456
Revenue contribution to construction	43	37
	₩ 12,810,655	₩ 17,929,950

(2) Details of revenue from contracts with customers for the years ended March 31, 2024 and 2023, are as follows (Korean won in millions):

	2024 (Unaudited)		2023 (Unaudited)	
Classification	**Domestic**	**Overseas**	**Domestic**	**Overseas**
Revenue by product/services				
Revenue from sale of goods				
Power generation	₩ 5,004,461	₩ -	₩ 9,424,676	₩ -
City gas	7,008,666	-	7,932,348	-
Direct supply	45,441	-	60,977	-
Individual charge	153,705	-	48,001	-
Use of plumbing facilities	405	-	54	-
Others	18,150	-	13,774	-
Overseas operations	-	321,153	-	223,607
Subtotal	12,230,828	321,153	17,479,830	223,607
Revenue from other than sale of goods				
Revenue from rendering of services	2,414	151,721	763	149,433
Revenue from construction contracts	13,298	537	13,617	12
Other revenue	87,843	217	60,711	484
Subtotal	103,555	152,475	75,091	149,929
	₩ 12,334,383	₩ 473,628	₩ 17,554,921	₩ 373,536
Timing of revenue recognition				
At a point in time	₩ 12,231,577	₩ 321,153	₩ 17,479,860	₩ 223,607
Over a period of time	102,806	152,475	75,061	149,929
	₩ 12,334,383	₩ 473,628	₩ 17,554,921	₩ 373,536

Meanwhile, no external customer accounted for more than 10% of revenue during the years ended March 31, 2024 and 2023.

(3) Seasonal characteristics of sales

The Group's operations are highly cyclical as the revenue is generally higher in winter season due to the demand of heating gas in the cities. The Group expects revenue and operating profit in the winter season to be higher than those of the summer season in 2024.

5. SEGMENT INFORMATION:

(1) Details of reportable segments are as follows:

Operating segments	Activity
Natural gas wholesale	Import, production and wholesale of LNG, compressed natural gas and natural gas
Others	Supply of power and heat, equipment conservation, terminal management, labor force management, exploration, development and production of gas and oil

(2) Details of segment results for the three-month periods ended March 31, 2024 and 2023, are as follows (Korean won in millions):

	2024 (Unaudited)				
	Total revenue	Intersegment revenue	External revenue	Operating profit[1]	Depreciation and amortization[1]
Natural gas wholesale	₩ 12,375,225	₩ (9,881)	₩ 12,365,344	₩ 811,687	₩ 272,656
Others	822,703	(377,392)	445,311	114,910	207,832
Adjustments[1]	-	-	-	(5,020)	(1,536)
	₩ 13,197,928	₩ (387,273)	₩ 12,810,655	₩ 921,577	₩ 478,952

[1] Changes from elimination of intragroup transactions in reportable segment operating income and depreciation are presented as adjustments.

	2023 (Unaudited)				
	Total revenue	Intersegment revenue	External revenue	Operating profit[1]	Depreciation and amortization[1]
Natural gas wholesale	₩ 17,568,472	₩ (51,168)	₩ 17,517,304	₩ 483,876	₩ 285,750
Others	860,707	(448,061)	412,646	143,968	180,017
Adjustments[1]	-	-	-	(39,465)	(4,593)
	₩ 18,429,179	₩ (499,229)	₩ 17,929,950	₩ 588,379	₩ 461,174

[1] Changes from elimination of intragroup transactions in reportable segment operating income and depreciation are presented as adjustments.

5. Segment information (cont'd)

(3) Details of assets and liabilities about operating segments as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)			
	Assets	Investments in associates and joint ventures[1]	Acquisition of non-current assets[2]	Liabilities
Natural gas wholesale	₩ 53,314,698	₩ 1,664,950	₩ 364,610	₩ 45,947,853
Others	11,778,888	285,512	154,953	7,746,370
Adjustments[3]	(7,976,817)	-	-	(6,796,176)
	₩ 57,116,769	₩ 1,950,462	₩ 519,563	₩ 46,898,047

[1] Investments in associates and joint ventures represent the amounts after the assessment of invested shares included in reportable segment assets.
[2] Acquisition of non-current assets represents the aggregate amounts of property, plant and equipment and intangible assets acquired during period before elimination of intragroup transactions.
[3] Changes from elimination of intragroup transactions in reportable segment assets and liabilities are presented as adjustments.

	December 31, 2023			
	Assets	Investments in associates and joint ventures[1]	Acquisition of non-current assets[2]	Liabilities
Natural gas wholesale	₩ 53,823,703	₩ 1,573,165	₩ 752,532	₩ 46,630,545
Others	11,203,845	267,055	685,535	7,388,521
Adjustments[3]	(7,772,881)	-	-	(6,590,438)
	₩ 57,254,667	₩ 1,840,220	₩ 1,438,067	₩ 47,428,628

[1] Investments in associates and joint ventures represent the amounts after the assessment of invested shares included in reportable segment assets.
[2] Acquisition of non-current assets represents the aggregate amounts of property, plant and equipment and intangible assets acquired during period before elimination of intragroup transactions.
[3] Changes from elimination of intragroup transactions in reportable segment assets and liabilities are presented as adjustments.

5. Segment information (cont'd)

(4) Details of external revenue for the three-month periods ended March 31, 2024 and 2023, and details of non-current assets as of March 31, 2024, and December 31, 2023, by geographic locations are as follows (Korean won in millions):

	External revenue		Non-current assets[1]	
	2024 (Unaudited)	2023 (Unaudited)	March 31, 2024 (Unaudited)	December 31, 2023
Korea	₩ 12,391,145	₩ 17,525,220	₩ 16,953,575	₩ 17,466,621
Australia	213,285	171,756	4,416,445	4,530,290
Canada	2,004	1,969	1,346,496	1,133,535
Iraq	150,134	148,708	660,041	916,791
Mozambique	41,822	28,397	666,041	774,687
Singapore	-	31,505	282	997
Myanmar	12,265	22,395	215,330	235,290
	₩ 12,810,655	₩ 17,929,950	₩ 24,258,210	₩ 25,058,211

[1] Non-current assets represent the aggregate amounts of property, plant and equipment and intangible assets before elimination of intragroup transactions.

6. RESTRICTED FINANCIAL ASSETS:

Restricted cash and cash equivalents and financial instruments as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	Description	March 31, 2024 (Unaudited)	December 31, 2023
Cash and cash equivalents	Restriction on use for special-purpose business	₩ 98,893	₩ 95,124
Long-term financial instruments	Account opening guarantee	18	18
Non-current financial assets	Co-growth deposit and others	90,000	90,000
		₩ 188,911	₩ 185,142

7. DERIVATIVE INSTRUMENTS:

(1) Details of derivative instruments as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)		December 31, 2023	
	Current	Non-current	Current	Non-current
Derivative financial assets				
Foreign currency forwards	₩ 88,303	₩ -	₩ 5,236	₩ -
Foreign currency swaps	703	1,270	2,641	1,054
Interest rate swaps	-	25,655	-	24,478
Total[1]	₩ 89,006	₩ 26,925	₩ 7,877	₩ 25,532
Derivative financial liabilities				
Foreign currency forwards	₩ (7,068)	₩ -	₩ (96,145)	₩ -
Foreign currency swaps	(634)	(12,517)	(2,375)	(10,640)
Interest rate swaps	-	(18,885)	-	(27,872)
Total[1]	₩ (7,702)	₩ (31,402)	₩ (98,520)	₩ (38,512)

[1]Contains derivatives for trading purposes and cash flow hedges.

(2) Details of foreign currency swap contracts as of March 31, 2024, are as follows (Korean won in millions, US dollars, Euro and HK dollars in thousands):

			Amount of contract				Interest rate of contract		
Purpose	Financial institution	Contract period	Sell		Buy		Sell	Buy	Exchange rate of contract
Trading	DBS	2013.06–2028.06	USD	50,196	KRW	55,788	4.28%	3.30%	USD 1 = KRW 1,111.4
	BNP Paribas	2020.07–2027.07	USD	58,065	HKD	450,000	1.35%	1.42%	USD 1 = HKD 7.75
	BNP Paribas	2022.11–2024.11	USD	51,187	KRW	68,540	5.55%	3.91%	USD 1 = KRW 1,339.0
Cash flow hedge	DBS	2013.06–2028.06	KRW	55,788	EUR	38,000	3.30%	3.02%	EUR 1 = KRW 1,468.1
	BNP Paribas	2022.11–2024.11	KRW	68,540	HKD	400,000	3.91%	5.28%	HKD 1 = KRW 171.4

(3) Details of the interest rate swap contracts as of March 31, 2024, are as follows (Korean won in millions):

					Interest rate of contract	
Purpose	Financial institution	Contract period	Amount		Sell	Buy
Trading	KEB Hana Bank	2020.09 –2028.10	KRW	1,600,000	1.29%–5.36%	3M CD + 0.20% – 3M CD + 1.02%

7. Derivative instruments (cont'd)

(4) Details of foreign currency forward contracts as of March 31, 2024, are as follows (Korean won in millions and US dollars in thousands):

Purpose	Financial institution	Contract date Maturity date	Amount				Exchange rate of contract
			Sell		Buy		
Trading	ANZ	2024.02–2024.08	KRW	480,613	USD	362,825	1,318.00–1,346.78
	Bank of America	2024.03–2024.04	KRW	59,668	USD	45,000	1325.96
	DBS	2023.10–2024.09	KRW	1,196,092	USD	901,378	1,294.95–1,345.87
	HSBC	2023.10–2024.09	KRW	842,942	USD	643,939	1,272.40–1,344.00
	ICBC	2024.03–2024.04	KRW	46,825	USD	35,000	1337.86
	ING	2024.03–2024.04	KRW	40,145	USD	30,000	1338.16
	ING	2024.01–2024.07	USD	100,000	KRW	130,588	1305.88
	Daegu Bank	2024.03–2024.04	KRW	78,060	USD	58,000	1,340.37–1,346.73
	Busan Bank	2024.03–2024.04	KRW	33,443	USD	25,000	1337.70
	Shinhan Bank	2023.12–2024.09	KRW	295,452	USD	226,068	1,287.50–1,334.13
	KEB Hana Bank	2023.10–2024.09	KRW	1,972,747	USD	1,497,929	1,272.40–1,347.08
	KEB Hana Bank	2024.01–2024.07	USD	107,212	KRW	140,113	1,305.67–1,323.59

7. Derivative instruments (cont'd)

(5) Gains or losses on valuation of derivatives for the three-month periods ended March 31, 2024 and 2023, are as follows (Korean won in millions):

	Valuation gain (loss)		Transaction gain (loss)		Changes in accumulated other comprehensive income (loss)	
	2024	2023	2024	2023	2024	2023
Foreign currency forwards	₩ 118,132	₩ 93,452	₩ 168,111	₩ 247,169	₩ -	₩ 183
Foreign currency swaps	(6,140)	(25,299)	-	-	465	(3,504)
Interest rate swaps	10,164	(18,385)	-	-	-	-
	₩ 122,156	₩ 49,768	₩ 168,111	₩ 247,169	₩ 465	₩ (3,321)

As of March 31, 2024, gains on valuation of derivatives amounting to ₩275 million (2023: losses on valuation of derivatives amounting to ₩70 million) in accumulated other comprehensive income are presented net of income tax.

(6) Hedging on non-financial items

The Group currently uses LNG ships that were built specifically for the Group's use for stable LNG supply through the long-term lease contract in US dollars with the lessor. As the lease expense is recovered through the sales price as a component of shipping expense, the lease expense and raw material cost, which are also denominated in US dollars, form part of the selling price and have the same exposure to foreign currency change.

In order for the Group to hedge the risk of foreign exchange rate change on its foreign revenue from the natural gas for power generation, only foreign currency revenue with the same maturity date as the lease liability has been distinguished from long-term supply contract to be designated as the hedged item, and the payment of lease liability has been designated as hedging instrument of non-financial items to apply the hedge accounting.

As expected that there will no longer be future cash flows for hedging targets related to some international vessels, the Corporate discontinued the cash flow hedge accounting and reclassified into profit or loss as a reclassification adjustment the amount of accumulated valuation gain (loss) ₩(-)71,296 million of the hedging instrument.

For the three-month periods ended March 31, 2024 and 2023, losses on hedging instruments amount to ₩(-)47,746 million and ₩(-)49,014 million, respectively, and gains on hedging instruments recognized in other comprehensive income are net of tax effect amounting to ₩12,323 million and ₩12,940 million, respectively.

(7) Hedges of net investments in a foreign operation

In order for the Group to hedge the risk of exchange rate fluctuation caused by the foreign currency translation, hedge accounting has been applied to the net investment of overseas business regarding the difference in foreign exchange that arose between the functional currency of overseas business and of the Corporation.

The amounts recognized in the interim condensed consolidated statements of comprehensive income for the three-month periods ended March 31, 2024 and 2023, are as follows (Korean won in millions):

	2024 (Unaudited)	2023 (Unaudited)
Net loss on hedge of net investments in foreign operations, net of income tax	₩ (106,474)	₩ (71,692)

8. TRADE AND OTHER RECEIVABLES:

(1) Trade and other receivables as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)				December 31, 2023			
	Principal	Allowance for doubtful accounts	Present value discount	Book value	Principal	Allowance for doubtful accounts	Present value discount	Book value
Current:								
Trade receivables	₩ 7,363,303	₩ (20,326)	₩ -	₩ 7,342,977	₩ 6,582,625	₩ (19,505)	₩ -	₩ 6,563,120
Other receivables	244,286	(168)	-	244,118	474,837	(161)	-	474,676
	7,607,589	(20,494)	-	7,587,095	7,057,462	(19,666)	-	7,037,796
Non-current:								
Other receivables	228,694	(9,336)	(5,933)	213,425	224,937	(9,336)	(5,619)	209,982
	₩ 7,836,283	₩ (29,830)	₩ (5,933)	₩ 7,800,520	₩ 7,282,399	₩ (29,002)	₩ (5,619)	₩ 7,247,778

(2) Other receivables as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)				December 31, 2023			
	Principal	Allowance for doubtful accounts	Present value discount	Book value	Principal	Allowance for doubtful accounts	Present value discount	Book value
Current:								
Non-trade receivables	₩ 238,636	₩ -	₩ -	₩ 238,636	₩ 468,480	₩ -	₩ -	₩ 468,480
Accrued income	5,288	(168)	-	5,120	6,160	(161)	-	5,999
Deposits provided	362	-	-	362	197	-	-	197
	244,286	(168)	-	244,118	474,837	(161)	-	474,676
Non-current:								
Non-trade receivables	81,621	-	(1,356)	80,265	79,068	-	(1,530)	77,538
Accrued income	29,295	(9,336)	-	19,959	27,115	(9,336)	-	17,779
Deposits provided	117,778	-	(4,577)	113,201	118,754	-	(4,089)	114,665
	228,694	(9,336)	(5,933)	213,425	224,937	(9,336)	(5,619)	209,982
	₩ 472,980	₩ (9,504)	₩ (5,933)	₩ 457,543	₩ 699,774	₩ (9,497)	₩ (5,619)	₩ 684,658

9. INVENTORIES:

Details of inventories as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)			December 31, 2023		
	Acquisition cost	Loss on Valuation allowance	Book value	Acquisition cost	Loss on Valuation allowance	Book value
Raw materials	₩ 2,658,574	₩ -	₩ 2,658,574	₩ 4,056,583	₩ -	₩ 4,056,583
Finished goods	122,540	-	122,540	130,992	-	130,992
Merchandise	604	-	604	1,866	-	1,866
Supplies	114,328	-	114,328	108,177	-	108,177
Goods in transit	769,640	-	769,640	745,536	-	745,536
	₩ 3,665,686	₩ -	₩ 3,665,686	₩ 5,043,154	₩ -	₩ 5,043,154

10. NON-FINANCIAL ASSETS:

(1) Details of non-financial assets as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)		December 31, 2023	
	Current	Non-current	Current	Non-current
Advanced payments	₩ 48,273	₩ -	₩ 75,335	₩ -
Prepaid expenses	78,773	57	133,203	56
Greenhouse gas emission rights	468	-	189	-
Other non-financial assets	4,087,576	12,110,619	4,282,571	11,951,673
	₩ 4,215,090	₩ 12,110,676	₩ 4,491,298	₩ 11,951,729

(2) Details of other non-financial assets as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)		December 31, 2023	
	Current	Non-current	Current	Non-current
Special consumption tax	₩ 107,709	₩ -	₩ 151,126	₩ -
Deposits	58	-	58	-
Others[1]	3,979,809	12,110,619	4,131,387	11,951,673
	₩ 4,087,576	₩ 12,110,619	₩ 4,282,571	₩ 11,951,673

[1] Assets due to settlement gains and losses on natural gas sales charges amounting to ₩15,812,671 million as of March 31, 2024, and ₩15,911,919 million as of December 31, 2023, are included in others (see Note 11).

11. NATURAL GAS SALES CHARGE SETTLEMENT GAINS AND LOSSES:

In accordance with the standard for natural gas supply price and the guidelines for raw material cost pass-through adjustment system for city gas supply and power generation, the settled income, the difference (hereafter "settlement") between actual cost incurred and current year's revenues, is reflected in the following year's rate upon the approval of the government.

The Group adjusts settlement gains and losses approved by the government in cost of sales and recognizes the related assets and liabilities as other non-financial assets and non-financial liabilities, respectively.

Details of other non-financial assets and liabilities arising from of the settlement on natural gas sales as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)						
	Raw material cost				Supply cost		Total
	City gas (civilian demand)	City gas (commercial demand)	City gas (power generation)	Power generation	City gas	Power generation	
Other current non-financial assets	₩ 1,598,659	₩ 539,549	₩ 67,428	₩ 1,195,755	₩ 155,291	₩ 261,899	₩ 3,818,581
Other non-current non-financial assets	11,950,395	39,461	4,234	-	-	-	11,994,090
	₩ 13,549,054	₩ 579,010	₩ 71,662	₩ 1,195,755	₩ 155,291	₩ 261,899	₩ 15,812,671

	December 31, 2023						
	Raw material cost				Supply cost		Total
	City gas (civilian demand)	City gas (commercial demand)	City gas (power generation)	Power generation	City gas	Power generation	
Other current non-financial assets	₩ 1,584,084	₩ 481,406	₩ 42,092	₩ 1,811,426	₩ 21,224	₩ 124,870	₩ 4,065,102
Other non-current non-financial assets	11,426,889	215,626	36,630	167,672	-	-	11,846,817
	₩ 13,010,973	₩ 697,032	₩ 78,722	₩ 1,979,098	₩ 21,224	₩ 124,870	₩ 15,911,919

12. INVESTMENTS IN ASSOCIATES AND JOINT VENTURES:

(1) Details of investments in associates and joint ventures as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions, except percentage of ownership):

Associates and joint ventures	Business	Country of incorporation	Country of domicile	Fiscal year end	March 31, 2024 (Unaudited)			December 31, 2023		
					Percentage of ownership	Acquisition cost	Book value	Percentage of ownership	Acquisition cost	Book value
Korea Ras Laffan LNG Ltd.[2]	Resource development	Bermuda	Qatar	Dec 31	60.00%	₩ 19,532	₩ 264,807	60.00%	₩ 19,532	₩ 267,410
Korea LNG Ltd.	Resource development	Bermuda	Oman	Dec 31	24.00%	3,298	69,045	24.00%	3,298	71,736
Hyundai Yemen LNG Company	Resource development	Bermuda	Yemen	Dec 31	49.00%	482	45,520	49.00%	482	48,539
Korea LNG Trading Co., Ltd.	Shipping industry	Korea	Korea	Dec 31	28.00%	601	2,892	28.00%	601	2,749
Kor-Uz Gas Chemical Investment Ltd.	Resource development	Malaysia	Uzbekistan	Dec 31	45.00%	347,451	903,607	45.00%	347,451	860,681
South-East Asia Gas Pipeline Company Limited [3,6]	Pipe construction	Hong Kong	Myanmar	Mar 31	4.17%	11,207	48,641	4.17%	3,818	47,375
Sulawesi LNG Development Limited [5]	Liquefaction business investment	United Kingdom	Indonesia	Dec 31	25.00%	45,580	244,822	25.00%	45,579	201,925
TOMORI E&P Limited	Resource development	United Kingdom	Indonesia	Dec 31	49.00%	20,137	124,858	49.00%	20,138	111,650
Hydrogen Energy Network Co., Ltd. [7]	Hydrogen infrastructure construction and operation	Korea	Korea	Dec 31	28.53%	30,000	-	28.53%	30,000	-
HyStation Co., Ltd. [8]	Hydrogen charge and operation	Korea	Korea	Dec 31	29.00%	3,770	3,414	29.00%	1,450	1,450
Coral FLNG S.A.[3]	Resource development	Mozambique	Mozambique	Dec 31	10.00%	182	77,211	10.00%	182	69,463
Coral South FLNG DMCC[1,3]	Resource development	UAE	UAE	Dec 31	10.00%	15	18	10.00%	15	17
Rovuma LNG S.A.[1,3,]	Resource development	Mozambique	Mozambique	Dec 31	10.00%	185	215	10.00%	185	206
Rovuma LNG Investments (DIFC) Ltd. [1,3]	Resource development	Mozambique	Mozambique	Dec 31	10.00%	6	7	10.00%	6	6
Kor-Uz Gas cylinder Investment Ltd.	Cylinder business investment	Korea	Uzbekistan	Dec 31	40.38%	5,790	63	40.38%	5,790	215
Kor-Uz Gas C&G Investment Ltd.	Charge business investment	Korea	Uzbekistan	Dec 31	38.85%	2,542	15	38.85%	2,542	65
TERMINAL KMS de GNL, S. De R.L. De C.V.	LNG terminal management and maintenance	Mexico	Mexico	Dec 31	25.00%	34,945	139,032	25.00%	34,945	129,645
GLNG Operations Pty. Ltd. [4]	LNG plant management	Australia	Australia	Dec 31	15.00%	17	16	15.00%	17	15
ENH - KOGAS, S.A.[2]	Pipe construction	Mozambique	Mozambique	June 30	70.00%	78	17,961	70.00%	78	18,669
LNG Canada Development Inc. [1,4]	LNG plant construction	Canada	Canada	Dec 31	5.00%	-	-	5.00%	-	-
Manzanillo Gas Tech, S. de R.L. de C.V. [2]	LNG terminal management and maintenance	Mexico	Mexico	Dec 31	51.00%	60	2,408	51.00%	60	1,660
KLBV1 S.A.	LNG bunkering ship operation	Panama	Netherlands	Dec 31	40.00%	5,978	5,900	40.00%	5,978	6,744
Korea Superfreeze Incheon Inc.	LNG cold-heat refrigerated and frozen logistics warehouse	Korea	Korea	Dec 31	20.00%	5,000	10	20.00%	5,000	-
						₩ 536,856	₩ 1,950,462		₩ 527,147	₩ 1,840,220

12. Investments in associates and joint ventures (cont'd)

(1) Details of investments in associates and joint ventures as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions, except percentage of ownership) (cont'd):

[1] The associates and joint ventures did not apply the equity method as the difference between the book value and the net asset value is not significant.

[2] The associates and joint ventures are excluded from the consolidated subsidiaries since the Group is unable to exercise control in several cases, such as unanimous approval required when making significant decisions.

[3] Although the percentage of ownership of the associates is less than 20%, the Group has significant influence considering the Group's right to participate in the investee's board of directors and shareholder constitution.

[4] Although the percentage of ownership of the Group is less than 20%, it is classified as a joint venture as it requires unanimity in making decisions on key sales and financial activities.

[5] The capital reduction occurred in relation to investment in Sulawesi LNG Development Limited in 2023, which resulted in a recognition of a gain on disposal of ₩12,639 million in 2023.

[6] In relation to the investment equity of South-East Asia Pipeline Company Limited, paid-in capital reduction was conducted for the three-month period ended March 31, 2024, and for the year ended December 31, 2023.

[7] Regarding the investment support of Hydrogen Energy Network Co., Ltd., the book value became below zero, and the application of the equity method was suspended. The change in equity for the current period, which was not recognized due to the suspension of the application of the equity method, is ₩2,904 million.

[8] In relation to the investment equity of HyStation Co., Ltd., paid-in capital was increased for the three-month period ended March 31, 2024, and for the year ended December 31, 2023.

12. Investments in associates and joint ventures (cont'd)

(2) Changes in investments in associates and joint ventures for the three-month period ended March 31, 2024, and for the year ended December 31, 2023, are as follows (Korean won in millions):

	2024 (Unaudited)							
	Beginning balance	Acquisition	Disposal	Dividends received	Gain (loss) on equity method	Equity adjustments of investments in associates and joint ventures	Others	Ending balance
Korea Ras Laffan LNG Ltd.	₩ 267,410	₩ -	₩ -	₩ (43,631)	₩ 29,044	₩ 11,984	₩ -	₩ 264,807
Korea LNG Ltd.	71,736	-	-	(5,748)	5,684	(2,627)	-	69,045
Hyundai Yemen LNG Company[1]	48,539	-	-	-	361	(3,380)	-	45,520
Korea LNG Trading Co., Ltd.	2,749	-	-	-	21	122	-	2,892
Kor-Uz Gas Chemical Investment Ltd.	860,681	-	-	-	4,616	38,310	-	903,607
South-East Asia Gas Pipeline Company Limited.	47,375	-	(2,497)	-	1,663	-	2,100	48,641
Sulawesi LNG Development Limited.	201,925	-	-	-	29,598	13,299	-	244,822
TOMORI E&P Limited	111,650	-	-	-	8,332	-	4,876	124,858
Hydrogen Energy Network Co, Ltd.	-	-	-	-	-	-	-	-
HyStation Co., Ltd.	1,450	2,320	-	-	(300)	(56)	-	3,414
Coral FLNG S.A.	69,463	-	-	-	4,592	-	3,156	77,211
Coral South FLNG DMCC.	18	-	-	-	-	-	-	18
Rovuma LNG S.A.	206	-	-	-	-	-	9	215
Rovuma LNG Investments (DIFC) Ltd.	6	-	-	-	-	-	1	7
Kor-Uz Gas cylinder Investment Ltd.	215	-	-	-	(23)	(129)	-	63
Kor-Uz Gas C&G Investment Ltd.	65	-	-	-	5	(55)	-	15
TERMINAL KMS de GNL, S. De R.L. De C.V.	129,645	-	-	-	3,018	-	6,369	139,032
GLNG Operations Pty. Ltd.	15	-	-	-	-	-	1	16
ENH - KOGAS, S.A.	18,668	-	-	(2,790)	1,318	-	765	17,961
LNG Canada Development Inc.	-	-	-	-	-	-	-	-
Manzanillo Gas Tech, S. de R.L. de C.V.	1,660	-	-	-	665	-	83	2,408
KLBV1 S.A.	6,744	-	-	-	(1,129)	285	-	5,900
Korea Superfreeze Incheon Inc.	-	-	-	-	10	-	-	10
	₩ 1,840,220	₩ 2,320	₩ (2,497)	₩ (52,169)	₩ 87,475	₩ 57,753	₩ 17,360	₩ 1,950,462

[1] Although the percentage of ownership of the Group in the above equity securities is 49%, the equity method is applied considering the contractual terms regarding uneven dividends.

12. Investments in associates and joint ventures (cont'd)

(2) Changes in investments in associates and joint ventures for the three-month period ended March 31, 2024, and for the year ended December 31, 2023, are as follows (Korean won in millions) (cont'd):

	2023							
	Beginning balance	Acquisition	Disposal	Dividends received	Gain (loss) on equity method	Equity adjustments of investments in associates and joint ventures	Others	Ending balance
Korea Ras Laffan LNG Ltd.	₩ 305,552	₩ -	₩ -	₩ (84,014)	₩ 39,856	₩ 6,016	₩ -	₩ 267,410
Korea LNG Ltd.	35,804	-	-	(25,328)	25,251	36,009	-	71,736
Hyundai Yemen LNG Company[1]	11,161	-	-	-	595	36,783	-	48,539
Korea LNG Trading Co., Ltd.	2,391	-	-	-	322	36	-	2,749
Kor-Uz Gas Chemical Investment Ltd.	798,372	-	-	-	49,006	13,303	-	860,681
South-East Asia Gas Pipeline Company Limited	48,162	-	(9,886)	-	8,104	-	995	47,375
Sulawesi LNG Development Limited	245,637	-	(53,498)	(1,281)	23,617	(12,550)	-	201,925
TOMORI E&P Limited	176,483	-	-	(64,469)	(4,538)	4,174	-	111,650
Hydrogen Energy Network Co, Ltd.[2]	24,842	-	-	-	(2,904)	-	(21,938)	-
HyStation Co., Ltd.	290	1,160	-	-	-	-	-	1,450
Coral FLNG S.A.	87,439	-	-	-	(26,845)	-	8,869	69,463
Coral South FLNG DMCC.	17	-	-	-	-	-	-	17
Rovuma LNG S.A.	203	-	-	-	-	-	3	206
Rovuma LNG Investments (DIFC) Ltd.	6	-	-	-	-	-	-	6
Kor-Uz Gas cylinder Investment Ltd.[3]	1,604	-	-	-	265	40	(1,694)	215
Kor-Uz Gas C&G Investment Ltd.[4]	180	-	-	-	(23)	24	(116)	65
TERMINAL KMS de GNL, S. De R.L. De C.V.	134,478	-	-	(8,159)	1,465	-	1,861	129,645
GLNG Operations Pty. Ltd.	16	-	-	-	(1)	-	-	15
ENH - KOGAS, S.A.	19,256	-	-	(6,782)	5,647	-	548	18,669
LNG Canada Development Inc.	-	-	-	-	-	-	-	-
Manzanillo Gas Tech, S. de R.L. de C.V.	1,641	-	-	-	(10)	-	29	1,660
KLBV1 S.A.	6,742	-	-	-	(117)	119	-	6,744
Korea Superfreeze Incheon Inc.[5]	3,900	-	-	-	(574)	-	(3,326)	-
	₩ 1,904,176	₩ 1,160	₩ (63,384)	₩ (190,033)	₩ 119,116	₩ 83,954	₩ (14,769)	₩ 1,840,220

[1] Although the percentage of ownership of the Group in the above equity securities is 49%, the equity method is applied considering the contractual terms regarding uneven dividends.

[2] Regarding the investment support of Hydrogen Energy Network Co., Ltd., damage tests were conducted due to insufficient demand in the previous year and continued operating losses, and a discount rate of 9.05% was applied when calculating the present value of future cash flows. As the recoverable amount of investment stocks fell significantly, ₩21,938 million was recognized as an impairment loss in 2023, and the amount is included in the "Profits related to related companies and joint companies" in the consolidated statement of comprehensive income.

12. Investments in associates and joint ventures (cont'd)

(2) Changes in investments in associates and joint ventures for the three-month period ended March 31, 2024, and for the year ended December 31, 2023, are as follows (Korean won in millions) (cont'd):

[3] Regarding the investment holdings of Korea Woosebek Cylinder Co., Ltd., an impairment test was conducted due to price declines due to intensifying market competition in the previous period, and a discount rate of 22.18% was applied when calculating the present value of future cash flows. As the recoverable amount of investment stocks fell significantly, ₩1,694 million was recognized as an impairment loss in 2023, and the amount is included in the consolidated statement of comprehensive income.

[4] Regarding the investment holdings of Korea's Uzbek C&G Co., Ltd., an impairment test was conducted due to a drop in prices due to intensifying market competition in the previous period, and a discount rate of 22.18% was applied when calculating the present value of future cash flows. As the recoverable amount of investment stocks fell significantly, ₩116 million was recognized as an impairment loss in 2023, and the amount is included in the consolidated statement of comprehensive income.

[5] Regarding the investment in Korea Superfreeze Incheon Inc., impairment tests were conducted due to an increase in construction costs and oversupply of low-temperature distribution centers in the previous period, and a discount rate of 7.9% was applied when calculating the present value of future cash flows. As the recoverable amount of investment stocks fell significantly, ₩3,326 million was recognized as an impairment loss in 2023, and the amount is included in the "Profits related to related companies and joint companies" in the consolidated statement of comprehensive income.

12. Investments in associates and joint ventures (cont'd)

(3) Summarized financial information of associates and joint ventures as of March 31, 2024, and December 31, 2023, and for the three-month periods ended March 31, 2024 and 2023, are as follows (Korean won in millions):

	2024 (Unaudited)			
	Assets	Liabilities	Revenue	Profit (loss) for the year
Korea Ras Laffan LNG Ltd.	₩ 441,527	₩ 182	₩ 75,671	₩ 48,406
Korea LNG Ltd.	287,781	91	24,244	23,685
Hyundai Yemen LNG Company	243,970	138,808	-	(182)
Korea LNG Trading Co., Ltd.	427,153	416,824	7,404	76
Kor-Uz Gas Chemical Investment Ltd.	2,041,795	33,780	-	18,850
South-East Asia Gas Pipeline Company Limited	2,064,560	714,929	95,305	39,864
Sulawesi LNG Development Limited	990,231	10,944	-	118,494
TOMORI E&P Limited	332,370	87,818	58,335	15,390
Hydrogen Energy Network Co., Ltd.	91,232	19,919	4,476	(4,204)
HyStation Co., Ltd.	12,105	332	-	(189)
Coral FLNG S.A	10,343,332	9,624,720	60,183	80,380
Coral South FLNG DMCC	5,866,238	5,866,055	-	-
Rovuma LNG S.A.	2,109	-	-	(1)
Rovuma LNG Investments (DIFC) Ltd.	467	1,083	-	(99)
Kor-Uz Gas cylinder Investment Ltd.	4,375	22	-	(10)
Kor-Uz Gas C&G Investment Ltd.	1,810	1	-	(1)
Terminal KMS de GNL, S. De R.L. De C.V.	990,376	434,250	25,557	12,070
GLNG Operations Pty Ltd.	104	-	-	-
ENH-KOGAS, S.A.	33,949	8,290	12,612	2,118
LNG Canada Development Inc.	1	-	-	-
Manzanillo Gas Tech, S. de R.L. de C.V.	6,125	1,404	3,184	1,304
KLBV1 S.A.	80,921	66,173	1,846	(2,824)
Korea Superfreeze Incheon Inc.	40,177	23,497	-	(1,027)

	2023			
	Assets	Liabilities	Revenue	Profit (loss) for the year
Korea Ras Laffan LNG Ltd.	₩ 445,847	₩ 163	₩ 57,801	₩ 30,770
Korea LNG Ltd.	298,982	82	32,145	31,424
Hyundai Yemen LNG Company	245,383	130,925	-	(138)
Korea LNG Trading Co., Ltd.	424,068	414,251	62,433	288
Kor-Uz Gas Chemical Investment Ltd.	1,944,669	32,044	-	10,030
South-East Asia Gas Pipeline Company Limited	1,976,286	664,845	217,832	50,627
Sulawesi LNG Development Limited	821,122	13,420	-	32,895
TOMORI E&P Limited	284,839	67,242	55,751	13,165
Hydrogen Energy Network Co., Ltd.	91,694	14,811	3,477	(3,446)
HyStation Co., Ltd.	4,412	320	-	(151)
Coral FLNG S.A	10,471,377	9,834,345	23,892	(30,915)
Coral South FLNG DMCC	5,440,574	5,440,399	-	-
Rovuma LNG S.A.	2,019	-	-	(1)
Rovuma LNG Investments (DIFC) Ltd.	501	1,093	-	(229)
Kor-Uz Gas cylinder Investment Ltd.	4,749	21	-	(6)
Kor-Uz Gas C&G Investment Ltd.	1,937	-	-	(6)
Terminal KMS de GNL, S. De R.L. De C.V.	952,805	434,226	26,095	5,530
GLNG Operations Pty Ltd.	100	-	-	-
ENH-KOGAS, S.A.	34,359	7,689	12,063	2,643
LNG Canada Development Inc.	1	-	-	-
Manzanillo Gas Tech, S. de R.L. de C.V.	4,818	1,564	2,881	1,692
KLBV1 S.A.	80,007	63,146	2,659	(111)
Korea Superfreeze Incheon Inc.	42,213	25,585	-	(1,807)

13. PROPERTY, PLANT AND EQUIPMENT:

Changes in property, plant and equipment for the three-month period ended March 31, 2024, and for the year ended December 31, 2023, are as follows (Korean won in millions):

	2024 (Unaudited)							
	Beginning balance	Acquisitions/ capital expenditure	Disposals	Depreciation	Impairment	Others	Changes in the scope of consolidation	Ending balance
Land	₩ 3,284,393	₩ 591	₩ (87)	₩ -	₩ -	₩ 5,307	₩ -	₩ 3,290,204
Buildings	698,836	1,307	(268)	(10,522)	-	1,197	-	690,550
(Government grant)	(1,856)	-	-	25	-	-	-	(1,831)
Structures	3,532,730	77	-	(60,164)	-	5,070	-	3,477,713
(Government grant)	(1,426)	-	-	27	-	-	-	(1,399)
Machinery	9,154,906	3,037	(638)	(170,342)	-	110,949	-	9,097,912
(Government grant)	(98,296)	-	-	1,554	-	-	-	(96,742)
Computerized facility	12,216	51	-	(1,695)	-	27	-	10,599
(Government grant)	(8)	-	-	1	-	-	-	(7)
Vessel	53,851	-	-	(554)	-	-	-	53,297
(Government grant)	(13,692)	-	-	141	-	-	-	(13,551)
Vehicles	32,351	83	(1)	(1,390)	-	11	-	31,054
(Government grant)	(11,910)	-	-	257	-	-	-	(11,653)
Office equipment	7,095	408	-	(830)	-	6	-	6,679
(Government grant)	(58)	-	-	4	-	-	-	(54)
Tools and instruments	6,533	75	-	(814)	-	25	-	5,819
(Government grant)	(47)	-	-	11	-	-	-	(36)
Timber	57,485	-	-	-	-	-	-	57,485
Construction in progress	2,034,031	389,217	-	-	-	46,931	-	2,470,179
(Government grant)	(20,180)	-	-	-	-	(378)	-	(20,558)
Right-of-use assets	1,519,912	11,808	(1,236)	(63,625)	-	979	-	1,467,838
Others	2,104,643	103,228	(4)	(141,256)	-	85,162	-	2,151,773
	₩ 22,351,509	₩ 509,882	₩ (2,234)	₩ (449,172)	₩ -	₩ 255,286	₩ -	₩ 22,665,271

	2023							
	Beginning balance	Acquisitions/ capital expenditure	Disposals	Depreciation	Impairment [1]	Others	Changes in the scope of consolidation	Ending balance
Land	₩ 3,256,049	₩ 73	₩ (348)	₩ -	₩ -	₩ 28,619	₩ -	₩ 3,284,393
Buildings	717,142	644	(1,200)	(42,007)	(13,541)	37,798	-	698,836
(Government grant)	(2,780)	-	-	139	4,462	(3,677)	-	(1,856)
Structures	3,763,397	28	(290)	(242,304)	(13,661)	25,560	-	3,532,730
(Government grant)	(1,382)	-	-	112	1,174	(1,330)	-	(1,426)
Machinery	9,452,208	39,668	(4,732)	(669,115)	(82,109)	418,986	-	9,154,906
(Government grant)	(105,695)	-	54	6,442	11,936	(11,033)	-	(98,296)
Computerized facility	14,053	3,804	(1)	(6,301)	(23)	684	-	12,216
(Government grant)	(7)	(6)	-	5	-	-	-	(8)
Vessel	-	-	-	(1,475)	-	55,326	-	53,851
(Government grant)	-	-	-	375	-	(14,067)	-	(13,692)
Vehicles	28,736	9,405	-	(5,290)	(503)	3	-	32,351
(Government grant)	(10,125)	(2,912)	-	872	327	(72)	-	(11,910)
Office equipment	9,527	1,488	(19)	(3,794)	(244)	137	-	7,095
(Government grant)	(320)	(55)	-	91	226	-	-	(58)
Tools and instruments	7,970	2,194	(65)	(3,673)	(3)	110	-	6,533
(Government grant)	(121)	(17)	20	71	-	-	-	(47)
Timber	55,564	-	(4)	-	(65)	1,990	-	57,485
Construction in progress	1,666,504	850,105	-	-	-	(482,578)	-	2,034,031
(Government grant)	(48,035)	(2,940)	-	-	-	30,795	-	(20,180)
Right-of-use assets	2,081,732	36,016	(1,088)	(270,689)	(324,778)	(1,281)	-	1,519,912
Others	2,409,384	452,117	(2,064)	(557,372)	(240,440)	43,018	-	2,104,643
	₩ 23,293,801	₩ 1,389,612	₩ (9,737)	₩ (1,793,913)	₩ (657,242)	₩ 128,988	₩ -	₩ 22,351,509

[1] An impairment loss of ₩324,619 million was recognized in connection with the KC-1 national shipment right-of-use asset, and an impairment loss of ₩42,747 million was recognized in connection with the machinery and equipment of hydrogen charging stations and hydrogen production bases. An impairment loss of ₩49,436 million was recognized in connection with KOGAS Prelude Pty, Ltd.'s buildings, structures, machinery and computer facilities, and an impairment loss of ₩240,444 million was recognized in connection with other tangible assets of KOGAS Prelude Pty, Ltd., KG Mozambique Ltd. and KOGAS Iraq B.V. and is included in other profit (loss) items in the consolidated statement of comprehensive income (see Note 19).

14. CONSTRUCTION AND SERVICE CONTRACTS:

(1) Changes in the outstanding construction and service contracts for the three-month period ended March 31, 2024, and for the year ended December 31, 2023, are as follows (Korean won in millions):

	Beginning balance	Increase[1]	Revenue recognized[2]	Ending balance
2024 (Unaudited)	₩ 232,255	₩ 19,686	₩ 17,837	₩ 234,104
2023	201,556	150,817	120,128	232,255

[1] For the three-month periods ended March 31, 2024 and 2023, the increase in construction and service contracts amounted to ₩19,704 million and ₩32,903 million, respectively, due to the new contracts and the decrease in construction and service contracts amounted to ₩18 million and ₩219 million, respectively, due to the change in size of existing construction contracts.
[2] The current revenue recognition includes ₩4,002 million as of March 31, 2024, and ₩1,406 million as of December 31, 2023, of revenue from service.

(2) Accumulated revenues and costs of construction in progress as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	Accumulated revenue	Accumulated costs	Accumulated profit or loss	Contract assets	Contract liabilities
As of March 31, 2024 (Unaudited)	₩ 183,399	₩ 174,274	₩ 9,125	₩ 23,518	₩ 36,414
As of December 31, 2023	184,289	174,439	9,850	20,110	31,113

(3) Contract assets and liabilities, unbilled amount and overbilled amount arising from construction and service contracts as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

March 31, 2024 (Unaudited)		December 31, 2023	
Contract assets[1]	Contract liabilities	Contract assets[1]	Contract liabilities
₩ 23,518	₩ 36,414	₩ 20,110	₩ 31,113

[1] Contract assets irrelevant to construction contracts are excluded.

15. INTANGIBLE ASSETS OTHER THAN GOODWILL:

(1) Changes in intangible assets other than goodwill for the three-month period ended March 31, 2024, and for the year ended December 31, 2023, are as follows (Korean won in millions):

	2024 (Unaudited)						
	Beginning balance	Acquisition/ capital expenditure	Disposal	Amortization	Impairment	Others	Ending balance
Intangible exploration and evaluation assets	₩ 414,616	₩ 9,508	₩ -	₩ -	₩ -	₩ 18,392	₩ 442,516
Computer software	25,452	170	-	(2,316)	-	25	23,331
(Government grant)	(3,243)	-	-	230	-	-	(3,013)
Copyright, patent and other industrial property right	6,791	3	-	(160)	-	-	6,634
(Government grant)	(14)	-	-	1	-	-	(13)
Development costs	8	-	-	(2)	-	-	6
Right to contributed assets	260,325	-	-	(1,827)	-	(1,158)	257,340
Land use rights	1,506	-	-	(32)	-	-	1,474
Mineral rights	812,200	-	-	(24,322)	-	31,519	819,397
Others	35,074	-	-	(1,352)	-	1,399	35,121
	₩ 1,552,715	₩ 9,681	₩ -	₩ (29,780)	₩ -	₩ 50,177	₩ 1,582,793

	2023						
	Beginning balance	Acquisition/ capital expenditure	Disposal	Amortization	Impairment[1]	Others	Ending balance
Intangible exploration and evaluation assets	₩ 468,653	₩ 43,297	₩ -	₩ -	₩ (103,615)	₩ 6,281	₩ 414,616
Computer software	25,894	3,474	(287)	(9,411)	-	5,782	25,452
(Government grant)	(1,581)	(50)	-	904	-	(2,516)	(3,243)
Copyright, patent and other industrial property right	4,140	4	-	(654)	-	3,301	6,791
(Government grant)	(20)	-	-	6	-	-	(14)
Development costs	15	-	-	(7)	-	-	8
Intangible assets under development	188	50	-	-	-	(238)	-
Right to contributed assets	265,988	-	-	(4,749)	-	(914)	260,325
Land use rights	1,638	-	-	(132)	-	-	1,506
Mineral rights	902,789	1,680	-	(75,520)	(39,101)	22,352	812,200
Others	38,087	-	(23)	(3,642)	-	652	35,074
	₩ 1,705,791	₩ 48,455	₩ (310)	₩ (93,205)	₩ (142,716)	₩ 34,700	₩ 1,552,715

[1] The impairment loss of ₩142,716 million in 2023 was recognized in relation to intangible exploration and evaluation assets and mining rights of KG Mozambique Ltd. and KOGAS Cyprus Ltd. and included in other gains (losses) in the consolidated statement of comprehensive income.

15. Intangible assets other than goodwill (cont'd)

(2) Details of individually significant intangible assets as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)		
	Details	**Amount**	**Remaining amortization period**
Intangible exploration and evaluation assets	Acquisition in exploration phase	₩ 442,516	Exploration phase
Right to contributed assets	Harbor facility usage right and others	253,736	21.58 years
	Right to operate a hydrogen production base	3,604	24 years
Mineral rights	Mining rights	110,819	23.17 years
	Mining rights	240,234	19.75 years
	Mining rights	28,615	14.77 years
	Mining rights	439,729	22.75 years

	December 31, 2023		
	Details	**Amount**	**Remaining amortization period**
Intangible exploration and evaluation assets	Acquisition in exploration phase	₩ 414,616	Exploration phase
Right to contributed assets	Harbor facility usage right and others	256,681	27.67 years
	Right to operate a hydrogen production base	3,644	24.25 years
Mineral rights	Mining rights	107,160	23.42 years
	Mining rights	240,443	20 years
	Mining rights	29,279	15.02 years
	Mining rights	435,318	23 years

15. Intangible assets other than goodwill (cont'd)

(3) The Group's property, plant and equipment and intangible assets include its share of joint assets arising from participation of joint operations. The details of the Group's significant joint operations as of March 31, 2024, are as follows:

	Main business	Interest of investments	Location
Mozambique Area 4 mining area	Area 4 mining exploration, development and production	10.0%	Mozambique
Zubair Oil Field	Oil field development and production	23.8%	Iraq
Badra Contract Area	Oil field development and production	22.5%	Iraq
Mansuriya Contract Area	Gas field development and production	15.0%	Iraq
Akkas Contract Area	Gas field development and production	75.0%	Iraq
GLNG Project	Gas field development, production and sales	15.0%	Australia
Prelude in Australia	Development of mining area, gas production and sales	10.0%	Australia
Myanmar A-1 and A-3	Development of mining area, gas production and pipeline operation	8.5%	Myanmar
LNG Canada	LNG development	5.0%	Canada
Canadian Horn River	Mining Development and Gas Production	50.0%	Canada
Canadian West Cut Bank, Umiak	Mining Development and Gas Production	20.0%	Canada
Cyprus maritime fields	Resource Development	20.0%	Cyprus

15. Intangible assets other than goodwill (cont'd)

(4) The main items related to recognition of impairment loss of property, plant and equipment and intangible assets recognized as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

There is no impairment loss recognized for property, plant and equipment and intangible assets for the three-month period ended March 31, 2024.

	2023					
Country	Mozambique	Iraq	Australia	Korea		
Operating segment	Other segment[1]					Gas introduction and sales
Nature of assets	Property, plant and equipment and intangible assets, including assets for resource development			Tangible assets related to hydrogen business		KC-1 National Vessel right of use
Assets to be recognized for impairment	Cash-generating units and individual assets					
Calculation of recoverable amount	Present value of expected cash flows					
Assumptions used						
Posttax discount rate[2]	15.00%	15.90%	8.10%	8.81%	8.81%	-
Applied unit price	International Index[3,4]			Unit price of joint hydrogen purchase and market contract by region for 2023–2024[5]	Average unit price for 2023[5]	-
Production	Estimated production based on the reserve report, etc.			Regional demand forecast based on the growth rate of hydrogen cars in the government road map		-
Recoverable amount	944,228	462,675	1,365,475	4,956	1,498	-
Reversal of impairment loss (impairment loss)	(163,578)	(199,386)	(69,628)	(35,628)	(7,119)	(324,619)
Reason for impairment/ reversal	Increasing discount rate and continuing the situation of force majeure declaration, etc.	Decreased future estimated production	Long-term oil price outlook declines and production declines	Delays in operation due to lack of demand	Hydrogen sales decrease and purchase price increase	The uncertainty of the resumption of operations
Sensitivity analysis of recoverable amount from changes in discount rate						
1% increase	(275,750)	(17,359)	(72,206)	(807)	(55)	-
1% decrease	320,261	18,513	81,232	938	59	-
Sensitivity analysis of recoverable amount from changes in applied unit price						
10% increase	510,972	-	119,914	18,240	1,914	-
10% decrease	(525,062)	-	(85,100)	(4,956)	(1,195)	-

[1] Cash generating unit of other segment is each mining area and project.
[2] Weighted-average cost of capital considering risk of cash-generating units.
[3] The trends applied in oil and gas price are based on long-term forecast of major foreign research institutes.
[4] After the forecast period, a 2% increase rate was applied.
[5] The annual inflation rate (approximately 2.41%) was applied during the project period.

16. GOODWILL:

(1) Goodwill as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)	December 31, 2023
Acquisition cost	₩ 145	₩ 145
Accumulated impairment loss	-	-
	₩ 145	₩ 145

(2) Changes in goodwill for the three-month period ended March 31, 2024, and for the year ended December 31, 2023, are as follows (Korean won in millions):

	2024 (Unaudited)	2023
Beginning balance	₩ 145	₩ 145
Acquisition	-	-
Ending balance	₩ 145	₩ 145

17. TRADE AND OTHER PAYABLES:

Trade and other payables as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)		December 31, 2023	
	Current	Non-current	Current	Non-current
Trade payables	₩ 1,580,247	₩ -	₩ 3,114,298	₩ -
Non-trade payables	415,706	364	382,741	364
Accrued expenses	300,965	-	352,756	-
Lease liabilities	338,718	1,586,893	331,076	1,538,286
Others [1]	10,011	-	8,207	-
Total	₩ 2,645,647	₩ 1,587,257	₩ 4,189,078	₩ 1,538,650

[1] Details of other payables for the three-month period ended March 31, 2024, and for the year ended December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)		December 31, 2023	
	Current	Non-current	Current	Non-current
Royalty	₩ 10,011	₩ -	₩ 8,207	₩ -
Total	₩ 10,011	₩ -	₩ 8,207	₩ -

18. BORROWINGS AND DEBENTURES:

(1) Borrowings and debentures as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)	December 31, 2023
Current		
Short-term borrowings	₩ 15,632,761	₩ 14,705,074
Current portion of long-term borrowings	5,098	2,334
Current portion of debentures	2,483,520	3,127,544
Less: discount on debentures	(96)	(212)
	18,121,283	17,834,740
Non-current		
Long-term borrowings	290,292	278,894
Debentures, net of current portion	21,348,777	20,785,947
Less: discount on debentures	(41,129)	(42,931)
	21,597,940	21,021,910
	₩ 39,719,223	₩ 38,856,650

(2) Repayment schedules of borrowings and debentures as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)		
	Borrowings	Debentures	Total
1 year or less	₩ 15,637,859	₩ 2,483,520	₩ 18,121,379
1 year–5 years	5,488	15,607,837	15,613,325
More than 5 years	284,804	5,740,940	6,025,744
	₩ 15,928,151	₩ 23,832,297	₩ 39,760,448

	December 31, 2023		
	Borrowings	Debentures	Total
1 year or less	₩ 14,707,408	₩ 3,127,544	₩ 17,834,952
1 year–5 years	9,088	15,002,677	15,011,765
More than 5 years	269,806	5,783,270	6,053,076
	₩ 14,986,302	₩ 23,913,491	₩ 38,899,793

18. Borrowings and debentures (cont'd)

(3) The Group's short-term borrowings as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

Lender	Interest rate	Maturity	March 31, 2024 (Unaudited)	December 31, 2023
Local currency borrowings (overdraft and bank loans)				
KEB Hana Bank	-	-	₩ -	₩ 11,377
KDB	-	-	-	1,677
KEB Hana Bank	5.62%	2024. 04	5,307	-
KDB	14.99%	2024. 11	963	-
			6,270	13,054
Local currency borrowings (electronic short-term debentures)				
DB Securities Co., Ltd.	-	-	-	260,000
KB Securities Co., Ltd.	-	-	-	30,000
NH INVESTMENT & SECURITIES CO., LTD.	-	-	-	160,000
Kyobo Securities Co., Ltd.	-	-	-	310,000
DAOL Investment & Securities Co., Ltd.	-	-	-	410,000
DS Investment & Securities Co., Ltd.	-	-	-	95,000
MERITZ SECURITIES CO., LTD.	-	-	-	140,000
Bookook Securities Co., Ltd.	-	-	-	170,000
BNK Securities Co., Ltd.	-	-	-	160,000
Woori Investment Bank Co., Ltd.	-	-	-	70,000
Yuanta Securities Co., Ltd.	-	-	-	100,000
Eugene Investment & Securities Co., Ltd.	-	-	-	190,000
Cape Investment & Securities co., Ltd.	-	-	-	10,000
Hana Securities Co., Ltd.	-	-	-	180,000
HI INVESTMENT & SECURITIES CO., LTD.	-	-	-	30,000
Hanyang Securities Co., Ltd.	-	-	-	1,600,000
Hanhwa Investment & Securities Co., Ltd.	-	-	-	10,000
HYUNDAI MOTOR SECURITIES CO., LTD.	-	-	-	170,000
HEUNGKUK SECURITIES CO., LTD.	-	-	-	400,000
DB Securities Co., Ltd.	3.55%–3.66%	2024.04	315,000	-
KB Securities Co., Ltd.	3.66%	2024.04	10,000	-
Kyobo Securities Co., Ltd.	3.59%–3.68%	2024.04	60,000	-
DAOL Investment & Securities Co., Ltd.	3.56%–3.66%	2024.04	210,000	-
DS Investment & Securities Co., Ltd.	3.53%–3.68%	2024.04	110,000	-
MERITZ SECURITIES CO., LTD.	3.51%–3.55%	2024.04	220,000	-
Bookook Securities Co., Ltd.	3.53%–3.71%	2024.04–2024.05	600,000	-
BNK Securities Co., Ltd.	3.56%	2024.04	25,000	-
Woori Investment Bank Co., Ltd.	3.58%–3.61%	2024.04	130,000	-
Yuanta Securities Co., Ltd.	3.66%–3.71%	2024.04–2024.08	180,000	-
Eugene Investment & Securities Co., Ltd.	3.61%–3.68%	2024.04	40,000	-
Cape Investment & Securities co., Ltd.	3.55%–3.71%	2024.04–2024.05	230,000	-
HI INVESTMENT & SECURITIES CO., LTD.	3.68%	2024.04	20,000	-
Hanyang Securities Co., Ltd.	3.51%–3.71%	2024.04–2024.08	2,705,000	-
HYUNDAI MOTOR SECURITIES CO., LTD.	3.53%–3.74%	2024.04–2024.05	500,000	-
HEUNGKUK SECURITIES CO., LTD.	3.66%	2024.04	20,000	-
Hanhwa Investment & Securities Co., Ltd.	3.68%	2024.04	10,000	-
SK Securities Co., Ltd.	3.66%	2024.04	30,000	-
			5,415,000	4,495,000

18. Borrowings and debentures (cont'd)

(3) The Group's short-term borrowings as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions) (cont'd):

Lender	Interest rate	Maturity	March 31, 2024 (Unaudited)	December 31, 2023
Local currency borrowings (commercial paper)				
DB Securities Co., Ltd.	-	-	₩ -	₩ 530,000
Kyobo Securities Co., Ltd.	-	-	-	130,000
DAOL Investment & Securities Co., Ltd.	-	-	-	500,000
DS Investment & Securities Co., Ltd.	-	-	-	10,000
MERITZ SECURITIES CO., LTD.	-	-	-	170,000
Bookook Securities Co., Ltd.	-	-	-	440,000
BNK Securities Co., Ltd.	-	-	-	30,000
Yuanta Securities Co., Ltd.	-	-	-	290,000
Eugene Investment & Securities Co., Ltd.	-	-	-	160,000
Cape Investment & Securities co., Ltd.	-	-	-	70,000
KIWOOM Securities Co., Ltd.	-	-	-	20,000
Hana Securities Co., Ltd.	-	-	-	90,000
HI INVESTMENT & SECURITIES CO., LTD.	-	-	-	70,000
Hanyang Securities Co., Ltd.	-	-	-	1,060,000
HYUNDAI MOTOR SECURITIES CO., LTD.	-	-	-	760,000
HEUNGKUK SECURITIES CO., LTD.	-	-	-	20,000
KEB Hana Bank	-	-	-	1,600,000
DB Securities Co., Ltd.	3.66%–4.09%	2024.06–2024.12	460,000	-
Kyobo Securities Co., Ltd.	3.81%–4.24%	2024.06–2024.09	130,000	-
DAOL Investment & Securities Co., Ltd.	3.81%–4.09%	2024.06–2024.12	480,000	-
DS Investment & Securities Co., Ltd.	3.86%	2024.12	10,000	-
MERITZ SECURITIES CO., LTD.	3.83%	2024.06	150,000	-
Bookook Securities Co., Ltd.	3.66%–4.24%	2024.06–2024.10	570,000	-
Yuanta Securities Co., Ltd.	3.81%–3.84%	2024.06–2024.07	220,000	-
Eugene Investment & Securities Co., Ltd.	3.66%–3.83%	2024.06–2024.08	120,000	-
Cape Investment & Securities co., Ltd.	3.81%–4.24%	2024.06–2024.09	70,000	-
HI INVESTMENT & SECURITIES CO., LTD.	3.81%–3.86%	2024.07–2024.12	70,000	-
Hanyang Securities Co., Ltd.	3.66%–4.24%	2024.04–2024.12	1,180,000	-
HYUNDAI MOTOR SECURITIES CO., LTD.	3.66%–4.24%	2024.06–2024.12	660,000	-
HEUNGKUK SECURITIES CO., LTD.	3.86%	2024.12	20,000	-
KEB Hana Bank	3M CD + 0.20% –3M CD + 1.02%	2024.04–2024.06	1,600,000	-
			5,740,000	5,950,000

18. Borrowings and debentures (cont'd)

(3) The Group's short-term borrowings as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions) (cont'd):

Lender	Interest rate	Maturity	March 31, 2024 (Unaudited)	December 31, 2023
Foreign currency borrowings				
The Export-Import Bank of Korea	-	-	₩ -	₩ 515,759
Shinhan Bank	-	-	-	165,369
DBS	-	-	-	883,558
KDB	-	-	-	1,234,761
ANZ	-	-	-	432,011
HSBC	-	-	-	242,379
KEB Hana Bank	-	-	-	248,165
KEB Hana Bank	-	-	-	257,334
SC Bank	-	-	-	166,927
BNP Paribas	-	-	-	100,757
The Export-Import Bank of Korea	5.65%	2024.08	269,360	-
Shinhan Bank	5.61%–5.74%	2024.06	292,709	-
DBS	5.66%–5.99%	2024.04–2024.09	1,064,613	-
KDB	5.61%–5.95%	2024.04–2024.09	1,051,485	-
ANZ	5.72%–5.74%	2024.08	357,300	-
HSBC	5.90%–5.92%	2024.05	253,169	-
KB Bank	5.70%–5.72%	2024.08	208,359	-
KEB Hana Bank	5.70%–5.90%	2024.05–2024.08	694,896	-
SC Bank	5.85%	2024.05	174,358	-
BNP Paribas	5.84%	2024.06	105,242	-
			4,471,491	4,247,020
			₩ 15,632,761	₩ 14,705,074

(4) The Group's long-term borrowings as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions and US dollars in thousands):

Lender	Interest rate	Maturity	March 31, 2024 (Unaudited) Foreign currency (USD)	March 31, 2024 (Unaudited) Local currency (KRW)	December 31, 2023 Foreign currency (USD)	December 31, 2023 Local currency (KRW)
Korean won long-term borrowings:						
KDB[1]	3M CD + 2.17%	2043. 05	USD -	₩ 33,067	USD -	₩ 33,067
Foreign long-term borrowings:						
Korea Energy Agency[2]		-[3]	USD 194,775	₩ 262,323	USD 192,462	₩ 248,161
Less: discount on debentures				(5,098)		(2,334)
			USD 194,775	₩ 290,292	USD 192,462	₩ 278,894

[1] As of March 31, 2024, the Group has provided vessel (book value: ₩39,746 million) to the KDB as collaterals for the Group's borrowings.
[2] As of March 31, 2024, the Group has provided 10 blank notes to the Korea Energy Agency as collaterals for the Group's borrowings.
[3] These are the conditional loan that will be repaid only if the related developments are available as commercial.

18. Borrowings and debentures (cont'd)

(5) Debentures as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions, US dollars, HK dollars and Euro in thousands):

			March 31, 2024 (Unaudited)			December 31, 2023		
List	Interest rate	Maturity	Foreign currency		Local currency (KRW)	Foreign currency		Local currency (KRW)
318th	3.28%	2027.07	-	-	170,000	-	-	170,000
320th	3.12%	2025.09	-	-	120,000	-	-	120,000
322–323th	3.10%–3.13%	2024.09–2025.04	-	-	170,000	-	-	170,000
326–327th	3.24%–3.25%	2025.08–2028.08	-	-	320,000	-	-	320,000
329–331th	3.06%–3.45%	2024.06–2028.04	-	-	410,000	-	-	410,000
334–338th	3.63%–3.86%	2024.08–2027.09	-	-	410,000	-	-	410,000
344–345th	3.66%–3.71%	2029.04	-	-	230,000	-	-	230,000
347–350th	3.73%–3.87%	2024.05–2033.11	-	-	430,000	-	-	430,000
352–363th	3.18%–4.02%	2024.03–2034.05	-	-	1,280,000	-	-	1,410,000
367–375th	2.17%–2.93%	2024.10–2030.08	-	-	1,270,000	-	-	1,270,000
377–380th	1.77%–2.75%	2030.07–2036.06	-	-	360,000	-	-	360,000
385th	2.84%	2038.03	-	-	50,000	-	-	50,000
388th	2.90%	2038.05	-	-	100,000	-	-	100,000
390–395th	1.63%–2.16%	2027.04–2039.03	-	-	800,000	-	-	800,000
397–398th	1.42%–1.57%	2028.09	-	-	170,000	-	-	170,000
400th	1.60%	2039.10	-	-	110,000	-	-	110,000
403–409th	1.39%–1.74%	2027.05–2040.02	-	-	670,000	-	-	670,000
412–415th	1.68%–2.18%	2026.03–2031.08	-	-	400,000	-	-	400,000
417–432th	2.69%–6.25%	2024.09–2027.10	-	-	1,500,000	-	-	1,500,000
433–478th	3.68%–4.76%	2025.02–2028.12	-	-	5,980,000	-	-	5,980,000
479–484th	3.52%–3.69%	2027.02–2029.03	-	-	600,000	-	-	-
Global 4th	6.25%	2042.01	USD	750,000	1,010,100	USD	750,000	967,050
MTN 13th	3.02%	2028.06	EUR	38,000	55,212	EUR	38,000	54,210
MTN 17th	4.00%	2024.01	-	-	-	USD	200,000	257,880
Global 7th	3.88%	2024.02	-	-	-	USD	500,000	644,700
Global 8th	3.50%	2026.07	USD	500,000	673,400	USD	500,000	644,700
MTN 18th	3.58%	2029.07	USD	100,000	134,680	USD	100,000	128,940
MTN 19th	3.58%	2029.07	USD	150,000	202,020	USD	150,000	193,410
MTN 20th	3.58%	2029.07	USD	100,000	134,680	USD	100,000	128,940
MTN 21th	3.50%	2029.10	USD	100,000	134,680	USD	100,000	128,940
MTN 22th	3.13%	2025.10	USD	200,000	269,360	USD	200,000	257,880
MTN 23th	3.30%	2025.11	USD	50,000	67,340	USD	50,000	64,470
MTN 24th	3.30%	2025.11	USD	50,000	67,340	USD	50,000	64,470
Global 9th	3.50%	2025.07	USD	500,000	673,400	USD	500,000	644,700
MTN 25th	2.83%	2026.03	USD	100,000	134,680	USD	100,000	128,940
MTN 26th	2.80%	2026.03	USD	100,000	134,680	USD	100,000	128,940
MTN 27th	2.70%	2026.05	USD	100,000	134,680	USD	100,000	128,940
Global 10-2th	2.25%	2026.07	USD	400,000	538,720	USD	400,000	515,760
Global 11-2th	3.13%	2027.07	USD	400,000	538,720	USD	400,000	515,760
Global 12th	2.88%	2029.07	USD	500,000	673,400	USD	500,000	644,700
MTN 28th	1.42%	2027.07	HKD	450,000	77,445	HKD	450,000	74,277
Global 13-1th	1.13%	2026.07	USD	450,000	606,060	USD	450,000	580,230
Global 13-2th	2.00%	2031.07	USD	350,000	471,380	USD	350,000	451,290
Global 14th	3.88%	2027.07	USD	500,000	673,400	USD	500,000	644,700
MTN 29th	5.28%	2024.11	HKD	400,000	68,840	HKD	400,000	66,024
MTN 30th	5.53%	2024.12	USD	100,000	134,680	USD	100,000	128,940
Global 15th	4.88%	2028.07	USD	500,000	673,400	USD	500,000	644,700

18. Borrowings and debentures (cont'd)

(5) Debentures as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions, US dollars, HK dollars and Euro in thousands) (cont'd):

List	Interest rate	Maturity	March 31, 2024 (Unaudited)		December 31, 2023	
			Foreign currency	Local currency (KRW)	Foreign currency	Local currency (KRW)
Subtotal			USD 6,000,000 EUR 38,000 HKD 850,000	₩ 23,832,297	USD 6,700,000 EUR 38,000 HKD 850,000	₩ 23,913,491
Less: Discount on debentures			USD (34,693) - HKD (4,449)	₩ (41,225)	USD (36,287) - HKD (4,772)	₩ (43,143)
Balance after deduction			USD 5,965,307 EUR 38,000 HKD 845,551	₩ 23,791,072	USD 6,663,713 EUR 38,000 HKD 845,228	₩ 23,870,348
Less: current portion				₩ (2,483,520)		₩ (3,127,544)
Less: current portion of discount on debentures				₩ 96		₩ 212
Total				₩ 21,307,648		₩ 20,743,016

19. LEASES:

(1) Details of lease liabilities as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)		December 31, 2023	
	Minimum lease payments	Present value of minimum lease payments	Minimum lease payments	Present value of minimum lease payments
Long-term transportation contract lease				
1 year or less	₩ 326,574	₩ 314,422	₩ 319,201	₩ 306,749
1 year–5 years	998,693	818,187	955,639	781,791
More than 5 years	1,138,418	627,713	1,123,944	620,278
	₩ 2,463,685	₩ 1,760,322	₩ 2,398,784	₩ 1,708,818
Lease other than long-term transportation contract				
1 year or less	₩ 25,223	₩ 24,296	₩ 25,135	₩ 24,327
1 year–5 years	65,414	60,888	64,601	60,960
More than 5 years	106,502	80,105	97,593	75,257
	₩ 197,139	₩ 165,289	₩ 187,329	₩ 160,544
Total				
1 year or less	₩ 351,797	₩ 338,718	₩ 344,336	₩ 331,076
1 year–5 years	1,064,107	879,075	1,020,240	842,751
More than 5 years	1,244,920	707,818	1,221,537	695,535
	₩ 2,660,824	₩ 1,925,611	₩ 2,586,113	₩ 1,869,362

(2) Changes in right-of-use assets for the three-month period ended March 31, 2024, and for the year ended December 31, 2023, are as follows (Korean won in millions):

	2024 (Unaudited)				
	Beginning balance	Increase	Depreciation	Others	Ending balance
Right-of-use assets					
Land	₩ 108,336	₩ 12,771	₩ (2,574)	₩ (1,156)	₩ 117,377
Buildings	15,326	2,664	(2,024)	75	16,041
Structures	2,660	-	-	102	2,762
Machinery	19,796	-	(468)	303	19,631
Vehicles	7,225	369	(1,030)	(4)	6,560
Vessel	1,364,848	(4,883)	(57,331)	337	1,302,971
Aircraft	1,715	887	(198)	86	2,490
Software	6	-	-	-	6
	₩ 1,519,912	₩ 11,808	₩ (63,625)	₩ (257)	₩ 1,467,838

19. Leases (cont'd)

(2) Changes in right-of-use assets for the three-month period ended March 31, 2024, and for the year ended December 31, 2023, are as follows (Korean won in millions) (cont'd):

	2023					
	Beginning balance	Increase	Depreciation	Impairment[1]	Others	Ending balance
Right-of-use assets						
Land	₩ 115,262	₩ 4,317	₩ (10,121)	₩ (159)	₩ (963)	₩ 108,336
Buildings	12,594	11,468	(7,575)	-	(1,161)	15,326
Structures	2,678	-	-	-	(18)	2,660
Machinery	14,230	7,357	(1,701)	-	(90)	19,796
Vehicles	8,770	2,635	(4,080)	-	(100)	7,225
Vessel	1,927,884	8,237	(246,629)	(324,619)	(25)	1,364,848
Aircraft	309	1,999	(581)	-	(12)	1,715
Software	5	3	(2)	-	-	6
	₩ 2,081,732	₩ 36,016	₩ (270,689)	₩ (324,778)	₩ (2,369)	₩ 1,519,912

[1] The Group recognized ₩324,619 million in impairment losses on KC-1-related assets and ₩159 million in impairment losses on land-related assets at hydrogen charging stations and hydrogen production bases for 2023. The amount is included in the "Other Profits (Losses)" category in the interim condensed consolidated statements of comprehensive income. (Notes 13 and 15)

(3) Amounts recognized in the interim condensed consolidated statements of comprehensive income in relation to leases for the three-month periods ended March 31, 2024 and 2023, are as follows:

	2024 (Unaudited)	2023 (Unaudited)
Right-of-use assets' depreciation expenses		
Land	₩ 2,574	₩ 2,549
Buildings	2,024	1,645
Structures	-	16
Machinery	468	410
Vehicles	1,030	1,013
Vessel	57,331	61,389
Aircraft	198	155
	₩ 63,625	₩ 67,177
Interest expenses on lease liabilities (finance costs)	₩ 27,043	₩ 21,764
Interest income on present value discount of deposits (finance income)	735	316
Short-term lease payments (included in cost of sales and administrative expenses)	75	317
Low-value lease payments (included in cost of sales and administrative expenses)	253	462

20. POSTEMPLOYMENT BENEFITS:

The Group operates both defined contribution and defined benefit pension plans.

(Defined Contribution Pension Plan)

- For defined contribution plan, the mandatory contribution amount of the Group is set on contractual or voluntary basis. The Group has no further payment obligation once the contribution has been paid.
- Employees select a publicly or privately administered pension insurance plan based on the rule of the plan and bear the risk.
- The pensionable right of employees is guaranteed in the plan as the contribution is accumulated in each employee's name, independently from the Group.

(Defined Benefit Pension Plan)

- For defined benefit plan, the benefit amount of the employees is set, depending on their age, periods of service or salary levels.
- Employees expect their own postemployment benefit amount reasonably, and the Group bears the risk.

(1) Defined contribution plan

Details of recognized expense related to the defined contribution plan for the three-month periods ended March 31, 2024 and 2023, are as follows (Korean won in millions):

	2024 (Unaudited)	2023 (Unaudited)
Cost of sales	₩ 2,319	₩ 1,741
Selling and administrative expenses	1,216	711
Others	65	59
	₩ 3,600	₩ 2,511

(2) Defined benefit plan

According to the defined benefit plan, employees will receive their average salaries for the past three months multiplied by the rate of payment considering the year of service on their retirement. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method.

(3) Changes in the carrying amount of defined benefit obligations for the three-month period ended March 31, 2024, and for the year ended December 31, 2023, are as follows (Korean won in millions):

	2024 (Unaudited)	2023
Beginning balance	₩ 337,975	₩ 304,665
Current service cost	7,706	29,023
Interest expense	4,189	18,086
Remeasurements	(551)	39,421
Benefit payments	(1,625)	(5,483)
Convert to defined contribution	(9,131)	(47,899)
Settlements	-	156
Foreign exchange difference	21	6
Ending balance	₩ 338,584	₩ 337,975

20. Postemployment benefits (cont'd)

(4) Changes in the fair value of plan assets for the three-month period ended March 31, 2024, and for the year ended December 31, 2023, are as follows (Korean won in millions):

	2024 (Unaudited)	2023
Beginning balance	₩ 416,342	₩ 431,200
Interest income	5,254	25,275
Remeasurements	(507)	(88)
Employer's contributions	-	15,044
Benefits paid	(1,625)	(5,859)
Conversion to defined contribution	(10,893)	(49,230)
Ending balance	₩ 408,571	₩ 416,342

(5) The amounts recognized in profit or loss for the three-month periods ended March 31, 2024 and 2023, are as follows (Korean won in millions):

	2024 (Unaudited)	2023 (Unaudited)
Current service cost	₩ 7,706	₩ 7,237
Interest expenses	4,189	4,505
Interest income	(5,254)	(6,472)
	₩ 6,641	₩ 5,270

21. PROVISIONS:

Details of provisions as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)			December 31, 2023		
	Current	Non-current	Total	Current	Non-current	Total
Provision for employee benefits	₩ 83,748	₩ 1,502	₩ 85,250	₩ 66,922	₩ 1,502	₩ 68,424
Provision for greenhouse gas emission	954	260	1,214	954	-	954
Provision for financial guarantee	-	7,911	7,911	-	9,751	9,751
Provision for lawsuit[1]	23,321	28,571	51,892	29,745	27,017	56,762
Provision for restoration	-	140,453	140,453	-	139,537	139,537
Provision for loss-bearing contract	277	-	277	277	-	277
Others	1,852	6,034	7,886	1,852	5,369	7,221
	₩ 110,152	₩ 184,731	₩ 294,883	₩ 99,750	₩ 183,176	₩ 282,926

[1] KC-1 litigation comprises provisions of ₩10,637 million and ₩28,571 million, and KOGAS Australia Pty. Ltd. litigation of ₩12,684 million regarding the calculation of royalties. (Note 36.(1))

22. NON-FINANCIAL LIABILITIES:

Details of non-financial liabilities as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)		December 31, 2023	
	Current	Non-Current	Current	Non-Current
Advances received	₩ 14,872	₩ -	₩ 3,036	₩ -
Unearned revenues	20,563	-	19,722	-
Withholdings	14,677	-	17,001	-
Deferred income	6,531	4,276	3,207	3,884
Others	239,140	60,724	228,745	54,492
	₩ 295,783	₩ 65,000	₩ 271,711	₩ 58,376

23. EQUITY:

(1) Details of share capital as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions except par value in Korean won):

	Total shares authorized	Total shares issued	Par value	March 31, 2024 (Unaudited)			December 31, 2023		
				Government	Non-government	Total	Government	Non-government	Total
Common share	200,000,000 shares	92,313,000 shares	₩ 5,000	₩ 120,722	₩ 340,843	₩ 461,565	₩ 120,722	₩ 340,843	₩ 461,565

(2) Changes in the number of shares outstanding for the three-month period ended March 31, 2024, and for the year ended December 31, 2023, are as follows:

	2024	2023
	Common share	Common share
Beginning shares	85,826,950	85,826,950
Ending shares	85,826,950	85,826,950

(3) Details of share premium as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)	December 31, 2023
Share premium	₩ 1,303,548	₩ 1,303,548

24. RETAINED EARNINGS:

(1) Retained earnings as of March 31, 2024, and December 31, 2023, consist of the following (Korean won in millions):

	March 31, 2024 (Unaudited)	December 31, 2023
Legal reserve[1]	₩ 230,783	₩ 230,783
Voluntary reserves	4,286,710	5,200,055
Unappropriated retained earnings	2,565,807	1,247,784
	₩ 7,083,300	₩ 6,678,622

[1] The *Korea Gas Corporation Act* requires the Corporation to appropriate as a legal reserve an amount equal to a minimum of 10% of its profits for each reporting period until the reserve equals 50% of its share capital. The legal reserve may be used to reduce a deficit or may be transferred to share capital in connection with a free issuance of shares.

(2) Voluntary reserves as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)	December 31, 2023
Business expansion	₩ 3,517,252	₩ 4,430,597
Dividend equalization	219,282	219,282
Business rationalization	792	792
Accident compensation	461,565	461,565
Improvement of financial structure	87,819	87,819
	₩ 4,286,710	₩ 5,200,055

(3) Changes in retained earnings for the three-month period ended March 31, 2024, and for the year ended December 31, 2023, are as follows (Korean won in millions):

	2024 (Unaudited)	2023
Beginning balance	₩ 6,678,622	₩ 7,476,257
Profit attributable to owners of the parent	406,356	(761,211)
Remeasurement of defined benefit plans	35	(29,573)
Interest payment of hybrid bonds	(1,713)	(6,851)
Ending balance	₩ 7,083,300	₩ 6,678,622

(4) Dividends paid for the three-month period ended March 31, 2024, and for the year ended December 31, 2023, are as follows (Korean won):

	March 31, 2024				
	Total shares issued	Treasury stock	Shares eligible for dividends	Dividends per share	Total dividends
Common share	92,313,000	6,486,050	85,826,950	₩ -	₩ -

	December 31, 2023				
	Total shares issued	Treasury stock	Shares eligible for dividends	Dividends per share	Total dividends
Common share	92,313,000	6,486,050	85,826,950	₩ -	₩ -

25. HYBRID BONDS

Details of hybrid bonds as of March 31, 2024, are as follows (Korean won):

Terms	Details of the terms
Issued amount	335,328,785,000
Issue date	November 16, 2021
Maturity	The principal of this bond is repaid on the maturity date of November 16, 2051. If the principal repayment date falls on a bank holiday, repayment is made on the next business day, and interest after the principal repayment date is not calculated. However, the issuer may continuously extend the maturity of the bond under the same issuance conditions by notifying the Korea Securities Depository five business days before the expiration date, and the bond creditor cannot offset the bond as an automatic bond.
Interest rate	(A) The interest rate on the bonds in this case shall be 2.043% per annum. (B) The interest rate obtained by adding the additional interest rate prescribed in item (ii)(c) to the interest rate prescribed in item (i)(a) shall be applied from the time when five years have elapsed since the issuance of the bonds. (C) The additional interest rate shall be the average interest rate (Truncation of four decimal places) of the five-year unguaranteed bonds of each issuer evaluated two business days before the date on which the KOREA ASSET PRICING Co., KIS PRICING INC., NICE P&I INC. and FnPricing Inc.(if the names of the above credit rating companies are changed for any reason, including merger or spin-off, after the date of conclusion of this contract, applicable corporations will be included as well.) should calculate or recalculate. The additional interest rate shall be recalculated every five years after the initial calculation when five years have elapsed since the issuance of the bonds.
Interest payment terms	Interest is paid in installments by 1/4 of the annual interest rate every three months from the issuance date of this bond to the redemption date. However, if the interest payment date falls on a bank holiday, interest is paid on the next business day, and interest after the interest payment date is not calculated. After the issuance date of the bond, the issuer may defer the payment of interest, in entirety or partially, to the next interest payment term, if necessary.
Dividend terms	(A) After the issuance date of this bond, the issuer may, at its option, defer payment of all or part of interest (including interest for which the interest payment date has already been deferred pursuant to this subparagraph) until the next interest payment date. (B) Even if the issuer suspends payment of all or part of the interest pursuant to item (A), the issuer shall, at the option of the issuer, on the subsequent interest payment date, pay interest with deferred payment following its decision (hereinafter referred to as “deferred interest”) and the accumulated interests, and no resolution on cash and stock dividends shall be made until the full amount of interest to be paid on the date of interest payment and deferred interest is paid. In case where the resolution on cash and stock dividend is made violating the aforementioned term, the interest payment date preceding the dividend resolution shall be considered as the due date for the accumulated interest including the deferred amount. In addition, if the issuer exercises the prepayment right pursuant to the Article 20, the accumulated interest including the deferred interest should be paid by the issuer on the date when the prepayment right is exercised. However, if the applicable interest payment date falls on bank holiday, repayment is made on the next business day, and interest after the interest payment date is not calculated.
Exchange terms	Exchange of treasury stock held by the Corporation for one share for every ₩51,700 of electronically registered debentures
Exchange request period	December 16, 2021–October 16, 2051
Other terms	1. Early redemption right of the issuing company (Call Option): ① After five years have elapsed from the issuance date of this bond, the entire bond can be repaid in advance on the day corresponding to each interest payment date. ② Notwithstanding ①, the external auditor’s opinion statement stating that the debentures in this case cannot be recognized as capital for accounting due to changes in the K-IFRS or changes in laws, regulations, guidelines of related organizations or accounting firms alternatively, if the issuer submits an external auditor's external audit (review) report that reflects the above information to investors, the issuer may prepay the bonds on the interest payment date immediately following the occurrence of the cause. However, the issuing company may make a prepayment in accordance with this regulation only after the effective date of the change in accounting standards. ③ When the issuer exercises the redemption right in accordance with ① or ②, the issuer pays the entire principal amount of the bonds by paying the entire face value without a separate discount or surcharge, and the full amount of unpaid interest. ④ When the issuer exercises the prepayment right pursuant to ① or ②, the issuing company must notify the principal and interest payment agency and Korea Securities Depository of its intention at least five business days prior to the date of exercising the prepayment right. 2. Investor’s right to claim redemption in advance (Put Option): Not applicable

As the aforementioned hybrid bonds do not substantially bear the contractual payment obligation, the Group classified the Hybrid bonds as equity, and recognized ₩334,520 million as equity, deducting issuance costs from the issuance amount.

26. INCOME TAX EXPENSE RELATED TO CONTINUING OPERATIONS

(1) Income tax expensed

Income tax expense was calculated by adjusting the adjustments recognized for the three-month period ended March 31, 2024, in relation to the income tax for the year ended December 31, 2023, changes in deferred tax due to temporary differences and income tax expenses in relation to items recognized other than profit or loss. The Group is subject to the global minimum tax under the Pillar 2 Act from January 1, 2024. The Group is obligated to pay additional current income tax related to its business activities in Marshall Islands, Singapore and Hong Kong. This effect was considered when determining the average effective tax rate for the three-month period ended March 31, 2024. For the three-month periods ended March 31, 2024 and 2023, the estimated weighted-average effective tax rate (income tax expense ÷ profit before income tax) is 35.61% and 41.15%, respectively.

(2) Global Minimum Corporate Tax

Consolidated companies are considered to be subject to the global minimum tax law, which will take effect on January 1, 2024. As of the reporting period, additional taxes are expected to occur in Marshall Islands, Singapore and Hong Kong, where the Company's subsidiaries are located in the Global Minimum Tax Act. For the three-month period ended March 31, 2024, consolidated companies recognized the current corporate tax expense of ₩10,135 million that the top parent company has to pay in relation to the global minimum tax. Consolidated companies applied the mandatory provision for temporary exemption from deferred tax accounting due to the impact of the global minimum tax and accounted for it as corporate tax for the current period when the global minimum tax occurred.

27. EXPENSES BY NATURE:

Details of expenses by nature for the three-month periods ended March 31, 2024 and 2023, are as follows (Korean won in millions):

	2024 (Unaudited)			
	Changes in inventories	Selling and administrative expenses	Cost of sales	Total
Changes in inventories:				
Finished goods	₩ 10,962	₩ -	₩ -	₩ 10,962
Merchandise	(1,262)	-	9,652	8,390
Raw materials used	-	-	11,189,761	11,189,761
Salaries	-	25,772	107,721	133,493
Retirement benefits	-	2,405	7,268	9,673
Employee welfare	-	2,619	10,260	12,879
Insurance premium	-	687	2,859	3,546
Depreciation	-	5,161	442,427	447,588
Amortization	-	1,294	28,434	29,728
Bad debt expenses	-	230	-	230
Commission	-	14,655	45,940	60,595
Advertising	-	2,468	21	2,489
Training	-	1,423	498	1,921
Vehicles maintenance	-	69	1,059	1,128
Periodicals and printing	-	75	58	133
Business promotion expenses	-	75	50	125
Rents	-	1,070	4,203	5,273
Communication	-	103	274	377
Taxes and dues	-	37,282	11,308	48,590
Supplies	-	108	286	394
Utilities	-	541	89,861	90,402
Repairs and maintenance	-	247	5,165	5,412
Research and development	-	8,756	66	8,822
Travel and transportation	-	659	998	1,657
Clothing expenses	-	212	94	306
Association fee	-	138	56	194
Sales promotion costs	-	135	-	135
Promotional expenses	-	364	-	364
Outsourcing	-	-	5,494	5,494
Facility management	-	-	68,297	68,297
Other expenses[1]	-	2,798	(262,077)	(259,279)
	₩ 9,700	₩ 109,346	₩ 11,770,033	₩ 11,889,079

[1] The settlement amount of supply cost is included in cost of sales classified as other expenses, and the related details are described in Note 11.

27. Expenses by nature (cont'd)

Details of expenses by nature for the three-month periods ended March 31, 2024 and 2023, are as follows (Korean won in millions) (cont'd):

	2023 (Unaudited)			
	Changes in inventories	Selling and administrative expenses	Cost of sales	Total
Changes in inventories:				
Finished goods	₩ (15,247)	₩ -	₩ -	₩ (15,247)
Merchandise	-	-	1,421	1,421
Raw materials used	-	-	16,689,685	16,689,685
Salaries	-	25,610	100,302	125,912
Retirement benefits	-	1,646	5,670	7,316
Employee welfare	-	2,735	10,009	12,744
Insurance premium	-	639	2,959	3,598
Depreciation	-	4,729	424,266	428,995
Amortization	-	1,357	25,162	26,519
Bad debt expenses	-	216	-	216
Commission	-	14,730	21,935	36,665
Advertising	-	3,391	18	3,409
Training	-	1,332	628	1,960
Vehicles maintenance	-	56	1,043	1,099
Periodicals and printing	-	71	81	152
Business promotion expenses	-	90	60	150
Rents	-	1,025	3,073	4,098
Communication	-	144	290	434
Taxes and dues	-	31,888	19,969	51,857
Supplies	-	126	229	355
Utilities	-	508	117,030	117,538
Repairs and maintenance	-	200	5,322	5,522
Research and development	-	8,728	77	8,805
Travel and transportation	-	644	792	1,436
Clothing expenses	-	2	28	30
Association fee	-	53	70	123
Sales promotion costs	-	1,135	-	1,135
Promotional expenses	-	488	-	488
Outsourcing	-	-	6,502	6,502
Facility management	-	-	56,123	56,123
Other expenses[1]	-	20,949	(258,419)	(237,470)
	₩ (15,247)	₩ 122,492	₩ 17,234,325	₩ 17,341,570

[1] The settlement amount of supply cost is included in cost of sales classified as other expenses, and the related details are described in Note 11.

28. OTHER INCOME AND EXPENSES:

(1) Details of other income for the three months ended March 31, 2024 and 2023, are as follows (Korean won in millions):

	2024 (Unaudited)	2023 (Unaudited)
Reversal of other provisions	₩ -	₩ 851
Earnings from government grant (non-operating)	-	10
Compensation and indemnity gains	88	4,534
Rental income	786	725
Other income	635	530
	₩ 1,509	₩ 6,650

(2) Details of other expenses for the three months ended March 31, 2024 and 2023, are as follows (Korean won in millions):

	2024 (Unaudited)	2023 (Unaudited)
Reversal of other provision	₩ 28	₩ -
Depreciation of idle assets	81	4,243
Donations	197	457
Compensation and indemnity losses	1,867	104
Other bad debt expenses	-	53
Other losses	1,065	407
	₩ 3,238	₩ 5,264

29. OTHER GAINS AND LOSSES:

Details of other gains (losses) for the three months ended March 31, 2024 and 2023, are as follows (Korean won in millions):

	2024 (Unaudited)	2023 (Unaudited)
Gains on disposal of property, plant and equipment	₩ 380	₩ 151
Other gains	12,712	15,137
Losses on disposal of property, plant and equipment	(4)	(3)
Other losses	(3,847)	(1,155)
	₩ 9,241	₩ 14,130

30. FINANCE INCOME:

Details of finance income for the three months ended March 31, 2024 and 2023, are as follows (Korean won in millions):

	2024 (Unaudited)	2023 (Unaudited)
Interest income	₩ 29,962	₩ 23,779
Gains on valuation of derivative instruments	136,550	98,950
Gains on transaction of derivative instruments	188,160	366,349
Foreign currency translation gains	271,357	189,438
Foreign currency transaction gains	45,081	142,871
	₩ 671,110	₩ 821,387

31. FINANCE COSTS:

Details of finance costs for the three months ended March 31, 2024 and 2023, are as follows (Korean won in millions):

	2024 (Unaudited)	2023 (Unaudited)
Interest expenses	₩ 414,818	₩ 425,771
Losses on valuation of financial assets at FVTPL	39	-
Losses on valuation of derivative instruments	14,395	49,182
Losses on transaction of derivative instruments	20,049	119,179
Losses on foreign currency translation	369,725	227,690
Losses on foreign currency transactions	236,662	388,185
	₩ 1,055,688	₩ 1,210,007

32. FINANCIAL INSTRUMENTS BY CATEGORY:

(1) Details of financial instruments by categories as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

1) 2024

① Current financial assets

	March 31, 2024 (Unaudited)						
				Financial assets measured at FVTPL			
Non-current financial assets:	Debt instruments at amortized cost	Debt instruments at FVOCI	Equity instruments at FVOCI	Derivatives not designated as hedging instruments	Derivatives designated as hedging instruments	Others	Total
Cash and cash equivalents	₩ 951,871	₩ -	₩ -	₩ -	₩ -	₩ -	₩ 951,871
Financial assets at FVTPL	-	-	-	88,303	703	45,000	134,006
Financial assets at amortized cost	6,696	-	-	-	-	-	6,696
Short-term financial instruments	42,742	-	-	-	-	-	42,742
Loans	115	-	-	-	-	-	115
Trade and other receivables[1]	7,587,095	-	-	-	-	-	7,587,095
	₩ 8,588,519	₩ -	₩ -	₩ 88,303	₩ 703	₩ 45,000	₩ 8,722,525

[1] Contract assets are excluded.

32. Financial instruments by category (Cont'd)

(1) Details of financial instruments by categories as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions) (cont'd):

1) 2024 (cont'd)

② Non-current financial assets

	March 31, 2024 (Unaudited)						
				Financial assets measured at FVTPL			
Non-current financial assets:	Debt instruments at amortized cost	Debt instruments at FVOCI	Equity instruments at FVOCI	Derivatives not designated as hedging instruments	Derivatives designated as hedging instruments	Others	Total
Financial assets at FVTPL	₩ -	₩ -	₩ -	₩ 26,925	₩ -	₩ 2,354	₩ 29,279
Financial assets at FVOCI	-	-	157,644	-	-	-	157,644
Financial assets at amortized cost	458	-	-	-	-	-	458
Long-term financial instruments	18	-	-	-	-	-	18
Loans	667,410	-	-	-	-	-	667,410
Trade and other receivables[1]	213,425	-	-	-	-	-	213,425
Other non-current financial assets	90,000	-	-	-	-	-	90,000
	₩ 971,311	₩ -	₩ 157,644	₩ 26,925	₩ -	₩ 2,354	₩ 1,158,234

[1] Contract assets are excluded.

32. Financial instruments by category (Cont'd)

(1) Details of financial instruments by categories as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions) (cont'd):

1) 2024 (cont'd)

③ Current financial liabilities

	March 31, 2024 (Unaudited)				
		Financial liabilities at FVTPL			
Current financial liabilities	Financial liabilities at amortized cost	Derivatives not designated as hedging instruments	Hedging derivative instruments	Others	Total
Trade and other receivables[1]	₩ 2,612,627	₩ -	₩ -	₩ -	₩ 2,612,627
Financial liabilities at FVTPL	-	7,702	-	-	7,702
Short-term borrowings	15,632,761	-	-	-	15,632,761
Current portion of debentures	5,098	-	-		5,098
Debentures	2,483,424	-	-	-	2,483,424
	₩ 20,733,910	₩ 7,702	₩ -	₩ -	₩ 20,741,612

[1] Provisions for financial guarantees and employee benefits are excluded.

④ Non-current financial liabilities

	March 31, 2024 (Unaudited)				
		Financial liabilities at FVTPL			
Non-current financial liabilities	Financial liability at amortized cost	Derivatives not designated as hedging instruments	Hedging derivative instruments	Others	Total
Trade and other receivables[1]	₩ 1,587,257	₩ -	₩ -	₩ -	₩ 1,587,257
Financial liabilities at FVTPL	-	30,849	553	-	31,402
Borrowings	290,292	-	-	-	290,292
Bonds	21,307,647	-	-	-	21,307,647
	₩ 23,185,196	₩ 30,849	₩ 553	₩ -	₩ 23,216,598

[1] Provisions for financial guarantees and employee benefits are excluded.

32. Financial instruments by category (Cont'd)

(1) Details of financial instruments by categories as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions) (cont'd):

2) 2023

① Current financial assets

	December 31, 2023					
				Financial assets measured at FVTPL		
Non-current financial assets:	Debt instruments at amortized cost	Debt instruments at FVOCI	Equity instruments at FVOCI	Derivatives not designated as hedging instruments	Derivatives designated as hedging instruments	Others	Total
Cash and cash equivalents	₩ 780,587	₩ -	₩ -	₩ -	₩ -	₩ -	₩ 780,587
Financial assets at FVTPL	-	-	-	7,877	-	-	7,877
Financial assets at amortized cost	3,141	-	-	-	-	-	3,141
Short-term financial instruments	39,732	-	-	-	-	-	39,732
Loans	1,097	-	-	-	-	-	1,097
Trade and other receivables[1]	7,037,796	-	-	-	-	-	7,037,796
	₩ 7,862,353	₩ -	₩ -	₩ 7,877	₩ -	₩ -	₩ 7,870,230

[1] Contract assets are excluded.

② Non-current financial assets

	December 31, 2023						
				Financial assets measured at FVTPL			
Non-current financial assets:	Debt instruments at amortized cost	Debt instruments at FVOCI	Equity instruments at FVOCI	Derivatives not designated as hedging instruments	Derivatives designated as hedging instruments	Others	Total
Financial assets at FVTPL	₩ -	₩ -	₩ -	₩ 25,532	₩ -	₩ 2,323	₩ 27,855
Financial assets at FVOCI	-	-	166,683	-	-	-	166,683
Financial assets at amortized cost	429	-	-	-	-	-	429
Long-term financial instruments	18	-	-	-	-	-	18
Loans	632,402	-	-	-	-	-	632,402
Trade and other receivables[1]	209,982	-	-	-	-	-	209,982
Other non-current financial assets	90,000	-	-	-	-	-	90,000
	₩ 932,831	₩ -	₩ 166,683	₩ 25,532	₩ -	₩ 2,323	₩ 1,127,369

[1] Contract assets are excluded.

32. Financial instruments by category (Cont'd)

(1) Details of financial instruments by categories as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions) (cont'd):

2) 2023 (cont'd)

③ Current financial liabilities

	December 31, 2023				
		Financial liabilities at FVTPL			
Current financial liabilities	Financial liabilities at amortized cost	Derivatives not designated as hedging instruments	Hedging derivative instruments	Others	Total
Trade and other receivables[1]	₩ 4,156,106	₩ -	₩ -	₩ -	₩ 4,156,106
Financial liabilities at FVTPL	-	96,145	2,375	-	98,520
Short-term borrowings	14,705,074	-	-	-	14,705,074
Current portion of long-term borrowings	2,334	-	-	-	2,334
Debentures	3,127,332	-	-	-	3,127,332
	₩ 21,990,846	₩ 96,145	₩ 2,375	₩ -	₩ 22,089,366

[1] Provisions for financial guarantees are excluded.

④ Non-current financial liabilities

	December 31, 2023				
		Financial liabilities at FVTPL			
Non-current financial liabilities	Financial liability at amortized cost	Derivatives not designated as hedging instruments	Hedging derivative instruments	Others	Total
Trade and other receivables[1]	₩ 1,538,650	₩ -	₩ -	₩ -	₩ 1,538,650
Financial liabilities at FVTPL	-	36,755	1,757	-	38,512
Long-term borrowings	278,894	-	-	-	278,894
Bonds	20,743,016	-	-	-	20,743,016
	₩ 22,560,560	₩ 36,755	₩ 1,757	₩ -	₩ 22,599,072

[1] Provisions for financial guarantees are excluded.

32. Financial instruments by category (Cont'd)

(2) Net gains or losses on each category of financial instruments for the three-month periods ended March 31, 2024 and 2023, are as follows (Korean won in millions):

	2024 (Unaudited)	2023 (Unaudited)
Cash and cash equivalents		
Interest income	₩ 10,152	₩ 11,901
(Losses) gains on foreign currency transactions	(284)	730
Losses on foreign currency translation	(3,729)	(1,461)
Debt instruments measured at amortized cost		
Interest income	8,313	11,568
Gains on foreign currency transactions	6,170	4,496
Gains on foreign currency translation	265,601	176,884
Financial assets at fair value through profit or loss		
Interest income	2,010	-
Gains on foreign currency transactions	4,187	2,335
Gains on valuation of derivative instruments	136,550	98,950
Gains on transaction of derivative instruments	188,160	366,349
Gains on foreign currency translation	-	1
(Losses) gains on valuation of fair value	(39)	-
Equity instruments measured at FVOCI		
Comprehensive (loss) income recognized during the period[1]	(9,040)	10,442
Financial liabilities at fair value through profit or loss		
Losses on foreign currency transactions	(5,559)	(3,031)
Losses on valuation of derivative instruments	(14,395)	(49,182)
Losses on transaction of derivative instruments	(20,049)	(119,179)
Financial liabilities measured at amortized cost		
Interest expense	(432,086)	(439,248)
Losses on foreign currency transactions	(196,096)	(249,844)
Losses on foreign currency translation	(360,240)	(213,677)
Comprehensive loss recognized during the period[1]	(47,746)	(49,014)
Derivative liabilities designated as hedging instruments		
Interest income	9,486	310
Comprehensive income (loss) recognized during the period[1]	465	(3,321)
Others		
Capitalization of interests	17,268	13,477
	₩ (440,901)	₩ (430,514)

[1] The amounts are before income tax is deducted.

33. RISK MANAGEMENT:

(1) Risk management framework

The consolidated company manages various risks that may incur by each business unit, and the main risks are capital risk, credit risk, liquidity risk, currency risk, interest rate risk and others. These risks are recognized, measured, controlled and reported in accordance with the basic policy for risk management determined by the consolidated company.

The consolidated company's risk management policies are established to identify and analyze the risks faced by the consolidated company, to set appropriate risk limits and controls, and to monitor risks and adherence to limits.

Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the consolidated company's activities. The consolidated company's Audit Committee oversees how management monitors compliance with the consolidated company's risk management policies and procedures, and reviews the adequacy of the risk management framework in relation to the risks faced by the consolidated company.

(2) Capital risk management

The consolidated company's objectives when managing capital are to safeguard the Group's ability to continue as a going concern, so the consolidated company can continue to provide returns for shareholders and benefits for other stakeholders, and to maintain an optimal capital structure to reduce the cost of capital.

In order to maintain or adjust the capital structure, the consolidated company may adjust the amounts of dividends paid to shareholders, return capital to shareholders, issue new shares or sell assets to reduce debt.

Consistent with others in the industry, the consolidated company monitors capital on the basis of the capital procurement ratio. This ratio is calculated as net debt divided by total capital. Net debt is total borrowings (including short-term and long-term borrowings in the interim condensed consolidated statement of financial position), less cash and cash equivalents. Total capital is "equity" in the interim condensed consolidated statement of financial position, plus net debt.

The gearing ratio as of March 31, 2024, and December 31, 2023, is as follows (Korean won in millions, except net debt ratio):

	March 31, 2024 (Unaudited)	December 31, 2023
Total borrowings		
Short-term borrowings	₩ 15,632,761	₩ 14,705,074
Current portion of long-term borrowings	5,098	2,334
Current portion of debentures	2,483,424	3,127,332
Current portion of lease liabilities	338,718	331,076
Long-term borrowings	290,292	278,894
Debentures, net of current portion	21,307,647	20,743,016
Lease liabilities, net of current portion	1,586,894	1,538,286
Total borrowings	41,644,834	40,726,012
Cash equivalents		
Cash and cash equivalents	951,871	780,587
Total cash equivalents	951,871	780,587
Net debt	40,692,963	39,945,425
Total equity	10,218,723	9,826,038
Total capital	₩ 50,911,686	₩ 49,771,463
Gearing ratio	79.93%	80.26%

33. Risk management (Cont'd)

(3) Financial risk management

1) Credit risk

Credit risk is a risk that a counterparty cannot fulfill its obligation under a financial instrument or customer contract, resulting in financial loss. The consolidated company is exposed to credit risks from operating activities (mainly trade receivables), banking and financial institution deposits, foreign exchange transactions and other financial instruments.

In order to control the risk arising from the default of the debtor, the consolidated company has secured sufficient collateral in consideration of the credibility of the counterparty. The credit rating of the counterparty is based on the credit rating provided by an independent external credit rating agency, but if it is not possible to obtain the data, the credit rating is measured using the transaction information obtained with the counterparty, and the credit rating is continuously remeasured.

The consolidated company's investments in debt instruments are considered to be low risk investments. The credit ratings of the investments are monitored for credit deterioration. There are no significant concentrations of credit risk, whether through exposure to individual customers, specific industry sectors and regions.

The consolidated company has four types of financial assets that are subject to the expected credit loss model:
- trade and other receivables for sales of goods and rendering of services,
- loans to associates and others,
- debt instruments at fair value through profit or loss,
- debt instruments at fair value through other comprehensive income and
- other financial assets at amortized cost.

While cash equivalents are also subject to the impairment requirement, the identified expected credit loss was immaterial.

The consolidated company applies the simplified method to recognize loss allowance for all financial assets held based on lifetime expected credit losses.

The book value of financial assets means maximum exposure in respect of credit and counterparty risk. Meanwhile, financial guarantee contracts provided by the consolidated company are recognized as provision for financial guarantee, and maximum exposure to credit risk of financial guarantee contracts is the maximum guaranteed amount that the consolidated company should pay upon the guarantee's claims.

The maximum exposure to credit risk as of March 31, 2024, and December 31, 2023, is as follows (Korean won in millions):

	March 31, 2024 (Unaudited)	December 31, 2023
Cash and cash equivalents (excluding cash on hands)	₩ 951,801	₩ 780,509
Financial assets at FVTPL	163,285	35,732
Short-term and long-term financial assets	42,761	39,750
Financial assets at amortized cost	7,154	3,570
Loans and receivables	757,525	723,499
Trade and other receivables	7,800,520	7,247,778
Financial guarantee contracts[1]	1,570,885	1,506,725
	₩ 11,293,931	₩ 10,337,563

[1] The amount is the maximum guaranteed amount that the consolidated company is obliged to pay upon the guarantee's claims.

33. Risk management (Cont'd)

Details of financial guarantee contracts as of March 31, 2024, are as follows (Korean won in millions and US dollars in thousands):

	Total guaranteed amount			
	Foreign currency		Local currency (KRW)	
Related parties[1]				
Terminal KMS de GNL, S. De R.L. De C.V.	USD	14,479	₩	19,500
	USD	9,500		12,795
KLBV1.S.A.	USD	20,843		28,072
Coral FLNG S.A.	USD	579,932		781,053
Coral South FLNG DMCC	USD	487,470		656,525
Others[2]				
Empresa Nacional de Hidrocarbonetos, E.P	USD	54,158		72,940
Total			₩	1,570,885

[1] Details of these financial guarantee contracts are described in Note 34.(7)
[2] Details of these financial guarantee contracts are described in Note 36.(2)

33. Risk management (Cont'd)

2) Liquidity risk

Liquidity risk is the risk that the consolidated company will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The consolidated company's approach to managing liquidity is to ensure, as far as possible, that it will always have sufficient liquidity to meet its liabilities when due, under both normal and stressed conditions. Management of the consolidated company believes that it is able to repay the financial liabilities by cash flows from operating activities and cash inflows from financial assets.

(1) The aggregate maturities of the consolidated company's financial liabilities as of March 31, 2024, are as follows (Korean won in millions):

	Book value	Cash flows in contract	1 year or less	1 year–5 years	More than 5 years
Non-derivative financial liabilities					
Debentures	₩ 23,791,071	₩ 27,474,232	₩ 3,271,654	₩ 17,338,571	₩ 6,864,007
Borrowings	15,928,151	16,001,882	14,088,095	1,617,244	296,543
Lease liabilities	1,925,611	2,660,824	351,797	1,064,107	1,244,920
Trade and other payables[1]	2,307,293	2,307,293	2,306,929	364	-
Provision for financial guarantee[2]	7,911	1,570,885	1,570,885	-	-
	₩ 43,960,037	₩ 50,015,116	₩ 21,589,360	₩ 20,020,286	₩ 8,405,470
Derivative financial liabilities					
Derivative financial liabilities[3]	₩ 39,104	₩ 35,128	₩ 12,016	₩ 23,112	₩ -

[1] Lease liabilities are excluded as they are presented separately.
[2] In case of finance guarantee contracts, the amount is distributed to the earliest period when the guarantee could be demanded.
[3] Derivatives for trading purpose and cash flow hedges are included.

(2) The aggregate maturities of the Group's financial liabilities as of December 31, 2023, are as follows (Korean won in millions):

	Book value	Cash flows in contract	1 year or less	1 year–5 years	More than 5 years
Non-derivative financial liabilities					
Debentures	₩ 23,870,348	₩ 27,605,772	₩ 3,907,909	₩ 16,779,451	₩ 6,918,412
Borrowings	14,986,302	15,086,334	13,172,344	1,617,805	296,185
Lease liabilities	1,869,362	2,586,113	344,336	1,020,240	1,221,537
Trade and other payables[1]	3,858,366	3,858,366	3,858,002	364	-
Provision for financial guarantee[2]	9,751	1,506,725	1,506,725	-	-
	₩ 44,594,129	₩ 50,643,310	₩ 22,789,316	₩ 19,417,860	₩ 8,436,134
Derivative financial liabilities					
Derivative financial liabilities[3]	₩ 137,032	₩ 117,226	₩ 99,897	₩ 17,329	₩ -

[1] Lease liabilities are excluded because they are presented separately.
[2] In case of finance guarantee contract, the amount is distributed to the earliest period when the guarantee could be demanded.
[3] Derivatives for trading purpose and cash flow hedges are included.

33. Risk management (Cont'd)

3) Currency risk

The consolidated company is exposed to exchange risk for lending, purchasing and borrowing in currency other than KRW, which is its functional currency. The main currencies in which these transactions are displayed are USD, EUR, JPY, CHF, etc. The consolidated company is exposed to exchange rate fluctuations in recognition of foreign currency assets, liabilities and lease liabilities for LNG transport ship. The consolidated company uses derivatives, such as currency forward to hedge the risk of exchange rate fluctuations arising from foreign currency liabilities.

In respect of other monetary assets and liabilities denominated in foreign currencies, the consolidated company ensures that its net exposure is kept to an acceptable level by buying or selling foreign currencies at spot rates when necessary to address short-term imbalances.

The book values of foreign currency assets and liabilities as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)					
	USD	EUR	AUD	CAD	JPY	MXN
Assets						
Cash and cash equivalents	₩ 2,101	₩ 114	₩ 58,583	₩ 37,996	₩ -	₩ 104
Trade and other receivables	22,572	10	2,663	40,534	1	-
Financial assets measured at fair value through profit or loss	-	-	-	1,622	-	-
Financial assets at amortized cost	5,129	-	-	-	-	-
Loans and receivables	74,824	-	-	-	-	-
Financial instruments	-	-	-	-	-	-
Total assets	104,626	124	61,246	80,152	1	104
Liabilities						
Trade and other payables	1,553,117	1,147	41,703	20,877	-	-
Borrowings	8,080,800	55,211	-	-	-	-
Debentures	4,733,814	-	-	-	-	-
Lease liabilities	1,760,322	-	299	2,283	-	-
Other financial liabilities	7,911	-	-	-	-	-
Total liabilities	16,135,964	56,358	42,002	23,160	-	-
Net exposure	₩ (16,031,338)	₩ (56,234)	₩ 19,244	₩ 56,992	₩ 1	₩ 104

	March 31, 2024 (Unaudited)				
	AED	MZN	HKD	SGD	VND
Assets					
Cash and cash equivalents	₩ 377	₩ 369	₩ -	₩ 314	₩ 34
Trade and other receivables	1	-	-	89	40
Financial assets measured at fair value through profit or loss	-	-	-	-	-
Financial assets at amortized cost	-	6,611	-	-	-
Loans and receivables	-	-	-	-	-
Financial instruments	18	-	-	-	-
Total assets	396	6,980	-	403	74
Liabilities					
Trade and other payables	3	-	786	-	-
Borrowings	-	-	146,285	-	-
Debentures	-	-	-	-	-
Lease liabilities	-	-	-	258	172
Other financial liabilities	-	-	-	-	-
Total liabilities	3	-	147,071	258	172
Net exposure	₩ 393	₩ 6,980	₩ (147,071)	₩ 145	₩ (98)

33. Risk management (Cont'd)

3) Currency risk (cont'd)

	December 31, 2023						
	USD	EUR	AUD	CAD	JPY	CNY	MXN
Assets							
Cash and cash equivalents	₩ 347	₩ 796	₩ 71,931	₩ 33,357	₩ -	₩ -	₩ 97
Trade and other receivables	54,236	1,317	3,440	40,246	1	289	-
Financial assets measured at FVTPL	-	-	-	1,591	-	-	-
Financial assets at amortized cost	-	-	-	-	-	-	-
Loans and receivables	150,579	-	-	-	-	-	-
Financial assets	-	-	-	-	-	-	-
Total assets	205,162	2,113	75,371	75,194	1	289	97
Liabilities							
Trade and other payables	2,669,937	1,422	51,020	57,923	-	-	-
Debentures	8,638,980	54,210	-	-	-	-	-
Borrowings	4,495,126	-	1,511	-	-	-	-
Lease liabilities	1,708,818	-	418	2,054	-	-	-
Other financial liabilities	9,751	-	-	-	-	-	-
Total liabilities	17,522,612	55,632	52,949	59,977	-	-	-
Net exposure	₩ (17,317,450)	₩ (53,519)	₩ 22,422	₩ 15,217	₩ 1	₩ 289	₩ 97

	December 31, 2023					
	AED	MZN	GBP	HKD	SGD	VND
Assets						
Cash and cash equivalents	₩ 597	₩ 3,591	₩ -	₩ -	₩ 205	₩ 48
Trade and other receivables	1	-	-	-	85	39
Financial assets measured at FVTPL	-	-	-	-	-	-
Financial assets at amortized cost	-	3,058	-	-	-	-
Financial assets	-	-	-	-	-	-
Loans and receivables	18	-	-	-	-	-
Total assets	616	6,649	-	-	290	87
Liabilities						
Trade and other payables	9	-	23	754	-	-
Borrowings	-	-	-	140,301	-	-
Debentures	-	-	-	-	-	-
Lease liabilities	-	-	-	-	352	209
Other financial liabilities	-	-	-	-	-	-
Total liabilities	9	-	23	141,055	352	209
Net exposure	₩ 607	₩ 6,649	₩ (23)	₩ (141,055)	₩ (62)	₩ (122)

33. Risk management (Cont'd)

Foreign currency exchange rates as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)	December 31, 2023
USD	₩ 1346.80	₩ 1289.40
EUR	1452.93	1426.59
AUD	877.44	880.08
CAD	994.83	974.64
JPY	8.89	9.13
CHF	1493.79	1526.82
CNY	185.75	180.84
MXN	81.09	75.97
SGD	997.67	976.82
AED	366.76	351.07
MZN	21.02	16.97
VND	0.05	0.05
HKD	172.10	165.06
GBP	1700.34	1641.79
IDR	0.08	0.08

A sensitivity analysis of profit before income tax from changes in foreign exchange rates for the three-month period ended March 31, 2024, is as follows (Korean won in millions):

	10% Increase	10% Decrease
Profit (loss) before income tax	₩ 130,120	₩ (130,120)

4) Interest rate risk

The consolidated company borrows funds at fixed and variable interest rates. Also, the consolidated company's management monitors the level of interest rates and maintains the balance of borrowings at variable rates and fixed rates.

Variable interest rate financial instrument[1] as of March 31, 2024, and December 31, 2023, is summarized as follows (Korean won in millions):

	March 31, 2024 (Unaudited)	December 31, 2023
Long-term borrowings	₩ 214,496	₩ 205,904
Lease liabilities	561,764	539,212
	₩ 776,260	₩ 745,116

[1] Excluded fully hedged variable interest rate financial instrument.

Sensitivity analysis of profit before income tax from changes of interest rate as of March 31, 2024, and December 31, 2023, is as follows (Korean won in millions):

	March 31, 2024 (Unaudited)		December 31, 2023	
	100bp Increase	100bp Decrease	100bp Increase	100bp Decrease
(Loss) profit before income tax	₩ (7,763)	₩ 7,763	₩ (7,451)	₩ 7,451

33. Risk management (Cont'd)

(4) Fair value of financial assets and liabilities

1) The level of fair value hierarchy is as follows:

Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities
Level 2: All inputs other than quoted prices included in level 1 that are observable (either directly that is, prices, or indirectly that is, derived from prices) for the asset or liability
Level 3: Unobservable inputs for the asset or liability

The fair value measurements classified by fair value hierarchy as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)			
	Level 1	Level 2	Level 3	Total
Financial assets at fair value through other comprehensive income	₩ -	₩ -	₩ 157,644	₩ 157,644
Financial assets at fair value through profit or loss	45,000	115,932	2,354	163,286
Financial liabilities at fair value through profit or loss	-	39,104	-	39,104

	December 31, 2023			
	Level 1	Level 2	Level 3	Total
Financial assets at fair value through other comprehensive income	₩ -	₩ -	₩ 166,683	₩ 166,683
Financial assets at fair value through profit or loss	-	33,409	2,323	35,732
Financial liabilities at fair value through profit or loss	-	137,032	-	137,032

2) Unobservable inputs in the market

The valuation techniques used in the fair value measurements of financial instruments classified as Level 3 and significant but unobservable inputs as of March 31, 2024, are as follows (Korean won in millions):

	March 31, 2024 (Unaudited)				
	Valuation techniques	Type	Book value	Inputs	Range of inputs
Financial assets at FVOCI	Discounted cash flow method	Energy business stock	₩ 156,677	Weighted average cost of equity capital	23.18%
				Selling price	4.26–9.26 $/MMBTU

Changes in financial assets at fair value through other comprehensive income due to changes Weighted Average Cost of Capital ("WACC") used in fair value measurements of financial assets as of March 31, 2024, are as follows (Korean won in millions):

	Changes in the value of books	1% decrease	1% increase
Changes in WACC	Increase (decrease) in financial assets at fair value through other comprehensive income	₩ 11,127	₩ (10,182)

34. RELATED-PARTY TRANSACTIONS:

(1) Details of the Group's related parties as of March 31, 2024, are as follows:

Relationship	Related parties
Ultimate parent	Government of the Republic of Korea[1]
Subsidiaries	Korea Gas Technology Corporation.
	KOGAMEX Investment Manzanillo B.V.
	KOMEX-GAS,S.de R.L de C.V
	KOGAS Iraq B.V.
	KOGAS Badra B.V.
	KOGAS Akkas B.V.
	KOGAS Mansuriya B.V.
	KOGAS Canada Energy Ltd.
	KOGAS Australia Pty Ltd.
	KOGAS Prelude Pty Ltd.
	KG Krueng Mane Ltd.
	KG Mozambique Ltd.
	KOGAS Mozambique Lda.
	KOGAS Cyprus Ltd.
	KC LNG Tech Co., Ltd.
	KG-SEAGP Company Limited
	KG Myanmar Ltd.
	KOGAS International Pte Ltd.
	KGLNG E&P Pty Ltd.[2]
	KGLNG Liquefaction Pty Ltd.[2]
	KGLNG E&P II Pty Ltd.[2]
	KOGAS Canada Partner Ltd.[9]
	KOGAS Canada E&P Partnership[9]
	KOGAS Canada LNG Partnership[9]
	Korea LNG Bunkering Co., Ltd.
	KOREA LNG BUNKERING LINES LTD[10]
	KOGAS Service Alliance Co., Ltd.[12]
	KOGAS Securities Management Co., Ltd.[12]
Associates	Korea Ras Laffan LNG Ltd.
	Korea LNG Ltd.
	Korea LNG Trading Co., Ltd.
	South-East Asia Gas Pipeline Company Limited[3]
	Hydrogen Energy Network Co, Ltd.
	Kor-Uz Gas cylinder Investment Ltd.
	Kor-Uz Gas C&G Investment Ltd.
	Coral FLNG S.A.[4]
	Coral South FLNG DMCC[4]
	Rovuma LNG, S.A.[4]
	Rovuma LNG Investments (DIFC) Ltd.[4]
	HyStation Co., Ltd.
Joint ventures	Kor-Uz Gas Chemical Investment Ltd.
	Sulawesi LNG Development Limited
	TOMORI E&P LIMITED
	Hyundai Yemen LNG Company Limited
	KLBV1 S.A.
	TERMINAL KMS de GNL, S. De R.L. De C.V.[5]
	Manzanillo Gas Tech, S. de R.L. de C.V.[5]
	GLNG Operations Pty Ltd.[6]
	ENH-KOGAS, S.A.[7]
	LNG Canada development Inc.[8]
	Korea Superfreeze Incheon Inc.
Other related parties [11]	Korea Electric Power Corporation
	Korea Southern Power Co., Ltd.
	Korea Midland Power Co., Ltd.
	Korea Western Power Co., Ltd
	Korea East-West Power Co., Ltd.
	Korea South-East Power Co., Ltd
	KOSPO Youngnam Power Co., Ltd.

34. Related-party transactions (cont'd)

(1) Details of the Group's related parties as of March 31, 2024, are as follows:(cont'd):

[1] Even though the government of the Republic of Korea can exercise control over the Group, the government had no significant transactions with the Group for the three-month periods ended March 31, 2024 and 2023.
[2] A subsidiary of KOGAS Australia Pty. Ltd.
[3] An associate of KG-SEAGP Company Limited.
[4] An associate of KG Mozambique Ltd.
[5] A joint venture of KOGAMEX Investment Manzanillo B.V.
[6] A joint venture of KOGAS Australia Pty. Ltd.
[7] A joint venture of KOGAS Mozambique Lda.
[8] A joint venture of KOGAS Canada Energy Ltd.
[9] A subsidiary of KOGAS Canada Energy Ltd.
[10] A subsidiary of Korea LNG Bunkering Co., Ltd.
[11] KEPCO, which can exercise significant influences on the Group, and its subsidiaries engaging in significant transactions with the Group
[12] Newly established in the three-month periods ended March 31, 2024.

34. Related-party transactions (cont'd)

(2) All intercompany transactions are eliminated as part of the consolidation process and are not disclosed in the notes to the interim condensed consolidated financial statements. Transactions which occurred during the normal course of business with related parties for the three-month periods ended March 31, 2024 and 2023, are as follows (Korean won in millions):

		Sales and other income		Purchases and other expense	
Related party	Transaction	2024 (Unaudited)	2023 (Unaudited)	2024 (Unaudited)	2023 (Unaudited)
Korea Ras Laffan LNG Ltd.	Dividends	₩ 43,631	₩ 34,914	₩ -	₩ -
Korea LNG Ltd.	Dividends	5,748	7,601	-	-
Hyundai Yemen LNG Company Limited	Interest income	236	667	-	-
Korea LNG Trading Co., Ltd.	Costs of sales	-	-	34,717	55,956
	Interest expense	-	-	6,593	6,477
Terminal KMS de GNL, S. de R.L. de C.V	Miscellaneous income	115	92	-	-
	Miscellaneous loss	-	-	-	74
Manzanillo Gas Tech, S. de R.L. de C.V.	Miscellaneous Income	-	889	-	-
Hydrogen Energy Network Co., Ltd.	Rental income	89	34	-	-
LNG Canada Development	Retirement benefit and others	68	44	-	-
Coral FLNG S.A.	Commissions	-	-	34,343	33,172
Korea Electric Power Corporation	Miscellaneous income and others	34	257	-	-
	Commissions	-	-	-	181
	Utility expenses and others	-	-	47,911	40,235
Korea Southern Power Co., Ltd.	Revenue[1]	478,926	909,037	-	-
	Miscellaneous income	-	430	-	-
	Lease payment	-	-	4	5
	Interest expense	-	-	2	2
Korea Midland Power Co., Ltd.	Revenue[1]	441,603	756,388	-	-
	Miscellaneous income	31	18	-	-
	Lease payment	-	-	496	375
	Interest expense	-	-	26	24
Korea Western Power Co., Ltd.	Revenue[1]	246,916	849,925	-	-
	Utility expenses and others	-	-	492	3,573
	Lease payment	-	-	116	126
	Interest expense	-	-	5	5
Korea East-West Power Co., Ltd.	Revenue[1]	344,026	612,990	-	-
	Rental income	-	11	-	-
	Lease payment	-	-	179	173
	Interest expense	-	-	3	3
Korea South-East Power Co., Ltd.	Revenue[1]	241,872	398,980	-	-
	Maintenance costs and others	-	-	90	226
KOSPO Youngnam Power Co., Ltd.	Revenue[1]	99,341	174,363	-	-

[1]Special consumption taxes are included.

34. Related-party transactions (cont'd)

(3) Account balances, excluding loans and borrowings, with related parties as of March 31, 2024 and December 31, 2023, are as follows (Korean won in millions):

		Receivables		Payables	
Related Party	Account	March 31, 2024 (Unaudited)	December 31, 2023	March 31, 2024 (Unaudited)	December 31, 2023
LNG Canada development	Non-trade receivables	₩ 74	₩ 125	₩ -	₩ -
Korea Ras laffan LNG Ltd.	Non-trade receivables	14,217	2,321	-	-
Korea LNG Ltd.	Non-trade receivables	1,873	-	-	-
Korea LNG Trading Co., Ltd.	Lease liabilities	-	-	325,323	311,458
	Current portion of lease liabilities	-	-	74,263	71,098
	Trade payables	-	-	3,210	22,231
	Accrued expense	-	-	10,028	3,229
	Prepaid expense	400	5,129	-	-
Hyundai Yemen LNG Company	Accrued income	17,901	16,658	-	-
Terminal KMS de GNL, S. de R.L. de C.V	Long-term non-trade receivables	65	89	-	-
Coral FLNG S.A.	Non-trade payables	-	-	47,027	55,465
Korea Electric Power Corporation	Non-trade payables	-	-	94	145
	Accrued expense	-	-	11,287	11,434
	Lease liabilities	-	-	2	3
Korea Southern Power Co., Ltd.	Trade receivables	172,689	141,654	-	-
	Lease liabilities	-	-	452	469
Korea Midland Power Co., Ltd.	Trade receivables	161,685	117,576	-	-
	Non-trade payables	11	-	-	-
	Lease liabilities	-	-	5,460	5,993
Korea Western Power Co., Ltd.	Trade receivables	81,356	2,129	-	-
	Non-trade receivables	-	-	-	12,375
	Lease liabilities	-	-	708	931
Korea East-West Power Co., Ltd.	Trade receivables	109,477	118,197	-	-
	Lease liabilities	-	-	519	674
Korea South-East Power Co., Ltd.	Trade receivables	71,255	93,742	-	-
	Non-trade payables	-	-	23	138
KOSPO Youngnam Power Co., Ltd.	Trade receivables	34,934	10,195	-	-

34. Related-party transactions (cont'd)

(4) Loans to related parties as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions):

		March 31, 2024 (Unaudited)	December 31, 2023
Associates	Coral FLNG S.A.	₩ 327,592	₩ 310,286
	Rovuma LNG Investments (DIFC) Ltd.	121	103
Joint ventures	Hyundai Yemen LNG Company	39,033	36,399
		₩ 366,746	₩ 346,788

(5) Limits of financial commitments for loans to related parties as of March 31, 2024, are as follows (US dollars in thousands):

		Loan limit	
		March 31, 2024 (Unaudited)	
Joint ventures	Hyundai Yemen LNG Company Limited	USD	93,500
Associates	Coral FLNG S.A.	USD	371,200
	Rovuma LNG Investments (DIFC) Ltd.	USD	200

(6) Fund transactions with related parties for the three-month period ended March 31, 2024, and for the year ended December 31, 2023, are as follows (Korean won in millions):

		2024 (Unaudited)			
		Loan transactions		Cash contribution	
Relationship	Related party	Loans	Collections	Acquisition	Disposal
Associates	Hystation Co., Ltd.	₩ -	₩ -	₩ 2,320	₩ -
	Rovuma LNG Investments (DIFC) Ltd.	13	-	-	-
Joint ventures	Hyundai Yemen LNG Company	361	-	-	-

		2023			
		Loan transactions		Cash contribution	
Relationship	Related party	Loans	Collections	Acquisition	Disposal
Associates	HyStation Co., Ltd.	₩ -	₩ -	₩ 1,160	₩ -
	Coral FLNG S.A.	13,054	-	-	-
	Rovuma LNG Investments (DIFC) Ltd.	26	-	-	-
	South-East Asia Gas Pipeline Company Limited	-	-	-	(9,886)
Joint ventures	Sulawesi LNG Development Limited	-	-	-	(53,498)
	Hyundai Yemen LNG Company	5,400	-	-	-

The Group enters into a funding arrangement proportional to its share ratio under a joint arrangement between KOGAS, its subsidiaries and associates in relation to the development of foreign resources as of March 31, 2024, and December 31, 2023.

34. Related-party transactions (cont'd)

(7) The payment guarantees provided to related parties as of March 31, 2024, are as follows (US dollars in thousands):

Guarantor	Related party[1]	Detail	Amount		Beneficiary
KOGAS	Terminal KMS de GNL, S.de R.L. de C.V.	Operation and maintenance expense guarantee	USD	14,479	Manzanillo Gas Tech, S. de R.L. de C.V.
KOGAS	Terminal KMS de GNL, S.de R.L. de C.V.	PF repayment guarantee	USD	9,500	KEB Hana Bank
KOGAS	Coral FLNG S.A.	Guarantee payment for outstanding debt indicated in FLNG EPCIC contract [2]	USD	579,932	TJS Consortium
KOGAS	Coral South FLNG DMCC	Guarantee payment for repayment duty of Coral South FLNG business related project financing principal and interest[3]	USD	487,470	Sumitomo Mitsui Banking Corporation
KOGAS	KLBV1 S.A.	Guarantee payment for ship financing contract	USD	20,843	Bank of America

[1] The related parties are the Group's subsidiaries, or the Group's associates or joint ventures.
[2] Guarantee obligation is effective if the aggregate outstanding debt is more than USD 50 million.
[3] Guarantee obligation on the actual withdrawn principal and interest occur in the event of a default, and the guarantee is provided until the financial completion date (planned on February 24, 2025).

34. Related-party transactions (cont'd)

(8) The performance guarantees provided to related parties as of March 31, 2024, are as follows (US dollars in thousands):

Guarantor	Related party [1]	Detail	Amount		Beneficiary
KOGAS	Sulawesi LNG Development Limited	Guarantee from KOGAS in the percentage of Sulawesi LNG development (SLD) ownership (25%) on SLD's obligation to provide finance to DSLNG.	USD	13,762	DSLNG, Pertamina, Medco
KOGAS	Sulawesi LNG Development Limited	KOGAS bears obligation in its ownership percentage (25%) of SLD in relation to funding resolution arising as the result of share acquisition, and execution of funding in accordance with DSLNG's shareholder contract.	USD	13,762	DSLNG
KOGAS	Sulawesi LNG Development Limited	In the event that SLD fails to comply with its obligation to guarantee the amount of operating funds, KOGAS shall be liable for the share of SLD (25%)	USD	2,995	MUFG UNION BANK, N.A
KOGAS	Terminal KMS de GNL, S.de R.L. de C.V.	Guarantee of contract performance [2]	USD	42,500	KEB Hana Bank / HSBC Mexico

[1] The related parties are associates or joint ventures of the Group.
[2] Counter-guarantee through granting credit by Hana Bank

(9) Collaterals guarantee provided to related parties by the Group as of March 31, 2024, is as follows (Korean won in millions and US dollars in thousands):

Beneficiary	Contract date	Maturity date	Collateralized amount		Carrying amount		Collateral
Sumitomo Mitsui Banking Corporation	2017.05.31	2033.05.26	USD	487,470	USD	57,329	Provided as collateral to LNG sales revenue account, Coral South FLNG S.A and Coral South FLNG DMCC shares owned by KG Mozambique Ltd to the project finance lender [1]
	2017.09.20				USD	14	
KEXIM and 7 others	2009.09.16	2029.08.31	USD	48,800	₩	25	Shares invested in KOGAMEX Investment Manzanillo B.V. and all related rights[2]

[1] This collateral is provided from the date of the related collateral agreement to the completion date of repayment of syndicated lenders' principal and interest. The effect of the collateral agreement is forfeited when principal and interests are fully repaid at the request of the syndicated lenders before the financial completion date.
[2] The shares invested in KOGAMEX Investment Manzanillo B.V, which is owned by the Group, are provided as collateral for non-resident transactions of Terminal KMS at GNL, S. de R.L. de CV

(10) Key management compensation for the three-month periods ended March 31, 2024 and 2023, consists of (Korean won in millions):

	2024 (Unaudited)	2023 (Unaudited)
Short-term employee benefits	₩ 608	₩ 547
Retirement benefits	24	14
	₩ 632	₩ 561

35. PURCHASE AGREEMENTS:

(1) As of March 31, 2024, the Group has acquisition commitments for up to ₩1,999,722 million (₩1,917,719 million as of December 31, 2023) for major construction projects.

(2) The Group's inventory purchase contracts as of March 31, 2024, are as follows (Tons in thousands):

	Contract period	Total contract quantity
Malaysia LNG SDN. BHD.	2008–2028	2,000
	1999–2024	4,920
Rasgas Company Limited	2007–2026	2,100
	2013–2032	2,000
Qatar Petroleum	2025–2044	2,000
Oman LNG L.L.C.	2000–2024	4,060
Sakhalin Energy Limited Liability Company	2008–2028	1,500
Petronas LNG	2023–2039	1,155
Gladstone LNG	2016–2036	3,500
	2013–2038	3,640
	2023–2025	260
Shell Eastern Trading (Pte.) Ltd.	2024–2039	150
	2026–2034	320
	2027–2036	280
Total Gas & Power Limited	2014–2031	2,000
TOTAL ENERGIES GAS & POWER LIMITED	2021–2025	200
Sabine Pass LNG	2017–2037	2,800
PT Donggi Senoro LNG	2015–2027	700
BP Singapore Pte. Limited	2025–2039	1,580
	2023–2025	780
Trafigura Pte Ltd.	2023–2025	780
Woodside Energy Trading Singapore Pte Ltd	2026–2036	500

(3) As of March 31, 2024, the shareholders of KG-SEAGP Company Limited, the subsidiary of the Group, consist of the Group and PEF. Among them, the Group exercised redemption rights for preferred stocks held by PEF and redemption of preferred stocks is expected to be completed in April 24.

(4) As of March 31, 2024, the shareholders of KG Myanmar Ltd., the subsidiary of the Group, consist of the Group and trustees. The Group can exercise the redemption right to the preferred stock of trustees after seven years (expected in 2024). If the right is not executed, trustees have a right to sell their preferred stock and also the common stock owned by the Group to a third party.

(5) As of March 31, 2024, the Group has purchase agreements in relation to overseas resource development business.

36. COMMITMENTS AND CONTINGENCIES

(1) The Group is involved in various lawsuits and claims for alleged damages totaling to ₩614,532 million, AUD 213 million and CAD 350 thousand as of March 31, 2024, and ₩849,898 million, AUD 213 million and CAD 350 thousand as of December 31, 2023, which arose in connection with the Group's ordinary course of business. Details of collateralized amounts of the Group as of March 31, 2024, and December 31, 2023, are as follows (Korean won in millions and AUD in millions):

① 2024

incident details	Plaintiff	Defendant	Carrying amount		Litigation progress	Court
Cases in which the Group is the plaintiff						
Compensation for damages due to bid rigging for steel pipes	KOGAS	Seahsteel Co., Ltd and others 5	KRW	94,597	First trial	Daegu District Court
Claim for damages related to the repair work of the Nakdonggang River's undersea pipes	KOGAS	Heungjin Construction Co., Ltd	KRW	10,923	First trial	Daegu District Court
compensation for damages [1]	KOGAS	SK Shipping Co., Ltd	KRW	191,299	Second trial	Seoul High Court
Litigation for the return of overcharged expenses for violation of the river channel contract, etc.	Santos Limited(on behalf of GLNG JVPs)	Flour Australia Pty Ltd Flour Corporation	AUD	203	First trial	Queensland Supreme Court
Cases in which the Group is defendant						
Claim for Settlement, etc.	Daesung Energy Co., Ltd	KOGAS	KRW	21,354	Progress	Korea Commercial Arbitration Board
compensation for damages [1]	SK Shipping Co., Ltd	KOGAS	KRW	115,446	Second trial	Seoul High Court
KC-1 Claim for damages for cargo hold repair costs	Samsungshi Co., Ltd	KOGAS and other 1	KRW	80,118	Second trial	Seoul High Court
Compensation for damages related to Sabin Pass New Shipbuilding Membrane Supply Contract [2]	Samsungshi Co., Ltd	KOGAS and other 1	KRW	22,892	Second trial	Seoul High Court
Litigation for payment of each JVP share resulting from the loss of a lawsuit regarding the calculation of royalties between September 2015 and September 2020 [3]	Santos Australia Pty Ltd	KOGAS Australia Pty. Ltd. and others 2	AUD	10	First trial	Queensland Supreme Court

[1] The Group lost the KC-1 cargo hold lawsuit, and recorded ₩28,571 million as legal litigation provision as of March 31, 2024. (Note 21)
[2] As a result of the judgment of the first trial on October 16, 2020, the Group lost and recorded ₩10,637 million as legal litigation provision. (Note 21)
[3] Santos Australia Pty Ltd lost on March 11, 2021, as a result of the second instance of a lawsuit regarding the calculation of royalties pending at Harris Country District Court. As a result, the Group recorded the JVP share of ₩12,684 million as legal provision for litigation, which is a lawsuit for payment in connection with this. (Note 21)

No amount has been recorded as a provision in relation to the above litigation case except for (Note 1), (Note 2), and (Note 3) in March 31, 2024. The results of the above litigation case are not expected to have a significant impact on the financial statements, but additional losses may occur depending on the results of future litigation.

36. Commitments and contingencies (Cont'd)

② 2023

incident details	Plaintiff	Defendant	Carrying amount		Litigation progress	Court
Cases in which the Group is the plaintiff						
Compensation for damages due to bid rigging for steel pipes	KOGAS	Seahsteel Co., Ltd and others 5	KRW	94,597	First trial	Daegu District Court
Claim for damages related to the repair work of the Nakdonggang River's undersea pipes	KOGAS	Heungjin Construction Co., Ltd	KRW	10,923	First trial	Daegu District Court
Compensation for damages related to bid-rigging of storage tanks [1]	KOGAS	Daewoo Engineering & Construction Co., Ltd. and others 11	KRW	229,700	Second trial	Daegu High Court
Claims for prohibition of alteration of exclusive supply facilities, etc.	KOGAS	Korea Electric Power Corporation	KRW	14,721	Third trial	Supreme Court
compensation for damages	KOGAS	SK Shipping Co., Ltd	KRW	191,299	Second trial	Seoul High Court
Litigation for the return of overcharged expenses for violation of the river channel contract, etc.	Santos Limited(on behalf of GLNG JVPs)	Flour Australia Pty Ltd Flour Corporation	AUD	203	First trial	Queensland Supreme Court
Cases in which the Group is defendant						
Claim for Settlement, etc.	Daesung Energy Co., Ltd	KOGAS	KRW	21,354	Progress	Korea Commercial Arbitration Board
compensation for damages [2]	SK Shipping Co., Ltd	KOGAS	KRW	115,446	Second trial	Seoul High Court
KC-1 Claim for damages for cargo hold repair costs	Samsungshi Co., Ltd	KOGAS and other 1	KRW	80,118	Second trial	Seoul High Court
Compensation for damages related to Sabin Pass New Shipbuilding Membrane Supply Contract [3]	Samsungshi Co., Ltd	KOGAS and other 1	KRW	22,892	Second trial	Seoul High Court
Litigation for payment of each JVP share resulting from the loss of a lawsuit regarding the calculation of royalties between September 2015 and September 2020 [4]	Santos Australia Pty Ltd	KOGAS Australia Pty. Ltd. and others 2	AUD	10	First trial	Queensland Supreme Court

[1] As of December 31, 2023, the Group lost the storage tank collusion lawsuit and recorded ₩7,274 million as legal litigation provision. (Note 21)
[2] As of December 31, 2023, the Group lost the KC-1 cargo hold lawsuit, and recorded ₩27,017 million as legal litigation provision. (Note 21)
[3] As a result of the judgment of the first trial on October 16, 2020, the Group lost and recorded ₩10,328 million as legal litigation provision. (Note 21)
[4] Santos Australia Pty Ltd lost on March 11, 2021, as a result of the second trial of a lawsuit regarding the calculation of royalties pending at Harris Country District Court. As a result, the Group recorded the JVP share of ₩12,143 million as legal litigation provision, which is a lawsuit for payment in connection with this. (Note 21)

No amount has been recorded as a provision in relation to the above litigation case except for (Note 1), (Note 2), (Note 3) and (Note 4) in December 31, 2023. The results of the above litigation case are not expected to have a significant impact on the financial statements, but additional losses may occur depending on the results of future litigation.

(2) As of March 31, 2024, the Group has provided guarantees to others, excluding related parties, for the payment of debts amounting to ₩34,033 million, USD 73,309 thousand, CAD 1,784,297 thousand and EUR 1,540 thousand (₩34,033 million, USD 73,309 thousand, CAD 1,784,028 thousand and EUR 1,540 thousand as of December 31, 2023).

36. Commitments and contingencies (Cont'd)

(3) Details of collateralized amounts of the Group as of March 31, 2024, are as follows (Korean won in millions and US dollars in thousands):

Beneficiary	Commence-ment date	Maturity date	Collateralized amount		Carrying amount		Remark
ING Bank N.V	2013.01.14	2027.06.20	USD	310,140[1]	₩	903,607	In connection with borrowings from syndicated lenders for Uz-Kor Gas chemical LLC invested by Kor-Uz Gas chemical Investment Ltd., the Group provides shares of Kor-Uz Gas chemical Investment Ltd. and all rights thereof as collateral[2]
Bank of Tokyo Mitsubishi	2008.05.19	Until the completion of the obligation performance (2027 is the expected year.)	USD	2	₩	156,677[3]	Providing guarantees to perform obligations related to PF of YLNG (The PF balance, which is equivalent to the construction share at the end of March 31, 2023, is USD 77,041 thousand)
			Equity Funding		₩	58,172[4]	
Shell Canada Energy and others	2014.05.01	Until the end of the guarantee obligation	USD	1,016,099	USD	1,013,200	Providing project tangible and intangible assets as guarantees to partner company of LNG Canada business
The Korea Development Bank	2023.11.29	2024.11.29	₩	1,160	₩	963	Provision of patent security for interest rate reduction purposes upon loan
The Korea Development Bank	2023.05.09	2043.05.11	₩	39,720	₩	39,746	A ship mortgage

[1] The collateralized amount is subject to change based on the future investment plan.
[2] The lenders are under negotiation between stakeholders as a delay of opening letters of credit and overdue of payments relating to gas sales and purchase transactions between Uz-Kor Gas Chemical LLC, a seller, and Uztransgaz, a buyer, fall under a default condition.
[3] The book amount of the equity instrument as of March 31, 2024, which is classified to non-current financial assets at fair value through other comprehensive income, is evaluated at fair value.
[4] The book amount of the loan as of March 31, 2024

36. Commitments and contingencies (Cont'd)

(4) Details of commitments held by the Group as of March 31, 2024, are as follows (Korean won in millions, US dollars, CAD, EUR, and AUD in thousands):

	Financial institution	Limit		Amount	
Corporate card	Hana Bank and other	KRW	4,680	KRW	582
Foreign currency loan	The Korea Development Bank and others	USD	5,635,000	USD	3,320,085
Daily bank overdraft	Hana Bank	KRW	50,000	KRW	-
Bank overdraft	Daegu Bank and others	KRW	200,000	KRW	-
General loan	Hana Bank and other	KRW	1,000,000	KRW	-
Foreign currency commitment	Hana Bank and others	CAD	5,376	CAD	5,376
				USD	70,049
		USD	672,954	THB	-
				EUR	-
		EUR	1,540	EUR	-
Local currency commitment	The Korea Development Bank	KRW	34,033	KRW	34,033
Commitment to acquire commercial paper	Hana Bank	KRW	2,000,000	KRW	1,600,000
Win-win growth E-bond discount limit	Hana Bank	KRW	10,000	KRW	-
Commitments to letter of credit	Hana Bank and others			EUR	284
		USD	410,000	USD	157
				GBP	-
				JPY	-
		CAD	2,167	CAD	2,167
Usance remittance agreement	Hana Bank	USD	643,000	USD	515,961
Performance guarantees	Seoul Guarantee Insurance Company and others	USD	8,157	USD	8,157
		AUD	56,447	AUD	51,892
		KRW	136,301	KRW	59,025
Industrial operation loan	The Korea Development Bank	KRW	963	KRW	963

(5) As of March 31, 2024, the Group has provided LOU (Letter of Undertaking) for 13 of the transports currently in operation. If the transporter fails to fulfill the requirements under the contract, the Group will be liable for any obligations related to execution of the contract. The Group recognizes lease liabilities of ₩1,760,322 million related to the contract of long-term transportation as of March 31, 2024. (December 31, 2023: ₩1,708,818 million)

36. Commitments and contingencies (Cont'd)

(6) Uncertainty related to staging a coup in Myanmar

In February 2021, the Myanmar military detained a number of senior government officials, including state advisor Aung San Suu Kyi, and declared a state of emergency for one year. In this regard, in preparation for emergencies, the Group maintains a system of constant contact with the operator and conducts normal business activities by reinforcing local situation monitoring. The financial impact of this is difficult to estimate reasonably and not reflected in the interim condensed consolidated financial statements.

(7) Uncertainty of the impact of the Ukraine crisis

The armed conflict in Ukraine, which occurred in February 2022, and related sanctions against Russia by the international community, will affect not only the companies subjected to sanctions, but also companies directly or indirectly doing business with Ukraine or Russia and being exposed by the industry or economy of Ukraine or Russia.

The Group imports some of the LNG imports from Russia through long-term contracts. Currently, the contract is being implemented normally, but the Group is continuously monitoring the situation that may have an impact, such as additional financial sanctions from the international community. In addition, the financial impact cannot be reasonably estimated.

The operation of the Iraqi oil field business, in which our subsidiary KOGAS Badra B.V. participates, is operated by Gazprom Neft Badra B.V., a grand-child company of Gazprom Neft, an economically sanctioned company. The subsidiary's future operations are expected to be affected by the expansion of sanctions against Russia due to the Ukraine crisis, but the financial impact cannot be estimated reasonably.

The Group's joint venture Kor-Uz Gas Chemical Investment Ltd.'s polymer sales in Russia and imports of raw and subsidiary materials are expected to be affected by the Ukraine crisis, and in the process of switching sales and suppliers, but the financial impact cannot be reasonably estimated.

(8) Uncertainties related economic and financial sanctions against Myanmar National Oil and Gas Company (MOGE) by EU

In February 2022, the European Union's economic and financial sanctions were announced against the Myanmar National Oil and Gas Company (MOGE), which owns a 15% stake in the Myanmar A-1/A-3 gas field business. The business, in which the Group holds an 8.5% stake, is operating normally, and the Group is continuously monitoring the situation that may have an impact, such as additional economic and financial sanctions from the international community. In addition, the financial impact cannot be reasonably estimated.

(9) Uncertainty related to U.S. Treasury sanctions against Myanmar National Oil and Gas Company (MOGE)

In October 2023, the U.S. Treasury Department announced sanctions against Myanmar National Oil and Gas Corporation (MOGE), which holds a 15% stake in Myanmar's A-1/A-3 gas field project, in which the company is involved. Under the sanctions, Americans' direct and indirect financial services to Myanmar National Oil and Gas Corporation (MOGE) will be restricted from December 15, 2023. The company holds an 8.5% stake in the project and continues to monitor situations that may affect the project, including additional economic and financial sanctions by the international community. In addition, the financial impact cannot be reasonably estimated.

(10) Mozambique Area4 Business Force majeure Notice

MRV, the operator of the Mozambique Area 4 project involving the Group, has notified the Mozambique government of force majeure against some of the obligations of the Area 4 mining rights except Coral FLNG due to worsening security conditions in northern Mozambique's Cabo Delgado area.

(11) Due to the approval of the East Timor government on June 24, 2021, and the revision of the PSC on August 20, 2021, the Group was obligated to pay the withdrawal share under the agreement. The limit of amount is USD 3.5 million and it is valid until December 27, 2026.

36. Commitments and contingencies (Cont'd)

(12) The Group entered into a settlement agreement (March 2, 2020) with Samsung Engineering for USD 10,000,000 (KOGAS Badra B.V. USD 3,000,000) in connection with Samsung Engineering's claim on CPF-2 (gas treatment facilities). However, under the joint operation agreement, the Group's payment obligation is not determined until the consultation between the Iraq government and the operator is finalized.

(13) KGLNG E&P and KGLNG E&P II have signed a Royalty payment contract with Tri-Star Petroleum Company and one other company in connection with the Australian GLNG mine, and some mining rights and book value of ₩70,425 million are required to be agreed upon at disposal.

(14) In March 2019, Ovintiv Inc. (formerly 'Encana'), the business operator of the Hon River project, claimed a refund of the Infrastructure royalty credit (CAD 4,800,000) of which Encana paid in advance to the Group in 2011, as the Infrastructure royalty credit is not feasible. However, the Group and its legal counsel decided that there is no obligation for the Group to refund of the amount.

(15) The Group has signed an agreement with the Canadian government to subsidize a total of CAD 11 million over a four-year period in exchange for promising to manufacture, transport, install and connect four LMS wind turbines, compressor packages and related auxiliary equipment to LNG facilities. The Canadian government may demand repayment of subsidies if certain conditions are not met, and as of December 31, 2023, about 9.25 million CAD of debt could be incurred if consolidated companies have to repay subsidies.

(16) On October 31, 2019, the Group has entered into a MERRF (Marine Emergency Response Research Facility) funding agreement with Gitga'at for the compensation to natives in order proceed the LNG project. The termination fee amounts to CAD 250,000 and paid CAD 205,000 as of March 31, 2024.

(17) In February 2020, the Group signed a contract with General Electric related to LNG Canada business, and the termination fee amounts to CAD 679,000.

(18) In October 2019, the Group participated in Phase 2 Define phase 2 of LNG Canada joint venture, which began operations in November 2019, and if Phase 2 FID fails, the Group has CAD 227,000 contingency obligations related to Phase 2 Define withdrawal as of March 31, 2024.

(19) The Group is required to acquire Marine services during the execution phase of LNG Canada projects to support the operational phase. A written resolution has been signed for the contract signed in 2019, and the contingent liability of the Group for the tugboat is CAD 8.6 million as of March 31, 2024.

(20) As of March 31, 2024, the minimum expenditure obligation of the Group for overseas resource development projects, including Cyprus amounts to approximately EUR 15.4 million.

37. ADJUSTMENT OF LIABILITIES ARISING FROM FINANCING ACTIVITIES:

Details of adjustment of liabilities arising from financing activities for the three-month periods ended March 31, 2024 and 2023, are as follows (Korean won in millions):

	2024 (Unaudited)				
	Current portion of lease liabilities	Non-current portion of lease liabilities	Short-term borrowings	Current portion of long-term borrowings	Current portion of debentures
Beginning balance	₩ 331,076	₩ 1,538,286	₩ 14,705,074	₩ 2,334	₩ 3,127,332
Cash flows	(29,563)	-	735,918	-	(1,032,580)
Acquisition – new lease	279	5,148	-	-	-
Foreign exchange differences	(201)	75,306	191,769	-	8,556
Other non-financial changes	37,127	(31,847)	-	2,764	380,116
Ending balance	₩ 338,718	₩ 1,586,893	₩ 15,632,761	₩ 5,098	₩ 2,483,424

	2024 (Unaudited)				
	Long-term borrowings	Debentures	Current portion of derivative liabilities (assets)	Non-current portion of derivative liabilities (assets)	Total
Beginning balance	₩ 278,894	₩ 20,743,016	₩ 2,375	₩ 1,757	₩ 40,730,144
Cash flows	(151)	600,000	-	-	273,624
Acquisition – new lease	-	-	-	-	5,427
Foreign exchange differences	11,073	339,012	-	-	625,515
Other non-financial changes	476	(374,381)	(3,078)	(1,204)	9,973
Ending balance	₩ 290,292	₩ 21,307,647	₩ (703)	₩ 553	₩ 41,644,683

	2023 (Unaudited)				
	Current portion of lease liabilities	Non-current portion of lease liabilities	Short-term borrowings	Current portion of long-term borrowings	Current portion of debentures
Beginning balance	₩ 378,923	₩ 1,652,602	₩ 23,601,077	₩ -	₩ 1,957,840
Cash flows	(20,564)	-	(874,985)	-	(100,000)
Acquisition – new lease	596	2,781	-	-	-
Foreign exchange differences	70	53,837	172,229	-	59,728
Other non-financial changes	57,788	(56,939)	-	-	1,016,661
Ending balance	₩ 416,813	₩ 1,652,281	₩ 22,898,321	₩ -	₩ 2,934,229

	2023 (Unaudited)				
	Long-term borrowings	Debentures	Current portion of derivative liabilities (assets)	Non-current portion of derivative liabilities (assets)	Total
Beginning balance	₩ 192,144	₩ 17,100,492	₩ (85,621)	₩ 8,105	₩ 44,805,562
Cash flows	(201)	990,000	-	-	(5,750)
Acquisition – new lease	-	-	-	-	3,377
Foreign exchange differences	5,038	206,432	(30,361)	(4,400)	462,573
Other non-financial changes	1,479	(1,014,741)	-	-	4,248
Ending balance	₩ 198,460	₩ 17,282,183	₩ (115,982)	₩ 3,705	₩ 45,270,010

38. EVENT AFTER THE REPORTING PERIOD:

(1) Settlement agreement and transfer agreement signed

On April 24, 2024, KOGAS Akkas B.V., subsidiary of the Group, signed a settlement agreement and transfer agreement with the Iraqi government to terminate the Akas gas field project. The settlement amount following the conclusion of the settlement agreement is USD 49 million.

(2) Litigation for claim of indemnity occurs

Samsung Heavy Industries Co., Ltd. filed a lawsuit against the company and its subsidiary KCLNG Tech Co., Ltd. on April 22, 2024, and the lawsuit was filed on May 13, 2024. The value of the lawsuit is ₩396,453 million and interest principal.

(3) The conclusion of a major agreement

After the reporting period, the details of the performance guarantee provided to KOGAS Canada LNG Partnership, subsidiary of the Group, are as follows.(CAD in thousands)

Guarantor	Guarantee	Contents	Limit amount	Agency that guarantees implementation
		Providing a Letter of Comfort to guarantee expenses related to the construction contract of the BC Hydro power supply facility in the second phase of the LNG CANADA project	CAD 1,150	KEB Hana Bank CANADA
KOGAS	KOGAS Canada LNG Partnership	Guaranteed a stake (5%) in KOGAS Canada LNG Partnership for the operation of the CGL pipeline related to the LNG Canada business [1]	CAD 853,000	TransCanada Pipeline Limited, Coastal Gaslink Pipeline Limited Partnership
		Guaranteeing the operating cost of new facilities to provide gas withdrawal service for NGTL common pipe	CAD 8,300	NOVA Gas Transmission Ltd.(NGTL)

[1] Guarantee obligations will arise from the start date of piping operation, and the start date of piping operation is scheduled for August 31, 24.

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Independent auditor's report

(English Translation of a Report Originally Issued in Korean)

The Stockholders and Board of Directors
Korea Gas Corporation

Opinion

We have audited the consolidated financial statements of Korea Gas Corporation and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statements of financial position as of December 31, 2023 and 2022, and the consolidated statements of comprehensive income or loss, consolidated statements of changes in equity and consolidated statements of cash flows for each of the two years in the period ended December 31, 2023, and notes to the consolidated financial statements, including material accounting policy information.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2023 and 2022, and its consolidated financial performance and its consolidated cash flows for each of the two years in the period ended December 31, 2023 in accordance with International Financial Reporting Standards as adopted by the Republic of Korea ("KIFRS").

We have audited the Group's internal control over financial reporting ("ICFR") as of December 31, 2023 based on the Conceptual Framework for Design and Operation of ICFR established by the Operating Committee of ICFR in Korea, in accordance with Korean Standards on Auditing ("KSA"), and our report dated March 20, 2024 expressed an unqualified opinion thereon.

Basis for opinion

We conducted our audit in accordance with KSA. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the consolidated financial statements section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in the Republic of Korea, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of the most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

(1) Recognition of gains and losses related to the settlement of raw material cost pass-through system and supply costs

As mentioned in Note 16 to the consolidated financial statements, in accordance with the standard for natural gas supply price and the guidelines for raw material cost pass-through adjustment system for city gas and power generation, the settled income or loss, which is the difference between the actual cost incurred and current year's revenues ("gains and losses on settlement"), is reflected in the following year's pricing under the approval of Korean government.

The Group adjusts gains and losses on settlement from the current year's cost of sales and recognizes the related assets and liabilities as other non-financial assets and other non-financial liabilities, respectively.

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Gains and losses on settlement are calculated at the end of every month and each year based on raw material costs and supply costs, both of which are approved by the Ministry of Trade, Industry and Energy. Therefore, gains and losses on settlement are determined based on the difference between the estimated oil price, foreign currency exchange rate, supply volume and budget reflected in the raw material cost and supply cost approved by the Ministry of Trade, Industry and Energy in the previous year and the actual oil price, foreign currency exchange rate, supply volume and actual supply cost. Due to highly complex calculation of the gains and losses on settlement, human error is highly probable in the calculation procedures. The estimated timing of recovery (return) of other non-financial assets and liabilities resulting from the adjustments to the gains and losses on settlement are determined by the timing and degree of gas rate adjustment by the government, which is the gas rate approval authority.

We selected the accuracy of calculation for gains and losses on settlement as our key audit matter due to the materiality of its amount in the Group's consolidated financial statements and the likelihood of misstatements arising from complexity of procedures in calculating gains and losses on settlement.

We performed the following audit procedures to review the accuracy of gains and losses on settlement:

- Inquiring the relevant departments to understand calculation procedures, logic and accounting treatment related to gains and losses on settlement.
- Testing design and operating effectiveness of related internal controls.
- Reviewing closing journal entries for gains and losses on settlement to adjust the difference between the amount in the settlement report for raw material costs and supply costs of city gas/power generation at the end of year and the corresponding amount recognized during the current period.
- Conducting communication on plans and timing of charge rate approval with the relevant authorities to resolve assets and liabilities related to settlement gains and losses.
- Recalculating of relevant assets and liabilities related to gains and losses on settlement and comparison of it to the corresponding amounts provided by the Group.

(2) Impairment of property, plant and equipment and intangible assets, which are related to the resource development projects of KOGAS Prelude Pty Ltd. (hereinafter referred to as "Australia Prelude FLNG").

As described in Note 3 (6) to the consolidated financial statements, the Group assesses at the end of each reporting period whether there is an indication that non-financial assets related to the resource development projects may be impaired, and when there is an indication of impairment, the Group estimates the recoverable amount of the assets to determine the amount of impairment losses.

The recoverable amount of non-financial assets related to the resource development projects is calculated based on complex assumptions and judgments on future cash flows and discount rates. The future cash flows are sensitive to fluctuations in assumptions, such as future oil and gas prices, reserves, production quantity and expenses.

Considering the necessity of judgments, materiality of amount, and the complexity of the assumptions used by management in calculating the recoverable amount of property, plant and equipment and intangible assets related to the resource development projects, we selected the impairment testing of those property, plant and equipment and intangible assets as our key audit matter.

As of December 31, 2023, property, plant and equipment and intangible assets related to the Australia Prelude FLNG resource development projects amount to ₩1,535,873 million.

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We understood the Group's impairment testing process of property, plant and equipment and intangible assets. We involved the component auditors to obtain accurate understanding of the business environment, such as local law and taxation, in a place of business related to the Australia Prelude FLNG resource development projects. We directed and supervised the following audit procedures to the component auditors through the group audit instructions:

- Testing design and operating effectiveness of related internal controls.
- Review and assessment of management's evaluation on whether there is an indication of impairment.
- Review on whether the assumptions used in the valuation report (future cash flow model) are consistent with the approved budget and business plan of the Group.
- Comparison and reconciliation of whether the future estimates of short-term and long-term oil prices used in the valuation report are consistent with the forecast data provided by an independent external institution.
- Comparison and reconciliation of the forecast quantities of production used in the valuation report are consistent with the data from the reserves report issued by the external expert.
- Independent recalculation of the discount rate used in estimated cash flow discount, and subsequently, comparison and reconciliation of it with the discount rate used in the impairment testing.

Responsibilities of management and those charged with governance for the consolidated financial statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with KIFRS, and for such internal control as management determines is necessary to enable the preparation of the consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Auditor's responsibilities for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with KSA will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with KSA, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or

- conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditor's report is Sung-chul Kim.

Ernst & Young Han Young

March 20, 2024

This audit report is effective as of March 20, 2024, the independent auditor's report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the independent auditor's report date to the time this report is used. Such events and circumstances could significantly affect the accompanying consolidated financial statements and may result in modifications to this report.

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Korea Gas Corporation and its subsidiaries
Consolidated statements of financial position
as of December 31, 2023 and 2022

(Korean won in millions)

	Notes	2023	2022
Assets			
Current assets:			
Cash and cash equivalents	5,6,46,47	₩ 780,588	₩ 813,275
Current financial assets	6,7,8,11,12,13,46,47	51,848	148,709
Trade and other receivables	9,46,47,48	7,037,795	12,121,935
Short-term contract assets	19	20,110	8,290
Inventories	14	5,043,154	7,622,624
Current tax assets		5,512	2,287
Current non-financial assets	15,16	4,491,298	4,374,437
		17,430,305	25,091,557
Non-current assets:			
Non-current financial assets	6,7,8,10,11,12,13,46,47	917,388	789,636
Long-term trade and other receivables	9,46,47,48	209,982	202,314
Property, plant and equipment	18,25,29	22,351,509	23,293,801
Intangible assets other than goodwill	20,29	1,552,715	1,705,791
Goodwill	21	145	145
Investments in associates and joint ventures	4,17	1,840,220	1,904,176
Net defined benefit assets	26	78,820	126,923
Deferred tax assets	43	921,853	941,967
Non-current non-financial assets	15,16	11,951,729	8,368,673
		39,824,361	37,333,426
Total assets		**₩ 57,254,666**	**₩ 62,424,983**

(Continued)

Korea Gas Corporation and its subsidiaries
Consolidated statements of financial position
as of December 31, 2023 and 2022 (cont`d)

(Korean won in millions)

	Notes	2023	2022
Liabilities			
Current liabilities:			
Trade and other payables	23,25,46,47,48	₩ 4,189,078	₩ 3,728,558
Current financial liabilities	8,22,24,46,47	17,933,261	26,312,749
Short-term contract liabilities	19	31,113	68,423
Current tax liabilities		41,459	58,491
Current non-financial liabilities	16,29,31	271,711	377,877
Current provisions	27	99,750	88,468
		22,566,372	30,634,566
Non-current liabilities:			
Long-term trade and other payables	23,25,46,47,48	1,538,650	1,652,925
Non-current financial liabilities	7,8,22,24,46,47	21,060,424	17,317,948
Non-current non-financial liabilities	29,30,31	58,376	39,148
Net defined benefit liabilities	26	453	386
Deferred tax liabilities	43	2,021,177	2,234,631
Non-current provisions	27	183,176	134,639
		24,862,256	21,379,677
Total liabilities		**47,428,628**	**52,014,243**
Equity:			
Share capital	1,32	461,565	461,565
Share premium		1,303,548	1,303,548
Hybrid bonds	35	334,520	334,520
Retained earnings	33,34	6,678,622	7,476,257
Other components of equity	36	848,722	611,191
Equity attributable to equity holders of the parent		9,626,977	10,187,081
Non-controlling interests	1	199,061	223,659
Total equity		**9,826,038**	**10,410,740**
Total liabilities and equity		₩ **57,254,666**	₩ **62,424,983**

The accompanying notes are an integral part of the consolidated financial statements.

Korea Gas Corporation and its subsidiaries
Consolidated statements of comprehensive income or loss
for each of the two years in the period ended December 31, 2023

(Korean won in millions, except for earnings (losses) per share)

	Notes	2023	2022
Revenue	4,19,30,37	₩ 44,555,995	₩ 51,724,286
Cost of sales	44	42,598,872	48,828,263
Gross profit		1,957,123	2,896,023
Selling and administrative expenses	38,44	403,704	432,602
Operating profit		1,553,419	2,463,421
Other income	39	35,557	239,018
Other expenses	39	196,316	95,406
Other gains (losses), net	18,20,40	(766,371)	(187,611)
Finance income	41	1,438,081	2,674,908
Finance costs	42	3,030,925	3,503,048
Gains on investments in associates and joint ventures, net	17	104,681	353,966
Profit (loss) before income tax		(861,874)	1,945,248
Income tax expense (benefit)	43	(114,445)	448,240
Profit (loss) for the year		(747,429)	1,497,008
Other comprehensive income (loss) for the year, net of tax			
Items that will not be reclassified subsequently to profit or loss			
Remeasurement gain of defined benefit plans	26	(29,573)	38,873
Net gain (loss) on valuation of equity instruments at fair value through other comprehensive income		77,788	(5,629)
Share of other comprehensive income of associates and joint ventures		53,369	(7,722)
Items that will be reclassified subsequently to profit or loss			
Net loss on cash flow hedges		52,092	(84,485)
Exchange differences on translation of foreign operations		89,896	225,161
Net loss on hedge of investments in foreign operations		(55,300)	(176,808)
Share of other comprehensive income of associates and joint ventures		21,728	85,745
		210,000	75,135
Total comprehensive income (loss) for the year		₩ (537,429)	₩ 1,572,143
Profit (loss) for the year attributable to:			
Owners of the parent		₩ (761,211)	₩ 1,493,103
Non-controlling interests		13,782	3,905
		₩ (747,429)	₩ 1,497,008
Total comprehensive income (loss) attributable to:			
Owners of the parent		₩ (553,253)	₩ 1,558,926
Non-controlling interests		15,824	13,217
		₩ (537,429)	₩ 1,572,143
Earnings (losses) per share in Korean won from continuing operations	45		
Basic earnings (losses) per share		₩ (8,949)	₩ 17,317
Diluted earnings (losses) per share		₩ (8,949)	₩ 16,174

The accompanying notes are an integral part of the consolidated financial statements.

Korea Gas Corporation and its subsidiaries
Consolidated statements of changes in equity
for each of the two years in the period ended December 31, 2023

(Korean won in millions)

	Share capital and share premium	Retained earnings	Hybrid bonds	Other components of equity	Equity attributable to owners of the parent	Non-controlling interest	Total equity
As of January 1, 2022	1,765,113	6,185,268	334,520	584,241	8,869,142	250,194	9,119,336
Comprehensive income							
Profit for the year	-	1,493,103	-	-	1,493,103	3,905	1,497,008
Other comprehensive income (loss)							
Remeasurement gain of defined benefit plans	-	38,873	-	-	38,873	-	38,873
Gain on valuation of equity instruments at fair value through other comprehensive income	-	-	-	(5,629)	(5,629)	-	(5,629)
Net loss on cash flow hedges	-	-	-	(84,485)	(84,485)	-	(84,485)
Net loss on hedge of investments in foreign operations	-	-	-	(176,808)	(176,808)	-	(176,808)
Share of other comprehensive income of associates and joint ventures	-	-	-	78,023	78,023	-	78,023
Exchange differences on translation of foreign operations	-	-	-	215,848	215,848	9,313	225,161
Transactions with the equity holders of the parent							
Dividends paid	-	(234,136)	-	-	(234,136)	(5,611)	(239,747)
Capital reduction of subsidiaries	-	-	-	-	-	(34,142)	(34,142)
Others							
Interest payment of hybrid bonds	-	(6,851)	-	-	(6,851)	-	(6,851)
As of December 31, 2022	₩ 1,765,113	₩ 7,476,257	₩ 334,520	₩ 611,190	₩ 10,187,080	₩ 223,659	₩ 10,410,739
As of January 1, 2023	₩ 1,765,113	₩ 7,476,257	₩ 334,520	₩ 611,191	₩ 10,187,081	₩ 223,659	₩ 10,410,740
Comprehensive income							
Loss for the year	-	(761,211)	-	-	(761,211)	13,782	(747,429)
Other comprehensive income (loss)							
Remeasurement gain of defined benefit plans	-	(29,573)	-	-	(29,573)	-	(29,573)
Gain on valuation of equity instruments at fair value through other comprehensive income	-	-	-	77,788	77,788	-	77,788
Net loss on cash flow hedges	-	-	-	52,092	52,092	-	52,092
Net loss on hedge of investments in foreign operations	-	-	-	(55,300)	(55,300)	-	(55,300)
Share of other comprehensive income of associates and joint ventures	-	-	-	75,097	75,097	-	75,097
Exchange differences on translation of foreign operations	-	-	-	87,854	87,854	2,042	89,896
Transactions with the equity holders of the parent							
Dividends paid	-	-	-	-	-	(7,861)	(7,861)
Capital reduction of subsidiaries	-	-	-	-	-	(32,561)	(32,561)
Others							
Income (loss) of hybrid bonds	-	(6,851)	-	-	(6,851)	-	(6,851)
As of December 31, 2023	₩ 1,765,113	₩ 6,678,622	₩ 334,520	₩ 848,722	₩ 9,626,977	₩ 199,061	₩ 9,826,038

The accompanying notes are an integral part of the consolidated financial statements.

Korea Gas Corporation and its subsidiaries
Consolidated statements of cash flows
for each of the two years in the period ended December 31, 2023
(Korean won in millions)

	2023	2022
Cash flows from operating activities:		
Profit (loss) for the year	₩ (747,429)	₩ 1,497,008
Adjustments to reconcile profit (loss) for the year to net cash flows provided by (used in) operating activities:		
Income tax expenses	(114,445)	448,240
Interest expenses	1,676,235	964,918
Depreciation and amortization	1,887,118	1,751,358
Gain on foreign currency translation, net	(80,667)	(792,600)
Impairment loss recognized in profit or loss	827,031	216,902
Loss on fair value	132,266	621,459
Loss on disposal of non-current assets	(5,685)	5,058
Interest income	(114,772)	(71,248)
Others, net	311,805	224,644
Changes in operating assets and liabilities:		
Decrease (increase) in inventories	2,633,249	(4,059,646)
Decrease (increase) in trade receivables	4,756,065	(4,608,102)
Decrease (increase) in other receivables	363,709	(415,363)
Decrease in current financial assets at fair value through profit or loss	4,471	26,759
Increase in other non-financial assets	(3,810,471)	(8,923,719)
Decrease (increase) in other operating assets	64,566	(180,790)
Increase (decrease) in trade payables	453,248	(135,760)
Increase (decrease) in other payables	19,796	77,909
Decrease in current financial liabilities at fair value through profit or loss	(720,882)	(5,985)
Increase (decrease) in other current liabilities	(99,995)	(247,679)
Increase (decrease) in other non-current non-financial liabilities	(5,723)	(108,043)
Decrease in other operating liabilities	(76,991)	(106,934)
Cash generated from operations	7,352,499	(13,821,614)
Dividends received	190,248	125,568
Interest paid	(1,627,725)	(899,082)
Interest received	51,972	14,151
Income taxes received	(81,440)	59
Net cash flows provided by (used in) operating activities	5,885,554	(14,580,918)
Cash flows from investing activities:		
Proceeds from disposal of equity or debt instruments	75,889	176,922
Acquisition of equity or debt instruments	(1,160)	(8,490)
Proceeds from disposal of property, plant and equipment	1,851	1,194
Acquisition of property, plant and equipment	(1,331,093)	(1,178,508)
Receipt of government grants	16,609	39,589
Proceeds from intangible assets	299	937
Acquisition of intangible assets	(34,208)	(23,925)
Proceeds from disposal of financial assets at amortized cost	50,999	89,068
Acquisition of financial assets at amortized cost	(68,202)	(46,854)
Increase in advanced payments and loans	(67,041)	(106,668)
Receipt of advanced payments and loans	19,849	85,356
Others, net	2,195	(2,414)
Net cash flows used in investing activities	(1,334,013)	(973,793)

(Continued)

Korea Gas Corporation and its subsidiaries
Consolidated statements of cash flows
for each of the two years in the period ended December 31, 2023 (cont`d)

(Korean won in millions)
(cont'd)

	2023	2022
Cash flows from financing activities:		
Proceeds from borrowings	90,050,827	122,505,747
Repayments of borrowings	(99,068,367)	(106,626,533)
Proceeds from issuance of debentures	6,626,453	2,348,099
Repayments of debentures	(2,008,579)	(1,985,960)
Payments of lease liabilities	(225,751)	(158,502)
Dividends paid	(7,861)	(239,747)
Decrease in non-controlling interest equity	(32,561)	(34,142)
Interest payment of hybrid bonds	(6,851)	(6,851)
Current derivative assets expired	117,240	0
Current derivative liabilites expired	(31,619)	-
Net cash flows provided by (used in) financing activities	(4,587,069)	15,802,111
Net foreign exchange difference	2,841	1,352
Net increase (decrease) in cash and cash equivalents	(32,687)	248,752
Cash and cash equivalents at the beginning of the year	813,275	564,523
Cash and cash equivalents at the end of the year	₩ 780,588	₩ 813,275

The accompanying notes are an integral part of the consolidated financial statements.

1. General information

Korea Gas Corporation ("KOGAS" or the "Corporation") was incorporated as a government-invested entity on August 18, 1983, under the *Korea Gas Corporation Act* to engage in the development, production and distribution of liquefied natural gas (LNG). Under the Articles 3 and 5 of the supplementary provisions of the *Act on the Management of Public Institution*, the Corporation was designated as "Market-type Public Corporation" on April 2, 2007.

The Corporation's share was listed on the Korea Stock Exchange since December 15, 1999, and share capital as of December 31, 2023 amounts to ₩461,565 million. The shareholders of the Corporation and their shareholdings as of December 31, 2023 are as follows:

Shareholders	Number of shares	Percentage of ownership (%)
Government of the Republic of Korea	24,144,353	26.2
Korea Electric Power Corporation	18,900,000	20.5
Local governments	7,321,122	7.9
Treasury share[1]	6,486,050	7.0
Others	35,461,475	38.4
	92,313,000	100.0

[1] Exchangeable Shares for hybrid bonds issued by the Corporation are deposited with the Korea Securities Depository as of December 31, 2023.

(1) Details of the consolidated subsidiaries as of December 31, 2023 and 2022, are as follows:

Subsidiary	Business	Country of incorporation	Country of domicile	Percentage of ownership (%)	
				December 31, 2023	December 31, 2022
Korea Gas Technology Corporation	Construction & service	Korea	Korea	100.00	100.00
KOGAMEX Investment Manzanillo B.V.	LNG terminal construction	Netherlands	Mexico	100.00	100.00
KOMEX-GAS, S.de R.L. de C.V.	Service	Mexico	Mexico	99.97	99.97
KOGAS Iraq B.V.	Resource development	Netherlands	Iraq	100.00	100.00
KOGAS Badra B.V.	Resource development	Netherlands	Iraq	100.00	100.00
KOGAS Akkas B.V.	Resource development	Netherlands	Iraq	100.00	100.00
KOGAS Mansuriya B.V.	Resource development	Netherlands	Iraq	100.00	100.00
KOGAS Canada Energy Ltd.	Resource development & LNG plant management	Canada	Canada	100.00	100.00
KOGAS Australia Pty. Ltd.	Resource development	Australia	Australia	100.00	100.00
KOGAS Prelude Pty. Ltd.	Resource development	Australia	Australia	100.00	100.00
KG Timor Leste Ltd.	Resource development	Marshall Islands	Timor Leste	100.00	100.00
KG Krueng Mane Ltd.	Resource development	Marshall Islands	Indonesia	100.00	100.00
KG Mozambique Ltd.	Resource development	Marshall Islands	Mozambique	100.00	100.00
KOGAS Mozambique, Lda.	Construction & service	Mozambique	Mozambique	99.99	99.99
KGLNG E&P Pty Ltd.	Resource development	Australia	Australia	100.00	100.00
KGLNG E&P II Pty Ltd.	Resource development	Australia	Australia	100.00	100.00

1. General information (cont'd)

(1) Details of the consolidated subsidiaries as of December 31, 2023 and December 31, 2022, are as follows: (cont'd):

Subsidiary	Business	Country of incorporation	Country of domicile	Percentage of ownership (%)	
				December 31, 2023	December 31, 2022
KGLNG Liquefaction Pty Ltd.	LNG plant management	Australia	Australia	100.00	100.00
KOGAS Cyprus Ltd.	Resource development	Cyprus	Cyprus	100.00	100.00
KC LNG Tech Co.,Ltd.	Engineering	Korea	Korea	50.20	50.20
KG-SEAGP Company Limited[1]	Resource development	Hong Kong	Myanmar	69.72	68.22
KG Myanmar Ltd.[2]	Resource development and others	Korea	Myanmar	100.00	100.00
KOGAS International Pte. Ltd.	LNG trading	Singapore	Singapore	100.00	100.00
Kogas Canada Partner Ltd.	Resource development & LNG plant management	Canada	Canada	100.00	100.00
Kogas Canada LNG Partnership	LNG plant management	Canada	Canada	99.99	99.99
Kogas Canada E&P Partnership	Resource development	Canada	Canada	99.99	99.99
Korea LNG Bunkering Co.,Ltd.	LNG Bunkering	Korea	Korea	100.00	100.00
KOREA LNG BUNKERING LINES Ltd	Ship rental	Liberia	Korea	100.00	100.00

[1] The Corporation has the right to exercise 69.72% voting rights at the shareholders' meeting of KG-SEAGP Company Limited. However, voting rights ratio and ownership share may be different according to the shareholders agreement. The ownership share is calculated based on the ratio of cash flows expected to be distributed during the investment period, and the ownership share of the Corporation is 20%.
[2] The Corporation has the right to exercise 100% voting rights at the shareholders' meeting of KG Myanmar Ltd. However, voting rights ratio and ownership share may be different according to the shareholders agreement. The ownership share is calculated based on the ratio of cash flows expected to be distributed during the investment period, and the ownership share of the Corporation is 37.56%.

1. General Information (cont'd)

(2) Summarized financial information of consolidated subsidiaries as of December 31, 2023 and 2022, and the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023			
Subsidiary	Total assets	Total liabilities	Revenue	Profit (loss) for the year
Korea Gas Technology Group	₩ 255,832	₩ 113,347	₩ 385,140	₩ 10,708
KOGAMEX Investment Manzanillo B.V.	133,233	92,278	-	(2,997)
KOMEX-GAS, S. de R.L. de C.V.	93	-	-	(106)
KOGAS Iraq B.V.	932,718	176,183	495,923	(164,708)
KOGAS Badra B.V.	442,287	50,146	132,022	48,805
KOGAS Akkas B.V.	16,550	16,176	-	(2,438)
KOGAS Mansuriya B.V.	259	38	-	(126)
KOGAS Canada Energy Ltd.[1]	1,458,113	916,803	7,073	(9,482)
KOGAS Australia Pty. Ltd.[2]	4,112,400	3,321,514	1,009,348	76,115
KOGAS Prelude Pty. Ltd.	1,996,157	1,435,724	310,953	(3,547)
KG Timor Leste Ltd.	16	62,618	-	(1,989)
KG Krueng Mane Ltd.	-	89,764	-	(2,947)
KG Mozambique Ltd.	1,264,991	983,183	160,009	(221,489)
KOGAS Mozambique, Lda.	25,636	2,876	-	6,070
KOGAS Cyprus Ltd.	6,945	22	-	(1,455)
KC LNG Tech Co.,Ltd.	8,979	13,269	2,062	(85)
KG-SEAGP Company Limited	190,811	47	-	9,884
KG Myanmar Ltd.	178,255	1,520	-	9,477
KOGAS International Pte. Ltd.	79,783	56,768	303,925	6,865
Korea LNG Bunkering Ltd.[3]	100,784	56,244	58,145	(1,732)

[1] The condensed statements of financial position and comprehensive income of KOGAS Canada Energy Ltd. include financial information of KOGAS Canada Partner Ltd., KOGAS Canada LNG Partnership., and KOGAS Canada E&P Partnership.

[2] The condensed statements of financial position and comprehensive income of KOGAS Australia Pty. Ltd. include financial information of KGLNG E&P Pty Ltd., KGLNG E&P Ⅱ Pty Ltd., and KGLNG Liquefaction Pty Ltd.

[3] The condensed statements of financial position and comprehensive income of Korea LNG Bunkering Co Ltd. include financial information of KOREA LNG BUNKERING LINES Ltd.

1. General Information (cont'd)

	2022			
Subsidiary	Total assets	Total liabilities	Revenue	Profit (loss) for the year
Korea Gas Technology Group	₩ 273,198	₩ 137,397	₩ 326,663	₩ (6,644)
KOGAMEX Investment Manzanillo B.V.	137,225	93,506	-	(912)
KOMEX-GAS, S. de R.L. de C.V.	188	14	-	68
KOGAS Iraq B.V.	1,106,926	176,321	392,677	(91,482)
KOGAS Badra B.V.	547,472	32,004	202,672	115,271
KOGAS Akkas B.V.	17,288	14,553	-	(2,318)
KOGAS Mansuriyah B.V.	357	17	-	(82)
KOGAS Canada Energy Ltd.[1]	1,238,987	783,908	17,141	(7,961)
KOGAS Australia Pty. Ltd.[2]	4,272,434	3,565,097	1,097,908	159,418
KOGAS Prelude Pty. Ltd.	2,147,112	1,592,003	193,586	(42,667)
KG Timor Leste Ltd.	16	59,614	-	(1,799)
KG Krueng Mane Ltd.	-	85,364	-	(2,485)
KG Mozambique Ltd.	1,335,978	907,603	12,832	(46,622)
KOGAS Mozambique, Lda.	21,385	32	54	6,445
KOGAS Cyprus Ltd.	7,968	19	-	(26,167)
KC LNG Tech Co.,Ltd.	10,059	14,264	4,231	(3,994)
KG-SEAGP Company Limited	195,375	12,219	-	1,492
KG Myanmar Ltd.	229,575	2,825	-	7,594
KOGAS International Pte. Ltd.	31,726	15,770	806,765	4,877
Korea LNG Bunkering Ltd.[3]	60,345	14,073	23,680	(237)

[1] The condensed statements of financial position and comprehensive income of KOGAS Canada Energy Ltd. include financial information of KOGAS Canada Partner Ltd., KOGAS Canada LNG Partnership., and KOGAS Canada E&P Partnership.

[2] The condensed statements of financial position and comprehensive income of KOGAS Australia Pty. Ltd. include financial information of KGLNG E&P Pty Ltd., KGLNG E&P Ⅱ Pty Ltd., and KGLNG Liquefaction Pty Ltd.

[3] The condensed statements of financial position and comprehensive income of Korea LNG Bunkering Co Ltd. include financial information of KOREA LNG BUNKERING LINES Ltd.

1. General Information (cont'd)

(3) Information on non-controlling interests

(Korean won in millions)

	2023				
	KC LNG Tech Co.,Ltd.	KG-SEAGP Company Limited	KG Myanmar Ltd.	Others	Total
Voting rights ratio [1]	50.20%	69.72%	100%		
Current assets	₩ 2,666	₩ 136,078	₩ 55,002	₩ 7,055	₩ 200,801
Non-current assets	6,313	54,733	123,253	18,674	202,973
Current liabilities	12,893	47	-	2,876	15,816
Non-current liabilities	376	-	1,520	-	1,896
Net assets	(4,290)	190,764	176,735	22,853	386,062
Carrying amount of non-controlling interests	(2,136)	103,655	97,539	3	199,061
Revenue	2,062	-	-	-	2,062
Net profit (loss) for the year	(85)	9,884	9,477	5,964	25,240
Profit (loss) for the year attributable to non-controlling interests	(42)	7,907	5,916	1	13,782
Cash flows from operating activities	(924)	(10,759)	11,504	7,146	6,967
Cash flows from investing activities	154	151,202	47,449	(1,342)	197,463
Cash flows from financing activities prior to payment of non-controlling Interest dividends	624	(5,415)	(51,630)	(2,350)	(58,771)
Dividends paid to non-controlling interests	-	-	(7,861)	-	(7,861)
Net foreign exchange difference	-	(1,610)	-	(76)	(1,686)
Net increase in cash and cash equivalents	(146)	133,418	(538)	3,378	136,112

[1] Non-controlling interests of KG-SEAGP Company Limited and KG Myanmar Ltd. are calculated based on ownership interest ratio, not voting rights ratio.

(Korean won in millions)

	2022				
	KC LNG Tech Co.,Ltd.	KG-SEAGP Company Limited	KG Myanmar Ltd.	Others	Total
Voting rights ratio [1]	50.20%	68.22%	100%	-	-
Current assets	₩ 2,951	₩ 139,980	₩ 53,697	₩ 2,308	₩ 198,936
Non-current assets	7,108	55,395	175,878	19,265	257,646
Current liabilities	13,917	12,219	536	46	26,718
Non-current liabilities	347	-	2,289	-	2,636
Net assets	(4,205)	183,156	226,750	21,527	427,228
Carrying amount of non-controlling interests	(2,094)	97,798	127,952	3	223,659
Revenue	4,231	-	-	54	4,285
Net profit (loss) for the year	(3,994)	1,492	7,594	6,513	11,605
Profit (loss) for the year attributable to non-controlling interests	(1,989)	1,194	4,700	-	3,905
Cash flows from operating activities	(1,638)	1,698	5,652	(76)	5,636
Cash flows from investing activities	268	10,709	41,083	6	52,066
Cash flows from financing activities prior to payment of non-controlling interest dividends	(96)	(14,627)	(41,083)	(2,063)	(57,869)
Dividends paid to non-controlling interests	-	(490)	(5,120)	(1)	(5,611)
Net foreign exchange difference	-	395	-	156	551
Net increase in cash and cash equivalents	(1,466)	(2,315)	532	(1,978)	(5,227)

[1] Non-controlling interests of KG-SEAGP Company Limited and KG Myanmar Co., Ltd. are calculated based on ownership interest ratio, not voting rights ratio.

2. Basis of preparation and summary of material accounting policy information

The principal accounting policies applied in the preparation of these consolidated financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

2.1 Basis of presentation

The Corporation and its subsidiaries (collectively, the "Group") maintains its accounting records in Korean won and prepares statutory consolidated financial statements in the Korean language in accordance with International Financial Reporting Standards as adopted by the Republic of Korea ("KIFRS") enacted by the *Act on External Audit of Stock Companies*. The accompanying consolidated financial statements have been translated into English from Korean financial statements. In the event of any differences in interpreting the financial statements or the independent auditor's report thereon, Korean version, which is used for regulatory reporting purposes, shall prevail.

Certain information attached to the Korean language consolidated financial statements, but not required for a fair presentation of the Group's financial position, financial performance or cash flows, is not presented in the accompanying consolidated financial statements.

The consolidated financial statements of the Group have been prepared in accordance with KIFRS. These are the standards, subsequent amendments and related interpretations issued by the International Accounting Standards Board ("IASB") that have been adopted by the Republic of Korea.

The preparation of consolidated financial statements requires the use of critical accounting estimates. Management also needs to exercise judgement in applying the Group's accounting policies. The areas involving a higher degree of judgment or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements are disclosed in Note 3.

2.2 Changes in Accounting Policies and Disclosures

2.2.1 New and amended standards adopted by the Group

The Group has applied the following standards and amendments for the first time for their annual reporting period commencing January 1, 2023.

(1) Deferred tax on assets and liabilities arising from a single transaction

The Group applied the amendments to the deferred tax on assets and liabilities arising from a single transaction (KIFRS 1012 *Income Tax*) on January 1, 2023. The amendments to KIFRS 1012 narrow the scope of the initial recognition exception, so that it no longer applies to transactions that give rise to equal taxable and deductible temporary differences (e.g., leases and decommissioning liabilities).
The Group recognized deferred tax assets and liabilities for all deductible and taxable temporary differences associated with lease and decommissioning liabilities existing from the beginning of the earliest comparative period, and the cumulative effect resulting from initial application has been recognized by adjusting to retained earnings or other components of equity on the same date. The Group applied the amendments to all transactions incurring on or after the beginning of the earliest comparative period.

The Group recognized deferred tax assets related to right-of-use assets and deferred tax liabilities related to lease liabilities separately in accordance with the amendments. However, as the Group satisfied the deferred tax asset and liability offsetting criteria set out in paragraph 74 of KIFRS 1012, there was no impact on the consolidated statements of financial position of the Group and the beginning balance of retained earnings as of January 1, 2023.

(2) Global minimum tax

The Group applied International Tax Reform - Pillar Two Model Rules (KIFRS 1012 *Income Tax*), announced on May 23, 2023. These amendments include a mandatory temporary exception to the recognition and disclosure of deferred taxes arising from the jurisdictional implementation of the Pillar Two Model Rules; and require disclosure for affected entities to help users of the financial statements better understand an entity's exposure to Pillar Two income taxes arising.

2. Basis of presentation and summary of material accounting policy information (cont'd)

2.2 Changes in accounting policies and disclosures (cont'd)

2.2.1 New and amended standards and interpretations (cont'd)

The mandatory temporary exception to the recognition and disclosure of deferred taxes applies retrospectively. However, as the global minimum tax in countries in which the Group operates, has not been enacted or substantively enacted as of December 31, 2022, there is no related tax effect recognized by the Group in its consolidated financial statements as of December 31, 2023 and 2022.

(3) Material accounting policy information

The Group applied the amendments to KIFRS 1001 *Presentation of Financial Statements* which are effective for annual reporting period beginning on or after January 1, 2023. These amendments do not result in changes to accounting policies, but have an effect on the accounting policy information disclosures.

The amendments aim to help entities provide accounting policy disclosures that are more useful for the users of the financial statements by replacing the requirement for entities to disclose their 'significant' accounting policies with a requirement to disclose their 'material' accounting policies and adding guidance on how entities apply the concept of materiality in making decisions about accounting policy disclosures.

Management of the Group has reviewed the accounting policies, and has updated material accounting policy information in Note 2.3 in accordance with the amendments.

(4) Clarification of definition of 'Accounting Estimates'

The Group applied the amendments to KIFRS 1008 *Accounting Policies, Changes in Accounting Estimates and Errors*), which are effective for annual reporting period beginning on or after January 1, 2023. The amendments to KIFRS 1008 define accounting estimates and clarify the distinction between changes in accounting estimates, changes in accounting policies and the correction of errors. These amendments had no material impact on the consolidated financial statements of the Group.

2.2.2 New standards and interpretations not yet adopted by the Group

The new and amended standards and interpretations that are issued, but not yet effective, for the annual periods beginning on or after January 1, 2023 that the Group has not early adopted are disclosed below.

(1) Amendments to KIFRS 1001 'Presentation of Financial statements' - Classification of Liabilities as Current or Non-current and Non-current Liabilities with covenants

The amendments issued in 2020 and 2022 specify the requirements for classifying liabilities as current or non-current and require disclosure of non-current liabilities with covenants to be complied with in the future. The amendments are effective for annual reporting periods beginning on or after January 1, 2024. The Group is unable to determine the impact therefrom and is in the process of monitoring the procedures of amendments.

2. Basis of presentation and summary of material accounting policy information (cont'd)

2.2.2 New standards and interpretations not yet adopted by the Group (cont`d)

(2) Amendments to KIFRS 1007 *Statement of Cash Flows* and KIFRS 1107 *Financial Instruments: Disclosures - Supplier finance arrangements*

The disclosure requirements in the amendments are intended to assist users of financial statements in understanding the effects of supplier finance arrangements on an entity's liabilities, cash flows and exposure to liquidity risk. The Group is in the process of assessing the impact of the amendments on disclosure requirements for the arrangements. The amendments are effective for annual reporting periods beginning on or after January 1, 2023. The Group is unable to determine the impact of the amendments' application and is monitoring the amendment process.

(3) The following new and amended standards are not expected to have a material impact on the Group.
- Lease Liability in a Sale and Leaseback (KIFRS 1116 *Leases*)
- Lack of exchangeability (KIFRS 1021 *The Effects of Changes in Foreign Exchange Rates*)

2.3 Material accounting policy information

2.3.1 Revenue recognition

Revenue is recognized by applying a five-stage revenue recognition model (Identification of a contract with a customer → Identification of performance obligations in the contract → Determination of the transaction price → Allocation of the transaction price to the separate performance obligations in the contract → Recognition of revenue upon satisfying the performance obligations) to all of its contracts with customers. Revenue is measured based on the consideration determined by contracts with customers, excluding amounts collected on behalf of third parties. Further, the Group recognizes revenue when the control of goods or services is transferred to customers. The Group is mainly engaged in the supply of natural gas and providing related services using supply facilities.

(a) Sale of goods

The Group's contracts with customers for the sale of natural gas includes a single performance obligation. Generally, the control of the goods is transferred to the customer at a point in time. Therefore, the Group recognizes revenue when the goods are transferred to the customers and the adoption of the standard has no impact on the timing of the Group's revenue recognition.

(b) Rendering of services

(i) Maintenance of gas facilities
The Group provides maintenance and repair services for gas facilities. In accordance with KIFRS 1115, revenue from installation services is recognized over a period of time using an input method to measure the progress of a service as customers simultaneously receive and consume the benefits provided by the Group. Assets that have the right to receive payment for the goods or services transferred to the customer and for which there is a condition beyond the time limit should be recognized as contract assets. As a result of the adoption of KIFRS 1115, the Group reclassified unbilled amount and overbilled amount arising from construction and service contracts to contract assets and liabilities.

(ii) Revenue from service to operate oversea projects
The Group provides services under the technical service contracts in which the Group has entered into with customers. These services include a single performance obligation in operation of the production of crude oil and gas. The Group recognized revenue over time by measuring its progress towards complete satisfaction of that performance obligation as the customer simultaneously receives and consumes the benefits of the Group's performance. The Group recognizes revenue as the amount that is directly attributable to the value of the service rendered each month, which is the same as the period of recognition as stated under KIFRS 1018.

(iii) Joint usage of facilities
The contract for the use of plumbing facilities concluded with the customer includes a single obligation to provide the customer with the service of transferring the gas from the pre-agreed point of entry to withdrawal using the Group's plumbing facilities. The Group recognizes revenue as the amount that is directly attributable to the value of the service rendered each month, which is the same as the period of recognition as stated under KIFRS 1018.

2. Basis of presentation and summary of material accounting policy information (cont'd)

2.3.1 Revenue recognition (cont'd)

(c) Other significant judgments

In addition to the above, other significant matters as determined by applying the standard 1115 'Revenue from contracts with customers' are as follows.

(i) Transportation service

If the goods provided to the customer by the Group are not transferred to the customer without the shipping service, the customer cannot obtain benefits in itself, and the customer cannot receive the shipping service from the group other than the Group. You can not benefit from it with other resources. Therefore, the services provided by the Group are not identified as separate performance obligations.

(ii) Provision of goods sales guarantee

The Group have a warranty obligation on the quantity and quality of goods sold. The obligation for the quantity and quality of the group is that there is no option to purchase the warranty separately from the customer and the warranty (or any part of it) agrees that the product conforms to the agreed specifications. This is not a separate service that is separate from the supply of goods. On the other hand, if a penalty payment is expected due to the obligation, it should be deducted from the sales as the best estimate of the payment expected to the customer because it corresponds to the variable consideration. The adoption of KIFRS 1115 has no impact on the recognition of revenue.

(iii) Variable cost

If the contract contains significant variable consideration, the Group transfers the promised goods to the customer and estimates the amount to be paid in return. When the uncertainty associated with the variable cost is eliminated, the variable price is estimated at the commencement of the contract and included in the transaction price only to the extent that it is highly unlikely that a significant portion of the cumulative revenue already recognized will be returned. In this regard, there is no significant change in the amount that the Group recognizes in its contract with the customer. As described in Note 9 (3), the Group generally provides short-term lending to its customers, therefore contracts with customers do not include significant financial elements.

(d) Present and disclosure requirements

The Group has recognized the revenue recognized in its contract with customers by category to indicate how economic factors affect the nature, amount, timing and uncertainty of revenue and cash flows. The Group also discloses information about the relationship between disclosed revenue disclosures and reported revenue information for each reporting

2. Basis of presentation and summary of material accounting policy information (cont'd)

2.3 Material accounting policy information (cont'd)

2.3.2 Leases

The Group assesses at contract inception whether a contract is, or contains, a lease. That is, if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

2.3.2.1. As a lessee
At commencement or on modification of a contract that contains a lease component, the Group allocates the consideration in the contract to each lease component on the basis of its relative stand-alone prices. However, for the leases of property the Group has elected not to separate non-lease components and account for the lease and non-lease components as a single lease component.

The Group recognises a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the end of the lease term, unless the lease transfers ownership of the underlying asset to the Group by the end of the lease term or the cost of the right-of-use asset reflects that the Group will exercise a purchase option. In that case the right-of-use asset will be depreciated over the useful life of the underlying asset, which is determined on the same basis as those of property and equipment. In addition, the right-of-use asset is periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Group's incremental borrowing rate. Generally, the Group uses its incremental borrowing rate as the discount rate.

The Group determines its incremental borrowing rate by obtaining interest rates from various external financing sources and makes certain adjustments to reflect the terms of the lease and type of the asset leased.

Lease payments included in the measurement of the lease liability comprise the following:
- fixed payments, including in-substance fixed payments;
- variable lease payments that depend on an index or a rate, initially measured using the index or rate as at the commencement date;
- amounts expected to be payable under a residual value guarantee; and the exercise price under a purchase option that the Group is reasonably certain to exercise, lease payments in an optional renewal period if the Group is reasonably certain to exercise an extension option, and penalties for early termination of a lease unless the Group is reasonably certain not to terminate early.

2. Basis of presentation and summary of material accounting policy information (cont'd)

2.3 Material accounting policy information (cont'd)

2.3.2 Leases (cont'd)

The lease liability is measured at amortised cost using the effective interest method. It is remeasured when there is a change in future lease payments arising from a change in an index or rate, if there is a change in the Group's estimate of the amount expected to be payable under a residual value guarantee, if the Group changes its assessment of whether it will exercise a purchase, extension or termination option or if there is a revised in-substance fixed lease payment.

When the lease liability is remeasured in this way, a corresponding adjustment is made to the carrying amount of the right-of-use asset, or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

Short-term leases and leases of low-value assets
The Group has elected not to recognise right-of-use assets and lease liabilities for leases of low-value assets and short-term leases, including IT equipment. The Group recognises the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

2.3.2.2 As a lessor
At inception or on modification of a contract that contains a lease component, the Group allocates the consideration in the contract to each lease component on the basis of their relative stand-alone prices. When the Group acts as a lessor, it determines at lease inception whether each lease is a finance lease or an operating lease.

To classify each lease, the Group makes an overall assessment of whether the lease transfers substantially all of the risks and rewards incidental to ownership of the underlying asset. If this is the case, then the lease is a finance lease; if not, then it is an operating lease. As part of this assessment, the Group considers certain indicators such as whether the lease is for the major part of the economic life of the asset.

When the Group is an intermediate lessor, it accounts for its interests in the head lease and the sub-lease separately. It assesses the lease classification of a sub-lease with reference to the right-of-use asset arising from the head lease, not with reference to the underlying asset. If a head lease is a short-term lease to which the Group applies the exemption described above, then it classifies the sub-lease as an operating lease.

If an arrangement contains lease and non-lease components, then the Group applies KIFRS 1115 to allocate the consideration in the contract.

The Group applies the derecognition and impairment requirements in IFRS 1109 to the net investment in the lease. The Group further regularly reviews estimated unguaranteed residual values used in calculating the gross investment in the lease.

The Group recognises lease payments received under operating leases as income on a straight-line basis over the lease term as part of 'other revenue'.

2. Basis of presentation and summary of material accounting policy information (cont'd)

2.3 Material accounting policy information (cont'd)

2.3.3 Foreign currency translation

2.3.3.1 Functional and presentation currency

Items included in the consolidated financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which each entity operates (the "functional currency"). The consolidated financial statements are presented in Korean won, which is the Parent Company's functional and presentation currency.

2.3.3.2 Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies at year end exchange rates are generally recognized in profit or loss.

Non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was determined. Translation differences on assets and liabilities carried at fair value are reported as part of the fair value gain or loss. For example translation differences on non-monetary assets and liabilities such as equitiems held at fair value through profit or loss are recognized in profit or loss as part of the fair value gain or loss and translation differences on non-monetary assets such as equities classified as financial assets at fair value through other comprehensive income are recognized in other comprehensive income.

2.3.4 Borrowing costs

General and specific borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset are capitalized during the period of time that is required to complete and prepare the asset for its intended use or sale. Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalization. Other borrowing costs are expensed in the period in which they are incurred.

2.3.5 Government grants

Grants from the government are recognized at their fair value where there is a reasonable assurance that the grant will be received and the Group will comply with all attached conditions.

Government grants related to assets are presented in the statement of financial position by deducting the grant in arriving at the carrying amount of the asset. The grant is recognized in profit or loss over the life of a related asset by reducing depreciation expense.

If the Group received grants related to income, government grants which are intended to compensate the Group for expenses incurred are recognized as other income in profit or loss over the periods in which the Group recognizes the related costs as expenses. The government grants which are intended to give immediate financial support to the Group with no future related costs are recognized as government grant income in profit or loss at the time such grants can be rightfully claimed by the Group.

2. Basis of presentation and summary of material accounting policy information (cont'd)

2.3 Material accounting policy information (cont'd)

2.3.6 Investments in associates

An associate is any company that the Group can have a significant influence on, but has no control, and is generally an investee in which the group owns 20% to 50% of the voting shares. Investments in associates are initially recognized as acquisition cost and are accounted for using the equity method. Unrealized profits arising from transactions between the Group and associates are deducted as much as the portion of the Group's interest in associates. The application of the equity method is discontinued if the Group's equity interest in the associate is equal to or exceeds the investment interest in the associate (including the long-term investment that forms part of the net investment). However, if the Group has legal or agenda obligations for additional losses after the Group's stake is reduced to zero, or if payments are made on behalf of the associate, losses and liabilities are recognized only up to that amount. In addition, if there are signs of objective impairment on the investment of an associate, the difference between the recoverable amount and the carrying amount of the investment of the associate is recognized as an impairment loss. When the Group uses the financial statements of associates to apply the equity method, the financial statements of associates are adjusted, if necessary, by reviewing whether the same accounting policies applied by the Group have been applied to the same transactions or events in similar circumstances.

2.3.7 Joint arrangements

Joint arrangements in which two or more parties have joint control are classified as joint operations or joint ventures. Joint operators have the rights and obligations to the assets and liabilities of the joint operation, and recognize their share of the assets and liabilities, income and expenses of the joint operation. The joint venture participants have the right to the joint venture's net assets and apply the equity method. (Note 2.3.6)

The Group participates in unincorporated joint ventures that are not classified as joint arrangement over which the Group has no significant influence. The Group has rights and obligations over assets, liabilities, revenues and expenses corresponding to the percentage of ownership through unincorporated joint venture in accordance with the joint arrangements. In accordance with paragraph B11 of KIFRS 1111 and paragraph 10 of KIFRS 1108, the Group accounts for its assets and liabilities in relation to the percentage of ownership.

2.3.8 Retirement benefits

The Group operates both defined contribution and defined benefit pension plans.

For defined contribution plans, the Group pays contribution to publicly or privately administered pension insurance plans on mandatory, contractual or voluntary basis. The Group has no further payment obligation once the contribution have been paid. The contribution are recognized as employee benefit expense when they are due.

A defined benefit plan is a pension plan that is not a defined contribution plan. Generally, post-employment benefits are payable after the completion of employment, and the benefit amount depended on the employee's age, periods of service or salary levels. The liability recognized in the statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and that have terms approximating to the terms of the related obligation. Remeasurement gains and losses arising from experience adjustments and changes in actuarial assumptions are recognized in the period in which they occur, directly in other comprehensive income.

Changes in the present value of the defined benefit obligation resulting from plan amendments or curtailments are recognized immediately in profit or loss as past service costs.

2. Basis of presentation and summary of material accounting policy information (cont'd)

2.3 Material accounting policy information (cont'd)

2.3.9 Current and deferred tax

The tax expense for the period consists of current and deferred tax. Current and deferred tax is recognized in profit or loss, except to the extent that it relates to items recognized in other comprehensive income or directly in equity. In this case, the tax is also recognized in other comprehensive income or directly in equity, respectively.

The tax expense is measured at the amount expected to be paid to the taxation authorities, using the tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period.

Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation. The Group recognizes current income tax on the basis of amounts expected to be paid to the tax authorities.

Deferred tax is provided in full, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. However, deferred tax is not accounted for if it arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor taxable profit or loss.

Deferred tax assets are recognized only if it is probable that future taxable amounts will be available to utilize those temporary differences and losses.

The Group recognizes a deferred tax liability all taxable temporary differences associated with investments in subsidiaries, associates, and interests in joint arrangements, except to the extent that the Group is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. In addition, The Group recognizes a deferred tax asset for all deductible temporary differences arising from such investments to the extent that it is probable the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets and liabilities and when the deferred tax balances relate to the same taxation authority. Current tax assets and tax liabilities are offset where the entity has a legally enforceable right to offset and intends either to settle on a net basis.

2.3.10 Non-current assets held for sale

Non-current assets are classified as held for sale when their carrying amount will be recovered principally through a sale transaction rather than through continuing use and a sale is considered highly probable. The assets are measured at the lower amount between their carrying amount and the fair value less costs to sell.

2.3.11 Property, plant and equipment

Property, plant and equipment are stated at cost after the initial recognition acquisition cost less accumulated depreciation and accumulated impairment losses.///

The cost of property, plant and equipment includes any costs directly attributable to bringing the asset or expenses directly related to the construction. It also includes cost to the location and condition necessary for it to be capable of operating in the manner intended by management and the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located.

Subsequent costs are included in carrying amount or recognized as an asset if it is probable that future economic benefits associated with the item will flow, and the cost of the item can be measured reliably. Replaced part of the carrying amount is derecognized. Meanwhile, the cost of day-to-day servicing are recognized in profit or loss as incurred.

2. Basis of presentation and summary of material accounting policy information (cont'd)

2.3 Material accounting policy information (cont'd)

2.3.11 Property, plant and equipment (cont'd)

Depreciation of all property, plant and equipment, except for land and timber, is calculated using the method below to allocate their cost or revalued amounts, net of their residual amounts, over their estimated useful life. Also, reserves used in calculation of units of production method generally include Proved Reserves and Probable Reserves, and the Group regularly evaluates the reserve amount.

	Useful lives (years)	Depreciation method
Buildings	15 ~ 40	Straight-line method
Structures	5 ~ 50	Straight-line method
Machinery	4 ~ 30	Straight-line method
Vehicles	4 ~ 15	Straight-line method
Office equipment	4 ~ 5	Straight-line method
Tools and instruments	3 ~ 12	Straight-line method
Computerized facility	4 ~ 8	Straight-line method
Right-of-use assets	Lease period	Straight-line method
Others	Period of business	Straight-line method and units of production method

Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost of the item is depreciated separately.

The assets' depreciation method, residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period, the change is accounted for as a change in an accounting estimate.

Property, plant and equipment are derecognized on disposal, or when no future economic benefits are expected from its use or disposal. Gains or losses arising from derecognition of a property, plant and equipment, measured as the difference between the net disposal proceeds and the book amount of the asset, and are recognized in profit or loss for the year when the asset is derecognized.

2.3.12 Intangible assets

2.3.12.1 Intangible assets acquired separately

Intangible assets, except for resource development with finite useful lives that is acquired separately, are carried at cost less accumulated amortization and accumulated impairment losses. Amortization of intangible asset, except for the right to use harbor facilities from usable and profitable donation assets and intangible exploration evaluated assets are recognized on a straight-line basis over their estimated useful lives. The estimated useful life and amortization method are reviewed at the end of each reporting period, with the effect of any changes in estimate being accounted for on a prospective basis. Intangible assets with indefinite useful lives that are acquired separately are carried at cost less accumulated impairment losses.

The right to use harbor facilities from the usable and profitable donation assets will be amortized to reflect economic benefits of assets expected to be consumed, for example, free use of harbor facilities.

The followings are expenditures that are recognized at acquisition costs of intangible assets: acquisition of rights to explore for resource developments; topographical, geological and geophysical studies incurred in the exploration stage; and direct costs incurred in relation to trenching or drilling. If natural resources are not found, the intangible exploration and evaluation assets are written off. If hydrocarbons are found, further appraisal activities, which may include the drilling of deeper wells, are carried out. If as a result of appraisal the commercial development is expected to be certain, the intangible exploration and evaluation asset is classified as a mineral right.

2. Basis of presentation and summary of material accounting policy information (cont'd)

2.3 Material accounting policy information (cont'd)

2.3.12 Intangible assets (cont'd)

2.3.12.1 Intangible assets acquired separately (cont'd)

Intangible exploration and evaluation assets are subject to technical, commercial and managerial review at least once a year to evaluate possibilities for entering into the development stage. When this is no longer the case, the costs are written off. When proven reserves of oil and natural gas are determined and development is sanctioned, the relevant intangible exploration and evaluation assets are depreciated using the unit of production method. Also, reserves used in calculation of units of production method generally include Proved Reserves and Probable Reserves, and the Group regularly evaluates the reserve amount.

2.3.12.2 Internally-generated intangible assets - research and development expenditure

Expenditures on research activities are recognized as an expense in the period in which they are incurred.

Development expenditures are capitalized only if development costs can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable, and the Group intends to and has sufficient resources to complete development and to use or sell the asset. Other development expenditures are recognized in profit or loss as incurred.

The amount initially recognized for internally-generated intangible assets is the sum of the expenditure incurred from the date when the intangible asset first meets the recognition criteria described above. When the development expenditure does not meet the criteria described above, an internally generated intangible asset cannot be recognized and the expenditure is recognized in profit or loss in the period in which it is incurred.

Internally generated intangible assets are carried at acquisition cost less accumulated depreciation and accumulated impairment losses.

2.3.12.3 Derecognition of intangible assets

An intangible asset is derecognized on disposal, or when no future economic benefits are expected from its use or disposal. Gains or losses arising from derecognition of an intangible asset, measured as the difference between the net disposal proceeds and the carrying amount of the asset, and are recognized in profit or loss when the asset is derecognized.

2.3.13 Greenhouse gas emission rights

Greenhouse gas emission rights and liabilities generated in accordance with the "Act on Allocation and Transaction of Greenhouse Gas Emission Rights" are accounted for as follows.

2.3.13.1 Greenhouse gas emission rights

Greenhouse gas emission permits consist of emission permits allocated free of charge by the government and purchased emission permits. Emissions are recognized by adding purchase costs and other costs that are directly attributable to acquisition and incurred normally.

The Group holds emission credits for the purpose of fulfilling its legal obligations, and the holdings emission rights are classified as intangible assets, but the portion submitted to the government within one year from the end of the reporting period is classified as current assets. Emissions classified as intangible assets are carried at cost less accumulated impairment losses after initial recognition.

Greenhouse gas credits are removed when future economic benefits are no longer expected because they cannot be submitted, sold or used by the government.

2. Basis of presentation and summary of material accounting policy information (cont'd)

2.3 Material accounting policy information (cont'd)

2.3.13 Greenhouse gas emission rights (cont'd)

2.3.13.2 Emissions liabilities

Emissions liabilities are current obligations to emit greenhouse gases and submit emission permits to the government, where there is a high possibility that resources will be outflowed to fulfill the obligations, and the amount required to fulfill the obligations can be reliably estimated. I am aware of it. Emissions liabilities are measured by adding the carrying amount of the permits held for the relevant performance year to be submitted to the government and the expected expenditure to fulfill the obligation for emissions in excess of the amount of permits held. Discharge liabilities are removed when filing with the government.

2.3.14 Impairment of non-financial assets (Reversal)

For goodwill and intangible assets that have an indefinite useful life and assets that are not in ready to use, recoverable amount of assets is assessed annually to determine the impairment amount. It is assessed when facts and circumstances suggest that the carrying amount of an exploration and evaluation assets exceed its recoverable amount, or when events or changes in circumstances indicate that the assets might be impaired after the assets are tested of impairment in every reporting period.

The recoverable amount is estimated for the individual asset. If it is not possible to estimate the recoverable amount of the individual asset, the recoverable amount of the cash-generating unit to which the asset belongs is determined. The recoverable amount of individual assets (or cash generating unit)is the greater of its value in use and its fair value less costs to sell. An impairment loss is recognized in profit or loss if the carrying amount of individual assets (or cash generating unit) exceeds its recoverable amount.

The carrying amount of individual assets (or cash generating unit) are to be increased to its recoverable amounts if impairment loss recognized in prior periods are reversed, except for the goodwill. However, the increased carrying amount of an asset attributable to a reversal of an impairment loss shall not exceed the carrying amount that would have been determined had no impairment loss been recognized for the assets in prior years. A reversal of an impairment loss for an asset are recognized as profit or loss.

2.3.15 Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is determined using the weighted average method for raw materials and finished goods, by using moving average method for stored goods and by using the identified cost method for materials in transit.

2.3.16 Provisions

Provisions are measured at the present value of management's best estimate of the expenditure required to settle the present obligation at the end of the reporting period, and the increase in the provision due to the passage of time is recognized as interest expense.

On the other hand, it is uncertain when the ultimate timing of the outflow of economic benefits will be as the Group expects the land to continue to occupy and use gas pipelines, which are recognized as right-of-use assets and lease liabilities. As this uncertainty is likely to persist over a long period of time, the Group does not recognize the provision for restoration related to land occupation and use because it cannot reliably estimate the timing of the expenditure required to meet the obligation.

2. Basis of presentation and summary of material accounting policy information (cont'd)

2.3 Material accounting policy information (cont'd)

2.3.17 Financial assets

2.3.17.1 Classification

The Group classifies its financial assets in the following measurement categories:

- those to be measured at fair value through profit or loss
- those to be measured at fair value through other comprehensive income, and
- those to be measured at amortized cost.

The classification depends on the Group's business model for managing the financial assets and the contractual terms of the cash flows.

For financial assets measured at fair value, gains and losses will either be recorded in profit or loss or other comprehensive income. For investments in debt instruments, this will depend on the business model in which the investment is held. The Group reclassifies debt investments when, and only when its business model for managing those assets changes.

For investments in equity instruments that are not held for trading, this will depend on whether the Group has made an irrevocable election at the time of initial recognition to account for the equity investment at fair value through other comprehensive income.

2.3.17.2 Measurement

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss.

A hybrid contract that includes an embedded derivative takes into account the entire hybrid contract when determining whether the contractual cash flows consist solely of principal and interest.

2.3.17.2.1 Debt instruments

Subsequent measurement of debt instruments depends on the Group's business model for managing the asset and the cash flow characteristics of the asset. The Group classifies its debt instruments into one of the following three measurement categories:

Amortized cost:
Assets that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortized cost. A gain or loss on a debt investment that is subsequently measured at amortized cost and is not part of a hedging relationship is recognized in profit or loss when the asset is derecognized or impaired. Interest income from these financial assets is included in 'finance income' using the effective interest rate method.

Fair value through other comprehensive income:
Assets that are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal and interest, are measured at fair value through other comprehensive income. Movements in the carrying amount are taken through other comprehensive income, except for the recognition of impairment loss (reversal of impairment loss), interest income and foreign exchange gains and losses which are recognized in profit or loss. When the financial asset is derecognized, the cumulative gain or loss previously recognized in other comprehensive income is reclassified from equity to profit or loss. Interest income from these financial assets is included in 'finance income' using the effective interest rate method. Foreign exchange gains and losses are presented in ''finance income (costs)' and impairment losses are presented in 'finance costs'.

2. Basis of presentation and summary of material accounting policy information (cont'd)

2.3 Material accounting policy information (cont'd)

2.3.17 Financial assets (cont'd)

Fair value through profit or loss:
Assets that do not meet the criteria for amortized cost or fair value through other comprehensive income are measured at fair value through profit or loss. A gain or loss on a debt investment that is subsequently measured at fair value through profit or loss and is not part of a hedging relationship is recognized in profit or loss and presented net in the consolidated statement of comprehensive income within ''finance income (costs)' in the year in which it arises.

2.3.17.2.2 Equity instruments

The Group subsequently measures all equity investments at fair value. Where the Group's management has elected to present fair value gains and losses on equity investments, which held for long-term investment or strategic purpose, in other comprehensive income, there is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment. Dividend income from such investments continue to be recognized in profit or loss as 'finance income' when the right to receive payments is established.

Changes in the fair value of financial assets at fair value through profit or loss are recognized in 'other income and expenses' in the statement of profit or loss as applicable. Impairment loss (reversal of impairment loss) on equity investments measured at fair value through other comprehensive income are not reported separately from other changes in fair value.

2.3.17.3 Impairment

Unlike KIFRS 1039, at the end of each reporting period, KIFRS 1109 requires the Group to account for the expected credit loss ("ECL") and related changes to reflect credit changes of financial assets from initial recognition in accordance with the expected credit loss model. This means that credit events do not have to occur before credit losses are recognized.

The Group recognizes loss allowances as the expected credit loss on debt instruments subsequently measured at amortized cost or FVOCI, lease receivables, contract assets and loan commitments and financial guarantees subject to impairment in accordance with KIFRS 1109.

In particular, if the credit risk of financial instruments has increased significantly since initial recognition, or if the financial assets have been credit-impaired at the acquisition, the allowance is measured at an amount equal to lifetime expected credit losses. On the other hand, if the credit risk of a financial instrument has not increased significantly since initial recognition (except for financial assets that are credit-impaired at acquisition), the Group measures the credit loss allowance for the financial instrument at an amount equal to 12-month expected credit losses.

2.3.17.4 Derecognition

Financial assets are derecognised when contractual rights to the cash flows of the financial asset expire, or when financial assets are transferred and substantially all the risks and rewards of ownership of the financial asset are transferred to other entities. If the risks and rewards of ownership of the financial assets are not transferred, and the financial assets transferred are kept under control, the Group continues to recognize them to the extent of its continuing involvement in the financial assets. If a transfer does not result in derecognition because the Group has retained substantially all the risks and rewards of ownership of the transferred asset, the Group continues to recognize the transferred asset in its entirety and recognizes a financial liability for the consideration received. The Group classified the financial liability as "borrowings" in the consolidated statement of financial position.

2. Basis of presentation and summary of material accounting policy information (cont'd)

2.3 Material accounting policy information (cont'd)

2.3.18 Financial liabilities

2.3.18.1 Classification and measurement

The Group's financial liabilities at fair value through profit or loss are derivatives that are not designated as hedging instruments.

The Group classifies non-derivative financial liabilities, except for financial liabilities at fair value through profit or loss, financial guarantee contracts and financial liabilities that arise when a transfer of financial assets does not qualify for derecognition, as financial liabilities carried at amortized cost and present as 'trade payables', 'borrowings', and 'other financial liabilities' in the consolidated statement of financial position.

2.3.18.2 Derecognition

Financial liabilities are removed from the statement of financial position when it is extinguished; for example, when the obligation specified in the contract is discharged or cancelled or expired or when the terms of an existing financial liability are substantially modified.

2.3.19 Derivative instruments

Derivatives are initially recognized at fair value on the date when a derivative contract is entered into and are subsequently remeasured at their fair value at the end of each reporting period. Changes in the fair value of any derivative instrument that does not qualify for hedge accounting are recognized immediately in profit or loss within 'finance income (costs)' based on the nature of transactions.

2.3.19.1 Hedge accounting

The Group designates certain hedging instruments, which include derivatives, embedded derivatives and non-derivatives in respect of foreign currency risk, as either fair value hedges, cash flow hedges, or hedges of net investments in foreign operations. Hedges of foreign exchange risk on firm commitments are accounted for as cash flow hedges.

At the inception of the hedging relationship, the entity documents the relationship between the hedging instrument and the hedged item, along with its risk management objectives and its strategy for undertaking various hedge transactions. Furthermore, at the inception of the hedge and on an ongoing basis, the Group documents whether the hedging instrument is highly effective in offsetting changes in fair values or cash flows of the hedged item.

2.3.19.2 Fair value hedges

Changes in the fair value of derivatives that are designated and qualify as fair value hedges are recognized in profit or loss immediately, together with any changes in the fair value of the hedged asset or liability that are attributable to the hedged risk. The change in the fair value of the hedging instrument and the change in the hedged item attributable to the hedged risk are recognized in the line of the statement of comprehensive income relating to the hedged item.

Hedge accounting is discontinued when the Group revokes the hedging relationship, when the hedging instrument expires or is sold, terminated, or exercised, or when it no longer qualifies for hedge accounting. The fair value adjustment to the carrying amount of the hedged item arising from the hedged risk is amortized to profit or loss from that date.

2. Basis of presentation and summary of material accounting policy information (cont'd)

2.3 Material accounting policy information (cont'd)

2.3.19 Derivative instruments (cont'd)

2.3.19.3 Cash flow hedges

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognized in other comprehensive income. The gains or losses relating to the ineffective portion is recognized immediately in profit or loss, and is included in the 'finance income and costs" line item.

Amounts previously recognized in other comprehensive income and accumulated in equity are reclassified to profit or loss in the periods when the hedged item is recognized in profit or loss, in the same line of the statement of comprehensive income as the recognized hedged item. However, when the forecasted transaction that is hedged results in the recognition of a non-financial asset or a non-financial liability, the gains and losses previously accumulated in equity are transferred from equity and included in the initial measurement of the cost of the non-financial asset or non-financial liability.

Hedge accounting is discontinued when the Group revokes the hedging relationship, when the hedging instrument expires or is sold, terminated, or exercised, or it no longer qualifies for hedge accounting. Any gains or losses accumulated in equity at that time remains in equity and is recognized when the forecast transaction is ultimately recognized in profit or loss. When a forecasted transaction is no longer expected to occur, the gains or losses accumulated in equity is recognized immediately in profit or loss.

2.3.20 Financial guarantee contracts

Financial guarantee contracts provided by an associate are measured at fair value at initial recognition and are subsequently recognized as a provision for financial guarantees measured at the greater of:

① Allowance for losses calculated based on the impairment of financial instruments

② The amount less the accumulated amortization recognized in accordance with KIFRS 1115, *Revenue from contracts with customers*

2.3.21 Goodwill

Goodwill is the excess of the aggregate of the consideration transferred and the amount recognized for non-controlling interests, and any previous interest held, over the net identifiable assets acquired and liabilities assumed. If the fair value of the net assets acquired is in excess of the aggregate consideration transferred, the Group re-assesses whether it has correctly identified all of the assets acquired and all of the liabilities assumed and reviews the procedures used to measure the amounts to be recognized at the acquisition date. If the re-assessment still results in an excess of the fair value of net assets acquired over the aggregate consideration transferred, then the gain is recognized in profit or loss.

2.4 Approval of issuance of the consolidated financial statements

The consolidated financial statements for the year ended December 31, 2023 were approved for issue by the Board of Directors on February 27, 2024 and are subject to change with the approval of shareholders at their Annual General Meeting.

3. Material accounting judgements estimates and assumptions

The preparation of the financial statements requires management to make estimates and assumptions that affect amounts reported therein. Estimations and assumptions are continuously evaluated with consideration to factors such as events reasonably predictable in the foreseeable future within the present circumstance according to historical experience. The resulting accounting estimates will, by definition, seldom equal the related actual results.

The estimates and assumptions on significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below.

3.1 Income taxes

The Group 's taxable income generated from these operations are subject to income taxes based on tax laws and interpretations of tax authorities in numerous jurisdictions. There are many transactions and calculations for which the ultimate tax determination is uncertain. As a result of the business activities as of the end of the reporting period, the Group recognized the tax effects expected to be borne in the future as current and deferred taxes through the best estimation process. However, the actual final income taxes burden in the future may not be consistent with the related assets and liabilities recognized, and this difference may affect the current and deferred tax assets and liabilities at the time when the final tax effect is finalized.

If certain portion of the taxable income is not used for investments or increase in wages or dividends in accordance with the Tax System for Recirculation of Corporate Income, the Group is liable to pay additional income tax calculated based on the tax laws. The new tax system is effective for three years from 2015. Accordingly, the measurement of current and deferred income tax is affected by the tax effects from the new tax system. As the Group's income tax is dependent on the investments, increase in wages and dividends, there is an uncertainty measuring the final tax effects.

The Group reviews whether there is uncertainty in the treatment of income taxes in accordance with KIFRS 2123, and if the tax authorities conclude that it is not likely to accept the uncertain income tax treatment, each uncertain income tax treatment is recognized as the amount calculated by the following methods to predict resolution of the uncertainty.

① Most likely amount: The most likely single amount in the range of possible outcomes

② Expected amount: Sum of the amount of all the amounts in the range of possible outcomes multiplied by each probability

If it is highly probable that future taxable income will be used for tax losses, the deferred tax asset is recognized for unused tax losses carried forward within the scope. The management of the Group shall make a significant judgment to determine the amount of deferred tax assets that can be recognized based on the future tax policy and the timing and level of taxable income.

3. Material accounting judgements estimates and assumptions (cont'd)

3.2 Fair value of financial instruments

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. The Group uses its judgment to select a variety of methods and make assumptions that are mainly based on market conditions existing at the end of each reporting period. Refer to Note 47 for further information.

3.3 Provisions

The Group accounts for provisions for post-processing, restoration, cleanup costs, and financial guarantees. Provisions for post-processing, restoration and cleanup costs are determined on the basis of estimates of the amount of expenditure, timing of expenditure, inflation rate, discount rate, etc. required for restoration, and other provisions are based on estimates of past experience, or estimates of future expenditures (Note 27).

3.4 Net defined benefit liability

The cost of the retirement benefit plan and the present value of the retirement benefit obligation are determined through the actuarial valuation method. For the application of actuarial valuation methods, it is necessary to set up various assumptions. These assumptions include determining the discount rate, future salary increasing rate, increasing rate, and expected retirement rate. Due to the complexity of the assessment method and the underlying assumptions and long-term nature, the defined benefit obligation varies sensitively depending on these assumptions. All assumptions are reviewed at the end of each reporting period.

The details are described in the Note 26.

3.5 Impairment of financial assets

The Group measures loss allowances of financial assets based on assumptions on default risk and expected credit loss. When establishing these assumptions and determining input variables for the impairment measurement, the Group considers historical experience, current market and future forecast at the end of the reporting period.

3.6 Impairment of non-financial assets (Reversal)

The Group assesses the existence of impairment signs for all non-financial assets at each reporting date. For goodwill and intangible assets that have an indefinite useful life and assets that are not in ready to use, recoverable amount of assets is assessed annually to determine the impairment amount. It is assessed when facts and circumstances suggest that the carrying amount of an exploration and evaluation assets exceed its recoverable amount, or when events or changes in circumstances indicate that the assets might be impaired after the assets are tested of impairment in every reporting period. The recoverable amounts of assets or cash-generating units have been determined based on estimation of future cash flow and appropriate discount rate. Refer to Note 20.(3) for further information.

For assets other than goodwill, at the end of each reporting period, the Company evaluates whether there are any indications that an impairment loss on previously recognized assets is no longer present or has decreased, and if there are such indications, the recoverable amount is estimated. An impairment loss on an asset other than previously recognized goodwill, increased for the carrying amount to the recoverable amount if no impairment loss was recognized only if the estimate used to determine the asset's recoverable amount up to the carrying amount after amortization of the unrecognized the immediately preceding impairment loss and the reversal of the impairment loss is reflected in profit or loss.

3. Material accounting judgements estimates and assumptions (cont'd)

3.7 Leases

In determination of the lease term, the Group considers all relevant facts and circumstances that create an economic incentive to exercise the option to extend the lease, or not to exercise the option to terminate the lease. The Group determines the lease term as the non-cancellable term of the lease, together with any periods covered by an option to extend the lease if it is reasonably certain to be exercised, or any periods covered by an option to terminate the lease, if it is reasonably certain not to be exercised.

The Group reassesses the lease term when obligation is incurred upon the occurrence of an exercise (or not to exercise) the option to renew. The Group changes its judgment on whether it is reasonably certain to exercise an option (or not to exercise) only upon the occurrence of a significant event or a significant change in circumstances that is within the control of the lessee.

4. Segment information

(1) Details of reportable segments are as follows:

Operating segments	Activity
Natural gas wholesale	Import, production and wholesale of LNG, Compressed Natural Gas, Natural Gas
Others	Supply of power and heat, equipment conservation, terminal management, labor force management, exploration, development and production of gas and oil, production of hydrogen, construction of hydrogen charging station

(2) Details of segment results for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023				
	Total revenue	Inter-segment revenue	External revenue	Operating profit[1]	Depreciation and amortization[1]
Natural gas wholesale	₩ 42,832,510	₩ (47,967)	₩ 42,784,543	₩ 1,200,275	₩ 1,151,849
Others	2,864,601	(1,093,149)	1,771,452	344,875	741,409
Adjustments[1]	-	-	-	8,269	(6,140)
	₩ 45,697,111	₩ (1,141,116)	₩ 44,555,995	₩ 1,553,419	₩ 1,887,118

[1] Changes from elimination of internal transactions in reportable segment operating income and depreciation are presented as adjustments.

	2022				
	Total revenue	Inter-segment revenue	External revenue	Operating profit[1]	Depreciation and amortization[1]
Natural gas wholesale	₩ 50,301,773	₩ (686,295)	₩ 49,615,478	₩ 2,015,792	₩ 1,147,584
Others	3,078,209	(969,401)	2,108,808	528,963	610,445
Adjustments[1]	-	-	-	(81,332)	(6,104)
	₩ 53,379,982	₩ (1,655,696)	₩ 51,724,286	₩ 2,463,423	₩ 1,751,925

[1] Changes from elimination of internal transactions in reportable segment operating income and depreciation are presented as adjustments.

(3) Details of assets and liabilities about operating segments as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023			
	Assets	Investments in associates and joint ventures[1]	Acquisition of non-current assets[2]	Liabilities
Natural gas wholesale	₩ 53,823,703	₩ 1,573,165	₩ 752,532	₩ 46,630,545
Others	11,203,845	267,055	685,535	7,388,521
Adjustments[3]	(7,772,881)	-	-	(6,590,438)
	₩ 57,254,667	₩ 1,840,220	₩ 1,438,067	₩ 47,428,628

[1] Investments in associates represent the amounts after the assessment of invested shares included in reportable segment assets.
[2] Acquisition of non-current assets represents the aggregate amounts of property, plant and equipment, and intangible assets acquired during period before elimination of intra-group transactions.
[3] Changes from elimination of intra-group transactions in reportable segment assets and liabilities are presented as adjustments.

4. Segment information (cont'd)

(3) Details of assets and liabilities about operating segments as of December 31, 2023 and 2022, are as follows (Korean won in millions) (cont'd):

	December 31, 2022			
	Assets	Investments in associates and joint ventures[1]	Acquisition of non-current assets[2]	Liabilities
Natural gas wholesale	₩ 59,270,172	₩ 1,611,982	₩ 568,749	₩ 51,292,146
Others	11,633,614	292,194	614,412	7,506,601
Adjustments[3]	(8,478,803)	-	-	(6,784,505)
	₩ 62,424,983	₩ 1,904,176	₩ 1,183,161	₩ 52,014,242

[1] Investments in associates represent the amounts after the assessment of invested shares included in reportable segment assets.
[2] Acquisition of non-current assets represents the aggregate amounts of property, plant and equipment, and intangible assets acquired during period before elimination of intra-group transactions.
[3] Changes from elimination of intra-group transactions in reportable segment assets and liabilities are presented as adjustments.

(4) Details of external revenue for each of the two years in the period ended December 31, 2023, and details of non-current assets as of December 31, 2023 and 2022, by geographic locations are as follows (Korean won in millions):

	External revenue from customers		Non-current assets[1]	
	December 31, 2023	December 31, 2022	December 31, 2023	December 31, 2022
Korea	₩ 42,882,860	₩ 49,665,170	₩ 16,873,737	₩ 17,620,827
Australia	710,166	658,929	4,300,851	4,456,108
Canada	7,073	17,141	1,240,739	1,067,061
Iraq	627,945	595,349	654,757	906,877
Mozambique	160,009	12,885	631,026	723,819
Singapore	66,138	670,009	370	748
Myanmar	101,804	104,803	215,509	236,623
	₩ 44,555,995	₩ 51,724,286	₩ 23,916,989	₩ 25,012,063

[1] Non-current assets represent the aggregate amounts of property, plant and equipment, and intangible assets before elimination of intra-group transactions.

5. Cash and cash equivalents

Cash and cash equivalents include cash and bank deposits. Cash and cash equivalents in the consolidated statements of cash flows is the same as the cash and cash equivalents in the consolidated statements of financial position (Korean won in millions):

	December 31, 2023	December 31, 2022
Cash on hand	₩ 78	₩ 84
Demand deposits	764,423	813,191
Short-term deposits classified as cash equivalents	16,086	-
	₩ 780,587	₩ 813,275

6. Restricted financial assets

Restricted cash and cash equivalents and financial assets as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	Description	December 31, 2023	December 31, 2022
Cash and cash equivalents	Restriction on use for special purpose business	₩ 95,124	₩ 137,853
Short-term financial instruments	Win-win cooperation fund deposits	-	4,000
Long-term financial instruments	Account opening guarantee	18	17
Non-current financial assets	Co-growth deposit and others	90,000	90,000
		₩ 185,142	₩ 231,870

7. Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss('FVTPL') as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023		December 31, 2022	
	Current	Non-current	Current	Non-current
Financial assets at FVTPL:				
Derivatives undesignated as hedging instruments	₩ 7,877	₩ 25,532	₩ 4,471	₩ 49,981
Derivatives designated as hedging instruments	-	-	117,240	-
Debt instruments	-	2,323	-	2,468
	₩ 7,877	₩ 27,855	₩ 121,711	₩ 52,449

8. Derivative instrument

(1) Details of derivative instruments as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023		December 31, 2022	
	Current	Non-current	Current	Non-current
Derivative instrument assets				
Foreign currency forwards	₩ 5,236	₩ -	₩ 2,418	₩ -
Foreign currency swaps	2,641	1,054	117,240	3,594
Interest rate swaps	-	24,478	2,053	46,387
Subtotal[1]	₩ 7,877	₩ 25,532	₩ 121,711	₩ 49,981
Derivative instrument liabilities				
Foreign currency forwards	₩ (96,145)	₩ -	₩ (624,039)	₩ -
Foreign currency swaps	(2,375)	(10,640)	(129,793)	(16,683)
Interest rate swaps	-	(27,872)	-	(8,628)
Subtotal[1]	₩ (98,520)	₩ (38,512)	₩ (753,832)	₩ (25,311)

[1] Contains derivatives for trading purposes and cash flow hedges.

8. Derivative instrument (cont'd)

(2) Details of foreign currency swap contracts as of December 31, 2023 are as follows (Korean won in millions, US dollars and Euro and Hong Kong dollars in thousands):

Purpose	Financial institution	Contract period	Amount of contract				Interest rate of contract		Exchange rate of contract
			Sell		Buy		Sell	Buy	
Trading	DBS	2013.06~2028.06	USD	50,196	KRW	55,788	4.28%	3.30%	USD 1 = KRW 1,111.4
	BNP Paribas	2020.07~2027.07	USD	58,065	HKD	450,000	1.35%	1.42%	USD 1 = HKD 7.75
	BNP Paribas	2022.11~2024.11	USD	51,187	KRW	68,540	5.55%	3.91%	USD 1 = KRW 1,339.0
Cash flow hedge	DBS	2013.06~2028.06	KRW	55,788	EUR	38,000	3.30%	3.02%	EUR 1 = KRW 1,468.1
	BNP Paribas	2022.11~2024.11	KRW	68,540	HKD	400,000	3.91%	5.28%	HKD 1 = KRW 171.4

(3) Details of the interest rate swap contracts as of December 31, 2023 are as follows (Korean won in millions):

Purpose	Financial institution	Period	Amount		Interest rate of contract	
					Sell	Buy
Trading	KEB Hana Bank	2020.09~2028.10	₩	1,600,000	1.29%~5.36%	3M CD + 0.20%~3M CD + 1.02%

(4) Details of foreign currency forward contracts as of December 31, 2023 are as follows (Korean won in millions and US dollars in thousands):

Purpose	Financial institution	Contract date	Maturity date	Amount				Exchange rate of contract
				Sell		Buy		
Trading	KEB Hana Bank	2023.05	2024.05	KRW	3,178,883	USD	2,446,953	1,268.30~1,345.75
	KEB Hana Bank	2023.07	2024.01	USD	12,428	KRW	15,725	1,265.25
	Daegu Bank	2023.12	2024.01	KRW	323,713	USD	250,000	1,294.00~1,297.86
	KB Bank	2023.12	2024.01	KRW	142,958	USD	110,000	1,293.70~1,303.88
	HSBC	2023.07	2024.06	KRW	2,112,574	USD	1,619,913	1,264.70~1,346.00
	ANZ	2023.11	2024.03	KRW	487,677	USD	376,914	1,279.10~1,298.90
	DBS	2023.09	2024.05	KRW	929,977	USD	703,717	1,292.50~1,343.05
	Shinhan Bank	2023.12	2024.06	KRW	169,839	USD	131,914	1,287.50

8. Derivative instrument (cont'd)

(5) Gains or losses on valuation of derivatives for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	Valuation gain (loss)		Transaction gain (loss)		Other comprehensive income (loss)	
	2023	2022	2023	2022	2023	2022
Foreign currency forwards	₩ (90,909)	₩ (620,290)	₩ 477,523	₩ 465,981	₩ 1,156	₩ (2,716)
Foreign currency swap	(204)	(31,067)	(21,964)	-	2,343	(354)
Interest rate swap	(41,153)	30,202	-	(137)	-	-
	₩ (132,266)	₩ (621,155)	₩ 455,559	₩ 465,844	₩ 3,499	₩ (3,070)

As of December 31, 2023, losses on valuation of derivatives amounting to ₩70 million (2022: ₩2,931 million) in accumulated other comprehensive income are presented net of income tax.

(6) Hedging on non-financial items

The Group currently uses LNG ships that were built specifically for the Group's use for stable LNG supply through the long-term financial lease contract in US dollars with the lessor. As the lease expense is recovered through the sales price as a component of shipping expense, the lease expense and raw material cost, which is also denominated in US dollars, form part of the selling price and have the same exposure to foreign currency change.

In order for the Group to hedge the risk of foreign exchange rate change on foreign revenue from the natural gas for power generation, only foreign currency revenue with the same maturity date as the lease liability has been distinguished from long-term supply contract to be designated as the hedged item, and the payment of lease liability has been designated as hedging instrument of non-financial items to apply the hedge accounting.

As future cash flows for hedged item related to some international vessels are no longer expected to arise, the Group discontinued the application of cash flow hedge accounting and reclassified the accumulated valuation gain (loss) of ₩ (-)71,296 million of hedging instrument to current profit or loss.

For each of the two years in the period ended December 31, 2023, losses on hedging instruments amount to ₩66,316 million and ₩(-)111,103 million, respectively, and profits and losses on hedging instruments recognized in other comprehensive income are net of tax effect amounting to ₩(-)17,084 million and ₩ 29,442 million, respectively.

(7) Hedges of net investments in a foreign operation

In order for the Group to hedge the risk of exchange rate fluctuation caused by the foreign currency translation, hedge accounting has been applied to the net investment of overseas business regarding the difference in foreign exchange which arose between the functional currency of overseas business and of the Group.

The amounts recognized in the consolidated statements of comprehensive income for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Net loss on hedge of net investment in foreign operation, net of income tax	₩ (55,300)	₩ (176,808)

(8) Risk management strategies and application methods for risk management

The Group is exposed to certain risks associated with ongoing operations. The main risk managed by derivatives is interest rate risk, foreign exchange risk. The Group's risk management strategies and the methods applied to risk management are described in Note 47.

As of December 31, 2023, the Group entered into an interest rate swaps, currency swaps and currency forward contracts. Interest rate swaps and currency swaps are used to hedge the exposure to changes in

8. Derivative instrument (cont'd)

(8) Risk management strategies and application methods for risk management (cont'd)

cash flows of corporate bonds and currency futures are used to hedge exposures to cash flow changes in foreign currency short-term borrowings.

The amount of the contract by currency for interest rate swap, currency swap and currency forward is as follows:

(Euro and Hong Kong dollar in thousands):

	Currency	Contract amount	Description
Foreign currency forwards	HKD	400,000	Purchase amount
	EUR	38,000	

Because the terms of currency swaps and currency forward agreements are consistent with the terms of each currency (debt and foreign currency short-term borrowings), there is an economic relationship between the hedged item and the hedging instrument. In addition, because the underlying risk of interest rate swaps, currency swaps and currency forwarding is the same as the hedged risk component, the group has established a 1: 1 hedging ratio for the hedging relationship. In order to assess the hedging effect, the Group uses a major conditional equity method to compare the change in the fair value of the hedging instrument with the variability in the cash flow of the hedged item due to the hedged risk.

The ineffective portion of risk hedge can occur in the following cases:
- Different interest rates applied to discount the hedged item and the hedging instrument curve
- Difference in timing of the cash flow of the hedged item and the hedging instrument
- If the counterparty's credit risk has a different effect on the fair value measurement of the hedging instrument and the hedged item

As of December 31, 2023, there is no ineffective portion of hedge accounting.

9. Trade and other receivables

(1) Trade and other receivables as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023				December 31, 2022			
	Principal	Allowance for doubtful accounts	Present value discount	Book value	Principal	Allowance for doubtful accounts	Present value discount	Book value
Current:								
Trade receivables	₩ 6,582,625	₩ (19,505)	₩ -	₩ 6,563,120	₩ 11,331,333	₩ (20,949)	₩ -	₩ 11,310,384
Other receivables	474,837	(161)	-	474,676	811,657	(106)	-	811,551
	7,057,462	(19,666)	-	7,037,796	12,142,990	(21,055)	-	12,121,935
Non-current:								
Other receivables	224,937	(9,336)	(5,619)	209,982	218,827	(11,194)	(5,319)	202,314
	₩ 7,282,399	₩ (29,002)	₩ (5,619)	₩ 7,247,778	₩ 12,361,817	₩ (32,249)	₩ (5,319)	₩ 12,324,249

(2) Other receivables as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023				December 31, 2022			
	Principal	Allowance for doubtful accounts	Present value discount	Book value	Principal	Allowance for doubtful accounts	Present value discount	Book value
Current:								
Non-trade receivables	₩ 468,480	₩ -	₩ -	₩ 468,480	₩ 805,999	₩ -	₩ -	₩ 805,999
Accrued income	6,160	(161)	-	5,999	5,509	(106)	-	5,403
Deposit	197	-	-	197	149	-	-	149
Subtotal	474,837	(161)	-	474,676	811,657	(106)	-	811,551
Non-current:								
Non-trade receivables	79,068	-	(1,530)	77,538	75,632	-	(2,866)	72,766
Accrued income	27,115	(9,336)	-	17,779	23,815	(11,194)	-	12,621
Deposit	118,754	-	(4,089)	114,665	119,380	-	(2,453)	116,927
	224,937	(9,336)	(5,619)	209,982	218,827	(11,194)	(5,319)	202,314
	₩ 699,774	₩ (9,497)	₩ (5,619)	₩ 684,658	₩ 1,030,484	₩ (11,300)	₩ (5,319)	₩ 1,013,865

9. Trade and other receivables (cont'd)

(3) Credit risk and provision for impairment

The Group's average period for credit offering on sale of city gas is 45 days. During the initial 45 days from the billing date, interests on trade receivables do not accrue. However, after the period, interests are charged on the balance of payables as the amount calculated by considering interest rate of general entity loans of KEB Hana Bank, the main bank of the Group.

The Group's average period for credit offering on the sale of power generation is 19 days. According to the contract by each customer, the billings are collected by one to three installments. Interests on trade receivables are not charged until the payment date. However, after the due date, interests are charged on the balance of payables as the amount calculated by considering interest rate of general entity loans of KEB Hana Bank, the main bank of the Group.

The Group has some receivables that exceed 120 days, and has established an allowance for bad debts based on past experience.

1) The aging analysis of trade receivables as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Receivables that are neither past due nor impaired	₩ 6,563,869	₩ 11,309,980
Receivables that are past due but not impaired		
45~60 days	13	300
60~90 days	-	86
90~120 days	-	33
Over 120 days	-	-
Receivables tested for the impairment		
60~90 days	17	-
90~120 days	242	-
Over 120 days	18,484	20,934
Subtotal	6,582,625	11,331,333
Deduction: allowance for bad debts	(19,505)	(20,949)
Total	₩ 6,563,120	₩ 11,310,384

At the end of each reporting period, the consolidated body evaluates whether the credibility of the accounts receivable has been damaged. There is objective evidence of damage to sales bonds, so bad debt reserves are set individually for significant items, and bonds excluding individual evaluations are classified as bonds subject to collective evaluation, and bad debt reserves are set according to the expected credit loss model.

9. Trade and other receivables (cont'd)

(3) Credit risk and provision for impairment (cont'd)

2) The aging analysis of other receivables as of December 31, 2023 and 2022,are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Receivables that are neither past due nor impaired	₩ 672,432	₩ 1,006,670
Receivables tested for the impairment 120 days~	27,342	23,814
Subtotal	699,774	1,030,484
Deduction: allowance for bad debts	(9,497)	(11,300)
Deduction: Present value discount	(5,619)	(5,319)
Total	₩ 684,658	₩ 1,013,865

3) Changes in allowance for doubtful accounts for trade and other receivables during the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023		2022	
	Trade receivables	Other receivables	Trade receivables	Other receivables
Beginning	₩ (20,949)	₩ (11,300)	₩ (19,705)	₩ (1,060)
Bad debt expenses for impaired receivables	(537)	(54)	(394)	-
Write-off of trade and other receivables	1,553	-	-	9,453
Reversal of unused amount	812	1,858	-	-
Other (exchange rate effect)	(384)	(1)	(1,566)	(87)
Ending	₩ (19,505)	₩ (9,497)	₩ (20,949)	₩ (11,300)

10. Financial assets at fair value through other comprehensive income

(1) Changes of financial assets at fair value through other comprehensive income ('FVOCI') for each of the two years in the period ended December 31, 2023 are as follows (Korean won in millions):

	2023					
	Beginning balance	Acquisition	Disposal	Valuation[1]	Others	Ending balance
Unlisted equity securities [1]	₩ 61,924	₩ -	₩ -	₩ 104,759	₩ -	₩ 166,683
	₩ 61,924	₩ -	₩ -	₩ 104,759	₩ -	₩ 166,683
Non-current other financial assets at FVOCI	₩ 61,924	₩ -	₩ -	₩ 104,759	₩ -	₩ 166,683

[1] Details of fair value measurement are disclosed in Note 47.

	2022					
	Beginning balance	Acquisition	Disposal	Valuation[1]	Others	Ending balance
Unlisted equity securities [1]	₩ 69,585	₩ -	₩ -	₩ (7,661)	₩ -	₩ 61,924
	₩ 69,585	₩ -	₩ -	₩ (7,661)	₩ -	₩ 61,924
Non-current other financial assets at FVOCI	₩ 69,585	₩ -	₩ -	₩ (7,661)	₩ -	₩ 61,924

[1] Details of fair value measurement are disclosed in Note 47.

10. Financial assets at fair value through other comprehensive income (cont'd)

(2) Details of financial assets at fair value through other comprehensive income as of December 31, 2023 and 2022 are as follows (Korean won in millions):

	December 31, 2023				
	Number of shares	Percentage of ownership	Acquisition cost	Book value	Fair value
Non-Marketable					
K.K.Korea Kamchatka Co. Ltd. [1]	328	10%	₩ -	₩ -	₩ -
Yemen LNG Company Limited	1,500	6%	19,355	165,718	165,718
Kor-Kaz CNG Investment Limited	691,985	8%	798	965	965
			₩ 20,153	₩ 166,683	₩ 166,683

[1] Acquisition cost, book value and fair value of this financial assets are ₩ 1,000.

	December 31, 2022				
	Number of shares	Percentage of ownership	Acquisition cost	Book value	Fair value
Non-Marketable					
K.K.Korea Kamchatka Co. Ltd. [1]	328	10%	₩ -	₩ -	₩ -
Yemen LNG Company Limited	1,500	6%	19,355	61,313	61,313
Kor-Kaz CNG Investment Limited	691,985	8%	798	611	611
			₩ 20,153	₩ 61,924	₩ 61,924

[1] Acquisition cost, book value and fair value of this financial assets are ₩ 1,000.

11. Financial assets measured at amortized costs

(1) Changes of financial assets measured at amortized cost for each of the two years in the period ended December 31, 2023 are as follows (Korean won in millions):

	December 31, 2023					
	Beginning balance	Acquisition	Disposal	Valuation	Others[1]	Ending balance
Government and public bond	₩ 534	₩ 86	₩ (108)	₩ -	₩ -	₩ 512
Fixed deposit	1,703	1,342	-	-	13	3,058
	₩ 2,237	₩ 1,428	₩ (108)	₩ -	₩ 13	₩ 3,570
Current financial assets measured at amortized cost	₩ 1,811	₩ 1,342	₩ (108)	₩ -	₩ 96	₩ 3,141
Non-current financial assets measured at amortized cost	426	86	-	-	(83)	429

[1] Transfer to current portion of its financial assets

11. Financial assets measured at amortized costs (cont'd)

(1) Changes of financial assets measured at amortized cost for each of the two years in the period ended December 31, 2023 are as follows (Korean won in millions) (cont'd):

	December 31, 2022					
	Beginning balance	Acquisition	Disposal	Valuation	Others[1]	Ending balance
Government and public bond	₩ 524	₩ 80	₩ (70)	₩ -	₩ -	₩ 534
Fixed deposit	8,688	1,253	(8,985)	-	747	1,703
	₩ 9,212	₩ 1,333	₩ (9,055)	₩ -	₩ 747	₩ 2,237
Current financial assets measured at amortized cost	₩ 8,758	₩ 1,253	₩ (9,055)	₩ -	₩ 855	₩ 1,811
Non-current financial assets measured at amortized cost	454	80	-	-	(108)	426

[1] Transfer to current portion of its financial assets

(2) Details of financial assets measured at amortized cost as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023			
	Financial assets measured at amortized cost	Provision for impairment	Others	Book value
Government and public bond	₩ 512	₩ -	₩ -	₩ 512
Fixed deposit	3,058	-	-	3,058
	₩ 3,570	₩ -	₩ -	₩ 3,570
Current financial assets measured at amortized cost	₩ 3,141	₩ -	₩ -	₩ 3,141
Non-current financial assets measured at amortized cost	429	-	-	429

	December 31, 2022			
	Financial assets measured at amortized cost	Provision for impairment	Others	Book value
Government and public bond	₩ 534	₩ -	₩ -	₩ 534
Fixed deposit	1,703	-	-	1,703
	₩ 2,237	₩ -	₩ -	₩ 2,237
Current financial assets measured at amortized cost	₩ 1,811	₩ -	₩ -	₩ 1,811
Non-current financial assets measured at amortized cost	426	-	-	426

12. Loans

(1) Details of short-term and long-term loans as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023				
	Face value	Present value discount	Present value premium	Allowance for doubtful accounts	Book value
Student loans[1]	₩ 8,661	₩ -	₩ -	₩ -	₩ 8,661
Employee shareholders loans[2]	217	-	-	-	217
Housing loans[3]	13,058	-	-	-	13,058
Housing lease support loans[4]	24,402	-	-	-	24,402
Associates	397,012	(86,623)	-	-	310,389
Joint ventures	52,853	-	-	(16,454)	36,399
Others	291,239	-	-	(50,866)	240,373
	₩ 787,442	₩ (86,623)	₩ -	₩ (67,320)	₩ 633,499
Short-term loans	123	-	-	-	123
Current portion of long-term loans	974	-	-	-	974
Long-term loans	786,345	(86,623)	-	(67,320)	632,402

[1] The Group provides loans to support education expenses for the children of employees who have served over one year. Repayments of loans are made by deducting a certain amount from the employees' wages.

[2] The Group provides loans at 4% interest rates for the purpose of encouraging employees to retain employee stock ownership in the long-term and to mitigate debt burden. Repayments of loans are made by deducting a certain amount from the employees' wages.

[3] In relation to relocation of the main office, the Group provides loans at a market interest rate (4.8 to 5.47% as of December 31, 2023) to employees without home ownership as support. The loans mature in three years and a lump sum payment for the loan should be paid on maturity.

[4] To support housing stability, the Group provides loans at 4.8 to 5.47% interest rate to employees who reside near the workplace but do not own homes. Loans should be repaid at the end of the lease term.

	December 31, 2022				
	Face value	Present value discount	Present value premium	Allowance for doubtful accounts	Book value
Student loans[1]	₩ 8,498	₩ -	₩ -	₩ -	₩ 8,498
Employee shareholders loans[2]	241	-	-	-	241
Housing loans[3]	20,001	-	-	-	20,001
Housing lease support loans[4]	32,834	-	-	-	32,834
Associates	382,964	(90,949)	-	-	292,015
Joint ventures	46,732	-	-	(18,067)	28,665
Others	256,169	-	-	(52,308)	203,861
	₩ 747,439	₩ (90,949)	₩ -	₩ (70,375)	₩ 586,115
Short-term loans	178	-	-	-	178
Current portion of long-term loans	1,117	-	-	-	1,117
Long-term loans	746,144	(90,949)	-	(70,375)	584,820

[1] The Group provides loans to support education expenses for the children of employees who have served over one year. Repayments of loans are made by deducting a certain amount from the employees' wages.

[2] The Group provides loans at 4% interest rates for the purpose of encouraging employees to retain employee stock ownership in the long-term and to mitigate debt burden. Repayments of loans are made by deducting a certain amount from the employees' wages.

[3] In relation to relocation of the main office, the Group provides loans at a market interest rate (1.7 to 5.3% as of December 31, 2022) to employees without home ownership as support. The loans mature in three years and a lump sum payment for the loan should be paid on maturity.

[4] To support housing stability, the Group provides loans at 0.8 to 5.3% interest rate to employees who reside near the workplace but do not own homes. Loans should be repaid at the end of the lease term.

12. Loans (cont'd)

(2) Details of loans to associates, joint ventures, and other loans as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	Maturity	Interest rate	Book value		Bad debt expenses(reversal) recognized	
			December 31, 2023	December 31, 2022	2023	2022
Associates :						
Coral FLNG S.A.	2035	-	₩ 310,389	₩ 286,560	₩ -	₩ -
South East Asia Gas Pipeline Company Ltd.	-	-	-	5,455	-	-
Joint Ventures						
Hyundai Yemen LNG Company Limited[2]	In case YLNG Project has repayable cash	Interest-free	26,059	21,526	-	-
		Min{ Weighted average of YLNG PF interest rate after May, 2008 - 1%, 8%}	2,123	192	(1,613)	18,068
		Libor+5%	6,155	4,888	-	-
	In case of receiving dividends when the project has distributable cash	10.00%	2,062	2,059	-	-
Others:						
Yemen LNG Company Limited[3]	In case YLNG Project has repayable cash	Interest-free	54,032	40,350	(1,442)	4,493
		Min{ Weighted average of YLNG PF interest rate after May, 2008 - 1%, 8%}	-	-	-	9,155
		Libor+5%	-	-	-	10,184
Empresa Nacional de Hidrocarbonetos, E.P	-[1]	8.70%	23,154	16,432	-	-
	-	Libor+1%	163,187	147,079	-	-
			₩ 587,161	₩ 524,541	₩ (3,055)	₩ 41,900

[1] The expiration date of ENH Carry under the Development Loan Agreement (DLA) for the Coral FLNG business is the end date of the business (scheduled for June, 2047.).
[2] Considering the recoverability, the Group recognized ₩ 1,613 million of allowance for bad debt reversal and ₩ 18,068 million of bad debt expenses on loans which took into consideration the timing of the loans and interest accrual as of December 31, 2023 and 2022, respectively.
[3] Considering the recoverability, the Group recognized ₩ 1,442 million of allowance for bad debt reversal and ₩ 23,832 million of bad debt expenses on loans which took into consideration the timing of the loans and interest accrual as of December 31, 2023 and 2022, respectively.

13. Other financial assets

Details of other financial assets as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023		December 31, 2022	
	Current	Non-current	Current	Non-current
Short-term financial instruments	39,732	-	23,891	-
Long-term financial instruments	-	18	-	17
Fund management deposits	-	90,000	-	90,000
	₩ 39,732	₩ 90,018	₩ 23,891	₩ 90,017

14. Inventories

Details of inventories as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023			December 31, 2022		
	Acquisition cost	Valuation allowance	Book value	Acquisition cost	Valuation allowance	Book value
Raw materials	₩ 4,056,583	₩ -	₩ 4,056,583	₩ 6,841,723	₩ -	₩ 6,841,723
Finished goods	130,992	-	130,992	143,711	-	143,711
Merchandise	1,866	-	1,866	407	-	407
Supplies	108,177	-	108,177	100,686	-	100,686
Goods in transit	745,536	-	745,536	536,097	-	536,097
	₩ 5,043,154	₩ -	₩ 5,043,154	₩ 7,622,624	₩ -	₩ 7,622,624

15. Non-financial assets

(1) Details of non-financial assets as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023		December 31, 2022	
	Current	Non-current	Current	Non-current
Advance payments	₩ 75,335	₩ -	₩ 68,354	₩ -
Prepaid expenses	133,203	56	210,410	69
Greenhouse gas emission rights	189	-	863	-
Other non-financial assets	4,282,571	11,951,673	4,094,810	8,368,604
	₩ 4,491,298	₩ 11,951,729	₩ 4,374,437	₩ 8,368,673

(2) Details of other non-financial assets as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023		December 31, 2022	
	Current	Non-current	Current	Non-current
Special consumption tax	₩ 151,126	₩ -	₩ 152,554	₩ -
Deposit	58	-	78	-
Others[1]	4,131,387	11,951,673	3,942,178	8,368,604
	₩ 4,282,571	₩ 11,951,673	₩ 4,094,810	₩ 8,368,604

[1] Others include assets recognized in relation to profit or loss on settlement of natural gas sales of ₩15,911,919 million and ₩12,088,067 million as of December 31, 2023 and 2022, respectively. (Note 16).

16. Natural gas sales charge settlement profits and losses

In accordance with the standard for natural gas supply price and the guidelines for raw material cost pass-through adjustment system for city gas supply and power generation, the difference (hereafter "settlement") between actual costs incurred and current year's revenues is reflected in calculation of the next year's supply price upon the approval of the Korean government.

The Group adjusts cost of sales by the settlement amount approved by the Korean government and recognizes the related asset and liability under other non-financial assets and other non-financial liabilities, respectively. In relation to the asset, the settlement amount will be collected through price adjustments in accordance with the guidelines for raw material cost pass-through adjustment system and the collection period can change depending on government approval.

Details of other non-financial assets and liabilities arising from the settlement on natural gas sales as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023						
	Raw material cost				Supply cost		Total
	City gas (civilian demand)	City gas (commercial demand)	City gas (power generating)	Power generating	City gas	Power generating[1]	
Other current non-financial assets	₩ 1,584,084	₩ 481,406	₩ 42,092	₩ 1,811,426	₩ 21,224	₩ 124,870	₩ 4,065,102
Other non-current non-financial assets	11,426,889	215,626	36,630	167,672	-	-	11,846,817
	₩ 13,010,973	₩ 697,032	₩ 78,722	₩ 1,979,098	₩ 21,224	₩ 124,870	₩ 15,911,919

[1] Contains Profits and losses of ₩(-)4,462 million related to settlement of supply cost of individual tariff system for power generation.

	December 31, 2022						
	Raw material cost				Supply cost		Total
	City gas (civilian demand)	City gas (commercial demand)	City gas (power generating)	Power generating	City gas	Power generating	
Other current non-financial assets	₩ 1,245,263	₩ 305,366	₩ 8,081	₩ 2,169,624	₩ 67,387	₩ -	₩ 3,795,721
Other non-current non-financial assets	7,340,316	89,480	-	862,550	-	-	8,292,346
Other current non-financial liabilities	-	-	-	-	-	(194,850)	(194,850)
	₩ 8,585,579	₩ 394,846	₩ 8,081	₩ 3,032,174	₩ 67,387	₩ (194,850)	₩ 11,893,217

17. Investments in associates and joint ventures

(1) Details of investments in associates and joint ventures as of December 31, 2023 and 2022, are as follows (Korean won in millions, except percentage of ownership):

Associates and joint ventures	Business	Country of incorporation	Country of domicile	Fiscal year end	December 31, 2023			December 31, 2022		
					Percentage of ownership	Acquisition cost	Book value	Percentage of ownership	Acquisition cost	Book value
Korea Ras Laffan LNG Ltd.[2]	Resource development	Bermuda	Qatar	Dec 31	60.00%	₩ 19,532	₩ 267,410	60.00%	₩ 19,532	₩ 305,552
Korea LNG Ltd.	Resource development	Bermuda	Oman	Dec 31	24.00%	3,298	71,736	24.00%	3,298	35,804
Hyundai Yemen LNG Company	Resource development	Bermuda	Yemen	Dec 31	49.00%	482	48,539	49.00%	482	11,161
Korea LNG Trading Co., Ltd.	Shipping industry	Korea	Korea	Dec 31	28.00%	601	2,749	28.00%	601	2,391
Kor-Uz Gas Chemical Investment Ltd.	Resource development	Malaysia	Uzbekistan	Dec 31	45.00%	347,451	860,681	45.00%	347,451	798,372
South-East Asia Gas Pipeline Company Limited [3,6]	Pipe construction	Hong Kong	Myanmar	Sep 30	4.17%	3,818	47,375	4.17%	13,704	48,162
Sulawesi LNG Development Limited [5]	LNG terminal construction & management	United Kingdom	Indonesia	Dec 31	25.00%	45,579	201,925	25.00%	99,077	245,637
TOMORI E&P Limited [7]	Resource development	United Kingdom	Indonesia	Dec 31	49.00%	20,138	111,650	49.00%	20,137	176,483
Hydrogen EnergyNetwork Co, Ltd.	Hydrogen infrastructure construction and operation	Korea	Korea	Dec 31	28.53%	30,000	-	28.53%	30,000	24,842
HyStation Co., Ltd. [1,9]	Hydrogen charge and operation	Korea	Korea	Dec 31	29.00%	1,450	1,450	29.00%	290	290
Coral South FLNG S.A.[3]	Resource development	Mozambique	Mozambique	Dec 31	10.00%	182	69,463	10.00%	182	87,439
Coral South FLNG DMCC[1,3]	Resource development	UAE	UAE	Dec 31	10.00%	15	17	10.00%	15	16
Rovuma LNG S.A.[1,3,]	Resource development	Mozambique	Mozambique	Dec 31	10.00%	185	206	10.00%	185	203
Rovuma LNG Investments (DIFC) Ltd. [1,3]	Resource development	Mozambique	Mozambique	Dec 31	10.00%	6	6	10.00%	6	6
Kor-Uz Gas cylinder Investment Ltd.	Cylinder business investment	Korea	Uzbekistan	Dec 31	40.38%	5,790	215	40.38%	5,790	1,604
Kor-Uz Gas C&G Investment Ltd.	Charge business investment	Korea	Uzbekistan	Dec 31	38.85%	2,542	65	38.85%	2,542	180
TERMINAL KMS de GNL, S. De R.L. De C.V.	LNG terminal construction & management	Mexico	Mexico	Dec 31	25.00%	34,945	129,645	25.00%	34,945	134,478
GLNG Operations Pty.Ltd. [4]	LNG Plant management	Australia	Australia	Dec 31	15.00%	17	16	15.00%	17	16
ENH - KOGAS, SA.[2]	Pipe construction	Mozambique	Mozambique	June 30	70.00%	78	18,669	70.00%	78	19,256
LNG Canada Development Inc.[1,4]	LNG Plant construction	Canada	Canada	Dec 31	5.00%	-	-	5.00%	-	-
Manzanillo Gas Tech, S. de R.L. de C.V. [2]	LNG terminal maintenance & management	Mexico	Mexico	Dec 31	51.00%	60	1,660	51.00%	60	1,641
KLBV1 S.A	LNG bunkering ship operation	Panama	Netherlands	Dec 31	40.00%	5,978	6,744	40.00%	5,978	6,742
Korea Superfreeze Incheon Inc. [8]	LNG cold-heat refrigerated & frozen logistics warehouse	Korea	Korea	Dec 31	20.00%	5,000	-	20.00%	5,000	3,900
	Total					₩ 527,147	₩ 1,840,220		₩ 589,370	₩ 1,904,176

17. Investments in associates and joint ventures (cont'd)

(1) Details of investments in associates and joint ventures as of December 31, 2023 and 2022, are as follows (Korean won in millions, except percentage of ownership) (cont'd):

[1] The associates and joint ventures did not apply the equity method as the difference between the book value and the net asset value is not significant.
[2] The associates and joint ventures are excluded from the consolidated subsidiaries since the Group is unable to exercise control in several cases such as unanimous approval required when making significant decisions.
[3] Although the percentage of ownership of the associates is less than 20%, the Group has significant influence considering the Group's right to participate in the investee's board of directors and shareholder constitution.
[4] Although the percentage of ownership of the Group is less than 20%, it is classified as a joint venture as it requires unanimity in making decisions on key sales and financial activities.
[5] The capital reduction occurred in relation to investment in Sulawesi LNG Development Limited in 2023 and 2022, which resulted in a recognition of a gain on disposal of ₩12,639 million and ₩10,688 million in 2023 and 2022, respectively.
[6] In relation to the investment equity of South-East Asia Pipeline Company Limited, paid-in capital reduction was conducted in 2023 and 2022.
[7] The capital reduction occurred in relation to investment in TOMORI E&P LIMITED, which resulted in a recognition of a gain on disposal of ₩19,504 million in 2022.
[8] In relation to the investment equity of Korea Superfreeze Incheon Inc., capital was increased in 2022.
[9] Newly established in 2022 and a paid-in capital increase was made in 2023.

17. Investments in associates and joint ventures (cont'd)

(2) Changes in investments in associates and joint ventures for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023							
	Beginning balance	Acquisition	Disposal	Dividends received	Gain (loss) on equity method	Equity adjustments of investments in associates and joint ventures	Others	Ending balance
Korea Ras Laffan LNG Ltd.	₩ 305,552	₩ -	₩ -	₩ (84,014)	₩ 39,856	₩ 6,016	₩ -	₩ 267,410
Korea LNG Ltd.	35,804	-	-	(25,328)	25,251	36,009	-	71,736
Hyundai Yemen LNG Company[1]	11,161	-	-	-	595	36,783	-	48,539
Korea LNG Trading Co., Ltd.	2,391	-	-	-	322	36	-	2,749
Kor-Uz Gas Chemical Investment Ltd.	798,372	-	-	-	49,006	13,303	-	860,681
South-East Asia Gas Pipeline Company Limited.	48,162	-	(9,886)	-	8,104	-	995	47,375
Sulawesi LNG Development Limited.	245,637	-	(53,498)	(1,281)	23,617	(12,550)	-	201,925
TOMORI E&P Limited.	176,483	-	-	(64,469)	(4,538)	4,174	-	111,650
Hydrogen Energy Network Co, Ltd.[2]	24,842	-	-	-	(2,904)	-	(21,938)	-
HyStation Co., Ltd.	290	1,160	-	-	-	-	-	1,450
Coral South FLNG S.A.	87,439	-	-	-	(26,845)	-	8,869	69,463
Coral South FLNG DMCC.	17	-	-	-	-	-	-	17
Rovuma LNG S.A.	203	-	-	-	-	-	3	206
Rovuma LNG Investments (DIFC) Ltd.	6	-	-	-	-	-	-	6
Kor-Uz Gas cylinder Investment Ltd.[3]	1,604	-	-	-	265	40	(1,694)	215
Kor-Uz Gas C&G Investment Ltd.[4]	180	-	-	-	(23)	24	(116)	65
TERMINAL KMS de GNL, S. De R.L. De C.V.	134,478	-	-	(8,159)	1,465	-	1,861	129,645
GLNG Operations Pty. Ltd.	16	-	-	- -	(1)	-	-	15
ENH - KOGAS, SA.	19,256	-	-	(6,782)	5,647	-	548	18,669
LNG Canada Development Inc.	-	-	-	-	-	-	-	-
Manzanillo Gas Tech, S. de R.L. de C.V.	1,641	-	-	-	(10)	-	29	1,660
KLBV1 S.A	6,742	-	-	-	(117)	119	-	6,744
Korea Superfreeze Incheon Inc.[5]	3,900	-	-	-	(574)	-	(3,326)	-
	₩ 1,904,176	₩ 1,160	₩ (63,384)	₩ (190,033)	₩ 119,116	₩ 83,954	₩ (14,769)	₩ 1,840,220

17. Investments in associates and joint ventures (cont'd)

(2) Changes in investments in associates and joint ventures for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions) (cont'd):

[1] Although the percentage of ownership of the Group in the above equity securities is 49%, the equity method is applied considering the contractual terms regarding uneven dividends.

[2] Regarding the investment of Hydrogen Energy Network Co., Ltd., an impairment test was conducted in relation to insufficient demand and continued operating losses in 2023, and a discount rate of 9.05% was applied when calculating the present value of future cash flows. As the recoverable amount of investment stocks fell significantly, ₩ 21,938 million was recognized as an impairment loss in 2023, which was included in 'Gains on investments in associates and joint ventures' of the consolidated statements of comprehensive income.

[3] Regarding the investment of Kor-Uz Gas cylinder Investment Ltd, an impairment test was conducted in relation to price decline due to intensifying market competition in 2023, and a discount rate of 22.18% was applied when calculating the present value of future cash flows. As the recoverable amount of investment stocks fell significantly, ₩ 1,694 million was recognized as an impairment loss in 2023, which was included in 'Gains on investments in associates and joint ventures' of the consolidated statements of comprehensive income.

[4] Regarding the investment of Kor-Uz Gas C&G Investment Ltd., an impairment test was conducted in relation to price decline due to intensifying market competition in 2023, and a discount rate of 22.18% was applied when calculating the present value of future cash flows. As the recoverable amount of investment stocks fell significantly, ₩ 116 million was recognized as an impairment loss in 2023, which was included in 'Gains on investments in associates and joint ventures' of the consolidated statements of comprehensive income.

[5] Regarding the investment of Korea Superfreeze Incheon Inc. Investment Ltd., an impairment test was conducted in relation to increased construction costs, oversupply of low-temperature distribution centers in 2023, and a discount rate of 7.9% was applied when calculating the present value of future cash flows. As the recoverable amount of investment stocks fell significantly, ₩ 3,326 million was recognized as an impairment loss in 2023, which was included in 'Gains on investments in associates and joint ventures' of the consolidated statements of comprehensive income.

17. Investments in associates and joint ventures (cont'd)

(2) Changes in investments in associates and joint ventures for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions) (cont'd):

	2022							
	Beginning balance	Acquisition	Disposal	Dividends received	Gain (loss) on equity method	Equity adjustments of investments in associates and joint ventures	Others	Ending balance
Korea Ras Laffan LNG Ltd.	₩ 298,432	₩ -	₩ -	₩ (102,996)	₩ 90,901	₩ 19,215	₩ -	₩ 305,552
Korea LNG Ltd.	37,632	-	-	(25,393)	25,226	(1,661)	-	35,804
Hyundai Yemen LNG Company[1]	24,424	-	-	-	(9,289)	(3,974)	-	11,161
Korea LNG Trading Co., Ltd.	2,102	-	-	-	138	151	-	2,391
Kor-Uz Gas Chemical Investment Ltd.	675,865	-	-	-	77,730	44,777	-	798,372
South-East Asia Gas Pipeline Company Limited.	39,924	-	(2,450)	-	7,962	-	2,726	48,162
Sulawesi LNG Development Limited.	221,305	-	(37,648)	-	50,538	11,442	-	245,637
TOMORI E&P Limited.	194,995	-	(106,710)	-	84,491	3,707	-	176,483
Hydrogen Energy Network Co, Ltd.	23,142	4,200	-	-	(2,444)	(56)	-	24,842
HyStation Co., Ltd.	-	290	-	-	-	-	-	290
Coral South FLNG S.A.	59,572	-	-	-	(10,820)	-	38,687	87,439
Coral South FLNG DMCC.	16	-	-	-	-	-	1	17
Rovuma LNG S.A.	190	-	-	-	-	-	13	203
Rovuma LNG Investments (DIFC) Ltd.	6	-	-	-	-	-	-	6
Kor-Uz Gas cylinder Investment Ltd.	992	-	-	-	159	453	-	1,604
Kor-Uz Gas C&G Investment Ltd.	143	-	-	-	1	36	-	180
TERMINAL KMS de GNL, S. De R.L. De C.V.	120,137	-	-	(2,584)	3,117	5,636	8,172	134,478
GLNG Operations Pty. Ltd.	15	-	-	-	-	-	1	16
ENH - KOGAS, SA.	12,827	-	-	-	6,682	-	(253)	19,256
LNG Canada Development Inc.	-	-	-	-	-	-	-	-
Manzanillo Gas Tech, S. de R.L. de C.V.	1,498	-	-	-	41	-	102	1,641
KLBV1 S.A	5,895	-	-	-	441	406	-	6,742
Korea Superfreeze Incheon Inc.	1,000	4,000	-	-	(1,100)	-	-	3,900
	₩ 1,720,112	₩ 8,490	₩ (146,808)	₩ (130,973)	₩ 323,774	₩ 80,132	₩ 49,449	₩ 1,904,176

[1] Although the percentage of ownership of the Group in the above equity securities is 49%, the equity method is applied considering the contractual terms regarding uneven dividends.

17. Investments in associates and joint ventures (cont'd)

(3) Summarized financial information of associates and joint ventures as of December 31, 2023 and 2022, and for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023			
	Assets	Liabilities	Revenue	Profit (loss) for the year
Korea Ras Laffan LNG Ltd.	₩ 445,847	₩ 163	₩ 140,120	₩ 67,316
Korea LNG Ltd.	298,982	82	108,023	105,211
Hyundai Yemen LNG Company	245,383	130,925	-	(717)
Korea LNG Trading Co., Ltd.	424,068	414,251	202,110	1,152
Kor-Uz Gas Chemical Investment Ltd.	1,944,669	32,044	-	112,956
South-East Asia Gas Pipeline Company Limited	1,976,286	664,845	434,123	194,189
Sulawesi LNG Development Limited	821,122	13,420	-	116,801
TOMORI E&P Limited	284,839	67,242	203,872	22,332
Hydrogen Energy Network Co., Ltd.	91,694	14,811	16,669	(10,183)
HyStation Co., Ltd.	4,412	320	-	(577)
Coral South FLNG S.A	10,471,377	9,834,345	171,889	(137,583)
Coral South FLNG DMCC	5,440,574	5,440,399	-	-
Rovuma LNG S.A.	2,019	-	-	(1)
Rovuma LNG Investments (DIFC) Ltd	501	1,093	-	(381)
Kor-Uz Gas cylinder Investment Ltd.	4,749	21	-	6
Kor-Uz Gas C&G Investment Ltd.	1,937	-	-	(7)
Terminal KMS de GNL, S. De R.L. De C.V.	952,805	434,226	108,220	5,859
GLNG Operations Pty Ltd.	100	-	-	(6)
ENH-KOGAS, SA.	34,359	7,689	49,833	8,067
LNG Canada Development Inc.	1	-	-	-
Manzanillo Gas Tech, S. de R.L. de C.V.	4,818	1,564	12,031	446
KLBV1 S.A	80,007	63,146	11,035	(292)
Korea Superfreeze Incheon Inc.	42,213	25,585	-	(4,051)

	2022			
	Assets	Liabilities	Revenue	Profit (loss) for the year
Korea Ras Laffan LNG Ltd.	₩ 509,406	₩ 152	₩ 175,556	₩ 151,502
Korea LNG Ltd.	149,345	162	107,361	105,110
Hyundai Yemen LNG Company	130,592	118,385	-	(44,035)
Korea LNG Trading Co., Ltd.	475,840	467,299	215,867	493
Kor-Uz Gas Chemical Investment Ltd.	1,802,000	27,840	-	179,316
South-East Asia Gas Pipeline Company Limited	1,925,026	597,735	447,974	162,234
Sulawesi LNG Development Limited	982,662	115	-	201,657
TOMORI E&P Limited	491,660	141,752	266,349	136,204
Hydrogen Energy Network Co., Ltd.	98,711	11,651	8,903	(8,451)
HyStation Co., Ltd.	770	37	-	(267)
Coral South FLNG S.A	10,190,988	9,397,576	80,662	189
Coral South FLNG DMCC	5,553,349	5,553,177	-	-
Rovuma LNG S.A.	1,986	-	-	(1)
Rovuma LNG Investments (DIFC) Ltd	223	494	-	(232)
Kor-Uz Gas cylinder Investment Ltd.	3,990	18	-	(39)
Kor-Uz Gas C&G Investment Ltd.	1,934	-	-	(3)
Terminal KMS de GNL, S. De R.L. De C.V.	1,007,287	469,377	113,257	12,468
GLNG Operations Pty. Ltd.	103	-	-	(6)
ENH-KOGAS, SA.	34,820	7,311	43,939	8,368
LNG Canada Development Inc.	1	-	-	-
Manzanillo Gas Tech, S. de R.L. de C.V.	4,995	1,777	11,257	198
KLBV1 S.A	81,194	64,338	7,416	946
Korea Superfreeze Incheon Inc.	19,695	195	-	(5,247)

18. Property, plant and equipment

(1) Details of property, plant and equipment as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023				
	Acquisition cost	Governments grants	Accumulated depreciation	Accumulated impairment loss	Book value
Land	₩ 3,284,393	₩ -	₩ -	₩ -	₩ 3,284,393
Buildings	1,309,482	(1,856)	(594,009)	(16,637)	696,980
Structures	6,774,318	(1,426)	(3,175,207)	(66,381)	3,531,304
Machinery	18,887,317	(98,296)	(8,249,228)	(1,483,183)	9,056,610
Computerized facility	69,767	(8)	(55,212)	(2,339)	12,208
Vessel	55,326	(13,692)	(1,475)	-	40,159
Vehicles	69,891	(11,910)	(36,690)	(850)	20,441
Office equipment	59,740	(58)	(51,812)	(833)	7,037
Tools and instruments	65,194	(47)	(58,658)	(3)	6,486
Timber	57,550	-	-	(65)	57,485
Construction-in-progress	2,384,743	(20,180)	-	(350,712)	2,013,851
Right-of-use assets	7,182,741	-	(5,338,051)	(324,778)	1,519,912
Others	9,180,441	-	(5,338,366)	(1,737,432)	2,104,643
	₩ 49,380,903	₩ (147,473)	₩ (22,898,708)	₩ (3,983,213)	₩ 22,351,509

	December 31, 2022				
	Acquisition cost	Governments grants	Accumulated depreciation	Accumulated impairment loss	Book value
Land	₩ 3,256,049	₩ -	₩ -	₩ -	₩ 3,256,049
Buildings	1,273,432	(2,780)	(553,248)	(3,042)	714,362
Structures	6,748,600	(1,382)	(2,933,386)	(51,817)	3,762,015
Machinery	18,417,399	(105,695)	(7,588,131)	(1,377,060)	9,346,513
Computerized facility	69,758	(7)	(53,426)	(2,279)	14,046
Vehicles	62,999	(10,125)	(33,923)	(340)	18,611
Office equipment	59,562	(320)	(49,456)	(579)	9,207
Tools and instruments	67,900	(121)	(59,930)	-	7,849
Timber	55,564	-	-	-	55,564
Construction-in-progress	2,011,205	(48,035)	-	(344,701)	1,618,469
Right-of-use assets	7,155,891	-	(5,074,159)	-	2,081,732
Others	8,588,919	-	(4,708,202)	(1,471,333)	2,409,384
	₩ 47,767,278	₩ (168,465)	₩ (21,053,861)	₩ (3,251,151)	₩ 23,293,801

18. Property, plant and equipment (cont'd)

(2) Changes in property, plant and equipment for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023							
	Beginning balance	Acquisition	Disposal	Depreciation	Impairment gain (loss)[1]	Others	Changes in the scope of consolidation	Ending balance
Land	₩ 3,256,049	₩ 73	₩ (348)	₩ -	₩ -	₩ 28,619	₩ -	₩ 3,284,393
Buildings	717,142	644	(1,200)	(42,007)	(13,541)	37,798	-	698,836
(Government grant)	(2,780)	-	-	139	4,462	(3,677)	-	(1,856)
Structures	3,763,397	28	(290)	(242,304)	(13,661)	25,560	-	3,532,730
(Government grant)	(1,382)	-	-	112	1,174	(1,330)	-	(1,426)
Machinery	9,452,208	39,668	(4,732)	(669,115)	(82,109)	418,986	-	9,154,906
(Government grant)	(105,695)	-	54	6,442	11,936	(11,033)	-	(98,296)
Computerized facility	14,053	3,804	(1)	(6,301)	(23)	684	-	12,216
(Government grant)	(7)	(6)	-	5	-	-	-	(8)
Vessel	-	-	-	(1,475)	-	55,326	-	53,851
(Government grant)	-	-	-	375	-	(14,067)	-	(13,692)
Vehicles	28,736	9,405	-	(5,290)	(503)	3	-	32,351
(Government grant)	(10,125)	(2,912)	-	872	327	(72)	-	(11,910)
Office equipment	9,527	1,488	(19)	(3,794)	(244)	137	-	7,095
(Government grant)	(320)	(55)	-	91	226	-	-	(58)
Tools and instruments	7,970	2,194	(65)	(3,673)	(3)	110	-	6,533
(Government grant)	(121)	(17)	20	71	-	-	-	(47)
Timber	55,564	-	(4)	-	(65)	1,990	-	57,485
Construction in progress	1,666,504	850,105	-	-	-	(482,578)	-	2,034,031
(Government grant)	(48,035)	(2,940)	-	-	-	30,795	-	(20,180)
Right-of-use assets	2,081,732	36,016	(1,088)	(270,689)	(324,778)	(1,281)	-	1,519,912
Others	2,409,384	452,117	(2,064)	(557,372)	(240,440)	43,018	-	2,104,643
	₩ 23,293,801	₩ 1,389,612	₩ (9,737)	₩ (1,793,913)	₩ (657,242)	₩ 128,988	₩ -	₩ 22,351,509

[1] An impairment loss of ₩ 324,619 million was recognized in connection with the KC-1 national vessel right-of-use assets, and an impairment loss of ₩ 42,747 million was recognized in connection with the machinery of hydrogen charging stations and hydrogen production bases in 2023. An impairment loss of ₩ 49,436 million was recognized in connection with the buildings, structures, machinery, and computerized facilities of KOGAS Prelude Pty, Ltd., and an impairment loss of ₩ 240,440 million was recognized in connection with other property, plant and equipment of KOGAS Prelude Pty, Ltd., KG Mozambique Ltd, and KOGAS IRAQ B.V. and included in other gains (losses) in the consolidated statements of comprehensive income (Notes 25, 40).

	2022							
	Beginning balance	Acquisition	Disposal	Depreciation	Impairment gain (loss)[1]	Others	Changes in the scope of consolidation	Ending balance
Land	₩ 3,234,947	₩ 1,223	₩ (1,348)	₩ -	₩ -	₩ 21,227	₩ -	₩ 3,234,947
Buildings	743,519	1,159	(1,526)	(41,549)	-	15,539	-	717,142
(Government grant)	(2,640)	(267)	-	127	-	-	-	(2,780)
Structures	3,961,196	117	(179)	(242,633)	-	44,896	-	3,763,397
(Government grant)	(1,439)	(50)	-	107	-	-	-	(1,382)
Machinery	9,613,665	12,381	(3,109)	(671,250)	-	500,521	-	9,452,208
(Government grant)	(112,179)	(16)	-	6,500	-	-	-	(105,695)
Computerized facility	17,756	2,387	(5)	(6,390)	-	305	-	14,053
(Government grant)	(17)	(4)	-	14	-	-	-	(7)
Vehicles	13,783	19,219	(4)	(4,271)	-	9	-	28,736
(Government grant)	(2,589)	(7,940)	-	470	-	(66)	-	(10,125)
Office equipment	10,425	2,631	(9)	(4,130)	-	610	-	9,527
(Government grant)	(25)	(358)	-	63	-	-	-	(320)
Tools and instruments	9,317	2,132	(1)	(3,935)	-	457	-	7,970
(Government grant)	(209)	(28)	-	116	-	-	-	(121)
Timber	55,174	-	(36)	-	-	426	-	55,564
Construction in progress	1,316,241	700,763	-	-	-	(350,500)	-	1,666,504
(Government grant)	(22,409)	(25,201)	-	-	-	(425)	-	(48,035)
Right-of-use assets	2,325,724	26,517	(3,441)	(267,931)	-	863	-	2,081,732
Others	2,420,514	420,140	-	(438,951)	(149,626)	157,307	-	2,409,384
	₩ 23,580,754	₩ 1,154,805	₩ (9,658)	₩ (1,673,643)	₩ (149,626)	₩ 391,169	₩ -	₩ 23,293,801

[1] Impairment loss amounting to ₩ 149,626 million is recognized in other property, plant and equipment of KG Mozambique Ltd and KOGAS Iraq B.V in 2022, and it was included in other gains (losses) in the consolidated statement of comprehensive income(Note 40).

19. Construction and service contracts

(1) Changes in the outstanding construction and service contracts for each of the two years in the period ended December 31, 2023 , are as follows (Korean won in millions):

	2023			
	Beginning balance	Increase[1] (decrease)	Revenue recognized[2]	Ending balance
Domestic construction contracts	₩ 192,129	₩ 115,065	₩ 110,228	₩ 196,966
Domestic service contracts	5,789	33,738	6,878	32,649
Overseas construction contracts	154	1,211	408	957
Overseas service contracts	3,494	803	2,614	1,683
	₩ 201,566	₩ 150,817	₩ 120,128	₩ 232,255

[1] For the year ended December 31, 2023, the increase in construction and service contracts amounted to ₩ 157,336 million, respectively, due to the new contracts and the decrease in construction and service contracts amounted to ₩ 6,519 million, respectively, due to the change in size of existing construction contracts.
[2] The current revenue recognition includes ₩ 9,492 million of revenue from service.

	2022			
	Beginning balance	Increase[1] (decrease)	Revenue recognized[2]	Ending balance
Domestic construction contracts	₩ 191,695	₩ 113,127	₩ 112,693	₩ 192,129
Domestic service contracts	8,506	117	2,834	5,789
Overseas construction contracts	1,173	(377)	642	154
Overseas service contracts	2,975	2,109	1,590	3,494
	₩ 204,349	₩ 114,976	₩ 117,759	₩ 201,566

[1] For the year ended December 31, 2022, the increase in construction and service contracts amounted to ₩ 122,489 million, respectively, due to the new contracts and the decrease in construction and service contracts amounted to ₩ 7,513 million, respectively, due to the change in size of existing construction contracts.
[2] The current revenue recognition includes ₩ 4,424 million of revenue from service.

(2) Accumulated revenues and costs of construction in progress as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023						
				Contract assets [1]	Contract liabilities		
	Accumulated revenue	Accumulated cost	Accumulated profit or loss	Unbilled amount	Overbilled amount	Advances	Reserves
Domestic construction contracts	₩ 170,132	₩ 162,629	₩ 7,503	₩ 17,121	₩ 833	₩ 29,334	₩ -
Domestic service contracts	9,528	7,831	1,697	1,256	577	331	-
Overseas construction contracts	2,170	1,750	420	820	-	-	-
Overseas service contracts	2,459	2,229	230	913	-	38	-
Total	₩ 18,289	₩ 174,439	₩ 9,850	₩ 20,110	₩ 1,410	₩ 29,703	₩ -

[1] The provision for bad debts recognized for contract assets is ₩ 82 million.

19. Construction and service contracts (cont'd)

(2) Accumulated revenues and costs of construction in progress as of December 31, 2023 and 2022, are as follows (Korean won in millions) (cont'd):

	December 31, 2022						
				Contract assets	Contract liabilities		
	Accumulated revenue	Accumulated cost	Accumulated profit or loss	Unbilled amount	Overbilled amount	Advances	Reserves
Domestic construction contracts	₩ 141,613	₩ 134,299	₩ 7,314	₩ 7,120	₩ 1,624	₩ 65,875	₩ -
Domestic service contracts	3,744	3,467	277	492	528	32	-
Overseas construction contracts	1,762	1,383	379	416	-	-	-
Overseas service contracts	1,835	1,400	435	182	326	38	-
Total	₩ 148,954	₩ 140,549	₩ 8,405	₩ 8,210	₩ 2,478	₩ 65,945	₩ -

(3) Contract assets and liabilities, unbilled amount and overbilled amount arising from construction and service contracts as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023		December 31, 2022	
	Contract assets[1]	Contract liabilities	Contract assets[1]	Contract liabilities
Domestic construction contracts	₩ 17,121	₩ 30,167	₩ 7,120	₩ 67,499
Domestic service contracts	1,256	908	492	560
Overseas construction contracts	820	-	416	-
Overseas service contracts	913	38	182	364
Total	₩ 20,110	₩ 31,113	₩ 8,210	₩ 68,423

[1] Contract assets irrelevant to construction contracts are excluded.

(4) As of December 31, 2023, the major effects of changes in the estimated total contract costs, estimated total contract revenues and provision for construction losses related to the ongoing constructions of the Group are as follows (Korean won in millions):

	Changes in total contract revenues	Changes in estimated total contract costs	Effect on profit or loss in the current period	Effect on profit or loss in subsequent periods	Provision for construction losses
Domestic construction contracts	₩ 8,463	₩ 7,582	₩ (971)	₩ 1,852	₩ (277)
Domestic service contract	597	(50)	169	478	-
Overseas construction contracts	10	-	9	1	-
Overseas service contracts	(166)	(174)	(11)	19	-
Total	₩ 8,904	₩ 7,358	₩ (804)	₩ 2,350	₩ (277)

(5) During the years ended December 31, 2023, the Group does not have a contract of which the total contract revenue exceeds 5% of the Group's prior year revenue under the percentage-of-completion method.

(6) Contract assets and liabilities as of December 31, 2023 are as follows (Korean won in millions):

		December 31, 2023
Contract assets	Unbilled amount (arising from construction)	₩ 20,110
Contract liabilities	Overbilled amount (arising from construction)	1,410
	Advance receipts	29,703

19. Construction and service contracts (cont'd)

(7) Revenue recognized for contract liabilities as of December 31, 2023 and 2022 are as follows. (Korean won in millions):

	December 31, 2023	December 31, 2022
Contract liabilities recognized as revenue	₩ 94,700	₩ 79,882

20. Intangible assets other than goodwill

(1) Details of intangible assets other than goodwill as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023				
	Acquisition cost	Government grants	Accumulated amortization	Accumulated impairment loss	Book value
Intangible exploration and evaluation assets	₩ 827,007	₩ -	₩ -	₩ (412,391)	₩ 414,616
Computer software	150,097	(3,243)	(120,629)	(4,016)	22,209
Copy rights, patents and other industrial property rights	15,495	(14)	(2,349)	(6,355)	6,777
Development costs	35,486	-	(35,478)	-	8
Right to contributed assets	420,802	-	(160,477)	-	260,325
Land use rights	4,498	-	(2,992)	-	1,506
Mineral rights	1,852,952	-	(484,677)	(556,075)	812,200
Others	453,855	-	(268,573)	(150,208)	35,074
Total	₩ 3,760,192	₩ (3,257)	₩ (1,075,175)	₩ (1,129,045)	₩ 1,552,715

	December 31, 2022				
	Acquisition cost	Government grants	Accumulated amortization	Accumulated impairment loss	Book value
Intangible exploration and evaluation assets	₩ 765,398	₩ -	₩ -	₩ (296,745)	₩ 468,653
Computer software	136,768	(1,581)	(106,927)	(3,947)	24,313
Copy rights, patents and other industrial property rights	15,250	(20)	(4,755)	(6,355)	4,120
Development costs	35,485	-	(35,470)	-	15
Intangible assets under development	188	-	-	-	188
Right to contributed assets	417,058	-	(151,070)	-	265,988
Land use rights	4,498	-	(2,860)	-	1,638
Mineral rights	1,814,639	-	(403,737)	(508,113)	902,789
Others	446,156	-	(260,436)	(147,633)	38,087
Total	₩ 3,635,440	₩ (1,601)	₩ (965,255)	₩ (962,793)	₩ 1,705,791

20. Intangible assets other than goodwill (cont'd)

(2) Changes in intangible assets other than goodwill for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023						
	Beginning balance	Acquisition/ capital expenditure	Disposal	Amortization	Impairment gain (loss)[1]	Others	Ending balance
Intangible exploration and evaluation assets	₩ 468,653	₩ 43,297	₩ -	₩ -	₩ (103,615)	₩ 6,281	₩ 414,616
Computer software	25,894	3,474	(287)	(9,411)	-	5,782	25,452
(Government grant)	(1,581)	(50)	-	904	-	(2,516)	(3,243)
Patent	4,140	4	-	(654)	-	3,301	6,791
(Government grant)	(20)	-	-	6	-	-	(14)
Development costs	15	-	-	(7)	-	-	8
Intangible assets under development	188	50	-	-	-	(238)	-
Right to contributed assets	265,988	-	-	(4,749)	-	(914)	260,325
Land use rights	1,638	-	-	(132)	-	-	1,506
Mineral rights	902,789	1,680	-	(75,520)	(39,101)	22,352	812,200
Others	38,087	-	(23)	(3,642)	-	652	35,074
	₩ 1,705,791	₩ 48,455	₩ (310)	₩ (93,205)	₩ (142,716)	₩ 34,700	₩ 1,552,715

[1] The impairment loss of ₩ 142,716 million for the year ended December 31, 2023 was recognized in relation to intangible exploration and evaluation assets and mining rights of KG Mozambique Ltd. and KOGAS Prelude Pry, Ltd. and included in other gains (losses) in the consolidated statement of comprehensive income(Note 40).

	2022						
	Beginning balance	Acquisition/ capital expenditure	Disposal	Amortization	Impairment gain (loss)[1]	Others	Ending balance
Intangible exploration and evaluation assets	₩ 476,341	₩ 18,375	₩ (937)	₩ -	₩ (56,506)	₩ 31,380	₩ 468,653
Computer software	17,261	4,160	-	(7,922)	-	12,395	25,894
(Government grant)	(2,010)	(16)	-	445	-	-	(1,581)
Patent	6,630	16	-	(991)	(1,650)	135	4,140
(Government grant)	(28)	(2)	-	10	-	-	(20)
Development costs	22	-	-	(7)	-	-	15
Intangible assets under development	7,603	2,851	-	-	-	(10,266)	188
Right to contributed assets	276,365	-	-	(5,415)	-	(4,962)	265,988
Land use rights	1,744	27	-	(133)	-	-	1,638
Mineral rights	921,295	2,928	-	(59,202)	(9,120)	46,888	902,789
Others	40,472	17	-	(5,067)	-	2,665	38,087
	₩ 1,745,695	₩ 28,356	₩ (937)	₩ (78,282)	₩ (67,276)	₩ 78,235	₩ 1,705,791

[1] The impairment loss of ₩ 65,626 million for the year ended December 31, 2022 was recognized in relation to intangible exploration and evaluation assets and mining rights of KG Mozambique Ltd. and KOGAS Cyprus Ltd. The impairment loss of ₩ 1,650 million was recognized in relation to patent, copy rights, and other industrial property rights of KC LNG Tech Co., Ltd. and included in other gains (losses) in the consolidated statement of comprehensive income(Note 40).

20. Intangible assets other than goodwill (cont'd)

(3) Details of impairment losses or reversal thereof for property, plant and equipment and intangible assets recognized for each of the two years in the period ended December 31, 2023 are as follows (Korean won in millions):

2023						
Country	Mozambique	Iraq	Australia	Korea		
Operating segment	Other segment[1]					Gas Introduction and sale
Nature of assets	Property, plant and equipment, and intangible assets including assets for resource development			Property, plant and equipment related to hydrogen business		KC-1 National vessel right-of-use asset
Assets to be recognized for impairment	Cash-generating units and individual assets					
Calculation of recoverable amount	Present value of expected cash flows					
Assumptions used						
Post-tax discount rate[2]	15.00%	15.90%	8.10%	8.81%	8.81%	-
Applied unit price	International Index[3,4]	International Index[3,4]	International Index[3,4]	Unit price of cooperative hydrogen purchase and market contract by region, 2023~2024 [5]	Average unit price in 2023[5]	-
Production	Estimated output based on reserve report	Estimated output based on reserve report	Estimated output based on reserve report	Regional demand forecast based on the growth rate of hydrogen cars in the government roadmap	Regional demand forecast based on the growth rate of hydrogen cars in the government roadmap	-
Recoverable amount	944,228	462,675	1,365,475	4,956	1,498	-
Impairment loss	163,578	199,386	69,628	35,628	7,119	324,619
Reason for impairment/reversal	Increase in discount rate and declaration of force majeure	Decreased future estimated production	Long-term oil price outlook declines and production declines	Delays in operation due to lack of demand	Hydrogen sales decrease and purchase price increase	the uncertainty of the resumption of operations
Sensitivity analysis of recoverable amount from changes in discount rate						
1% increase	(275,750)	(17,359)	(72,206)	(807)	(55)	-
1% decrease	320,261	18,513	81,232	938	59	-
Sensitivity analysis of recoverable amount from changes in applied unit price						
10% increase	510,972	-	119,914	18,240	1,914	-
10% decrease	(525,062)	-	(85,100)	(4,956)	(1,195)	-

[1] Cash generating unit of other segment is each mining area and project.
[2] Weighted average cost of capital considering risk of cash-generating units.
[3] The trends applied in oil and gas price are based on long-term forecast of major foreign research institutes
[4] After the forecast period, a 2% increase rate was applied.
[5] The annual inflation rate (approximately 2.41%) was applied during the project period.

20. Intangible assets other than goodwill (cont'd)

(3) Details of impairment losses or reversal thereof for property, plant and equipment and intangible assets recognized for each of the two years in the period ended December 31, 2023 are as follows (Korean won in millions):
(cont'd):

	2022			
Country	Korea	Mozambique	Iraq	Cyprus
Operating segment		Other segment[1]		
Nature of assets	Operating asset related to LNG cargo containment system development and others	Property, plant and equipment, and intangible assets including assets for resource development		
Assets to be recognized for impairment		Cash-generating units and individual assets		
Calculation of recoverable amount		Present value of expected cash flows		
Assumptions used				
Post-tax discount rate[2]	-	13.50%	12.6%	-
Applied unit price	Unit price of technical fees under the agreement	International Index[3,4]	International Index[3,4]	-
Production	Estimated order volume based on ship order volume of external forecasting agency	Estimated output based on reserve report	Estimated output based on reserve report	-
Recoverable amount	-	1,059,427	687,510	
Reversal of impairment loss(Impairment loss)	(1,650)	(47,864)	(140,867)	(26,522)
Reason for impairment/reversal	Uncertainty of additional ship orders	Increase in discount rate and declaration of force majeure	Increase in future investment and decrease in production	Undrawn drilling budget due to lack of prospects
Sensitivity analysis of recoverable amount from changes in discount rate				
1% increase	-	(294,054)	(30,542)	-
1% decrease	-	348,750	32,872	-
Sensitivity analysis of recoverable amount from changes in applied unit price				
10% increase	-	477,507	-	-
10% decrease	-	(527,841)	-	-

[1] Cash generating unit of other segment is each mining area and project.
[2] Weighted average cost of capital considering risk of cash-generating units.
[3] The trends applied in oil and gas price are based on long-term forecast of major foreign research institutes
[4] After the forecast period, a 2% increase rate was applied.

(4) Details of individually significant intangible assets as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023		
	Details	**Amount**	**Remaining amortization period**
Intangible exploration and evaluation assets	Acquisition in exploration phase	₩ 414,616	Exploration phase
Right to contributed assets	Harbor facility usage right and others	256,681	27.67 years
	Right to operate a hydrogen production base	3,644	24.25 years
Mineral rights	Mining rights	107,160	23.42 years
	Mining rights	240,443	20.00 years
	Mining rights	29,279	15.02 years
	Mining rights	435,318	23.00 years

20. Intangible assets other than goodwill (cont'd)

(4) Details of individually significant intangible assets as of December 31, 2023 and 2022, are as follows (Korean won in millions) (cont'd):

	December 31, 2022		
	Details	Amount	Remaining amortization period
Intangible exploration and evaluation assets	Acquisition in exploration phase	₩ 468,654	Exploration phase
Right to contributed assets	Harbor facility usage right and others	265,988	25.70 years
	Mining Rights	137,642	Production phase
	Mining Rights	274,689	21.00 years
Mineral rights	Mining Rights	31,685	16.02 years
	Mining Rights	458,773	24.00 years

(5) Assets, liabilities, income, expenses, and cash inflows from operating activities and investment activities that arose from exploration and evaluation of mineral resources, are as follows (Korean won in millions):

	2023	2022
Assets	₩ 1,288,319	₩ 752,959
Liabilities	1,131,566	752,547
Income	201,875	12,832
Expenses	427,812	66,752
Cash inflows from operating activities	(31,081)	(3,984)
Cash inflows from investment activities	(74,209)	(13,263)

(6) The Group's property, plant and equipment and intangible assets include the Group's portion of jointly held assets in joint operations, and details of the Group's joint operations as of December 31, 2023 are as follows:

	Main business	Interest of investments	Location
Mozambique Area 4 mining area	Area 4 mining exploration, development and production	10.00%	Mozambique
Zubair Oil Field	Oil field development and production	23.80%	Iraq
Badra Contract Area	Oil field development and production	22.50%	Iraq
Mansuriya Contract Area	Gas field development and production	15.00%	Iraq
Akkas Contract Area	Gas field development and production	75.00%	Iraq
GLNG Project	Gas field development and production, sales	15.00%	Australia
Prelude mine in Australia	Development of mining area, gas production and sales	10.00%	Australia
Myanmar A-1 and A-3 mining area	Development of mining area, gas production and pipeline operation	8.50%	Myanmar
LNG Canada	LNG development	5.00%	Canada
Canadian Horn River	Mining Development and Gas Production	50.00%	Canada
Canadian Umiak	Mining Development and Gas Production	20.00%	Canada
Cyprus maritime fields	Resource Development	20.00%	Cyprus

21. Goodwill

(1) Goodwill as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Acquisition cost	₩ 145	₩ 145
Accumulated impairment loss	-	-
	₩ 145	₩ 145

(2) Changes in goodwill for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Beginning Balance	₩ 145	₩ 145
Acquisition	-	-
Ending Balance	₩ 145	₩ 145

22. Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023		December 31, 2022	
	Current	Non-current	Current	Non-current
Derivatives not designated as hedging instruments	₩ 96,145	₩ 36,755	₩ 720,882	₩ 17,206
Derivatives designated as hedging instruments	2,375	1,757	32,950	8,105
Total	₩ 98,520	₩ 38,512	₩ 753,832	₩ 25,311

23. Trade and other payable

(1) Trade and other payables as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023		December 31, 2022	
	Current	Non-current	Current	Non-current
Trade payables	₩ 3,114,298	₩ -	₩ 2,682,434	₩ -
Non-trade payables	382,741	364	322,935	323
Accrued expenses	352,756	-	336,244	-
Lease liabilities	331,076	1,538,286	378,923	1,652,602
Other payables[1]	8,207	-	8,022	-
Total	₩ 4,189,078	₩ 1,538,650	₩ 3,728,558	₩ 1,652,925

[1] Details of other payables for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023		2022	
	Current	Non-current	Current	Non-current
Royalty	₩ 8,207	₩ -	₩ 8,022	₩ -
Total	₩ 8,207	₩ -	₩ 8,022	₩ -

24. Borrowings and debentures

(1) Borrowings and debentures as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Current		
Short-term borrowings	₩ 14,705,074	₩ 23,601,077
Current portion of long-term borrowings	2,334	-
Current portion of debentures	3,127,544	1,958,377
Less: discount on debentures	(212)	(537)
	17,834,740	25,558,917
Non-current		
Long-term borrowings, net of current portion	278,894	192,144
Debentures, net of current portion	20,785,947	17,146,773
Less: discount on debentures	(42,931)	(46,281)
	21,021,910	17,292,636
	₩ 38,856,650	₩ 42,851,553

(2) Repayment schedules of borrowings and debentures as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023		
	Borrowings	Debentures	Total
1 year or less	₩ 14,707,408	₩ 3,127,544	₩ 17,834,952
1 ~ 5 years	9,088	15,002,677	15,011,765
More than 5 years	269,806	5,783,270	6,053,076
	₩ 14,986,302	₩ 23,913,491	₩ 38,899,793

	December 31, 2022		
	Borrowings	Debentures	Total
1 year or less	₩ 23,601,077	₩ 1,958,377	₩ 25,559,454
1 ~ 5 years	6,693	10,617,463	10,624,156
More than 5 years	185,451	6,529,310	6,714,761
	₩ 23,793,221	₩ 19,105,150	₩ 42,898,371

24. Borrowings and debentures (cont'd)

(3) The Group's short-term borrowings as of December 31, 2023 and 2022 are as follows (Korean won in millions):

Lender	Interest rate	Maturity	December 31, 2023	December 31, 2022
Local currency borrowings (Overdraft and bank loans)				
KEB Hana Bank	-	-	₩ -	₩ 1,322,000
IBK Bank	-	-	-	49,500
NH Bank	-	-	-	199,000
The export-import Bank of Korea	-	-	-	200,000
KDB	-	-	-	963
KEB Hana Bank	-	-	-	17,750
KEB Hana Bank	5.78%	2024.12	11,377	-
KDB	14.67%~14.99%	2024.11	1,677	-
			13,054	1,789,213
Local currency borrowings (Electronic short-term debentures)		-		
DB Securities Co., Ltd.	-	-	-	1,080,000
IBK Securities Co.,Ltd.	-	-	-	70,000
SK Securities Co., Ltd	-	-	-	70,000
Kyobo Securities Co., Ltd	-	-	-	960,000
DAOL Investment & Securities Co., Ltd	-	-	-	790,000
DS Investment & Securities Co., Ltd	-	-	-	180,000
Bookook Securities Co., Ltd	-	-	-	440,000
BNK Securities Co., Ltd	-	-	-	50,000
Woori Investment Bank Co., Ltd.	-	-	-	230,000
Eugene Investment & Securities Co., Ltd.	-	-	-	120,000
Cape Investment & Securities Co., Ltd	-	-	-	290,000
Hana Securities Co.,Ltd.	-	-	-	130,000
HI INVESTMENT & SECURITIES CO.,LTD.	-	-	-	90,000
Hanyang Securities Co., Ltd	-	-	-	2,885,000
HEUNGKUK SECURITIES CO.,LTD.	-	-	-	215,000
DB Securities Co., Ltd.	3.94%~4.20%	2024.02~2024.03	260,000	-
KB Securities Co., Ltd.	4.05%~4.13%	2024.02~2024.03	30,000	-
NH INVESTMENT & SECURITIES CO.,LTD.	3.94%~4.20%	2024.02~2024.03	160,000	-
Kyobo Securities Co., Ltd	4.03%~4.20%	2024.01~2024.03	310,000	-
DAOL Investment & Securities Co., Ltd	3.94%~4.13%	2024.02~2024.03	410,000	-
DS Investment & Securities Co., Ltd	3.94%~4.10%	2024.02~2024.03	95,000	-
Meritz Securities Co.,Ltd.	4.03%~4.13%	2024.02~2024.03	140,000	-
Bookook Securities Co., Ltd	3.94%~4.13%	2024.02~2024.03	170,000	-
BNK Securities Co., Ltd	3.94%~4.10%	2024.02~2024.03	160,000	-
Woori Investment Bank Co., Ltd.	4.20%	2024.03	70,000	-
Yuanta Securities Co.,Ltd.	4.13%	2024.02	100,000	-
Eugene Investment & Securities Co., Ltd	4.03%~4.20%	2024.01~2024.03	190,000	-
Cape Investment & Securities Co., Ltd	4.13%	2024.02	10,000	-
Hana Securities Co.,Ltd	3.94%~4.13%	2024.02~2024.03	180,000	-
HI INVESTMENT & SECURITIES CO.,LTD.	4.06%~4.13%	2024.02~2024.03	30,000	-
Hanyang Securities Co., Ltd	3.94%~4.20%	2024.01~2024.03	1,600,000	-
Hanwha Investment & Securities Co., Ltd	4.10%	2024.02	10,000	-
Hyundai Motor Securities Co.,Ltd	4.04%~4.20%	2024.02~2024.03	170,000	-
HEUNGKUK SECURITIES CO.,LTD.	3.94%~4.05%	2024.02~2024.03	400,000	-
			4,495,000	7,600,000

24. Borrowings and debentures (cont'd)

(3) The Group's short-term borrowings as of December 31, 2023 and 2022 are as follows (Korean won in millions) (cont'd):

Lender	Interest rate	Maturity	December 31, 2023	December 31, 2022
Local currency borrowings (commercial paper)				
KEB Hana Bank	-	-	-	100,000
KEB Hana Bank	-	-	-	100,000
KEB Hana Bank	-	-	-	100,000
KEB Hana Bank	-	-	-	200,000
KEB Hana Bank	-	-	-	100,000
KEB Hana Bank	-	-	-	300,000
KEB Hana Bank	-	-	-	200,000
KEB Hana Bank	-	-	-	100,000
DB Securities Co., Ltd.	-	-	-	820,000
IBK Securities Co.,Ltd.	-	-	-	120,000
SK Securities Co., Ltd	-	-	-	120,000
Kyobo Securities Co., Ltd	-	-	-	460,000
DAOL Investment & Securities Co., Ltd	-	-	-	1,120,000
DS Investment & Securities Co., Ltd	-	-	-	190,000
Bookook Securities Co., Ltd	-	-	-	1,230,000
BNK Securities Co., Ltd	-	-	-	600,000
Shinyoung Securities CO., Ltd	-	-	-	30,000
Woori Investment Bank Co., Ltd.	-	-	-	100,000
Eugene Investment & Securities Co., Ltd.	-	-	-	110,000
Cape Investment & Securities Co., Ltd	-	-	-	160,000
Hana Securities Co.,Ltd.	-	-	-	20,000
HI INVESTMENT & SECURITIES CO.,LTD.	-	-	-	60,000
Hanyang Securities Co., Ltd	-	-	-	1,215,000
HEUNGKUK SECURITIES CO.,LTD.	-	-	-	80,000
DB Securities Co., Ltd.	3.81%~4.21%	2024.02~2024.12	530,000	-
Kyobo Securities Co., Ltd	3.81%~4.24%	2024.06~2024.09	130,000	-
DAOL Investment & Securities Co., Ltd	3.81%~4.21%	2024.02~2024.12	500,000	-
DS Investment & Securities Co., Ltd	3.86%	2024.12	10,000	-
Meritz Securities Co.,Ltd.	3.83%~4.19%	2024.03~2024.06	170,000	-
Bookook Securities Co., Ltd	3.81%~4.24%	2024.02~2024.09	440,000	-
BNK Securities Co., Ltd	4.21%	2024.02	30,000	-
Yuanta Securities Co.,Ltd.	3.81%~4.19%	2024.03~2024.07	290,000	-
Eugene Investment & Securities Co., Ltd.	3.81%~4.21%	2024.02~2024.07	160,000	-
Cape Investment & Securities Co., Ltd	3.81%~4.24%	2024.06~2024.09	70,000	-
KIWOOM Securities Co., Ltd	4.21%	2024.02	20,000	-
Hana Securities Co.,Ltd.	4.19%	2024.03	90,000	-
HI INVESTMENT & SECURITIES CO.,LTD.	3.81%~3.86%	2024.07~2024.12	70,000	-
Hanyang Securities Co., Ltd	3.79%~4.24%	2024.02~2024.12	1,060,000	-
Hyundai Motor Securities Co.,Ltd	3.81%~4.24%	2024.02~2024.12	760,000	-
HEUNGKUK SECURITIES CO.,LTD.	3.86%	2024.12	20,000	-
Hana Bank	3M CD + 0.20% ~ 3M CD + 1.02%	2024.01~2024.03	1,600,000	-
			5,950,000	7,635,000
Foreign currency borrowings				
The export-import Bank of Korea	-	-	-	380,190
Shinhan Bank	-	-	-	379,571
DBS	-	-	-	1,024,847
KDB	-	-	-	1,253,623
ANZ	-	-	-	756,316
HSBC	-	-	-	313,768
SOGE	-	-	-	357,334

24. Borrowings and debentures (cont'd)

(3) The Group's short-term borrowings as of December 31, 2023 and 2022 are as follows (Korean won in millions) (cont'd):

Lender	Interest rate	Maturity	December 31, 2023	December 31, 2022
KB Bank	-	-	-	432,253
BNP Paribas	-	-	-	193,405
Citibank Korea Inc.	-	-	-	111,338
NH Bank	-	-	-	246,094
SC BANK	-	-	-	240,672
CREDIT AGRICOLE	-	-	-	367,084
Daegu Bank	-	-	-	63,365
Mizuho Bank	-	-	-	276,372
Bank of America	-	-	-	123,930
Busan Bank	-	-	-	56,702
The export-import Bank of Korea	5.69%~5.94%	2024.01~2024.02	515,759	-
Shinhan Bank	5.74%	2024.06	165,369	-
DBS	5.78%~5.99%	2024.03~2024.05	883,558	-
KDB	5.87%~5.95%	2024.03~2024.05	1,234,761	-
ANZ	5.80%~5.81%	2024.02~2024.03	432,011	-
HSBC	5.90%~5.92%	2024.05	242,379	-
KB Bank	5.77%~6.04%	2024.01~2024.02	248,165	-
Hana Bank	5.88%~6.07%	2024.03~2024.05	257,334	-
SC BANK	5.85%	2024.05	166,927	-
BNP Paribas	5.84%	2024.06	100,757	-
			4,247,020	6,576,864
			₩ 14,705,074	₩ 23,601,077

(4) Long-term borrowings as of December 31, 2023 and 2022, are as follows (Korean won in millions and US dollars in thousands):

			December 31, 2023		December 31, 2022	
Lender	Interest rate	Maturity	Foreign currency (USD)	Local currency (KRW)	Foreign currency (USD)	Local currency (KRW)
Local currency borrowings:						
KDB [1]	3M CD+2.17%	2043.05	-	₩ 33,067	-	₩ -
Foreign currency borrowings:						
Korea Energy Agency [2]	-	- [3]	USD 192,462	248,161	USD 151,617	192,144
			USD 192,462	281,228	USD 151,617	192,144
Less : current portion			-	(2,334)	-	-
			USD 192,462	₩ 278,894	USD 151,617	₩ 192,144

[1] As of December 31, 2023, the Group has provided the vessel (booking amount ₩ 40,159 million) as collaterals to KDB for the Group's borrowings (Note 52.(3)).
[2] As of December 31, 2023, the Group has provided 15 blank promissory notes to the Korea Energy Agency as collaterals for the Group's borrowings.
[3] These are the loans with conditions which will be repaid only if the related exploration business is available as commercial.

24. Borrowings and debentures (cont'd)

(5) Debentures as of December 31, 2023 and 2022, are as follows (Korean won and Japanese yen in millions and US dollars, Euro, Swiss Franc, and Hong Kong dollars in thousands):

			December 31, 2023		December 31, 2022	
List	Interest rate	Maturity	Foreign currency	Local currency (KRW)	Foreign currency	Local currency (KRW)
318th	3.28%	2027.07	-	₩ 170,000	-	₩ 170,000
320th	3.12%	2025.09	-	120,000	-	120,000
322~323rd	3.10%~3.13%	2024.09~2025.04	-	170,000	-	170,000
325th	3.24%	2023.08	-	-	-	110,000
326~327th	3.24%~3.25%	2025.08~2028.08	-	320,000	-	320,000
328th	2.94%	2023.04	-	-	-	130,000
329~331st	3.06%~3.45%	2024.06~2028.04	-	410,000	-	410,000
332~333rd	3.58%~3.67%	2023.07	-	-	-	270,000
334~338th	3.63%~3.86%	2024.08~2027.09	-	410,000	-	410,000
339~340th	3.66%~3.72%	2023.10	-	-	-	180,000
344~345th	3.66%~3.71%	2029.04	-	230,000	-	230,000
347~350th	3.73%~3.87%	2024.05~2033.11	-	430,000	-	430,000
352~363rd	3.18%~4.02%	2024.03~2034.05	-	1,410,000	-	1,410,000
367~375th	2.17%~2.93%	2024.10~2030.08	-	1,270,000	-	1,270,000
377~380th	1.77%~2.75%	2030.07~2036.06	-	360,000	-	360,000
383rd	2.79%	2023.02	-	-	-	100,000
385th	2.84%	2038.03	-	50,000	-	50,000
386~387th	2.61%~2.77%	2023.04~2023.05	-	-	-	300,000
388th	2.90%	2038.05	-	100,000	-	100,000
390~395th	1.63%~2.16%	2027.04~2039.03	-	800,000	-	800,000
397~398th	1.42%~1.57%	2028.09	-	170,000	-	170,000
400th	1.60%	2039.10	-	110,000	-	110,000
403~409th	1.39%~1.74%	2027.05~2040.02	-	670,000	-	670,000
412~415th	1.68%~2.18%	2026.03~2031.08	-	400,000	-	400,000
417~432nd	2.69%~6.25%	2024.09~2027.10	-	1,500,000	-	1,500,000
433~478th	3.68%~4.76%	2025.02~2028.12	-	5,980,000	-	-
GLOBAL 4th	6.25%	2042.01	USD 750,000	967,050	USD 750,000	950,475
MTN 13rd	3.02%	2028.06	EUR 38,000	54,210	EUR 38,000	51,346
MTN 15th	3.00%	2023.07	-	-	EUR 50,000	67,560
MTN 16th	1.46%	2023.08	-	-	JPY 8,000	76,254
MTN 16th(2)	1.46%	2023.08	-	-	JPY 4,000	38,127
MTN 17th	4.00%	2024.01	USD 200,000	257,880	USD 200,000	253,460
GLOBAL 7th	3.88%	2024.02	USD 500,000	644,700	USD 500,000	633,650
GLOBAL 8th	3.50%	2026.07	USD 500,000	644,700	USD 500,000	633,650
MTN 18th	3.58%	2029.07	USD 100,000	128,940	USD 100,000	126,730
MTN 19th	3.58%	2029.07	USD 150,000	193,410	USD 150,000	190,095
MTN 20th	3.58%	2029.07	USD 100,000	128,940	USD 100,000	126,730
MTN 21st	3.50%	2029.10	USD 100,000	128,940	USD 100,000	126,730
MTN 22nd	3.13%	2025.10	USD 200,000	257,880	USD 200,000	253,460
MTN 23rd	3.30%	2025.11	USD 50,000	64,470	USD 50,000	63,365
MTN 24th	3.30%	2025.11	USD 50,000	64,470	USD 50,000	63,365
GLOBAL 9th	3.50%	2025.07	USD 500,000	644,700	USD 500,000	633,650
MTN 25th	2.83%	2026.03	USD 100,000	128,940	USD 100,000	126,730
MTN 26th	2.80%	2026.03	USD 100,000	128,940	USD 100,000	126,730

24. Borrowings and debentures (cont'd)

(5) Debentures as of December 31, 2023 and 2022, are as follows (Korean won and Japanese yen in millions and US dollars, Euro, and Confoederatio Helvetica Franc and Hong Kong dollars in thousands) (cont'd):

			December 31, 2023		December 31, 2022	
List	Interest rate	Maturity	Foreign currency	Local currency (KRW)	Foreign currency	Local currency (KRW)
MTN 27th	2.70%	2026.05	USD 100,000	128,940	USD 100,000	126,730
GLOBAL 10-2nd	2.25%	2026.07	USD 400,000	515,760	USD 400,000	506,920
GLOBAL 11-2nd	3.13%	2027.07	USD 400,000	515,760	USD 400,000	506,920
CHF 5th	0.21%	2023.08	-	-	CHF 200,000	274,574
CHF 6th	-	2023.11	-	-	CHF 300,000	411,861
GLOBAL 12nd	2.88%	2029.07	USD 500,000	644,700	USD 500,000	633,650
MTN 28th	1.42%	2027.07	HKD 450,000	74,277	HKD 450,000	73,148
GLOBAL 13-1st	1.13%	2026.07	USD 450,000	580,230	USD 450,000	570,285
GLOBAL 13-2nd	2.00%	2031.07	USD 350,000	451,290	USD 350,000	443,555
GLOBAL 14th	3.88%	2027.07	USD 500,000	644,700	USD 500,000	633,650
MTN 29th	5.28%	2024.11	HKD 400,000	66,024	HKD 400,000	65,020
MTN 30th	5.53%	2024.12	USD 100,000	128,940	USD 100,000	126,730
GLOBAL 15th	4.88%	2028.07	USD 500,000	644,700	-	-
			USD 6,700,000		USD 6,200,000	
					CHF 500,000	
Total				23,913,491	JPY 12,000	19,105,150
			EUR 38,000		EUR 88,000	
			HKD 850,000		HKD 850,000	
			USD (36,287)		USD (39,237)	
Less : Discount on debentures				(43,143)	CHF (473)	(46,818)
			HKD (4,772)		HKD (6,053)	
			USD 6,663,713		USD 6,160,763	
					CHF 499,527	
Balance after deduction				23,870,348	JPY 12,000	19,058,332
			EUR 38,000		EUR 88,000	
			HKD 845,228		HKD 843,947	
Less : Current portion				(3,127,544)		(1,958,377)
Less : Current portion of discount on debentures				212		537
Total				₩ 20,743,016		₩ 17,100,492

25. Lease

(1) Lease contract

During the current period, lease contracts with a lease term of 12 months or less were classified as short-term leases and recognized an expense of ₩ 1,688 million and lease contracts with an underlying asset of ₩ 5 million or less were recognized as a small lease contract with an expense of ₩1,567 million.

(2) Details of lease liabilities as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023		December 31, 2022	
	Minimum lease payments	Present value of minimum lease payments	Minimum lease payments	Present value of minimum lease payments
Long-term transportation contract				
1 year or less	₩ 319,201	₩ 306,749	₩ 376,183	₩ 357,614
1~5 years	955,639	781,791	971,151	794,742
More than 5 years	1,123,944	620,278	1,308,720	727,520
	2,398,784	1,708,818	2,656,054	1,879,876
Lease other than long-term transportation contract				
1 year or less	25,135	24,327	21,762	21,309
1~5 years	64,601	60,960	58,927	55,499
More than 5 years	97,593	75,257	96,539	74,841
	187,329	160,544	177,228	151,649
Total				
1 year or less	344,336	331,076	397,945	378,923
1~5 years	1,020,240	842,751	1,030,078	850,241
More than 5 years	1,221,537	695,535	1,405,259	802,361
	₩ 2,586,113	₩ 1,869,362	₩ 2,833,282	₩ 2,031,525

(3) Details of liquidity classification of lease liabilities as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023	2022
Current liabilities	₩ 331,076	₩ 378,923
Non-current liabilities	1,538,286	1,652,602
	₩ 1,869,362	₩ 2,031,525

(4) The changes in lease liabilities for each of the two years in the period ended December 31, 2023 are as follows (Korean won in millions):

	2023					
	Beginning balance	Increase	Interest expenses	Decrease	Others	Ending balance
Lease liabilities	₩ 2,031,525	₩ 31,756	₩ 124,827	₩ (347,068)	₩ 28,322	₩ 1,869,362

	2022					
	Beginning balance	Increase	Interest expenses	Decrease	Others	Ending balance
Lease liabilities	₩ 2,046,305	₩ 22,710	₩ 55,935	₩ (214,825)	₩ 121,400	₩ 2,031,525

25. Lease (cont'd)

(5) The details of the composition of right-of-use assets for each of the two years in the period ended December 31, 2023 are as follows (Korean won in millions):

	2023				
	Acquisition cost	Accumulated depreciation	Accumulated impairment loss	Other	Book value
Land	₩ 152,757	₩ (44,262)	₩ (159)	₩ -	₩ 108,336
Buildings	29,715	(14,389)	-	-	15,326
Structures	2,991	(331)	-	-	2,660
Machinery	25,970	(6,174)	-	-	19,796
Vehicles	12,554	(5,329)	-	-	7,225
Vessel	6,956,096	(5,266,629)	(324,619)	-	1,364,848
Aircrafts	2,608	(893)	-	-	1,715
Software	50	(44)	-	-	6
	₩ 7,182,741	₩ (5,338,051)	₩ (324,778)	₩ -	₩ 1,591,912

	2022				
	Acquisition cost	Accumulated depreciation	Accumulated impairment loss	Other	Book value
Land	₩ 150,911	₩ (35,649)	₩ -	₩ -	₩ 115,262
Buildings	21,528	(9,198)	-	264	12,594
Structures	2,939	(261)	-	-	2,678
Machinery	19,219	(4,989)	-	-	14,230
Vehicles	12,350	(3,580)	-	-	8,770
Vessel	6,948,276	(5,020,127)	-	(265)	1,927,884
Aircrafts	623	(314)	-	-	309
Software	45	(41)	-	1	5
	₩ 7,155,891	₩ (5,074,159)	₩ -	₩ -	₩ 2,081,732

(6) Changes in right-of-use assets for each of the two years in the period ended December 31, 2023 are as follows (Korean won in millions):

	2023					
	Beginning balance	Increase	Depreciation	Impairment loss[1]	Others	Ending balance
Land	₩ 115,262	₩ 4,317	₩ (10,121)	₩ (159)	₩ (963)	₩ 108,336
Buildings	12,594	11,468	(7,575)	-	(1,161)	15,326
Structures	2,678	-	-	-	(18)	2,660
Machinery	14,230	7,357	(1,701)	-	(90)	19,796
Vehicles	8,770	2,635	(4,080)	-	(100)	7,225
Vessel	1,927,884	8,237	(246,629)	(324,619)	(25)	1,364,848
Aircrafts	309	1,999	(581)	-	(12)	1,715
Software	5	3	(2)	-	-	6
	₩ 2,081,732	₩ 36,016	₩ (270,689)	₩ (324,778)	₩ (2,369)	₩ 1,519,912

[1] The Group recognized ₩ 324,619 million in impairment losses on KC-1 national vessel related right-of-use assets and ₩ 159 million in impairment losses on right-of-use assets related to hydrogen charging stations and hydrogen production bases for the year ended December 31, 2023, which are included in other gains (losses) in the consolidated statements of comprehensive income (Notes 18, 20 and 40).

25. Lease (cont'd)

(6) Changes in right-of-use assets for each of the two years in the period ended December 31, 2023 are as follows (Korean won in millions) (cont'd):

	2022				
	Beginning balance	Increase	Depreciation	Others	Ending balance
Right-of-use assets					
Land	₩ 120,757	₩ 7,606	₩ (10,216)	₩ (2,885)	₩ 115,262
Buildings	10,800	7,334	(5,948)	408	12,594
Structures	2,567	-	(67)	178	2,678
Machinery	15,006	861	(1,658)	21	14,230
Vehicles	3,269	9,264	(3,628)	(135)	8,770
Office equipment	2	-	-	(2)	-
Vessel	2,173,087	811	(245,837)	(177)	1,927,884
Aircrafts	232	635	(572)	14	309
Software	4	6	(5)	-	5
	₩ 2,325,724	₩ 26,517	₩ (267,931)	₩ (2,578)	₩ 2,081,732

(7) Amounts recognized in the consolidated statements of profit or loss related to the leases for each of the two years in the period ended December 31, 2023 are as follows (Korean won in millions):

	2023	2022
Depreciation of Right-of-use assets		
Land	₩ 10,121	₩ 10,216
Buildings	7,575	5,948
Structures	-	67
Machinery	1,701	1,658
Vehicles	4,080	3,628
Vessel	246,629	245,837
Aircrafts	581	572
Software	2	5
	₩ 270,689	₩ 267,931
Interest expenses (finance cost) of lease liabilities	₩ 124,827	₩ 55,935
Interest income (finance income) on present value discount of deposit	1,666	860
Short-term lease payment (included in cost of sales and administrative expenses)	1,688	2,518
Low-value lease payment (included in cost of sales and administrative expenses)	1,567	1,223
Impairment loss of right-of-use assets(impairment loss of property, plant and equipment)	324,778	-

26. Retirement benefits

The Group operates both defined contribution and defined benefit pension plans.

(Defined Contribution Pension Plan)

- For defined contribution plan, the mandatory contribution amount of the Group is set on contractual or voluntary basis. The Group has no further payment obligation once the contribution has been paid.
- Employees select a publicly or privately administered pension insurance plan based on the rule of the plan and bear the risk.
- The pensionable right of employees is guaranteed in the plan as the contribution is accumulated in each employee's name, independently from the Group.

(Defined Benefit Pension Plan)

- For defined benefit plan, the benefit amount of the employees is set, depending on their age, periods of service or salary levels.
- Employees expect their own post-employment benefit amount reasonably and the Group bear the risk.

(1) Defined contribution plan

The expense recognized in the current period in relation to defined contribution plan was ₩11,361 million (2022: ₩13,466 million).

Details of recognized expense related to the defined contribution plan for each of the two years in the period ended December 31, 2023 are as follows (Korean won in millions):

	2023	2022
Cost of sales	₩ 8,860	₩ 7,974
Selling, general and administrative expenses	2,187	5,281
Construction in progress	314	211
Total	₩ 11,361	₩ 13,466

(2) Defined Benefit Plan

According to defined benefit plan, the employees will receive their average salary for the past three months multiplied by the rate of payment considering the year of service on their retirement. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method.

(3) Details of net defined benefit liabilities (assets) recognized in the consolidated statements of financial position as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Present value of funded defined benefit liabilities	₩ 337,522	₩ 304,279
Fair value of plan assets	(416,342)	(431,200)
Net defined benefit liabilities	₩ (78,820)	₩ (126,921)
Present value of unfunded defined benefit liabilities	453	386
	₩ (78,367)	₩ (126,535)

26. Retirement benefits (cont'd)

(4) Changes in the carrying amount of defined benefit liabilities for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Beginning balance	₩ 304,665	₩ 369,312
Current service cost	29,023	35,924
Interest expense	18,086	14,469
Remeasurements	39,421	(60,289)
Benefit payments	(5,483)	(6,128)
Convert to defined contribution	(47,899)	(48,364)
Settlements	156	(280)
Foreign exchange difference	6	20
Others	-	1
Ending balance	₩ 337,975	₩ 304,665

(5) Changes in the fair value of plan assets for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Beginning balance	₩ 431,200	₩ 393,641
Interest income	25,275	15,529
Remeasurements	(88)	(8,546)
Employer's contributions:	15,044	81,321
Benefit payments	(5,859)	(5,474)
Convert to defined contribution	(49,230)	(45,271)
Ending balance	₩ 416,342	₩ 431,200

The Group recognized accumulated actuarial gains and losses, net of tax, as other comprehensive income amounting to ₩ 7,317 million and ₩ 36,890 million as of December 31, 2023 and 2022, respectively.

(6) Plan assets as of December 31, 2023 and 2022, consist of (Korean won in millions):

	December 31, 2023	December 31, 2022
Deposits	₩ 132,469	₩ 88,244
Insurance instrument	103,460	140,962
Debt instrument	117,415	144,794
Others	62,998	57,200
	₩ 416,342	₩ 431,200

(7) The principal actuarial assumptions as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Discount rate	5.15% ~ 5.35%	6.17% ~ 6.21%
Future salary growth rate	2.2%+promotion rate ~ 3.56%	1.7%+promotion rate ~ 4.26%

26. Retirement benefits (cont'd)

(7) The principal actuarial assumptions as of December 31, 2023 and 2022, are as follows (Korean won in millions)(cont'd):

Promotion rate used for future salary increases calculations in 2023, are as follows (Korean won in millions):

	Age	Experience rate
Promotion rate	30	2.700%
	35	2.379%
	40	2.126%
	45	1.922%
	50	1.753%

(8) The amounts recognized in profit or loss in relation to defined benefit plan for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Current service cost	₩ 29,023	₩ 35,924
Interest expense	18,086	14,469
Interest income	(25,275)	(15,529)
Others	156	(280)
	₩ 21,990	₩ 34,584

(9) The above amounts recognized in the consolidated statements of comprehensive income for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Cost of sales	₩ 16,693	₩ 24,472
Selling and administrative expenses	4,597	8,567
Construction in progress	700	1,545
	₩ 21,990	₩ 34,584

(10) Remeasurements of defined benefit plan recognized as other comprehensive income for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Remeasurements of defined benefit plan	₩ 39,421	₩ (60,289)
Return on plan assets	88	8,546
	₩ 39,509	₩ (51,743)

(11) The Group predicts that it will pay ₩12,407 million in relation to the defined benefit plan in 2023 (₩11,513 million in relation to the defined benefit plan in 2022).

(12) The expected maturity analysis of undiscounted pension benefits as of December 31, 2023, are as follows (Korean won in millions):

	December 31, 2023				
	Less than 1 year	Between 1-2 years	Between 2-5 years	Over 5 years	Total
Pension benefits	₩ 32,027	₩ 40,798	₩ 142,839	₩ 997,472	₩ 1,213,136

27. Provisions

(1) Details of provisions as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023			December 31, 2022		
	Current	Non-current	Total	Current	Non-current	Total
Provision for employee benefits	₩ 66,922	₩ 1,502	₩ 68,424	₩ 65,411	₩ 1,502	₩ 66,913
Provision for greenhouse gas emission	954	-	954	2,559	-	2,559
Provision for financial guarantee	-	9,751	9,751	-	10,075	10,075
Provision for lawsuit[1]	29,745	27,017	56,762	20,498	-	20,498
Provision for restoration	-	139,537	139,537	-	118,389	118,389
Provision for loss-bearing contract	277	-	277	-	-	-
Others	1,852	5,369	7,221	-	4,673	4,673
	₩ 99,750	₩ 183,176	₩ 282,926	₩ 88,468	₩ 134,639	₩ 223,107

[1] It consists of ₩7,274 million in provisions related to storage tank bidding litigation, ₩27,017 million and ₩10,328 million in provisions related to KC-1 litigation and ₩12,143 million in provisions related to royalty calculation litigation of KOGAS Australia Pty. Ltd. (Note 52.(1)).

(2) Changes in provisions for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023					
	Beginning balance	Increase	Utilization	Reversed	Others	Ending balance
Provision for employee benefits	₩ 66,913	₩ 59,300	₩ (57,749)	₩ (40)	₩ -	₩ 68,424
Provision for greenhouse gas emission	2,559	954	(2,559)	-	-	954
Provision for financial guarantee	10,075	29,941	(29,868)	-	(397)	9,751
Provision for lawsuit	20,498	36,139	-	-	125	56,762
Provision for restoration	118,389	7,335	(1,594)	-	15,407	139,537
Provision for loss-bearing contract	-	277	-	-	-	277
Others	4,673	3,390	(758)	-	(84)	7,221
	₩ 223,107	₩ 137,336	₩ (92,528)	₩ (40)	₩ 15,051	₩ 282,926

	2022					
	Beginning balance	Increase	Utilization	Reversed	Others	Ending balance
Provision for employee benefits	₩ 115,888	₩ 84,780	₩ (133,755)	₩ -	₩ -	₩ 66,913
Provision for greenhouse gas emission	4,182	15,277	(16,900)	-	-	2,559
Provision for financial guarantee	15,789	53,049	(58,380)	-	(383)	10,075
Provision for lawsuit	18,910	996	-	-	592	20,498
Provision for restoration	125,952	(15,139)	(919)	(12)	8,507	118,389
Provision for loss-bearing contract	1,117	-	-	(1,117)	-	-
Others	10,253	177	(20,041)	(205)	14,489	4,673
	₩ 292,091	₩ 139,140	₩ (229,995)	₩ (1,334)	₩ 23,205	₩ 223,107

28. Emission rights and liabilities

(1) Free-allocation emission rights

The number of emission rights allocated by the government for each commitment year of the 3rd planned period as of December 31, 2023 are as follows (tCO2-eq):

	December 31, 2023					
	Allotment for 2021	Allotment for 2022	Allotment for 2023	Allotment for 2024	Allotment for 2025	Total
Free allocation emission rights	569,525	569,525	569,525	527,196	527,196	2,762,967

(2) Changes in greenhouse gas emission rights for each commitment year are as follows (tCO2-eq, Korean won in millions):

	Allotment for 2020		Allotment for 2021		Allotment for 2022	
	Quantity	Book value	Quantity	Book value	Quantity	Book value
As of January 1st	702,247	₩ -	569,525	₩ -	576,936	₩ -
Cancellation of allocation	(2,128)	-	-	-	-	-
Submission to government[1]	(842,561)	(3,160)	(687,660)	(2,915)	(752,027)	(2,265)
Trading	215,491	4,018	118,135	2,915	175,091	2,265
Borrowing	(73,049)	(858)	-	-	-	-
Carrying forward	-	-	-	-	-	-
As of December 31th	-	₩ -	-	₩ -	-	₩ -

	Allotment for 2023		Total	
	Quantity	Book value	Quantity	Book value
As of January 1st	569,525	₩ -	2,418,233	₩ -
Cancellation of allocation	-	-	(2,128)	-
Submission to government[1]	(675,221)	(954)	(2,957,469)	(9,294)
Trading	21,002	189	529,719	9,387
Borrowing	-	-	(73,409)	(858)
0Carrying forward	-	-	-	-
As of December 31th	(84,694)	₩ (765)	(84,694)	₩ (765)

[1] Emissions for 2023 are estimated as of the end of the current period.

(3) Others

There is no greenhouse gas emission right provided as collateral as of December 31, 2023.

The estimated emissions is 675,221 tCO2-eq in 2023, and certified emissions in 2022 was 752,027 tCO2-eq. The Group changed calculation method according to the revisions to the emission certification guidelines (Ministry of Environment's notice No. 2019-245), and thus, there is a difference between the emission for submission to government and that of account statements until 2020.

29. Government grants

(1) Government grants related to assets are presented as a deduction of related assets and grants related to expenses are recognized in income on a systematic basis over the period to match with the related subsidized expenses.

(2) Details of government grants as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Liabilities		
Deferred government grants income	₩ 4,713	₩ 3,258
Assets		
Buildings	1,856	2,780
Structures	1,426	1,382
Machinery	98,296	105,695
Vessel	13,692	-
Computerized facility	8	7
Furniture and equipment	58	320
Vehicles	11,910	10,125
Tools and instruments	47	121
Construction in progress	20,180	48,035
Computer software	3,243	1,581
Copy right, patents and other industrial property right	14	20
	150,730	170,066
	₩ 155,443	₩ 173,324

(3) Changes in government grants for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023							
	Beginning balance	Receipt	Acquisition	Offset	Disposal	Revenue Recognition	Others	Ending balance
Liabilities								
Deferred government grants income	₩ 3,258	₩ 15,009	₩ (19,080)	₩ -	₩ -	₩ (9,190)	₩ 14,716	₩ 4,713
Assets								
Buildings	₩ 2,780	-	3,677	(139)	₩ -	₩ -	₩ (4,462)	₩ 1,856
Structures	1,382	-	1,330	(112)	-	-	(1,174)	1,426
Machinery	105,695	-	11,033	(6,442)	(54)	-	(11,936)	98,296
Vessel	-	-	14,700	(375)	-	-	(633)	13,692
Computerized facilities	7	-	6	(5)	-	-	-	8
Furniture and equipment	320	-	55	(91)	-	-	(226)	58
Vehicles	10,125	72	2,912	(872)	-	-	(327)	11,910
Tools and fixtures	121	-	17	(71)	(20)	-	-	47
Construction in progress	48,035	2,940	(14,682)	-	-	-	(16,113)	20,180
Computer software	1,581	-	50	(904)	-	-	2,516	3,243
Copy right, patents and other industrial property rights	20	-	-	(6)	-	-	-	14
	170,066	3,012	19,098	(9,017)	(74)	-	(32,355)	150,730
	₩ 173,324	₩ 18,021	₩ 18	₩ (9,017)	₩ (74)	₩ (9,190)	₩ (17,639)	₩ 155,443

29. Government grants (cont'd)

(3) Changes in government grants for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions) (cont'd):

	2022						
	Beginning balance	Receipt	Acquisition	Offset	Revenue recognition	Others	Ending balance
Liability							
Deferred government grant income	₩ 1,726	₩ 34,544	₩ (23,672)	₩ -	₩ (9,270)	₩ (70)	₩ 3,258
Assets							
Buildings	2,640	-	267	(127)	-	-	2,780
Structures	1,439	-	50	(107)	-	-	1,382
Machinery	112,179	-	16	(6,500)	-	-	105,695
Computerized facility	17	-	4	(14)	-	-	7
Furniture and equipment	25	-	358	(63)	-	-	320
Vehicles	2,589	68	7,940	(470)	-	(2)	10,125
Tools and instruments	209	-	28	(116)	-	-	121
Construction in progress	22,409	10,207	14,994	-	-	425	48,035
Computer software	2,010	-	16	(445)	-	-	1,581
Copy right, patents and other industrial property right	28	-	2	(10)	-	-	20
	143,545	10,275	23,675	(7,852)	-	423	170,066
	₩ 145,271	₩ 44,819	₩ 3	₩ (7,852)	₩ (9,270)	₩ 353	₩ 173,324

(4) Income from government grants for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Offsetting of government grants related to deferred income (sales)	₩ 9,190	₩ 9,270
Offsetting of government grants related to depreciation	9,017	7,852
Offsetting of impairment loss of property, plant and equipment	18,125	-
Others	61	197
	₩ 36,393	₩ 17,319

29. Government grants (cont'd)

(5) Details of the increase and decrease in subsidies for each specific business assistance project in 2023 are as follows and the details may be changed as the result of subsidy settlement (Korean won in millions):

		2023		
Department	**Project**	**Period**	**Budget**	**Carry-over amount**
Ministry of Trade, Industry and Energy	Construction of hydrogen distribution information system	2022.01~ 2023.06	₩ 1,305	₩ 133
Ministry of Trade, Industry and Energy	Construction system of hydrogen ex change	2022.01~ 2023.03	2,764	559
Ministry of Trade, Industry and Energy	Operation of hydrogen trading syste m and distribution information syste m	2023.01~ 2024.07	1,841	-
Ministry of Trade, Industry and Energy	Hydrogen trailer support tube	2023.01~ 2024.10	15,776	-
Ministry of Trade, Industry and Energy	Establishment of hydrogen distribution order and distribution market research and analysis	2022.01~ 2023.07	777	217
Ministry of Trade, Industry and Energy	Operation of hydrogen distribution order and reporting center	2023.01~ 2023.12	422	-
Ministry of Trade, Industry and Energy	Operation of a hydrogen distribution agency	2023.01~ 2024.10	339	-
Ministry of Trade, Industry and Energy	Establishment of hydrogen supply a nd demand statistics and supply a nd demand plan	2023.01~ 2024.10	400	-
Busan City, Ulsan City, Gyeongsangnam-do	Feasibility Study of Hydrogen Piping Network in Buulgyeong	2023.07~ 2024.03	400	-
Ministry of Trade, Industry and Energy	Heavy Industries construction of hyd rogen production bases (Gwangju and Changwon)	2021.01~ 2024.02	55,150	27,402
Ministry of Trade, Industry and Energy	2022 Pyeongtaek Heavy Industries construction of hydrogen production bases	2022.01~ 2024.06	49,730	1,667
Gimhae City	Hydrogen charging station operation al support project support	2021.01~ 2023.02	10	10
Ministry of Culture, Sports and Tourism	Professional sports activation suppor t(KBL)	2022.06~ 2023.05	210	84
Ministry of Culture, Sports and Tourism	Professional sports activation suppor t(KBL)	2023.06~ 2024.05	286	-
Ministry of Trade, Industry and Energy	Electricity efficiency improvement pr oject	2023.01~ 2023.12	9,118	-
Seosan City	Seosan hydrogen station consignment operation business	2020.12~ 2026.12	4,463	-
Anseong City	Anseong hydrogen station consignment operation business	2021.04~ 2026.03	1,763	-
Seoul City	Gangseo, Seoul hydrogen station consignment operation business	2022.01~ 2026.12	8,308	-
Pyeong Chang	Pyeong Chang hydrogen station consignment operation business	2022.01~ 2026.12	1,746	-
Hwaseong City	Hwaseong hydrogen station in sports complex consignment operation business	2021.07~ 2026.07	2,569	-
Chungju City	Chungju hydrogen station consignment operation business	2022.10~ 2027.09	4,653	-
Chuncheon City	Chuncheon hydrogen station consignment operation business	2022.01~ 2026.12	7,103	-
Cheonan City	Cheonan hydrogen station consignment operation business	2021.09~ 2026.08	4,164	-
Buan	Buan hydrogen station consignment operation business	2021.12~ 2026.11	2,936	-
Jeonju City	Samcheon, Jeonju hydrogen station consignment operation business	2022.03~ 2027.03	12,826	-
Boryeong City	Boryeong hydrogen station consignment operation business	2023.05~ 2025.07	5,631	-
Buan	Buan Gomso hydrogen station consignment operation business	2023.05~ 2028.07	3,459	-
Jeju	Jeju Hamdeok green hydrogen station consignment operation business	2023.03~ 2025.12	9,936	-
Pyeongtaek City	Pyeongtaek port hydrogen transportation complex consignment operation business	2023.12~ 2026.11	4,029	-

29. Government grants (cont'd)

(5) Details of the increase and decrease in subsidies for each specific business assistance project in 2023 are as follows and the details may be changed as the result of subsidy settlement (Korean won in millions) (cont'd):

Department	Project	Period	Budget	Carry-over amount
Ministry of Trade, Industry and Energy	LNG Bunkering ship construction support	2021.02~ 2023.05	55,400	-
			₩ 267,424	₩ 30,072

	Increase					
	Receipt			Interest		
Department	Self-burden	Local government charges	Government subsidy	Self-burden	Local government charges	Government subsidy
Ministry of Trade, Industry and Energy	₩ -	₩ -	₩ -	₩ -	₩ -	₩ 20
Ministry of Trade, Industry and Energy	-	-	-	-	-	32
Ministry of Trade, Industry and Energy	-	-	1,841	-	-	-
Ministry of Trade, Industry and Energy	7,815	-	7,961	-	-	-
Ministry of Trade, Industry and Energy	-	-	-	-	-	15
Ministry of Trade, Industry and Energy	-	-	422	-	-	9
Ministry of Trade, Industry and Energy	-	-	339	-	-	-
Ministry of Trade, Industry and Energy	-	-	400	-	-	-
Busan City, Ulsan City, Gyeongsangnam-do	-	300	100	-	-	-
Ministry of Trade, Industry and Energy	29,995	-	-	-	-	-
Ministry of Trade, Industry and Energy	19,458	-	-	-	-	-
Gimhae City	-	-	-	-	-	-
Ministry of Culture, Sports and Tourism	-	-	-	-	-	4
Ministry of Culture, Sports and Tourism	-	-	286	-	-	-
Ministry of Trade, Industry and Energy	-	-	9,118	-	-	-
Seosan City	-	577	-	-	-	-
Anseong City	-	388	-	-	-	-
Seoul City	-	683	-	-	-	-
Pyeong Chang	-	340	-	-	-	-
Hwaseong City	-	359	-	-	-	-
Chungju City	-	403	-	-	-	-
Chuncheon City	-	833	-	-	-	-
Cheonan City	-	412	-	-	-	-
Buan	-	629	-	-	-	-
Jeonju City	-	376	-	-	-	-
Boryeong City	-	197	-	-	-	-
Buan	-	135	-	-	-	-
Jeju	-	445	-	-	-	-
Pyeongtaek City	-	-	-	-	-	-
Ministry of Trade, Industry and Energy	9,320	-	2,940	-	-	62
	₩ 66,588	₩ 6,077	₩ 23,407	₩ -	₩ -	₩ 142

29. Government grants (cont'd)

(5) The details of the increase and decrease of subsidies for each specific business assistance project in 2023 and 2022 are as follows (Korean won in millions) and the details can be changed as the result of subsidy settlement (cont'd):

	Decrease						
	Execution			Settlement			
Department	Self-burden	Local government charges	Government subsidy	Self-burden	Local government charges	Government subsidy	Carry-over amount
Ministry of Trade, Industry and Energy	₩ -	₩ -	₩ 73	₩ -	₩ -	₩ 80	₩ -
Ministry of Trade, Industry and Energy	-	-	394	-	-	197	-
Ministry of Trade, Industry and Energy	-	-	665	-	-	-	1,176
Ministry of Trade, Industry and Energy	2,908	-	2,909	4,907	-	-	5,502
Ministry of Trade, Industry and Energy	-	-	107	-	-	125	-
Ministry of Trade, Industry and Energy	-	-	372	-	-	59	-
Ministry of Trade, Industry and Energy	-	-	149	-	-	-	190
Ministry of Trade, Industry and Energy	-	-	109	-	-	-	291
Busan City, Ulsan City, Gyeongsangnam-do	-	1	-	-	-	-	399
Ministry of Trade, Industry and Energy	23,515	-	-	-	-	-	33,882
Ministry of Trade, Industry and Energy	491	-	-	-	-	-	20,634
Gimhae City	-	-	-	-	-	10	-
Ministry of Culture, Sports and Tourism	-	-	84	-	-	4	-
Ministry of Culture, Sports and Tourism	-	-	-	-	-	-	286
Ministry of Trade, Industry and Energy	-	-	9,118	-	-	-	-
Seosan City	-	1,115	-	-	(538)	-	-
Anseong City	-	550	-	-	(162)	-	-
Seoul City	-	1,517	-	-	(834)	-	-
Pyeong Chang	-	379	-	-	(39)	-	-
Hwaseong City	-	595	-	-	(236)	-	-
Chungju City	-	1,017	-	-	(614)	-	-
Chuncheon City	-	1,594	-	-	(761)	-	-
Cheonan City	-	1,046	-	-	(634)	-	-
Buan	-	658	-	-	(29)	-	-
Jeonju City	-	1,222	-	-	(846)	-	-
Boryeong City	-	226	-	-	(29)	-	-
Buan	-	145	-	-	(10)	-	-
Jeju	-	156	-	-	289	-	-
Pyeongtaek City	-	17	-	-	(17)	-	-
Ministry of Trade, Industry and Energy	9,320	-	2,307	-	-	695	-
	₩ 36,234	₩ 10,238	₩ 16,287	₩ 4,907	₩ (4,460)	₩ 1,170	₩ 61,910

The details of the specific business above may change according to the result of subsidy settlement.

29. Government grants (cont'd)

(5) The details of the increase and decrease of subsidies for each specific business assistance project in 2023 and 2022 are as follows (Korean won in millions) and the details can be changed as the result of subsidy settlement (cont'd):

		2022		
Department	**Project**	**Period**	**Budget**	**Carry-over amount**
Ministry of Land, Infrastructure and Transport	Development of optimal hydrogen distribution networks	2021.01~ 2022.12	₩ 295	₩ 295
Ministry of Trade, Industry and Energy	Hydrogen exchange monitoring system	2022.01~ 2023.12	2,764	-
Ministry of Trade, Industry and Energy	Hydrogen tube trailer support	2022.01~ 2022.12	16,800	-
Ministry of Trade, Industry and Energy	Establishment of hydrogen distribution information system	2022.01~ 2023.12	1,305	-
Ministry of Trade, Industry and Energy	Establishment of hydrogen distribution order and distribution market research and analysis	2022.01~ 2023.12	777	-
Ministry of Trade, Industry and Energy	Construction of medium-sized hydrogen production bases (Gwangju, Changwon)	2021.01~ 2023.10	55,150	17,738
Ministry of Trade, Industry and Energy	2022 Pyeongtaek Heavy Industries construction of hydrogen production bases	2022.01~ 2024.06	49,730	-
Ministry of Land, Infrastructure and Transport	Construction of Hydrogen Public Relations Center (Content)	2021.01~ 2022.04	500	100
Gimhae City	Hydrogen charging station operational support project support	2021.01~ 2023.02	10	10
Ministry of Trade, Industry and Energy	Electricity efficiency improvement project	2022.01~ 2022.12	10,481	-
Ministry of Culture, Sports and Tourism	Professional sports activation support (KBL)	2021.06~ 2022.05	427	184
Ministry of Culture, Sports and Tourism	Professional sports activation support (KBL)	2022.06~ 2023.05	210	-
Seosan City	Seosan hydrogen station consignment operation business	2020.12~ 2023.12	4,463	-
Anseong City	Anseong hydrogen station consignment operation business	2021.04~ 2026.03	1,763	-
Seoul City	Gangseo, Seoul hydrogen station consignment operation business	2022.01~ 2026.12	8,308	-
Pyeong Chang	Pyeong Chang hydrogen station consignment operation business	2022.01~ 2026.12	1,746	-
Hwaseong City	Hwaseong hydrogen station in sports complex consignment operation business	2021.07~ 2026.07	2,569	-
Chungju City	Chungju hydrogen station consignment operation business	2022.10~ 2027.09	4,653	-
Chuncheon City	Chuncheon hydrogen station consignment operation business	2022.01~ 2026.12	7,013	-
Cheonan City	Cheonan hydrogen station consignment operation business	2021.09~ 2026.08	4,164	-
Buan	Buan hydrogen station consignment operation business	2021.12~ 2026.11	2,936	61
Jeonju City	Samcheon, Jeonju hydrogen station consignment operation business	2022.03~ 2027.03	12,826	-
Ministry of Trade, Industry and Energy	LNG Bunkering ship construction support	2021.02~ 2023.04	55,400	-
			₩ 244,290	₩ 18,388

29. Government grants (cont'd)

(5) The details of the increase and decrease of subsidies for each specific business assistance project in 2023 and 2022 are as follows (Korean won in millions) and the details can be changed as the result of subsidy settlement (cont'd):

	Increase					
	Receipt			Interest		
Department	Self-burden	Local government charges	Government subsidy	Self-burden	Local government charges	Government subsidy
Ministry of Land, Infrastructure and Transport	₩ -	₩ -	₩ -	₩ -	₩ -	₩ -
Ministry of Trade, Industry and Energy	-	-	2,764	-	-	-
Ministry of Trade, Industry and Energy	8,800	-	8,000	-	-	42
Ministry of Trade, Industry and Energy	-	-	1,305	-	-	-
Ministry of Trade, Industry and Energy	-	-	777	-	-	-
Ministry of Trade, Industry and Energy	17,100	-	-	-	-	-
Ministry of Trade, Industry and Energy	3,426	-	8,250	-	-	-
Ministry of Land, Infrastructure and Transport	-	-	-	-	-	-
Gimhae City	-	-	-	-	-	-
Ministry of Trade, Industry and Energy	-	-	10,481	-	-	-
Ministry of Culture, Sports and Tourism	-	-	-	-	-	1
Ministry of Culture, Sports and Tourism	-	-	210	-	-	-
Seosan City	-	313	-	-	-	-
Anseong City	-	214	-	-	-	-
Seoul City	-	262	-	-	-	-
Pyeong Chang	-	144	-	-	-	-
Hwaseong City	-	205	-	-	-	-
Chungju City	-	145	-	-	-	-
Chuncheon City	-	135	-	-	-	-
Cheonan City	-	272	-	-	-	-
Buan	-	308	-	-	-	-
Jeonju City	-	158	-	-	-	-
Ministry of Trade, Industry and Energy	24,380	-	8,860	-	-	3
	₩ 53,706	₩ 2,156	₩ 40,647	₩ -	₩ -	₩ 46

29. Government grants (cont'd)

(5) The details of the increase and decrease of subsidies for each specific business assistance project in 2023 and 2022 are as follows (Korean won in millions) and the details can be changed as the result of subsidy settlement (cont'd):

	Decrease						
	Execution			Settlement			
Department	Self-burden	Local government charges	Government subsidy	Self-burden	Local government charges	Government subsidy	Carry-over amount
Ministry of Land, Infrastructure and Transport	₩ -	₩ -	₩ 266	₩ -	₩ -	₩ 29	₩ -
Ministry of Trade, Industry and Energy	-	-	2,205	-	-	-	559
Ministry of Trade, Industry and Energy	8,765	-	7,940	35	-	102	-
Ministry of Trade, Industry and Energy	-	-	1,172	-	-	-	133
Ministry of Trade, Industry and Energy	-	-	560	-	-	-	217
Ministry of Trade, Industry and Energy	330	-	7,106	-	-	-	27,402
Ministry of Trade, Industry and Energy	1,759	-	8,250	-	-	-	1,667
Ministry of Land, Infrastructure and Transport	-	-	100	-	-	-	-
Gimhae City	-	-	-	-	-	-	10
Ministry of Trade, Industry and Energy	-	-	8,817	-	-	1,664	-
Ministry of Culture, Sports and Tourism	-	-	184	-	-	1	-
Ministry of Culture, Sports and Tourism	-	-	126	-	-	-	84
Seosan City	-	558	-	-	(245)	-	-
Anseong City	-	379	-	-	(165)	-	-
Seoul City	-	388	-	-	(126)	-	-
Pyeong Chang	-	383	-	-	(239)	-	-
Hwaseong City	-	389	-	-	(184)	-	-
Chungju City	-	154	-	-	(9)	-	-
Chuncheon City	-	631	-	-	(496)	-	-
Cheonan City	-	585	-	-	(313)	-	-
Buan	-	411	-	-	(42)	-	-
Jeonju City	-	732	-	-	(574)	-	-
Ministry of Trade, Industry and Energy	24,380	-	8,860	-	-	3	-
	₩ 35,234	₩ 4,610	₩ 45,586	₩ 35	₩ (2,393)	₩ 1,799	₩ 30,072

29. Government grants (cont'd)

(6) Details of the increase and decrease in property, plant and equipment and intangible asset for each specific business assistance project in 2023 and 2022 are as follows (Korean won in millions):

				2023				
Department	Project	Account	Location	Beginning	Acquisition	Depreciation	Others	Ending
Ministry of Trade, Industry and Energy	Hydrogen tube trailer support	Vehicle	-	₩ 9,268	₩ 2,908	₩ (652)	₩ -	₩ 11,524
Ministry of Trade, Industry and Energy	Construction of hydrogen exchange	Software	-	-	217	(53)	-	164
Ministry of Trade, Industry and Energy	Operation of a hydrogen distribution agency	Instrument and others	-	-	6	-	-	6
Ministry of Trade, Industry and Energy	Operation of hydrogen trading system and distribution information system	Software	-	-	2,307	(423)	-	1,884
Ministry of Trade, Industry and Energy	Establishment of hydrogen distribution order and distribution market research and analysis	Software	-	-	50	(1)	-	49
Ministry of Trade, Industry and Energy	Construction of Hydrogen production bases	Machinery and others	Gwangju	6,766	-	(52)	(6,714)	-
Ministry of Trade, Industry and Energy	Construction of Hydrogen production bases	Machinery and others	Changwon, Gyeongsangnam-do	9,274	-	(31)	(8,074)	1,169
Ministry of Land, Infrastructure and Transport	2022 Pyeongtaek Heavy Industries construction of hydrogen production bases	Construction in progress	Pyeongtaek, Gyeonggi-do	11,700	-	-	-	11,700
Ministry of Land, Infrastructure and Transport	LNG Bunkering ship construction support	Vessel	Ulsan	11,760	2,940	(375)	(633)	13,692
				₩ 48,768	₩ 8,428	₩ (1,587)	₩ (15,421)	₩ 40,188

29. Government grants (cont'd)

(6) Details of the increase and decrease in property, plant and equipment and intangible asset for each specific business assistance project in 2023 and 2022 are as follows (Korean won in millions) (cont'd):

2022							
Department	**Project**	**Account**	**Location**	**Beginning**	**Acquisition**	**Depreciation**	**Ending**
Ministry of Trade, Industry and Energy	Hydrogen tube trailer support	Vehicle	-	₩ 1,587	₩ 7,940	₩ (259)	₩ 9,268
Ministry of Trade, Industry and Energy	Establishment of hydrogen distribution information system	Software	-	833	-	(176)	657
Ministry of Trade, Industry and Energy	Construction of hydrogen exchange	Software	-	56	-	(13)	43
Ministry of Land, Infrastructure and Transport	Development Of optimal Hydrogen distribution networks	Software	-	1,005	-	(204)	801
Ministry of Trade, Industry and Energy	Construction of Hydrogen production bases	Construction in progress	Gwangju	3,520	3,166	-	6,686
Ministry of Trade, Industry and Energy	Construction of Hydrogen production bases	Construction in progress	Changwon, Gyeongsang nam-do	5,413	3,940	-	9,353
Ministry of Trade, Industry and Energy	2022 Pyeongtaek Heavy Industries construction of hydrogen production bases	Construction in progress	Pyeongtaek, Gyeonggi-do	3,450	8,250	-	11,700
Ministry of Land, Infrastructure and Transport	Construction of Hydrogen Public Relations Center (Content)	Equipment and others	Daegu	400	100	(40)	460
Ministry of Land, Infrastructure and Transport	Construction of Hydrogen Public Relations Center (Content)	Structures and others	Daegu	180	-	(22)	158
Ministry of Trade, Industry and Energy	LNG Bunkering ship construction support	Vessels	-	2,900	8,860	-	11,760
				₩ 19,344	₩ 32,256	₩ (714)	₩ 50,886

30. Customers' contribution to construction costs

Changes in deferred income related to contribution to construction for each of the two years in the period ended December 31, 2023 are as follows (Korean won in millions):

	2023	2022
Beginning balance	₩ 2,530	₩ 2,318
Increase(Decrease)	(6)	358
Offset	(146)	(146)
Ending balance	₩ 2,378	₩ 2,530

31. Non-financial liabilities

Details of non-financial liabilities as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023		December 31, 2022	
	Current	Non-current	Current	Non-current
Advance receipts	₩ 3,036	₩ -	₩ 11,283	₩ -
Unearned revenues	19,722	-	19,840	-
Withholdings	17,001	-	17,144	-
Deferred income	3,207	3,884	1,717	4,070
Others[1]	228,745	54,492	327,893	35,078
	₩ 271,711	₩ 58,376	₩ 377,877	₩ 39,148

[1] Others include liabilities recognized in accordance with natural gas sales charge settlement profit and loss ₩194,850 million as of December 31, 2022. (Refer to Note 16)

32. Equity

(1) Details of share capital as of December 31, 2023 and 2022, are as follows (Korean won in millions except par value in Korean won):

	Total shares authorized	Total shares issued	Par value	December 31, 2023			December 31, 2022		
				Government	Non-government	Total	Government	Non-government	Total
Common stock	200,000,000 shares	92,313,000 shares	₩ 5,000	₩ 120,722	₩ 340,843	₩ 461,565	₩ 120,722	₩ 340,843	₩ 461,565

(2) Changes in the number of shares outstanding for each of the two years in the period ended December 31, 2023, are as follows (in shares):

	2023		2022	
	Common share	Preferred share	Common share	Preferred share
Beginning balance	85,826,950	-	85,826,950	-
Ending balance	85,826,950	-	85,826,950	-

(3) Details of share premium as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Share premium	₩ 1,303,548	₩ 1,303,548

33. Retained earnings and dividends

(1) Retained earnings as of December 31, 2023 and 2022, consist of (Korean won in millions):

	December 31, 2023	December 31, 2022
Legal reserve[1]	₩ 230,783	₩ 230,783
Other reserves	5,200,055	4,325,884
Unappropriated retained earnings	1,247,784	2,919,590
	₩ 6,678,622	₩ 7,476,257

[1] The Korea Gas Corporation Act requires the Group to appropriate as a legal reserve an amount equal to a minimum of 10% of its profits for each reporting period until the reserve equals 50% of its capital. The legal reserve may be used to reduce a deficit or may be transferred to common stock in connection with a free issuance of shares.

(2) Other reserves as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Business expansion	₩ 4,430,597	₩ 3,556,426
Dividend equalization	219,282	219,282
Business rationalization	792	792
Accident compensation	461,565	461,565
Improvement of financial structure	87,819	87,819
	₩ 5,200,055	₩ 4,325,884

(3) Changes in retained earnings for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Beginning balance	₩ 7,476,257	₩ 6,185,268
Profit attributable to owners of the parent	(761,211)	1,493,103
Dividends paid	-	(234,136)
Remeasurements of defined benefit plan	(29,573)	38,873
Interest expense on hybrid bonds	(6,851)	(6,851)
Ending balance	₩ 6,678,622	₩ 7,476,257

(4) Dividends paid for each of the two years in the period ended December 31, 2023, are as follows (Korean won):

	2023				
	Total shares issued	Treasury stock	Shares eligible for dividends	Dividends per share	Total dividends
Common share	92,313,000	6,486,050	85,826,950	₩ -	₩ -

	2022				
	Total shares issued	Treasury stock	Shares eligible for dividends	Dividends per share	Total dividends
Common share	92,313,000	6,486,050	85,826,950	₩ 2,728	₩ 234,135,919,600

33. Retained earnings and dividends (cont'd)

(5) Changes in remeasurements for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Beginning balance	₩ 46,683	₩ 41,674
Gains and losses	(39,509)	51,743
Tax effect	9,936	(12,871)
Disposal of retained earnings	(28,132)	(33,863)
Ending balance	₩ (11,022)	₩ 46,683

34. Statement of appropriation of retained earnings

The accumulated deficit for the year ended December 31, 2023, is expected to be disposed at the shareholders' meeting of the Corporation's to be held on March 28, 2024. The appropriation date for the year ended December 31, 2022, was on March 29, 2023.

The statements of appropriation of retained earnings for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Retained earnings before appropriation		
Unappropriated retained earnings carried over from prior year	₩ -	₩ -
Profit for the year	(881,226)	852,889
Remeasurements of defined benefit plan	(25,269)	28,132
Payment of interest of hybrid bonds	(6,851)	(6,850)
Retained earnings before disposition	₩ (913,346)	₩ 874,171
Transfers from voluntary reserves and others		
Reserve for business expansion	913,346	-
Retained earnings available for appropriation	₩ -	₩ 874,171
Appropriation of retained earnings		
Reserve for accident compensation	₩ -	₩ -
Dividends	-	-
Reserve for business expansion	-	874,171
Unappropriated retained earnings to be carried forward subsequent year	₩ -	₩ -

35. Hybrid bonds

Details of hybrid bonds as of December 31, 2023 and 2022, are as follows (Korean won):

Terms	Details of the terms
Issued amount	₩335,328,785,000
Maturity	The principal of this bond is repaid on the maturity date of November 16, 2051. If the principal repayment date falls on a bank holiday, repayment is made on the next business day, and interest after the principal repayment date is not calculated. However, the issuer may continuously extend the maturity of the bond under the same issuance conditions by notifying the Korea Securities Depository five business days before the expiration date, and the bond creditor cannot offset the bond as an automatic bond.
Interest rate	(A) The interest rate on the bonds in this case shall be 2.043% per annum. (B) The interest rate obtained by adding the additional interest rate prescribed in item (ii)(c) to the interest rate prescribed in item (i)(a) shall be applied from the time when five years have elapsed since the issuance of the bonds. (C) The additional interest rate shall be the average interest rate (Truncation of 4 decimal places) of the 5-year unguaranteed bonds of each issuer evaluated two business days before the date on which the KOREA ASSET PRICING Co., KIS PRICING INC., NICE P&I INC., and FnPricing Inc. (if the names of the above credit rating companies are changed for any reason, including merger or spin-off, after the date of conclusion of this contract, applicable corporations will be included as well.) should calculate or recalculate. The additional interest rate shall be recalculated every five years after the initial calculation when five years have elapsed since the issuance of the bonds.
Interest payment terms	Interest is paid in installments by 1/4 of the annual interest rate every 3 months from the issuance date of this bond to the redemption date. However, if the interest payment date falls on a bank holiday, interest is paid on the next business day, and interest after the interest payment date is not calculated. After the issuance date of the bond, the issuer may defer the payment of interest, in entirety or partially, to the next interest payment term, if necessary.
Dividend terms	(A) After the issuance date of this bond, the issuer may, at its option, defer payment of all or part of interest (including interest for which the interest payment date has already been deferred pursuant to this subparagraph) until the next interest payment date. (B) Even if the issuer suspends payment of all or part of the interest pursuant to item (A), the issuer shall, at the option of the issuer, on the subsequent interest payment date, pay interest with deferred payment following its decision (hereinafter referred to as “deferred interest”) and the accumulated interests, and no resolution on cash and stock dividends shall be made until the full amount of interest to be paid on the date of interest payment and deferred interest is paid. In case where the resolution on cash and stock dividend is made violating the aforementioned term, the interest payment date preceding the dividend resolution shall be considered as the due date for the accumulated interest including the deferred amount. In addition, if the issuer exercises the prepayment right pursuant to the Article 20, the accumulated interest including the deferred interest should be paid by the issuer on the date when the prepayment right is exercised. However, if the applicable interest payment date falls on bank holiday, repayment is made on the next business day, and interest after the interest payment date is not calculated.
Exchange terms	Exchange of treasury stock held by the company for 1 share for every 51,700 KRW of electronically registered debentures
Exchange request period	2021.12.16~ 2051.10.16
Other terms	1. Early redemption right of the issuing company (Call Option): ① After 5 years have elapsed from the issuance date of this bond, the entire bond can be repaid in advance on the day corresponding to each interest payment date. ② Notwithstanding ①, the external auditor’s opinion statement stating that the debentures in this case cannot be recognized as capital for accounting due to changes in KIFRS or changes in laws, regulations, guidelines of related organizations or accounting firms. Alternatively, if the issuer submits an external auditor's external audit (review) report that reflects the above information to investors, the issuer may prepay the bonds on the interest payment date immediately following the occurrence of the cause. However, the issuing company may make a prepayment in accordance with this regulation only after the effective date of the change in accounting standards. ③ When the issuer exercises the redemption right in accordance with ① or ②, the issuer pays the entire principal amount of the bonds by paying the entire face value without a separate discount or surcharge, and the full amount of unpaid interest. ④ When the issuer exercises the prepayment right pursuant to ① or ②, the issuing company must notify the principal and interest payment agency and Korea Securities Depository of its intention at least 5 business days prior to the date of exercising the prepayment right. 2. Investor’s right to claim redemption in advance (Put Option): Not applicable

As the aforementioned hybrid bonds do not substantially bear the contractual payment obligation, the Group classified the hybrid bonds as equity, and recognized ₩334,520 million as equity, deducting issuance costs from the issuance amount for the year ended December 31, 2021.

36. Other components of equity

(1) Other components of equity as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Other capital surplus	₩ 20,910	₩ 20,910
Accumulated other comprehensive income (loss)	286,359	48,828
Treasury share	(152,424)	(152,424)
Other equity	693,877	693,877
	₩ 848,722	₩ 611,191

(2) Other capital surplus for each of the two years in the period ended December 31, 2023, consists of (Korean won in millions):

	2023	2022
Gain on disposal of treasury share	₩ 21,353	₩ 21,353
Others	(443)	(443)
	₩ 20,910	₩ 20,910

(3) Accumulated other comprehensive income for each of the two years in the period ended December 31, 2023, consists of follows (Korean won in millions):

	2023	2022
Other comprehensive income - fair value measurement gain on valuation of financial assets	₩ 107,982	₩ 30,195
Loss on valuation of cash flow hedges	(94,180)	(146,272)
Hedges of net investment in a foreign operation	(299,543)	(244,243)
Share of other comprehensive income of associates and joint ventures	195,254	120,156
Exchange differences on translation of foreign operations	376,846	288,992
	₩ 286,359	₩ 48,828

(4) Changes in treasury share for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023		2022	
	Shares	Book amount	Shares	Book amount
Beginning balance	6,486,050	₩ 152,424	6,486,050	₩ 152,424
Changes	-	-	-	-
Ending balance	6,486,050	₩ 152,424	6,486,050	₩ 152,424

(5) Other equity for each of the two years in the period ended December 31, 2023, consists of (Korean won in millions):

	2023	2022
Revaluation surplus	₩ 693,877	₩ 693,877

37. Revenue from contracts with customers

(1) Details of revenue for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Revenue from contracts with customers	₩ 44,546,659	₩ 51,714,870
Revenue from government grant	9,190	9,270
Revenue contribution to construction	146	146
	₩ 44,555,995	₩ 51,724,286

(2) Details of revenue from contracts with customers for each of the two years in the period ended December 31, 2023 are as follows (Korean won in millions):

	2023		2022	
	Domestic	Overseas	Domestic	Overseas
Revenue by product/services				
Revenue from sale of goods				
Power generating	₩ 22,566,515	₩ -	₩ 28,741,408	₩ -
City gas	19,063,478	-	20,195,222	-
Direct supply	176,719	-	210,346	-
Individual supply	353,324	-	148,742	-
Use of plumbing facilities	449	-	125	-
Others	72,254	-	31,646	-
Overseas operations	-	1,258,818	-	1,460,928
	₩ 42,232,739	₩ 1,258,818	₩ 49,327,489	₩ 1,460,928
Revenue from other than sales of goods				
Revenue from rendering of services	7,115	630,558	3,223	596,992
Revenue from construction contracts	110,228	408	112,693	642
Other revenue	305,002	1,791	205,895	7,008
	₩ 422,345	₩ 632,757	₩ 321,811	₩ 604,642
	₩ 42,655,084	₩ 1,891,575	₩ 49,649,300	₩ 2,065,570
Timing of revenue recognition				
At a point in time	42,233,767	1,258,818	49,328,208	1,460,928
Over a period of time	421,317	632,757	321,092	604,642
	₩ 42,655,084	₩ 1,891,575	₩ 49,649,300	₩ 2,065,570

Meanwhile, no external customer accounted for more than 10% of revenue during the years ended December 31, 2023 and 2022.

(3) Seasonal characteristics of sales

The Group's operations are highly cyclical as the revenue is generally higher during the winter season due to the heating demand of gas in the cities. For operating profit and profit for the year, there were significant differences between the summer and winter seasons in 2023.

38. Selling and administrative expenses

Details of selling and administrative expenses for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Salaries	96,917	96,726
Retirement benefits	5,537	12,375
Employee welfare benefits	11,555	21,560
Insurance	2,274	1,832
Depreciation	20,236	18,062
Amortization	5,427	4,093
Impairment loss on trade receivables	618	28
Reversal of allowance for doubtful accounts	(812)	(97)
Commission expenses	67,219	64,328
Advertising expenses	11,002	12,966
Training expenses	7,659	8,424
Vehicles maintenance expenses	241	292
Periodicals and printing expenses	423	497
Business promotion expenses	321	268
Rental expenses	4,218	5,041
Communication expenses	503	591
Taxes and duties	93,480	101,677
Supplies expenses	655	753
Water, lighting and heating	2,144	1,745
Repairs and maintenance expenses	2,060	1,222
Research and development expense	36,488	39,523
Travel and transportation	2,449	3,039
Clothing expenses	405	569
Association fee	896	983
Sales promotion costs	8,667	5,629
Ordering expenses	1,829	600
Reward	317	382
Resource and development	6,048	24,273
Miscellaneous expenses	1,121	1,044
Mining operation	13,310	3,727
Research referral service cost	497	450
Total	₩ 403,704	₩ 432,602

39. Other income and expenses

(1) Details of other income for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Gains on exemption of debt	₩ 13,430	₩ 2,957
Reversal of other provisions	146	217
Earnings from government grant (non-operating)	61	197
Reversal of other bad debt expenses	4,913	-
Gains from compensation and reimbursement[1]	12,645	231,534
Rental income	2,327	1,863
Other income	2,035	2,250
	₩ 35,557	₩ 239,018

[1] Reimbursement of ₩ 226,863 million was recognized in relation to compensation for damages of bid rigging for main plumbing construction and litigations for damages of bid rigging of storage tank, for the year ended December 31, 2022.

(2) Details of other expenses for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Recognition of other provision	₩ 77	₩ -
Other bad debt expenses	54	53,201
Strike-bound amortization	17,191	16,974
Donation	14,997	16,535
Compensation and indemnity losses[1]	161,507	6,555
Other losses	2,490	2,141
	₩ 196,316	₩ 95,406

[1] KC-1 litigation-related compensation cost of ₩ 153,403 million and storage tank bid rigging litigation-related compensation cost of ₩ 7,274 million were recognized, for the year ended December 31, 2023.

40. Other gains and losses

(1) Details of other gains (losses) for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

		2023		2022
Gains on disposal of property, plant and equipment	₩	1,815	₩	2,496
Other gains		62,137		60,469
Losses on disposal of property, plant and equipment		(8,758)		(7,553)
Losses on disposal of intangible assets		(11)		-
Losses on impairment of property, plant and equipment		(657,241)		(149,626)
Losses on impairment of intangible assets		(142,716)		(67,276)
Other losses		(21,597)		(26,121)
	₩	(766,371)	₩	(187,611)

(2) Details of content of other gains for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

		2023		2022
Gains on disposal of inventories	₩	7,108	₩	2,993
Gains from lease modification		78		44
Miscellaneous gains / Others		48,300		52,378
Miscellaneous gains / Service revenue		1,737		1,340
Miscellaneous gains / Gains from financial guarantee		4,914		3,714
	₩	62,137	₩	60,469

(3) Details of content of other losses for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

		2023		2022
Losses on disposal of inventories	₩	(440)	₩	(647)
Miscellaneous losses / Others		(19,929)		(24,308)
Miscellaneous losses / Service costs		(1,228)		(1,166)
	₩	(21,597)	₩	(26,121)

41. Finance income

(1) Details of finance income for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Interest income	₩ 114,772	₩ 71,248
Dividend income	9	11
Gains on valuation of derivative instruments	6,052	44,611
Gains on transaction of derivative instruments	739,055	917,405
Foreign currency translation gains	229,476	1,041,473
Foreign currency transaction gains	348,717	600,160
	₩ 1,438,081	₩ 2,674,908

(2) Details of content of interest income included in finance income for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Cash and cash equivalents	₩ 47,471	₩ 16,893
Financial assets at FVTPL	6,479	4,978
Financial assets at amortized costs[1]	1,585	297
Loans and receivables[1]	28,465	45,326
Short-term financial instruments[1]	1,135	310
Derivative assets	5,899	-
Other financial assets[1]	2,463	103
Trade and other receivables[1]	21,275	3,341
	₩ 114,772	₩ 71,248

[1] Amount of each items are sum up to the interest income of the debt instruments measured at amortized cost which is described in Note 46. (2).

42. Finance cost

(1) Details of finance costs for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Interest expense	₩ 1,676,235	₩ 964,918
Losses on valuation of financial assets at fair value through profit or loss	177	303
Losses on valuation of derivative instruments	138,318	665,767
Losses on transaction of derivative instruments	283,496	451,561
Foreign currency translation losses	148,809	248,873
Foreign currency transaction losses	783,890	1,171,626
	₩ 3,030,925	₩ 3,503,048

(2) Details of content of interest expenses included in finance costs for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Short-term borrowings	₩ 827,059	₩ 347,519
Long-term borrowings	68,857	2,967
Debentures	712,023	576,523
Derivative financial liabilities	-	27,948
Lease liabilities	124,827	55,935
Other financial liabilities	2,385	2,247
	1,735,151	1,013,139
Less : capitalization of interests[1]	(58,916)	(48,221)
	₩ 1,676,235	₩ 964,918

[1] Borrowing cost were capitalized at the weighted average rate of 4.35% (2022 : 4.02%).

43. Income tax

(1) Major components of income tax expense(benefit) for each of the two years in the period ended December 31, 2023, consist of (Korean won in millions):

	2023	2022
Current tax expense:		
Current taxes payable	₩ 76,219	₩ (8,525)
Adjustment on prior year tax returns[1]	(13,756)	38,153
Deferred tax expenses:		
The effect of change of temporary differences	(112,116)	731,530
Utilization of previously unrecognized tax loss carryforwards, tax credit and temporary difference from prior years	(2,172)	(6,526)
Amount due to carry-over of tax deduction	(1,026)	9,194
Amount due to the change of tax rate or tax law	(61,504)	(315,586)
Income tax expenses	₩ (114,445)	₩ 448,240

[1] The Group received a tax refund of 18,299 million due to the cancellation of tax complaints in 2023. In addition, the Group paid taxes levies amounting to ₩30,411 million as a result of the tax audit for the period from 2017 to 2021 in 2022.

(2) Details of the reconciliation between profit (loss) before income tax and income tax expenses (benefits) for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Profit before income tax	₩ (861,874)	₩ 1,945,248
Income tax expenses based on statutory tax rate	(227,535)	534,943
Adjustments:		
Effect of progressive tax rate	285,381	(361,429)
Effect of non-taxable income	(193,073)	(51,735)
Effect of non-deductible expense	336,216	103,530
Effect of deferred tax assets written off	4,726	10,637
Effect on change applied tax rate between current tax and deferred tax	(1,483)	9,105
Difference in tax rate of those subject to deferred tax	686,604	2,361,571
Changes in tax rate or tax law	(61,504)	(315,681)
Effect of other changes in deferred tax	(941,640)	(1,940,841)
Effect of tax directly to equity	(192)	74,404
Effect of foreign tax credit	29,865	-
Utilization of previously unrecognized tax loss carryforwards, tax credit and temporary difference from prior years	(2,172)	(32,263)
Tax rates differences in overseas subsidiaries and associated operations	(15,882)	17,846
	(100,689)	410,087
Adjustment for prior years' income taxes	(13,756)	38,153
Income tax expenses	₩ (114,445)	₩ 448,240
Effective tax rate[1]	-	23.04%

1 Average effective tax rate was not calculated because it was a loss before income tax in 2023.

43. Income tax (cont'd)

(3) Deferred taxes that were directly (charged) credited to other comprehensive income and loss for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Deferred tax		
Amounts arising from items recognized in other comprehensive income		
Other comprehensive income - Fair value measurement Equity gain or loss on valuation of equity instruments	₩ (26,971)	₩ 2,032
Gains on valuation of cash flow hedges derivative instruments	(17,688)	29,536
Net investment in foreign operations	19,191	67,065
Remeasurements of defined benefit plan	9,936	(12,871)
Investments in associates	(8,470)	(612)
Foreign currency translation gains from foreign operations	23,810	(10,747)
	₩ (192)	₩ 74,403

43. Income tax (cont'd)

(4) Details of deferred tax assets (liabilities) for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023					
	Beginning balance	Statement of profit or loss	Other comprehensive income	Equity	Others	Ending balance
Price adjustment on raw materials	₩ (3,179,469)	₩ (897,461)	₩ -	₩ -	₩ -	₩ (4,076,930)
Gain on valuation of derivatives	(78,476)	1,777	-	-	-	(76,699)
Loss on valuation of derivatives	259,638	(157,308)	-	-	-	102,330
Accrual for post-employment benefits	53,662	(6,456)	9,936	-	-	57,142
Deposit for post-employment benefit insurance	(53,543)	(3,255)	-	-	-	(56,798)
Foreign currency translation losses	771,519	(9,590)	19,191	-	-	781,120
Foreign currency translation gains	(901,861)	169,299	-	-	-	(732,562)
Derivative financial liabilities (hedge)	10,724	(299)	(603)	-	-	9,822
Derivative financial assets (hedge)	(10,172)	284	-	-	-	(9,888)
Gains on valuation of fair value through other comprehensive income	(11,179)	309	(26,971)	-	-	(37,841)
Government grants	42,740	(6,701)	-	-	-	36,039
Land (advanced depreciation provision)	(26,061)	726	-	-	-	(25,335)
Customers contribution to construction costs	410	(35)	-	-	-	375
Temporary depreciation	(4,447)	4,030	-	-	-	(417)
Accumulated depreciation in excess of tax limit	(35,299)	81,663	-	-	(3,555)	42,809
Leased vessels	(91,173)	39,923	-	-	-	(51,250)
Lease liabilities	10,816	12,153	(16,790)	-	-	6,179
Gain on revaluation	(577,761)	47,190	-	-	-	(530,571)
Deemed depreciation	(875,656)	24,373	-	-	-	(851,283)
Evaluation of equity method	(96,811)	12,126	(8,470)	-	-	(93,155)
Gain on evaluation of equity method (KOLNG, KORAS)	644	(19)	-	-	-	625
Loss on evaluation of equity method (KOLNG, KORAS)	377	(11)	-	-	-	366
Investments in securities (KOLNG)	415	(11)	-	-	-	404
Change in other comprehensive income due to equity method (KGM etc.)	(2,003)	56	-	-	-	(1,947)
Loss on evaluation of equity method (HYLNG)	507	(14)	-	-	-	493
Consent dividend income (CFC(Jubair))	126,428	(10,210)	-	-	-	116,218
Consent dividend income (CFC(Badra))	-	7,852	-	-	-	7,852
Consent dividend income (CFC(Kogas Internaitonal))	194	3,532	-	-	-	3,726
Others	(75,122)	28,895	23,515	-	(1,682)	(24,394)
Subtotal	(4,740,959)	(657,182)	(192)	-	(5,237)	(5,430,570)
Deferred tax on unused tax losses and tax credits						
Tax loss carried	3,092,389	805,299	-	-	19,072	3,916,760
Tax credits	110,492	29,044	-	-	(1,026)	138,510
Others	245,414	(343)	-	-	3,905	248,976
Subtotal	3,448,295	834,000	-	-	21,951	4,304,246
Total	₩ (1,292,664)	₩ 176,818	₩ (192)	₩ -	₩ 16,714	₩ (1,099,324)

43. Income tax (cont'd)

(4) Details of deferred tax assets (liabilities) for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions) (cont'd):

	2022					
	Beginning balance	Statement of profit or loss	Other comprehensive income	Equity	Others	Ending balance
Price adjustment on raw materials	₩ (726,822)	₩ (2,452,647)	₩ -	₩ -	₩ -	₩ (3,179,469)
Gain on valuation of derivatives	(76,528)	(1,948)	-	-	-	(78,476)
Loss on valuation of derivatives	87,996	171,642	-	-	-	259,638
Accrual for post-employment benefits	71,186	(4,653)	(12,871)	-	-	53,662
Deposit for post-employment benefit insurance	(66,894)	13,351	-	-	-	(53,543)
Foreign currency translation losses	719,957	(15,503)	67,065	-	-	771,519
Foreign currency translation gains	(691,483)	(210,378)	-	-	-	(901,861)
Derivative financial liabilities (hedge)	12,149	(442)	(983)	-	-	10,724
Derivative financial assets (hedge)	(11,673)	424	1,077	-	-	(10,172)
Gains on valuation of fair value through other comprehensive income	(13,708)	497	2,032	-	-	(11,179)
Government grants	39,700	3,040	-	-	-	42,740
Land (advanced depreciation provision)	(27,044)	983	-	-	-	(26,061)
Customers contribution to construction costs	449	(39)	-	-	-	410
Temporary depreciation	(3,496)	(951)	-	-	-	(4,447)
Accumulated depreciation in excess of tax limit	(47,929)	26,890	-	-	(14,260)	(35,299)
Leased vessels	(134,521)	43,348	-	-	-	(91,173)
Lease liabilities	17,739	(6,191)	(732)	-	-	10,816
Gain on revaluation	(631,874)	54,113	-	-	-	(577,761)
Deemed depreciation	(908,700)	33,044	-	-	-	(875,656)
Evaluation of equity method	(215,237)	119,038	(612)	-	-	(96,811)
Gain on evaluation of equity method (KOLNG, KORAS)	668	(24)	-	-	-	644
Loss on evaluation of equity method (KOLNG, KORAS)	391	(14)	-	-	-	377
Investments in securities (KOLNG)	431	(16)	-	-	-	415
Change in other comprehensive income due to equity method (KGM etc.)	(2,079)	76	-	-	-	(2,003)
Loss on evaluation of equity method (HYLNG)	526	(19)	-	-	-	507
Consent dividend income (CFC(Jubair))	167,502	(41,074)	-	-	-	126,428
Consent dividend income (CFC(Badra))	10,745	(10,745)	-	-	-	-
Consent dividend income (CFC(KG-SEAGP))	1,318	(1,318)	-	-	-	-
Consent dividend income (CFC(Kogas Internaitonal))	196	(2)	-	-	-	194
Others	(66,817)	(29,951)	19,427	-	2,219	(75,122)
Subtotal	(2,493,852)	(2,309,469)	74,403	-	(12,041)	(4,740,959)
Deferred tax on unused tax losses and tax credits						
Tax loss carried	1,099,846	1,925,325	-	4,785	62,433	3,092,389
Tax credits	93,268	17,224	-	-	-	110,492
Others	235,574	(51,692)	-	-	61,532	245,414
Subtotal	1,428,688	1,890,857	-	4,785	123,965	3,448,295
Total	₩ (1,065,164)	₩ (418,612)	₩ 74,403	₩ 4,785	₩ 111,924	₩ (1,292,664)

43. Income tax (cont'd)

(5) Details of deferred tax assets (liabilities) in the consolidated statements of financial position as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Deferred tax assets	₩ 921,853	₩ 941,967
Deferred tax liabilities	(2,021,177)	(2,234,631)
	₩ (1,099,324)	₩ (1,292,664)

(6) Details of unrecognized deductible temporary differences as deferred tax assets, tax loss carryforwards and unused losses as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Temporary deductible difference	₩ 4,680,201	₩ 5,093,725
Tax loss carryforwards	913,571	818,399
Tax credits	803,296	819,592
	₩ 6,397,068	₩ 6,731,716

(7) Expiration dates for tax credits and tax loss carry forwards which are not recognized as deferred tax asset as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023		December 31, 2022	
	Tax credit	Tax losses carryforwards	Tax credit	Tax losses carryforwards
Within 1 year	₩ 13,140	₩ -	₩ 778	₩ -
1 ~ 2 years	7,536	-	11,778	-
2 ~ 3 years	626	-	7,310	-
After 3 years	892,269	803,296	798,533	819,592
	₩ 913,571	₩ 803,296	₩ 818,399	₩ 819,592

(8) The aggregate amount of temporary differences associated with investments in subsidiaries for which deferred tax liability is not recognized as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Domestic and foreign subsidiary companies	₩ 250,424	₩ 277,161

(9) The analysis of deferred tax assets and liabilities as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Deferred tax assets		
Deferred tax asset to be recovered after more than 12 months	4,350,540	4,235,788
Deferred tax asset to be recovered within 12 months	1,436,535	728,713
	₩ 5,787,075	₩ 4,964,501
Deferred tax liabilities		
Deferred tax liability to be recovered after more than 12 months	(5,637,335)	(5,072,432)
Deferred tax liability to be recovered within 12 months	(1,249,064)	(1,184,733)
	(6,886,399)	(6,257,165)
Deferred tax liabilities, net	₩ (1,099,324)	₩ (1,292,664)

43. Income tax (cont'd)

(10) Global Minimum Tax
Global Minimum Tax is a system where a multinational group, consisting of entities(subsidiaries, etc.) included in consolidated financial statements, with sales exceeding €750 million in at least 2 of the immediate preceding 4 fiscal years, that fail to meet an effective tax rate of 15%, shall pay the shortfall to the tax authority of the country where the controlling entity is located.

The Group applies a mandatory temporary exception for deferred tax accounting in relation to the effect of Pillar Two income tax and recognizes Pillar Two income tax as current income tax when incurred.

The tax legislation related to the Global Minimum Tax in the Republic of Korea was enacted in 2023 and will be effective from January 1, 2024. Therefore, there is no income tax effect for the current year.

In the Group's consolidated financial statements, the Group's sales exceed €750 million from 2019 to 2022, and some of constituent entities conducting business through subsidiaries or branches are located in countries with statutory tax rates of less than 15%. However, it is difficult to reasonably estimate the impact on the Group as of December 31, 2023 since the laws of the countries in which the subsidiaries are primarily affected by the Global Minimum Tax have not been enacted or specific legislation is still pending. The Group is reviewing the impact therefrom by engaging tax experts.

44. Expenses by nature

Details of expenses by nature for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023			
	Changes in inventories	Selling and administrative expenses	Cost of sales	Total
Changes in inventories:				
Finished goods	₩ 13,519	₩ -	₩ -	₩ 13,519
Merchandise	-	-	43,155	43,155
Raw materials used	-	-	39,591,959	39,591,959
Salaries	-	96,917	416,837	513,754
Retirement benefits	-	5,537	25,528	31,065
Employee welfare	-	11,555	46,808	58,363
Insurance premium	-	2,274	12,939	15,213
Depreciation	-	20,236	1,750,980	1,771,216
Amortization	-	5,427	87,569	92,996
Bad debts expenses	-	618	-	618
Reversal of provision for impairment	-	(812)	-	(812)
Commission	-	67,219	131,566	198,785
Advertising	-	11,002	279	11,281
Training	-	7,659	3,081	10,740
Vehicles maintenance	-	241	4,027	4,268
Periodicals and printing	-	423	312	735
Business promotion expenses	-	321	233	554
Rents	-	4,218	14,459	18,677
Communication	-	503	1,175	1,678
Taxes and dues	-	93,480	75,855	169,335
Supplies	-	655	1,424	2,079
Utilities	-	2,144	244,095	246,239
Repairs and maintenance	-	2,060	48,756	50,816
Research and development	-	36,488	364	36,852
Travel and transportation	-	2,449	3,678	6,127
Clothing expenses	-	405	1,204	1,609
Association fee	-	896	87	983
Sales promotion costs	-	8,667	-	8,667
Promotional expenses	-	1,829	-	1,829
Outsourcing	-	-	41,485	41,485
Facility management	-	-	273,176	273,176
Other expenses[1]	-	21,293	(235,678)	(214,385)
Total	₩ 13,519	₩ 403,704	₩ 42,585,353	₩ 43,002,576

[1] The settlement amount of supply cost is included in cost of sales classified as other expenses and the related details are described in Note 16

44. Expenses by nature (cont'd)

Details of expenses by nature for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions) (cont'd):

	2022			
	Changes in inventories	Selling and administrative expenses	Cost of sales	Total
Changes in inventories:				
Finished goods	₩ (25,784)	₩ -	₩ -	₩ (25,784)
Merchandise	-	-	672,541	672,541
Raw materials used	-	-	45,306,244	45,306,244
Salaries	-	96,726	373,173	469,899
Retirement benefits	-	12,375	32,414	44,789
Employee welfare	-	21,560	41,408	62,968
Insurance premium	-	1,832	14,619	16,451
Depreciation	-	18,062	1,632,319	1,650,381
Amortization	-	4,093	73,933	78,026
Bad debts expenses	-	28	-	28
Reversal of provision for impairment	-	(97)	-	(97)
Commission	-	64,328	89,054	153,382
Advertising	-	12,966	326	13,292
Training	-	8,424	3,200	11,624
Vehicles maintenance	-	292	4,279	4,571
Periodicals and printing	-	497	281	778
Business promotion expenses	-	268	218	486
Rents	-	5,041	13,188	18,229
Communication	-	591	1,162	1,753
Taxes and dues	-	101,677	72,761	174,438
Supplies	-	753	1,534	2,287
Utilities	-	1,745	226,783	228,528
Repairs and maintenance	-	1,222	47,377	48,599
Research and development	-	39,523	397	39,920
Travel and transportation	-	3,039	3,049	6,088
Clothing expenses	-	569	1,274	1,843
Association fee	-	983	422	1,405
Sales promotion costs	-	5,629	-	5,629
Promotional expenses	-	600	-	600
Outsourcing	-	-	25,372	25,372
Facility management	-	-	271,742	271,742
Other expenses[1]	-	29,876	(55,023)	(25,147)
Total	₩ (25,784)	₩ 432,602	₩ 48,854,047	₩ 49,260,865

[1] The settlement amount of supply cost is included in cost of sales classified as other expenses and the related details are described in Note 16

45. Earnings per share

(1) Basic earnings per share for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Basic earnings per share		
Continuing operation	₩ (8,949)	₩ 17,317
Total Basic earnings per share	₩ (8,949)	₩ 17,317

(2) Diluted earnings per share for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Diluted earnings per share		
Continuing operation	₩ (8,949)	₩ 16,174
Total diluted earnings per share	₩ (8,949)	₩ 16,174

(3) Basic earnings per share

Earnings for the year used for deriving basic earnings per share for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Profit for the year used for basic earnings per share	₩ (761,211)	₩ 1,493,103
Interest expenses of hybrid bonds	(6,851)	(6,851)
Profit for the year from continuing operations attributable to common shares	₩ (768,062)	₩ 1,486,252

Weighted-average number of common shares outstanding used for deriving basic earnings per share for each of the two years in the period ended December 31, 2023, are as follows:

	2023	2022
Weighted-average number of common shares outstanding	85,826,950	85,826,950
Weighted-average number of common shares in circulation for calculating basic earnings per share	85,826,950	85,826,950

45. Earnings per share (cont'd)

(4) Diluted earnings per share

Diluted earnings per share are calculated using the weighted-average number of common shares adjusted assuming that all potential dilutive common shares are converted into common shares.

The net profit of the diluted earnings per share calculation for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Profit on controlling interest attributable to common share	₩ (768,062)	₩ 1,486,252
<Effect of assuming conversion>		
Interest expenses of hybrid bonds	6,851	6,851
Diluted earnings attributable to common stock	₩ (761,211)	₩ 1,493,103

The weighted-average number of common shares to calculate diluted earnings per share is calculated from the weighted-average number of common shares used in calculating basic earnings per share by adjusting as follows (in shares):

	2023	2022
Weighted-average number of common shares outstanding	85,826,950	85,826,950
<Number of shares deemed to be issued free of charge>		
Hybrid bonds	6,486,050	6,486,050
Weighted-average number of diluted common shares outstanding	92,313,000	92,313,000

46. Financial instruments by category

(1) Categorizations of financial instruments as of December 31, 2023 and 2022, are as follows (Korean won in millions):

1) 2023

① Current financial assets

	December 31, 2023						
				Financial assets measured at FVTPL			
Current financial assets:	Debt instruments at amortized cost	Debt instruments at FVOCI	Equity instruments at FVOCI	Derivatives not designated as hedging instruments	Derivatives designated as hedging instruments	Others	Total
Cash and cash equivalents	₩ 780,587	₩ -	₩ -	₩ -	₩ -	₩ -	₩ 780,587
Financial assets at FVTPL	-	-	-	7,877	-	-	7,877
Financial assets at amortized cost	3,141	-	-	-	-	-	3,141
Short-term financial instruments	39,732	-	-	-	-	-	39,732
Loans	1,097	-	-	-	-	-	1,097
Trade and other receivables [1]	7,037,796	-	-	-	-	-	7,037,796
Total	₩ 7,862,353	₩ -	₩ -	₩ 7,877	₩ -	₩ -	₩ 7,870,230

[1] Contract assets are excluded.

46. Financial instruments by category (cont'd)

(1) Categorizations of financial instruments as of December 31, 2023 and 2022, are as follows (Korean won in millions) (cont'd):

1) 2023 (cont'd)

② Non-current financial assets

	December 31, 2023						
				Financial assets measured at FVTPL			
Non-current financial assets:	Debt instruments at amortized cost	Debt instruments at FVOCI	Equity instruments at FVOCI	Derivatives not designated as hedging instruments	Derivatives designated as hedging instruments	Others	Total
Financial assets at FVTPL	₩ -	₩ -	₩ -	₩ 25,532	₩ -	₩ 2,323	₩ 27,855
Financial assets at FVOCI	-	-	166,683	-	-	-	166,683
Financial assets at amortized cost	429	-	-	-	-	-	429
Long-term financial instruments	18	-	-	-	-	-	18
Loans	632,402	-	-	-	-	-	632,402
Trade and other receivables[1]	209,982	-	-	-	-	-	209,982
Other non-current financial assets	90,000	-	-	-	-	-	90,000
	₩ 932,831	₩ -	₩ 166,683	₩ 25,532	₩ -	₩ 2,323	₩ 1,127,369

[1] Contract assets are excluded.

③ Current financial liabilities

	December 31, 2023				
		Financial liabilities at fair value through profit or loss			
Current financial liabilities	Financial liabilities at amortized cost	Derivatives not designated as hedging instruments	Hedging derivative instruments	Others	Total
Trade and other receivables	₩ 4,156,106	₩ -	₩ -	₩ -	₩ 4,156,106
Financial liabilities at FVTPL	-	96,145	2,375	-	98,520
Short-term borrowing	14,705,074	-	-	-	14,705,074
Current portion of long-term borrowings	2,334				2,334
Debentures	3,127,332	-	-	-	3,127,332
	₩ 21,990,846	₩ 96,145	₩ 2,375	₩ -	₩ 22,089,366

(*) Provisions for financial guarantees and employee benefits are excluded.

46. Financial instruments by category (cont'd)

(1) Categorizations of financial instruments as of December 31, 2023 and 2022, are as follows (Korean won in millions) (cont'd):

1) 2023 (cont'd)

④ Non-current financial liabilities

	December 31, 2023				
		Financial liabilities at fair value through profit or loss			
Non-current financial liabilities	Financial liability at amortized cost	Derivatives not designated as hedging instruments	Hedging derivative instruments	Others	Total
Trade and other receivables	₩ 1,538,650	₩ -	₩ -	₩ -	₩ 1,538,650
Financial liabilities at FVTPL	-	36,755	1,757	-	38,512
Long-term borrowing	278,894	-	-	-	278,894
Bonds	20,743,016	-	-	-	20,743,016
	₩ 22,560,560	₩ 36,755	₩ 1,757	₩ -	₩ 22,599,072

(*) Provisions for financial guarantees and employee benefits are excluded.

2) 2022

① Current financial assets

	December 31, 2022						
				Financial assets measured at FVTPL			
Current financial assets:	Debt instruments at amortized cost	Debt instruments at FVOCI	Equity instruments at FVOCI	Derivatives not designated as hedging instruments	Derivatives designated as hedging instruments	Others	Total
Cash and cash equivalents	₩ 813,275	₩ -	₩ -	₩ -	₩ -	₩ -	₩ 813,275
Financial assets at FVTPL	-	-	-	4,471	117,240	-	121,711
Financial assets at amortized cost	1,811	-	-	-	-	-	1,811
Short-term financial instruments	23,891	-	-	-	-	-	23,891
Loans	1,295	-	-	-	-	-	1,295
Trade and other receivables[1]	12,121,935	-	-	-	-	-	12,121,935
Total	₩ 12,962,207	₩ -	₩ -	₩ 4,471	₩ 117,240	₩ -	₩ 13,083,918

[1] Contract assets are excluded.

46. Financial instruments by category (cont'd)

(1) Categorizations of financial instruments as of December 31, 2023 and 2022, are as follows (Korean won in millions) (cont'd):

2) 2022 (cont'd)

② Non-current financial assets

	December 31, 2022						
				Financial assets measured at FVTPL			
Non-current financial assets:	Debt instruments at amortized cost	Debt instruments at FVOCI	Equity instruments at FVOCI	Derivatives not designated as hedging instruments	Derivatives designated as hedging instruments	Others	Total
Financial assets at FVTPL	₩ -	₩ -	₩ -	₩ 49,981	₩ -	₩ 2,468	₩ 52,449
Financial assets at FVOCI	-	-	61,924	-	-	-	61,924
Financial assets at amortized cost	426	-	-	-	-	-	426
Long-term financial instruments	17	-	-	-	-	-	17
Loans	584,819	-	-	-	-	-	584,819
Trade and other receivables[1]	202,314	-	-	-	-	-	202,314
Other non-current financial assets	90,000	-	-	-	-	-	90,000
	₩ 877,576	₩ -	₩ 61,924	₩ 49,981	₩ -	₩ 2,468	₩ 991,949

[1] Contract assets are excluded.

③ Current financial liabilities

	December 31, 2022				
		Financial liabilities at fair value through profit or loss			
Current financial liabilities	Financial liabilities at amortized cost	Derivatives not designated as hedging instruments	Hedging derivative instruments	Others	Total
Trade and other receivables	₩ 3,728,558	₩ -	₩ -	₩ -	₩ 3,728,558
Financial liabilities at FVTPL	-	720,882	32,950	-	753,832
Short-term borrowing	23,601,077	-	-	-	23,601,077
Debentures	1,957,840	-	-	-	1,957,840
	₩ 29,287,475	₩ 720,882	₩ 32,950	₩ -	₩ 30,041,307

(*) Provisions for financial guarantee are excluded.

46. Financial instruments by category (cont'd)

(1) Categorizations of financial instruments as of December 31, 2023 and 2022, are as follows (Korean won in millions) (cont'd):

2) 2022 (cont'd)

④ Non-current financial liabilities

	December 31, 2022				
		Financial liabilities at fair value through profit or loss			
Non-current financial liabilities	Financial liability at amortized cost	Derivatives not designated as hedging instruments	Hedging derivative instruments	Others	Total
Trade and other receivables	₩ 1,652,925	₩ -	₩ -	₩ -	₩ 1,652,925
Financial liabilities at FVTPL	-	17,206	8,105	-	25,311
Long-term borrowing	192,144	-	-	-	192,144
Bonds	17,100,492	-	-	-	17,100,492
	₩ 18,945,561	₩ 17,206	₩ 8,105	₩ -	₩ 18,970,872

(*) Provisions for financial guarantee are excluded.

(2) Net gains or losses on each category of financial instruments for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Cash and cash equivalents		
Interest income	₩ 47,471	₩ 16,893
Gain (loss) on foreign currency transactions	(1,638)	771
Gain (loss) on foreign currency translation	(1,053)	(3,792)
Financial assets at fair value through profit or loss		
Interest income	6,479	4,978
Gain on foreign currency transactions	10,550	23,586
Gain on valuation of derivatives	6,052	44,611
Gain on transactions of derivatives	739,055	917,405
Gain (loss) on valuation	(177)	(303)
Dividends income	9	11
Financial assets at amortized cost		
Interest income	54,923	49,377
Gain (loss) on foreign currency transactions	4,090	(7,620)
Gain on foreign currency translation	98,251	370,649
Financial assets at fair value through other comprehensive income		
Comprehensive income (loss) recognized during the year	104,799	(7,661)
Financial liabilities at fair value through profit or loss		
Loss on foreign currency transactions	37,711	(20,984)
Loss on valuation of derivative instruments	(138,318)	(665,767)
Loss on transactions of derivative instruments	(283,496)	(451,561)
Financial liability at amortized cost		
Interest expense	(1,735,151)	(985,191)
Loss on foreign currency transactions	(485,886)	(567,219)
Gain (loss) on foreign currency translation	(16,530)	425,743
Comprehensive loss recognized during the year	66,316	(111,103)
Hedging derivative instruments		
Interest income	5,889	-
Interest expenses	-	(27,948)
Comprehensive income (loss) recognized during the year[1]	3,499	(3,070)
Others		
Capitalization of interest	58,916	48,221
	₩ (1,418,229)	₩ (949,974)

[1] This is the amount before income tax.

47. Risk management

(1) Risk management framework

The Group manages various risks that may incur by each business unit and the main risks are capital risk, credit risk, liquidity risk, currency risk, interest rate risk and others. These risks are recognized, measured, controlled and reported in accordance with the basic policy for risk management determined by the Group.

The Group's risk management policies are established to identify and analyze the risks faced by the Group, to set appropriate risk limits and controls, and to monitor risks and adherence to limits.

Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the Group's activities. The Group's Audit Committee oversees how management monitors compliance with the Group's risk management policies and procedures and reviews the adequacy of the risk management framework in relation to the risks faced by the Group.

(2) Capital risk management

The Group's objectives when managing capital are to safeguard the Group's ability to continue as a going concern, so the Group can continue to provide returns for shareholders and benefits for other stakeholders, and to maintain an optimal capital structure to reduce the cost of capital.

In order to maintain or adjust the capital structure, the Group may adjust the amount of dividends paid to shareholders, return capital to shareholders, issue new shares or sell assets to reduce debt.

Consistent with others in the industry, the Group monitors capital on the basis of the gearing ratio. This ratio is calculated as net debt divided by total capital. Net debt is total borrowings (including ‘short and long-term borrowings' as shown in the consolidated statement of financial position) less cash and cash equivalent. Total capital is ‘equity' as shown in the consolidated statement of financial position plus net debt.

The gearing ratios as of December 31, 2023 and 2022 are as follows (Korean won in millions, except gearing ratio):

		December 31, 2023		December 31, 2022
Liabilities				
Short-term borrowings	₩	14,705,074	₩	23,601,077
Current portion of long-term borrowings		2,334		-
Current portion of debentures		3,127,332		1,957,840
Current portion of lease liabilities		331,076		378,923
Long-term borrowings		278,894		192,144
Debentures, net of current portion		20,743,016		17,100,492
Lease liabilities, net of current portion		1,538,286		1,652,602
Total Liabilities	₩	40,726,012	₩	44,883,078
Cash equivalents				
Cash and cash equivalents		780,587		813,275
Total cash equivalents	₩	780,587	₩	813,275
Net debt		39,945,425		44,069,803
Total equity		9,826,038		10,410,740
Total capital	₩	49,771,463	₩	54,480,543
Gearing ratio		80.26%		80.89%

47. Risk management (cont'd)

(3) Financial risk management

1) Credit Risk

Credit risk is a risk that a counterparty cannot fulfill its obligation under a financial instrument or customer contract, resulting in financial loss. The Group is exposed to credit risks from operating activities (mainly trade receivables), banking and financial institution deposits, foreign exchange transactions and other financial instruments.

In order to control the risk arising from the default of the debtor, the Group has secured sufficient collateral in consideration of the credibility of the counterparty. The credit rating of the counterparty is based on the credit rating provided by an independent external credit rating agency, but if it is not possible to obtain the data, the credit rating is measured using the transaction information obtained with the counterparty, and the credit rating is continuously remeasured.

The Group's investments in debt instruments are considered to be low risk investments. The credit ratings of the investments are monitored for credit deterioration.

There are no significant concentrations of credit risk, whether through exposure to individual customers, specific industry sectors and regions.

The Group has four types of financial assets that are subject to the expected credit loss model:
- trade receivables for sales of goods and rendering of services,
- contract assets relating to rendering of services,
- loans to subsidiaries and associates
- debt investments carried at fair value through profit or loss
- debt investments carried at fair value through other comprehensive income, and
- other financial assets carried at amortized cost.

While cash equivalents are also subject to the impairment requirement, the identified impairment loss was immaterial.

The Group applies the simplified method to recognize loss allowance for all financial assets held based on lifetime expected credit losses.

The book amount of financial assets means maximum exposure in respect of credit and counterparty risk. Meanwhile, financial guarantee contracts provided by the Group are recognized as provision for financial guarantee, and maximum exposure to credit risk of financial guarantee contracts is the maximum guaranteed amount that the Group should pay upon the guarantee's claims.

The maximum exposure to credit risk as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Cash and cash equivalents (excluding cash on hands)	₩ 780,509	₩ 813,191
Financial assets at FVTPL	35,732	174,160
Short-term and long-term financial assets	39,750	23,908
Financial assets at amortized cost	3,570	2,238
Loans and receivables	723,499	676,115
Trade and other receivables	7,247,778	12,324,250
Financial guarantee contracts[1]	1,506,725	1,483,515
	₩ 10,337,563	₩ 15,497,377

[1] The amount is the maximum guaranteed amount that the Group should pay upon the guarantee's claim.

47. Risk management (cont'd)

(3) Financial risk management (cont'd)

1) Credit Risk (cont'd)

Details of financial guarantee contracts as of December 31, 2023, are as follows (Korean won in millions, and US dollars in thousands):

	Currency		Total guaranteed amount
Related parties[1]			
Terminal KMS de GNL, S. de R.L. de C.V.	USD	16,644	₩ 21,461
	USD	9,500	12,249
KLBV1.S.A	USD	20,843	26,875
Coral FLNG S.A.	USD	579,932	747,765
Coral South FLNG DMCC	USD	487,470	628,544
Others[1]			
Empresa Nacional de Hidrocarbonetos, E.P	USD	54,158	69,831
			₩ 1,506,725

[1] Details of these financial guarantee contracts are described in Note 48. (2). 6). and Note 52. (2).

2) Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Group's approach to managing liquidity is to ensure, as far as possible, that it will always have sufficient liquidity to meet its liabilities when due, under both normal and stressed conditions. The management of the Group believes that they are able to repay the financial liabilities by cash flows from operating activities and cash inflows from financial assets.

Aggregate maturities of the Group's financial liabilities as of December 31, 2023, are as follows (Korean won in millions):

	Book value	Cash flows in contract	1 year or less	1 ~ 5 years	More than 5 years
Non-derivative financial liabilities					
Debentures	₩ 23,870,348	₩ 27,605,772	₩ 3,907,909	₩ 16,779,451	₩ 6,918,412
Borrowings	14,986,302	15,086,334	13,172,344	1,617,805	296,185
Lease liabilities	1,869,362	2,586,113	344,336	1,020,240	1,221,537
Trade and other payables[1]	3,858,366	3,858,366	3,858,002	364	-
Provision of financial guarantee[2]	9,751	1,506,725	1,506,725	-	-
	₩ 44,594,129	₩ 50,643,310	₩ 22,789,316	₩ 19,417,860	₩ 8,436,134
Derivative financial liabilities					
Derivative financial liabilities[3]	₩ 137,032	₩ 117,226	₩ 99,897	₩ 17,329	₩ -

[1] Lease liabilities are excluded because they are presented separately.
[2] In case of finance guarantee contract, the amount is distributed to the earliest period when the guarantee could be demanded.
[3] Derivative for trading purpose and cash flow hedge are included.

47. Risk management (cont'd)

2) Liquidity risk (cont'd)

Aggregate maturities of the Group's financial liabilities as of December 31, 2022, are as follows (Korean won in millions):

	Book value	Cash flows in contract	1 year or less	1 ~ 5 years	More than 5 years
Non-derivative financial liabilities					
Debentures	₩ 19,058,332	₩ 22,491,273	₩ 2,541,291	₩ 12,098,072	₩ 7,851,910
Borrowings	23,793,221	23,905,181	23,701,414	9,197	194,570
Lease liabilities	2,031,525	2,833,283	397,945	1,030,079	1,405,259
Trade and other payables[1]	3,349,958	3,349,958	3,349,635	323	-
Provision of financial guarantee[2]	10,075	1,483,515	1,483,515	-	-
	₩ 48,243,111	₩ 54,063,210	₩ 31,473,800	₩ 13,137,671	₩ 9,451,739
Derivative financial liabilities					
Derivative financial liabilities[3]	₩ 779,143	₩ 797,377	₩ 769,824	₩ 14,110	₩ 13,443

[1] Lease liabilities are excluded because they are presented separately.
[2] In case of finance guarantee contract, the amount is distributed to the earliest period when the guarantee could be demanded.
[3] Derivative for trading purpose and cash flow hedge are included.

3) Currency risk

The Group is exposed to currency risk on loans, purchases and borrowings that are denominated in a currency other than the Group's functional currency. The main currencies in which these transactions are displayed are USD, CAD, AUD, etc. The Group uses forward exchange contracts in which the redemption date and maturity date is completely same, to hedge its currency risk.

In respect of other monetary assets and liabilities denominated in foreign currencies, the Group ensures that its net exposure is kept to an acceptable level by buying or selling foreign currencies at spot rates when necessary to address short-term imbalances.

The book amounts of foreign currency assets and liabilities as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023					
	USD	EUR	AUD	CAD	JPY	CNY
Assets						
Cash and cash equivalents	₩ 347	₩ 796	₩ 71,931	₩ 33,357	₩ -	₩ -
Trade and other receivables	54,236	1,317	3,440	40,246	1	289
Financial assets measured at fair value through profit or loss	-	-	-	1,591	-	-
Financial assets at amortized cost	-	-	-	-	-	-
Loans and receivables	150,579	-	-	-	-	-
Financial assets	-	-	-	-	-	-
Total assets	205,162	2,113	75,371	75,194	1	289
Liabilities						
Trade and other payables	2,669,937	1,422	51,020	57,923	-	-
Debentures	8,638,980	54,210	-	-	-	-
Borrowings	4,495,126	-	1,511	-	-	-
Lease liabilities	1,708,818	-	418	2,054	-	-
Other financial liabilities	9,751	-	-	-	-	-
Total liabilities	17,522,612	55,632	52,949	59,977	-	-
Net exposure	₩ (17,317,450)	₩ (53,519)	₩ 22,422	₩ 15,217	₩ 1	₩ 289

47. Risk management (cont'd)

3) Currency risk (cont'd)

	December 31, 2023						
	MXN	AED	MZN	GBP	HKD	SGD	VND
Assets							
Cash and cash equivalents	₩ 97	₩ 597	₩ 3,591	₩ -	₩ -	₩ 205	₩ 48
Trade and other receivables	-	1	-	-	-	85	39
Financial assets measured at fair value through profit or loss	-	-	-	-	-	-	-
Financial assets at amortized cost	-	-	3,058	-	-	-	-
Loans and receivables	-	-	-	-	-	-	-
Financial assets	-	18	-	-	-	-	-
Total assets	97	616	6,649	-	-	290	87
Liabilities							
Trade and other payables	-	9	-	23	754	-	-
Debentures	-	-	-	-	140,301	-	-
Borrowings	-	-	-	-	-	-	-
Lease liabilities	-	-	-	-	-	352	209
Other financial liabilities	-	-	-	-	-	-	-
Total liabilities	-	9	-	23	141,055	352	209
Net exposure	₩ 97	₩ 607	₩ 6,649	₩ (23)	₩ (141,055)	₩ (62)	₩ (122)

	December 31, 2022						
	USD	EUR	AUD	CAD	JPY	CHF	CNY
Assets							
Cash and cash equivalents	₩ 396	₩ 825	₩ 58,423	₩ 22,057	₩ -	₩ -	₩ -
Trade and other receivables	38,122	9	9,163	55,655	-	-	1,229
Financial assets measured at fair value through profit or loss	-	-	-	1,735	-	-	-
Financial assets at amortized cost	-	-	93	-	-	-	-
Financial assets	125,495	-	-	-	-	-	-
Loans and receivables	-	-	-	-	-	-	-
Total assets	164,013	834	67,679	79,447	-	-	1,229
Liabilities							
Trade and other payables	2,405,812	1,892	40,558	45,973	662	236	-
Borrowings	6,769,008	-	-	-	-	-	-
Debentures	7,857,260	118,906	-	-	114,382	686,435	-
Lease liabilities	1,879,985	-	332	1,900	-	-	-
Other financial liabilities	10,075	-	-	-	-	-	-
Total liabilities	18,922,140	120,798	40,890	47,873	115,044	686,671	-
Net exposure	₩ (18,758,127)	₩ (119,964)	₩ 26,789	₩ 31,574	₩ (115,044)	₩ (686,671)	₩ 1,229

47. Risk management (cont'd)

3) Currency risk (cont'd)

	December 31, 2022							
	MXN	AED	MZN	GBP	HKD	SGD	VND	IDR
Assets								
Cash and cash equivalents	₩ 173	₩ 23	₩ 255	₩ -	₩ -	₩ 101	₩ 23	₩ -
Trade and other receivables	-	-	-	-	-	-	38	-
Financial assets measured at fair value through profit or loss	-	-	-	-	-	-	-	-
Financial assets at amortized cost	-	-	1,703	-	-	139	-	-
Financial assets	-	-	-	-	-	-	-	-
Loans and receivables	-	17	-	-	-	-	-	-
Total assets	173	40	1,958	-	-	240	61	-
Liabilities								
Trade and other payables	-	-	-	25	751	-	-	1
Borrowings	-	-	-	-	-	-	-	-
Debentures	-	-	-	-	138,168	-	-	-
Lease liabilities	-	-	-	-	-	886	411	-
Other financial liabilities	-	-	-	-	-	-	-	-
Total liabilities	-	-	-	25	138,919	886	411	1
Net exposure	₩ 173	₩ 40	₩ 1,958	₩ (25)	₩ (138,919)	₩ (646)	₩ (350)	₩ (1)

Foreign currency exchange rate as of December 31, 2023 and 2022, are as follows

	December 31, 2023	December 31, 2022
USD	₩ 1,289.40	₩ 1,267.30
EUR	1,462.59	1,351.20
JPY	9.13	9.53
CAD	974.64	935.38
AUD	880.08	858.41
CHF	1,526.82	1,372.87
CNY	180.84	181.44
GBP	1,641.79	1,527.67
HKD	165.06	162.55
SGD	976.82	943.11
AED	351.07	345.06
MZN	16.97	19.77
MXN	75.97	65.15
VND	0.05	0.05
IDR	0.08	0.08

Sensitivity analysis of profit before income tax from changes of foreign exchange rate for the year ended December 31, 2023, are as follows (Korean won in millions):

	10% Increase	10% Decrease
Profit (loss) before income tax	₩ 16,402	₩ (16,402)

47. Risk management (cont'd)

4) Interest rate risk

The Group borrows funds at fixed and variable interest rate. Also, the Group's management monitors the level of interest rates and maintains the balance of borrowings at variable rates and fixed rates.

Variable interest rate financial instrument (1) as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Long-term borrowings	₩ 205,904	₩ 181,011
Lease liabilities	539,212	605,869
Total	₩ 745,116	₩ 786,880

[1] Excluded fully hedged variable interest rate financial instrument.

Sensitivity analysis of profit before income tax from changes of interest rate for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023		2022	
	100bp Increase	100bp decrease	100bp Increase	100bp decrease
Profit before income tax	₩ (7,451)	₩ 7,451	₩ (7,869)	₩ 7,869

5) Major assets and liabilities affected by estimates

Changes in defined benefit obligation due to changes in actuarial assumptions as of December 31, 2023, are as follows (Korean won in millions):

	1% increase	1% decrease
Salary growth rate	₩ 25,343	₩ (22,458)
Discount rate	(21,585)	24,728

47. Risk management (cont'd)

(4) Fair value of financial assets and liabilities

1) Carrying amounts and fair value of financial assets and liabilities as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023		December 31, 2022	
	Book value	Fair value	Book value	Fair value
Assets carried at fair value				
Financial assets at fair value through other comprehensive income	₩ 166,683	₩ 166,683	₩ 61,924	₩ 61,924
Financial assets at fair value through profit and loss	35,732	35,732	174,160	174,160
	₩ 202,415	₩ 202,415	₩ 236,084	₩ 236,084
Assets carried at amortized cost[1]				
Trade and other receivables	₩ 7,247,778	₩ -	₩ 12,324,249	₩ -
Financial assets at amortized cost	3,570	-	2,237	-
Loans and receivables	723,499	-	676,115	-
Short-term and long-term financial assets	39,750	-	23,908	-
Cash and cash equivalents	780,587	-	813,275	-
	₩ 8,795,184	₩ -	₩ 13,839,784	₩ -
Liabilities carried at fair value				
Financial liabilities at fair value through profit or loss	₩ 137,032	₩ 137,032	₩ 779,143	₩ 779,143
	₩ 137,032	₩ 137,032	₩ 779,143	₩ 779,143
Liabilities carried at amortized cost[1]				
Debentures	₩ 23,870,348	₩ 23,470,858	₩ 19,058,332	₩ 18,301,015
Lease liabilities	1,869,362	-	2,031,525	-
Borrowings	14,986,302	-	23,793,221	-
Trade and other payables [2]	3,858,366	-	3,349,958	-
	₩ 44,584,378	₩ 23,470,858	₩ 48,233,036	₩ 18,301,015

[1] Financial assets and liabilities at amortized cost (except for debentures) are excluded because the difference between fair value and book value is not important.
[2] Lease liabilities are excluded because they are presented separately.

47. Risk management (cont'd)

(4) Fair value of financial assets and liabilities (cont'd)

2) Rate of interest used in determining fair value

Details of discount ratios as of December 31, 2023 and 2022, are as follows:

	December 31, 2023	December 31, 2022
Derivative instruments	0.855~1.000%	0.809~1.000%
Debentures	2.849~5.315%	0.467~5.203%

3) The level of fair value hierarchy are as follows:

No Significant changes in the business and economic environment that could affect the fair value of financial assets and financial liabilities occurred during the reporting period.

Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities
Level 2: All inputs other than quoted prices included in level 1 that are observable (either directly that is, prices, or indirectly that is, derived from prices) for the asset or liability
Level 3: Unobservable inputs for the asset or liability

The fair value measurements classified by fair value hierarchy as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023			
	Level 1	Level 2	Level 3	Total
Financial assets at fair value through other comprehensive income	₩ -	₩ -	₩ 166,683	₩ 166,683
Financial assets at fair value through profit or loss	-	33,409	2,323	35,732
Financial liabilities at fair value through profit or loss	-	137,032	-	137,032

	December 31, 2022			
	Level 1	Level 2	Level 3	Total
Financial assets at fair value through other comprehensive income	₩ -	₩ -	₩ 61,924	₩ 61,924
Financial assets at fair value through profit or loss	-	171,692	2,468	174,160
Financial liabilities at fair value through profit or loss	-	779,143	-	779,143

Changes in financial instruments categorized within Level 3 for the year ended of December 31, 2023, are as follows:

	Beginning balance	Acquisition cost	Profit or loss	Other comprehensive income	Disposal	Transfer	Ending balance
Financial assets at fair value through other comprehensive income	₩ 61,924	₩ -	₩ -	₩ 104,759	₩ -	₩ -	₩ 166,683

47. Risk management (cont'd)

(4) Fair value of financial assets and liabilities (cont'd)

4) Unobservable inputs in the market

The valuation techniques used to measure the fair value of financial instruments classified as Level 2 as of December 31, 2023 are as follows (Korean won in millions):

Description	Fair value	Valuation technique
Financial assets at fair value through profit or loss	₩ 33,409	Market forward exchange rate and yield curve, etc.
Financial liabilities at fair value through profit or loss	137,032	Market forward exchange rate and yield curve

The valuation method used in the fair value measurements of financial instruments classified as Level 3 and significant but unobservable inputs as of December 31, 2023, are as follows (Korean won in millions):

	December 31, 2023				
	Valuation techniques	Type	Book value	Inputs	Range of inputs
Financial assets at fair value through other comprehensive income	Discounted cash flow method	Energy business stock	₩ 165,718	Weighted average cost of equity capital	22.83%
				Selling price	4.26 ~ 9.26$ /MMBTU

Changes in financial assets at fair value through other comprehensive income due to changes WACC used in fair value measurements of financial assets as of December 31, 2023, are as follows (Korean won in millions):

	Fluctuations in the value of books	1% decrease	1% increase
Changes in WACC	Increase(decrease) of financial assets at fair value through other comprehensive income	₩ 11,547	₩ (10,569)

Fair value hierarchy classifications of the financial assets and financial liabilities that are not measured at fair value but those with disclosed fair values as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023			
	Level 1	Level 2	Level 3	Total
Debentures	₩ 14,824,570	₩ 8,646,288	₩ -	₩ 23,470,858

	December 31, 2022			
	Level 1	Level 2	Level 3	Total
Debentures	₩ 9,791,188	₩ 8,509,827	₩ -	₩ 18,301,015

48. Related party transactions

(1) Details of the Group's related parties as of December 31, 2023, are as follows:

Relationship	Related parties
Ultimate parent	Government of the Republic of Korea [1]
Subsidiaries	Korea Gas Technology Corporation.
	KOGAMEX Investment Manzanillo B.V.
	KOMEX-GAS,S.de R.L de C.V
	KOGAS Iraq B.V.
	KOGAS Badra B.V.
	KOGAS Akkas B.V.
	KOGAS Mansuriya B.V.
	KOGAS Canada Energy Ltd.
	KOGAS Australia Pty Ltd.
	KOGAS Prelude Pty Ltd.
	KG Timor Leste Ltd.
	KG Krueng Mane Ltd.
	KG Mozambique Ltd.
	KOGAS Mozambique Lda.
	KOGAS Cyprus Ltd.
	KC LNG Tech Co., Ltd.
	KG-SEAGP Company Limited
	KG Myanmar Ltd.
	KOGAS International Pte Ltd.
	KGLNG E&P Pty Ltd. [2]
	KGLNG Liquefaction Pty Ltd. [2]
	KGLNG E&P II Pty Ltd. [2]
	KOGAS Canada Partner Ltd. [9]
	KOGAS Canada E&P Partnership [9]
	KOGAS Canada LNG Partnership [9]
	Korea LNG Bunkering Ltd.
	Korea LNG Bunkering Lines Ltd. [10]
Associates	Korea Ras Laffan LNG Ltd.
	Korea LNG Ltd.
	Korea LNG Trading Co., Ltd.
	South-East Asia Gas Pipeline Company Limited [3]
	Hydrogen Energy Network Co, Ltd.
	Kor-Uz Gas cylinder Investment Ltd.
	Kor-Uz Gas C&G Investment Ltd.
	Coral FLNG S.A. [4]
	Coral South FLNG DMCC [4]
	Rovuma LNG, S.A. [4]
	Rovuma LNG Investments (DIFC) Ltd. [4]
	HyStation Co., Ltd.
Joint ventures	Kor-Uz Gas Chemical Investment Ltd.
	Sulawesi LNG Development Limited
	TOMORI E&P LIMITED
	Hyundai Yemen LNG Company
	KLBV1 S.A.
	TERMINAL KMS de GNL, S. De R.L. De C.V. [5]
	Manzanillo Gas Tech, S. de R.L. de C.V. [5]
	GLNG Operations Pty Ltd [6]
	ENH-KOGAS, SA. [7]
	LNG Canada development Inc [8]
	Korea Superfreeze Incheon Inc
Other related party [11]	Korea Electric Power Corporation
	Korea Southern Power Co., Ltd.
	Korea Midland Power Co., Ltd.
	Korea Western Power Co., Ltd
	Korea East-West Power Co., Ltd.
	Korea South-East Power Co., Ltd
	KOSPO Youngnam Power Co., Ltd.

48. Related party transactions (cont'd)

[1] Even though the government of the Republic of Korea can exercise control in making decision, there are no significant transactions with the Group in 2023 and 2022.
[2] A subsidiary of KOGAS Australia Pty. Ltd.
[3] An associate of KG-SEAGP Company Limited.
[4] An associate of KG Mozambique Ltd.
[5] A joint venture of KOGAMEX Investment Manzanillo B.V.
[6] A joint venture of KOGAS Australia Pty. Ltd.
[7] A joint venture of KOGAS Mozambique Lda.
[8] A joint venture of KOGAS Canada Energy Ltd.
[9] A subsidiary of KOGAS Canada Energy Ltd.
[10] A subsidiary of Korea LNG Bunkering Ltd.
[11] Korea Electric Power Corporation and significant counter parties of subsidiaries of Korea Electric Power Corporation, which exercises significant influence on the Group.

48. Related party transactions (cont'd)

(2) All inter-company transactions are eliminated as part of the consolidation process and are not disclosed in the notes to the consolidated financial statements.

1) Significant transactions which occurred in the normal course of business with related parties for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

		Sales and other income		Purchases and other expense	
Related party	Transaction	2023	2022	2023	2022
Korea Ras Laffan LNG Ltd.	Dividends	₩ 84,014	₩ 102,996	₩ -	₩ -
Korea LNG Ltd.	Dividends	25,328	25,393	-	-
Hyundai Yemen LNG Company	Interest income	1,944	561	-	-
	Other bad debt expenses	-	-	-	25,077
	Transfer to other bad debt allowances	2,898	-	-	-
Korea LNG Trading Co., Ltd.	Costs of sales	-	-	175,136	204,151
	Interest expense	-	-	26,974	15,634
	Import penalty compensation	-	75	-	-
South-East Asia Gas Pipeline Company Limited	Interest income	-	773	-	-
Coral FLNG S.A.	Commission expenses	-	-	148,177	48,927
Terminal KMS de GNL, S. de R.L. de C.V	Miscellaneous gains	92	90	-	-
	Miscellaneous loss	-	-	74	-
TOMORI E&P LIMITED	Dividends	64,469	-	-	-
	Gains on disposal of shares of associates	-	19,504	-	-
Sulawesi LNG Development Limited	Gains on disposal of shares of associates	12,639	10,688	-	-
	Dividends	1,281	-	-	-
Manzanillo Gas Tech, S. de R.L. de C.V.	Miscellaneous gains	7,079	6,652	-	-
	Retirement benefit	-	12	-	-
Hydrogen Energy Network Co, Ltd.	Rental income	228	-	-	-
ENH-KOGAS, SA.	Revenue	-	54	-	-
	Dividends	6,782	-	-	-
	Miscellaneous loss	-	-	1	-
LNG Canada Development	Miscellaneous gains and others	293	13	-	-
Korea Electric Power Corporation	Miscellaneous gains and others	852	45	-	-
	Commission expenses	-	-	-	143
	Utility expenses and others	-	-	142,401	111,981
Korea Southern Power Co., Ltd.	Revenue[1]	2,433,086	3,721,327	-	-
	Rental income	-	309	-	-
	Miscellaneous gains	850	18	-	-
	Lease payments	-	-	5	42
	Interest expenses	-	-	8	8
Korea Midland Power Co., Ltd.	Revenue[1]	1,892,014	2,085,438	-	-
	Miscellaneous gains and others	26	37	-	-
	Lease payments	-	-	526	486
	Interest expenses	-	-	106	108
	Inventory exchange	-	430,476	-	430,476
Korea Western Power Co., Ltd.	Revenue[1]	2,135,918	2,821,054	-	-
	Utility expenses and others	-	-	4,714	2,435
	Lease payments	-	-	126	136
	Interest expense	-	-	19	24
Korea East-West Power Co., Ltd.	Revenue[1]	1,378,817	2,054,964	-	-
	Rental income	11	-	-	-
	Lease payments	-	-	173	168
	Interest costs	-	-	12	14
Korea South-East Power Co., Ltd.	Revenue[1]	668,844	817,724	-	-
	Rental income	38	38	-	-
	Fuel maintenance costs and others	-	-	387	109
KOSPO Youngnam Power Co., Ltd.	Revenue[1]	365,767	495,630	-	-

[1] Amount is before deduction of individual consumption taxes.

48. Related party transactions (cont'd)

2) Account balances, excluding loans and borrowings, with related parties as of December 31, 2023 and 2022, are as follows (Korean won in millions):

		Receivables		Payables	
Related party	Account	December 31, 2023	December 31, 2022	December 31, 2023	December 31, 2022
LNG Canada development	Other receivables	₩ 125	₩ 81	₩ -	₩ -
Korea Ras Laffan LNG Ltd.	Other receivables	2,321	3,042	-	-
Korea LNG Ltd.	Other receivables	-	2,374	-	-
Korea LNG Trading Co., Ltd.	Lease liabilities	-	-	311,458	376,673
	Current portion of lease liabilities	-	-	71,098	69,580
	Trade payables	-	-	22,231	10,413
	Accrued expense	-	-	3,229	4,370
	Prepaid expense	5,129	2,795	-	-
Hyundai Yemen LNG Company	Accrued income	16,658	15,022	-	-
Terminal KMS de GNL, S. de R.L. de C.V.	Long-term non-trade receivables	89	198	-	-
ENH-KOGAS, SA.	Other receivables	-	53	-	-
Coral FLNG S.A.	Other payables	-	-	55,465	-
Korea Electric Power Corporation	Other payables	-	-	145	84
	Accrued expense	-	-	11,434	11,445
	Lease liabilities	-	-	3	3
Korea Southern Power Co., Ltd.	Trade receivables	141,654	501,215	-	-
	Lease liabilities	-	-	469	461
Korea Midland Power Co., Ltd.	Trade receivables	117,576	320,301	-	-
	Lease liabilities	-	-	5,993	5,926
Korea Western Power Co., Ltd.	Trade receivables	2,129	454,804	-	-
	Other payables	-	-	12,375	658
	Lease liabilities	-	-	931	1,152
Korea East-West Power Co., Ltd.	Trade receivables	118,197	332,183	-	-
	Lease liabilities	-	-	674	810
Korea South-East Power Co., Ltd.	Trade receivables	93,742	215,934	-	-
	Other payables	-	-	138	72
KOSPO Youngnam Power Co., Ltd.	Trade receivables	10,195	59,464	-	-

48. Related party transactions (cont'd)

3) Loans to related parties as of December 31, 2023 and December 31, 2022, are as follows (Korean won in millions):

		December 31, 2023	December 31, 2022
Associates	South-East Asia Gas Pipeline Company Limited	₩ -	₩ 5,456
	Coral FLNG S.A	310,286	286,484
	Rovuma LNG Investments (DIFC) Ltd.	103	76
Joint ventures	Hyundai Yemen LNG Company Limited	36,399	28,664
		₩ 346,788	₩ 320,680

4) Limits of financial commitments for loans to related parties as of December 31, 2023 are as follows (US dollars in thousands):

		Loan limit	
		December 31, 2023	
Joint ventures	Hyundai Yemen LNG Company Limited	USD	93,500
Associates	Coral FLNG S.A	USD	371,200
	Rovuma LNG Investments (DIFC) Ltd	USD	200

5) Fund transactions with related parties for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

		2023			
		Loan transactions		Cash contribution	
Relationship	Related party	Loans	Collections	Acquisition	Disposal
Associates	HyStation Co., Ltd.	-	-	1,160	-
	Coral FLNG S.A	13,054	-	-	-
	Rovuma LNG Investments (DIFC) Ltd	26	-	-	-
	South-East Asia Gas Pipeline Company Limited	-	-	-	(9,886)
Joint ventures	Sulawesi LNG Development Limited	-	-	-	(53,498)
	Hyundai Yemen LNG Company	5,400	-	-	-

48. Related party transactions (cont'd)

5) Fund transactions with related parties for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions) (cont'd):

		2022			
		Loan transactions		Cash contribution	
Relationship	Related party	Loans	Collections	Acquisition	Disposal
Associates	Hydrogen Energy Network Co., Ltd.	₩ -	₩ -	₩ 4,200	₩ -
	HyStation Co., Ltd.	-	-	290	-
	Coral FLNG S.A	77,905	-	-	-
	Rovuma LNG Investments (DIFC) Ltd	26	-	-	-
	South-East Asia Gas Pipeline Company Limited	-	(8,337)	-	(2,450)
Joint ventures	Sulawesi LNG Development Limited	-	-	-	(37,648)
	TOMORI E&P LIMITED	-	-	-	(106,710)
	Hyundai Yemen LNG Company	2,772	-	-	-
	Korea Superfreeze Incheon Inc	-	-	3,000	-

The Group has funding agreements proportionate to its ownership percentage in accordance with the joint arrangements among the Group, and its subsidiaries and associates in relation to the overseas resource development as of December 31, 2023 and 2022.

6) The payment guarantees provided to related parties as of December 31, 2023, are as follows (US dollars in thousands):

Guarantor	Related party[1]	Detail	Amount		Beneficiary
KOGAS	Terminal KMS de GNL, S.de R.L. de C.V.	Operation and maintenance expense guarantee	USD	16,644	Manzanillo Gas Tech
KOGAS	Terminal KMS de GNL, S.de R.L. de C.V.	PF repayment guarantee	USD	9,500	KEB Hana Bank
KOGAS	Coral FLNG S.A.	Guarantee payment for outstanding debt indicated in FLNG EPCIC contract [2]	USD	579,932	TJS Consortium
KOGAS	Coral South FLNG DMCC	Guarantee payment for repayment duty of Coral South FLNG business related project financing principal and interest[3]	USD	487,470	Sumitomo Mitsui Banking Corporation
KOGAS	KLBV1 S.A.	Guarantee payment for ship financing contracts	USD	20,843	Bank of America

[1] The related parties are the Corporation's subsidiaries, or the Corporation's associates or joint ventures, or the Corporation's subsidiaries' associates or joint ventures.
[2] Guarantee obligation is effective if the aggregate outstanding debt is more than USD 50 million.
[3] Guarantee obligation on the actual withdrawn principal and interest occur in the event of a default, and the guarantee is provided until the financial completion date (planned on February 24, 2025).

48. Related party transactions (cont'd)

7) The performance guarantees provided to related parties as of December 31, 2023, are as follows (US dollars in thousands):

Guarantor	Related party[1]	Detail	Amount		Beneficiary
KOGAS	Sulawesi LNG Development Limited	Guarantee from KOGAS in the percentage of Sulawesi LNG development (SLD) ownership (25%) on SLD's obligation to provide finance to DSLNG.	USD	13,762	DSLNG, Pertamina, Medco
KOGAS	Sulawesi LNG Development Limited	KOGAS bears obligation in its ownership percentage (25%) of SLD in relation to funding resolution arising as the result of share acquisition, and execution of funding in accordance with DSLNG's shareholder contract.	USD	13,762	DSLNG
KOGAS	Sulawesi LNG Development Limited	In the event that SLD fails to comply with its obligation to guarantee the amount of operating funds, KOGAS shall be liable for the share of SLD (25%)	USD	2,995	MUFG UNION BANK, N.A
KOGAS	Terminal KMS de GNL, S.de R.L. de C.V.	Guarantee of contract performance [2]	USD	42,500	KEB Hana Bank / HSBC Mexico

[1] The related parties are associates or joint ventures of the Group.
[2] Counter-guarantee through granting credit by KEB Hana Bank

8) Collaterals guarantees provided to related parties by the Group as of December 31, 2023, are as follows (Korean won in millions and US dollars in thousands):

Beneficiary	Contract date	Maturity date	Collateralized amount		Carrying amount		Collateral
KEXIM and 7 others	2009.09.16	2029.08.31	USD	48,800	₩	25	Shares invested in KOGAMEX Investment Manzanillo B.V. and all related rights[1]
Sumitomo Mitsui Banking Corporation	2017.05.31	2033.05.26	USD	487,470	USD	53,782	Provided as collateral to LNG sales revenue account, Coral South FLNG S.A and Coral South FLNG DMCC shares owned by KG Mozambique Ltd to the project finance lender[2]
	2017.09.20				USD	14	

[1] The Group provide stocks KOGAMEX Investment Manzanillo B.V's stocks as collateral for Terminal KMS de GNL, S. De R.L. de C.V.'s project financing
[2] This collateral is provided from the date of the related collateral agreement to the completion date of repayment of lenders' principal and interest. The effect of the collateral agreement is forfeited when principal and interests are fully repaid at the request of the lenders before the financial completion date.

9) Key management compensation for each of the two years in the period ended December 31, 2023, consists of (Korean won in millions):

	2023	2022
Short-term employee benefits	₩ 2,721	₩ 2,770
Retirement benefits	110	95
	₩ 2,831	₩ 2,865

49. Non-cash transactions

(1) The significant non-cash transactions for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023	2022
Transfer of construction-in-progress to property, plant and equipment	₩ 476,753	₩ 404,939
Transfer of current portion of debentures	3,110,102	1,928,660
Transfer of current portion of lease liabilities	171,871	266,089
Transfer of current portion of long-term loans	102	187
Increase in lease liabilities due to increase in right-of-sue assets	31,756	22,710

50. Adjustment in liabilities arising from financing activities

Changes in liabilities arising from financing activities for each of the two years in the period ended December 31, 2023, are as follows (Korean won in millions):

	2023				
	Current portion of lease liabilities	Non-current portion of lease liabilities	Short-term borrowings	Current portion of long-term borrowings	Current portion of debentures
Beginning balance	₩ 378,923	₩ 1,652,602	₩ 23,601,077	₩ -	₩ 1,957,840
Cash flows	(225,751)	-	(9,049,016)	-	(2,008,579)
Acquisition-new leases	17,131	14,625	-	-	-
Exchange differences	409	29,120	153,013	-	66,676
Other non-financial changes	160,364	(158,061)	-	2,334	3,111,395
Ending balance	₩ 331,076	₩ 1,538,286	₩ 14,705,074	₩ 2,334	₩ 3,127,332

	2023				
	Long-term borrowings	Debentures	Current portion of derivative liabilities (assets)	Non-current portion of derivative liabilities (assets)	Total
Beginning balance	₩ 192,144	₩ 17,100,492	₩ (85,621)	8,105	₩ 44,805,562
Cash flows	31,476	6,626,452	85,621	-	(4,539,797)
Acquisition-new leases	-	-	-	-	31,756
Exchange differences	3,026	115,526	-	-	367,770
Other non-financial changes	52,248	(3,099,454)	2,375	(6,348)	64,853
Ending balance	₩ 278,894	₩ 20,743,016	₩ 2,375	1,757	₩ 40,730,144

50. Adjustment in liabilities arising from financing activities (cont'd)

	2022			
	Current portion of lease liabilities	Non-current portion of lease liabilities	Short-term borrowings	Current portion of debentures
Beginning balance	₩ 268,784	₩ 1,777,521	₩ 7,832,479	₩ 1,933,815
Cash flows	(158,502)	-	15,879,241	(1,985,960)
Acquisition-new leases	2,602	20,108	-	-
Exchange differences	208	121,606	(110,643)	80,656
Other non-financial changes	265,831	(266,633)	-	1,929,329
Ending balance	₩ 378,923	₩ 1,652,602	₩ 23,601,077	₩ 1,957,840

	2022				
	Long-term borrowings	Debentures	Current portion of derivative liabilities (assets)	Non-current portion of derivative liabilities (assets)	Total
Beginning balance	₩ 179,480	₩ 16,240,964	₩ -	(52,157)	₩ 28,180,886
Cash flows	(27)	2,348,099	-	-	16,082,851
Acquisition-new leases	-	-	-	-	22,710
Exchange differences	12,135	433,481	(31,501)	6,142	512,084
Other non-financial changes	556	(1,922,052)	(54,120)	54,120	7,031
Ending balance	₩ 192,144	₩ 17,100,492	₩ (85,621)	8,105	₩ 44,805,562

51. Purchase agreements

(1) As of December 31, 2023, the Group has acquisition commitments for up to ₩1,917,719 million (₩1,594,353 million as of December 31, 2022) for major construction projects.

(2) The Group's inventory purchase contracts as of December 31, 2023, are as follows (Tons in thousands):

	Contract period	Total contract quantity
Malaysia LNG Sdn. Bhd.	2008~2028	2,000
	1999~2024	4,920
Rasgas Company Limited	2007~2026	2,100
	2013~2032	2,000
Qatar Petroleum	2025~2044	2,000
Oman LNG L.L.C.	2000~2024	4,060
Sakhalin Energy Investment Company Ltd.	2008~2028	1,500
Petronas LNG	2023~2039	1,155
Gladstone LNG	2016~2036	3,500
Shell Eastern Trading (Pte.) Ltd.	2013~2038	3,640
	2023~2025	260
	2024~2039	150
	2026~2034	320
	2027~2036	280
Total Gas & Power Limited	2014~2031	2,000
TOTALENERGIES GAS & POWER LIMITED	2021~2025	200
Sabine Pass LNG	2017~2037	2,800
PT Donggi Senoro LNG	2015~2027	700
BP Singapore Pte. Limited	2025~2039	1,580
	2023~2025	780
Trafigura Pte Ltd.	2023~2025	780

(3) As of December 31, 2023, the shareholders of KG-SEAGP Company Limited, the subsidiary of the Group, consist of the Group and PEF. The Group may exercise the redemption right to the preferred stock of PEF after 7 years (expected in 2023) from the issuance date (2016). If the right is not exercised, the PEF may sell its preferred stock and also the common stock of the Group to a third party.

(4) As of December 31, 2023, the shareholders of KG Myanmar Ltd., the subsidiary of the Corporation, consist of the Group and trustees. The Group may exercise the redemption right to the preferred stock of trustees after 7 years (expected in 2024) from the issuance date (2017). If the right is not exercised, trustees have a right to sell their preferred stock and also the common stock owned by the Group to a third party.

(5) As of December 31, 2023, the Group has entered purchase agreements in relation to overseas resource development.

52. Commitments and contingencies

(1) The Group is involved in various lawsuits and claims for alleged damages totaling ₩ 849,898 million and AUD 213 million, CAD 350 thousand as of December 31, 2023, and ₩ 409,508 million, AUD 213 million, CAD 350 thousand as of December 31, 2022, which arose in the ordinary course of business. There are KRW 7,274 million provisions related to the storage tank bidding litigation and KRW 27,017 million provisions related to KC-1 cargo litigation, as of December 31, 2023. The Group lost the first trial which is related to the compensation for damages related to Sabin Pass Membrane Supply Contract with Samsung Heavy Industries. As a result, the Group recognized ₩ 10,328 million as a provision for lawsuit as of December 31, 2023 (Note 27). Santos Australia PTY LTD. lost the second trial of a lawsuit on royalty calculations in the Harris County District Court on March 11, 2021. As a result, the Group recorded for the JVP's share of ₩ 12,143 million as provision for lawsuit (Note 27).

The management expects that the lawsuits and claims will not have a materially adverse effect on the Group's financial position, operating result or cash flows, except for the two cases mentioned above. It is possible that additional losses could occur depending on the results of the lawsuits.

(2) As of December 31, 2023, the Group has provided guarantees for others excluding related parties, on the payment of debts amounting to USD 73,309 thousand, CAD 1,784,028 thousand, EUR 1,540 thousand, and ₩ 34,033 million (USD 74,522 thousand, CAD 1,785,318 thousand, EUR 1,540 thousand and ₩ 55,400 million as of December 31, 2022).

(3) Details of collateralized amounts of the Group as of December 31, 2023, are as follows (Korean won in millions and US dollars in thousands):

Beneficiary	Commence-ment date	Maturity date	Collateralized amount	Carrying amount	Remark
ING Bank N.V	2013.01.14	2027.06.20	USD 310,140 [1, 2]	₩ 860,681	Kor-Uz Gas Chemical LLC invested by Kor-Uz Gas Chemical Investment Ltd. holds Kor-Uz Gas Chemical Investment Ltd in connection with borrowings from major shareholders. Provide shares and all rights thereof as collateral.[2]
Bank of Tokyo Mitsubishi	2008.05.19	Until the completion of the obligation performance (2027 is the expected year.)	USD 2 Equity Funding	₩ 165,718[3] ₩ 54,032[4]	Providing guarantees to perform obligations related to PF of YLNG (The PF balance, which is equivalent to the construction share at the end of December 31, 2023, is USD 77,041 thousand)
Shell Canada Energy, Diamond LNG Canada Ltd., Brion Kitmat LNG partnership	2014.05.01	Until the end of the guarantee obligation	USD 989,307	USD 986,555	Providing project tangible and intangible assets as guarantees to partner company of LNG Canada business
The Korea Development Bank	2021.11.29	2022.11.29	₩ 1,160	₩ 963	Provision of patent security for interest rate reduction purposes upon loan
The Korea Development Bank	2023.05.09	2043.05.11	₩ 39,720	₩ 40,159	Ship mortgage

[1] The collateralized amount is subject to change based on the future investment plan.
[2] The lenders are under negotiation between stakeholders as a delay of opening letters of credit and overdue of payments relating to gas sales and purchase transactions between Uz-Kor Gas Chemical LLC, a seller, and Uztransgaz, a buyer, fall under a default condition
[3] The book amount of the equity instrument as of December 31, 2023, which is classified to Financial assets measured at fair value through non-current comprehensive income, is evaluated at fair-value.
[4] The carrying amount of loan as of December 31, 2023.

52. Commitments and contingencies (cont'd)

(4) Details of commitments held by the Group as of December 31, 2023, are as follows (Korean won in millions, US dollars, Canadian dollars, Euros, Australian dollars in thousands):

	Financial institution	Limit		Amount	
Corporate card	KEB Hana Bank and another	KRW	4,680	KRW	1,400
Foreign currency loan	The Korea Development Bank and others	USD	5,585,000	USD	3,094,219
Daily bank overdraft	KEB Hana Bank	KRW	50,000	KRW	-
Bank overdraft	Daegu Bank and others	KRW	200,000	KRW	-
General loan	KEB Hana Bank and others	KRW	1,049,500	KRW	11,377
Foreign currency commitment	KEB Hana Bank and others	CAD	5,108	CAD	5,108
		USD	673,304	USD	70,543
		EUR	1,540	EUR	-
KRW commitment	The Korea Development Bank and others	KRW	34,033	KRW	34,033
Commitment to acquire commercial paper	KEB Hana Bank	KRW	1,600,000	KRW	1,600,000
Win-win growth commitments	KEB Hana Bank	KRW	13,050	KRW	-
Commitment related to imported L/C	KEB Hana Bank and others	USD	410,000	EUR	393
				USD	197
				JPY	-
		CAD	2,167	CAD	2,167
Usance Remittance Opening Agreement	KEB Hana Bank	USD	243,000	USD	199,577
Performance guarantees	Seoul Guarantee Insurance and others	AUD	56,447	AUD	52,106
		KRW	137,487	KRW	58,327
Industrial operation loan	The Korea Development Bank	KRW	1,763	KRW	1,677
Win-win payment loan	Industrial Bank of Korea	KRW	3,000	KRW	-

(5) As of December 31, 2023, the Group has provided LOU (Letter of Undertaking) for 13 of the transporters currently in operation or planned to be introduced. If the transporter fails to fulfill the requirements under the contract, the Group will be liable for any obligations related to execution of the contract. The Group accounts for a lease liability of KRW 1,708,818 million related to the contract of long-term transportation as of December 31, 2023 (2022: KRW 1,879,876 million).

(6) Uncertainty related to staging a coup in Myanmar

In February 2021, the Myanmar military detained a number of senior government officials, including state advisor Aung San Suu Kyi, and declared a state of emergency for one year. In this regard, in preparation for emergencies, the Group maintains a system of constant contact with the operator, and conducts normal business activities by reinforcing local situation monitoring. The financial impact of this is difficult to estimate reasonably and not reflected in the consolidated financial statements.

52. Commitments and contingencies (cont'd)

(7) Uncertainty of the impact of the Ukraine crisis

The armed conflict in Ukraine, which occurred in February 2022, and related sanctions against Russia by the international community, will affect not only the companies subjected to sanctions, but also companies directly or indirectly engaged in business with Ukraine or Russia and being exposed by the industry or economy of Ukraine or Russia.

The Group imports some of the LNG imports from Russia through long-term contracts. Currently, the contract is being implemented normally, but the Group is continuously monitoring the situation that may have an impact, such as additional financial sanctions from the international community. As of December 31, 2022, the financial impact cannot be reasonably estimated.

The operation of the Iraqi oil field business, in which the Group's subsidiary, KOGAS Badra B.V. participates, is operated by Gazprom Neft Badra B.V., a grandchild company of Gazprom Neft, an economically sanctioned company. The subsidiary's future operations are expected to be affected by the expansion of sanctions against Russia due to the Ukraine crisis, but the financial impact cannot be estimated reasonably.

The Group's joint venture, Kor-Uz Gas Chemical Investment Ltd.'s polymer sales in Russia and imports of raw materials are expected to be affected by the Ukraine crisis, and in the process of switching sales and suppliers, but the financial impact cannot be reasonably estimated.

(8) Uncertainties related to economic and financial sanctions against Myanmar State Oil and Gas Company (MOGE) by EU

In February 2022, the European Union's economic and financial sanctions were announced against the Myanmar State Oil and Gas Company (MOGE), which owns 15% stake in the Myanmar A-1/A-3 gas field business. The business, in which the Group holds 8.5% stake, is operating normally, and the Group is continuously monitoring the situation that may have an impact, such as additional economic and financial sanctions from the international community. As of December 31, 2022, the financial impact cannot be reasonably estimated.

(9) Uncertainty related to the sanction against Myanmar State Oil and Gas Company (MOGE) by U.S. Department of the Treasury.

In October 2023, after the reporting period, the U.S. Department of the Treasury announced sanctions against Myanmar Oil & Gas Enterprise (MOGE), a 15% stake in the Myanmar A-1/A-3 gas field project in which the company is participating. According to the sanctions, direct and indirect financial services to Myanmar Oil & Gas Enterprise (MOGE) will be restricted by Americans from December 15, 2023. We have an 8.5% stake in the business and are constantly monitoring the situation that may affect the business, such as additional economic and financial sanctions by the international community. In addition, the financial impact cannot be reasonably estimated.

(10) Mozambique Area4 Business Force majeure Notice

MRV, the operator of the Mozambique Area 4 project involving the Group, has notified the Mozambique government of force majeure against some of the obligations of the Area 4 mining rights except Coral FLNG due to worsening security conditions in northern Mozambique's Cabodelgado area.

(11) Due to the approval of the East Timor government on June 24, 2021 and the revision of the PSC on August 20, 2021, the Group was obligated to pay the withdrawal share under the agreement. The limit of amount is USD 3.5 million and it is valid until December 27, 2026.

(12) The Group entered into a settlement agreement (March 2, 2020) with Samsung Engineering for USD 10,000,000 (KOGAS Badra B.V. USD 3,000,000) in connection with Samsung Engineering's claim on CPF-2 (gas treatment facilities). However, under the joint operation agreement, the Group's payment obligation is not determined until the consultation between the Iraq government and the operator is finalized.

52. Commitments and contingencies (cont'd)

(13) KGLNG E&P and KGLNG E&P II have signed a Royalty payment contract with Tri-Star Petroleum Company and one other company in connection with the Australian GLNG mine, and some mining rights and book value of 66,633 million won are required to be agreed upon at disposal.

(14) In March 2019, Ovintiv Inc. (formerly 'Encana'), the business operator of the Hon River project, claimed a refund of the Infrastructure royalty credit (CAD 4,800,000) of which Encana paid in advance to the Group in 2011, as the Infrastructure royalty credit is not feasible. However, the Group and its legal counsel decided that there is no obligation for the Group to refund of the amount.

(15) The Group has signed an agreement with the Canadian government to subsidize a total of CAD 11 million over a four-year period in exchange for promising to manufacture, transport, install and connect four LMS wind turbines, compressor packages and related auxiliary equipment to LNG facilities. The Canadian government may demand repayment of subsidies if certain conditions are not met, and as of December 31, 2023, about 9.25 million CAD of debt could be incurred if consolidated companies have to repay subsidies.

(16) On October 31, 2019, the Group has entered into a MERRF (Marine Emergency Response Research Facility) funding agreement with Gitga'at for the compensation to natives in order proceed the LNG project. The termination fee amounts to CAD 250,000 and paid CAD 205,000 as of December 31, 2023.

(17) In February 2020, the Group signed a contract with General Electric related to LNG Canada business, and the termination fee amounts to CAD 660,000.

(18) In October 2019, the Group participated in Phase 2 Define phase 2 of LNG Canada joint venture, which began operations in November 2019, and if Phase 2 FID fails, the Group have CAD 230,000 contingency obligations related to Phase 2 Define withdrawal.

(19) The Group is required to acquire Marine services during the execution phase of LNG Canada projects to support the operational phase. A written resolution has been signed for the contract signed in 2019, and the contingent liability of the Group for the tugboat is CAD 7.6 million as of December 31, 2023.

(20) As of December 31, 2023, the minimum expenditure obligation of the Group for overseas resource development projects including Cyprus amounts to approximately EUR 15.4 million.

53. Subsequent events

(1) Exercise of redemption rights for KG-SEAGP preferred shares

On January 14, 2024, the Group notified PEF (Stone Bridge Eventus Overseas Infrastructure No. 1) in written form with regards to its intention to exercise the redemption right under the new stock acquisition contract, with a redemption value of 49.6 million USD.

Audit opinion on internal control over financial reporting

The accompanying independent auditor's report on internal control over financial reporting is attached as a result of auditing the internal control over financial reporting of Korea Gas Corporation (the "Company") and its subsidiaries (collectively referred to as the "Group") and the consolidated financial statements of the Group for the year ended December 31, 2023 in accordance with the Article 8 of the *Act on External Audit of Stock Companies*.

Attachments:
1. Independent auditor's report on internal control over financial reporting
2. ICFR for Consolidation Purposes Operating Status Report

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Independent Auditor's Report on Internal Control over Financial Reporting

(English Translation of a Report Originally Issued in Korean)

Korea Gas Corporation
The Shareholders and Board of Directors

Opinion on internal control over financial reporting

We have audited the internal control over financial reporting ("ICFR") of Korea Gas Corporation (the "Corporation") and its subsidiaries (collectively referred to as the "Group") based on the Conceptual Framework for Design and Operation of ICFR established by the Operating Committee of ICFR in Korea (the "ICFR Committee") as of December 31, 2023.

In our opinion, the Group's ICFR has been effectively designed and operated, in all material respects, as of December 31, 2023, in accordance with the Conceptual Framework for Design and Operation of ICFR.

We also have audited, in accordance with Korean Standards on Auditing ("KSA"), the consolidated statement of financial position as of December 31, 2023, and the consolidated statement of comprehensive income or loss, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including material accounting policy information, of the Group, and our report dated March 20, 2024 expressed an unqualified opinion thereon.

Basis for opinion on ICFR

We conducted our audit in accordance with KSA. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of ICFR section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audit of ICFR in the Republic of Korea, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of management and those charged with governance for ICFR

Management is responsible for designing, implementing, and maintaining an effective ICFR, and for assessing the effectiveness of the ICFR included in the accompanying ICFR for Consolidation Purposes Operating Status Report.

Those charged with governance are responsible for overseeing the Group's ICFR process.

Auditor's responsibilities for the audit of ICFR

Our responsibility is to express an opinion of the Group's ICFR based on our audit. We conducted our audit in accordance with KSA. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective ICFR was maintained in all material respects.

An audit of the ICFR involves performing procedures to obtain audit evidence as to whether a material weakness exists. The procedures selected depend on the auditor's judgment, including the assessment of the risks that a material weakness exists. An audit also includes testing and evaluating the design and operation of ICFR based on obtaining an understanding of ICFR and the assessed risk.

ICFR definition and inherent limitations

A company's ICFR is implemented by those charged with governance, management, and other employees and is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with International Financial Reporting Standards as adopted by the Republic of Korea ("KIFRS"). A company's ICFR includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of consolidated financial statements in accordance with KIFRS, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the consolidated financial statements.

Because of its inherent limitations, ICFR may not prevent or detect material misstatements of the consolidated financial statements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that ICFR may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

The engagement partner on the audit resulting in this independent auditor's report is Sung-chul Kim.

March 20, 2024

This audit report is effective as of March 20, 2024, the independent auditor's report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the date of the independent auditor's report to the time this report is used. Such events and circumstances could significantly affect the Group's ICFR and may result in modifications to this report.

ICFR for Consolidation Purposes Operating Status Report

To the Shareholders, Board of Directors, and Internal Audit Committee of

KOREA GAS CORPORATION

We, as the Chief Executive Officer and the Internal Accounting Manager of KOREA GAS CORPORATION ("the Corporation"), assessed operating status of the Corporation's Internal Control over Financial Reporting for Consolidation Purposes("ICFR for consolidation purposes") for the year ending December 31, 2023.

Design and operation of ICFR for consolidation purposes is the responsibility of the Corporation's management, including the Chief Executive Officer and the Internal Accounting Manager (collectively, "We", "Our" or "Us").

We evaluated whether the Corporation effectively designed and operated its ICFR for consolidation purposes to prevent and detect errors or frauds which may cause a misstatement in consolidated financial statements to ensure preparation and disclosure of reliable financial information.

We used the 'Conceptual Framework for Designing and Operating Internal Control over Financial Reporting established by the Operating Committee of Internal Control over Financial Reporting in Korea (the "ICFR Committee")' as the criteria for design and operation of the Company's ICFR for consolidation purposes. And we conducted an evaluation of ICFR for consolidation purposes based on the 'Management Guideline for Evaluating and Reporting Effectiveness of Internal Control over Financial Reporting' established by the ICFR Committee.

Based on our assessment, we concluded that the Corporation's ICFR for consolidation purposes is designed and operated effectively as of December 31, 2023, in all material respects, in accordance with the 'Conceptual Framework for Designing and Operating Internal Control over Financial Reporting'.

We certify that this report does not contain any untrue statement of a fact, or omit to state a fact necessary to be presented herein. We also certify that this report does not contain or present any statements which might cause material misunderstandings of the readers, and we have reviewed and verified this report with sufficient care.

February 27, 2024

Yeon Hye Choi (Signature)
Chief Executive Officer

Jong Soon Im (Signature)
Internal Accounting Manager

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Independent auditor's report

(English Translation of a Report Originally Issued in Korean)

The Stockholders and Board of Directors
Korea Gas Corporation

Opinion

We have audited the consolidated financial statements of Korea Gas Corporation and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statements of financial position as of December 31, 2022 and 2021, and the consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2022 and 2021, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with International Financial Reporting Standards as adopted by the Republic of Korea ("KIFRS").

Basis for opinion

We conducted our audit in accordance with Korean Standards on Auditing ("KSA"). Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the consolidated financial statements section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in the Republic of Korea, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of the most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

(1) Recognition of gains and losses related to the settlement of raw material cost pass-through system and supply costs

As mentioned in Note 16 to the consolidated financial statements, in accordance with the standard for natural gas supply price and the guidelines for raw material cost pass-through adjustment system for city gas and power generation, the settled income, which is the difference between the actual cost incurred and current year's revenues ("gains and losses on settlement"), is reflected in the following year's pricing under the approval of Korean government.

The Group adjusts gains and losses on settlement from the current year's cost of sales and recognizes the related assets and liabilities as other non-financial assets and other non-financial liabilities, respectively.

Gains and losses on settlement are calculated at the end of every month and each year based on raw materia costs and supply costs, both of which are approved by the Ministry of Trade, Industry and Energy. Therefore, gains and losses on settlement are determined based on the difference between the estimated oil price, foreign currency exchange rate, supply volume and budget reflected in the raw material cost and supply cost approved by the Ministry of Trade, Industry and Energy in the previous year and the actual oil price, foreign currency exchange rate, supply volume and actual supply cost. Due to highly complex calculation of the gains and losses on settlement, human error is highly probable in the calculation procedures. The estimated timing of recovery (return) of other non-financial assets and liabilities resulting from the adjustments to the gains and losses on settlement are determined by the timing and degree of gas rate adjustment by the government, which is the gas rate approval authority.

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We selected the accuracy of calculation for gains and losses on settlement as our key audit matter due to the materiality of its amount in the Group's consolidated financial statements and the likelihood of misstatements arising from complexity of procedures in calculating gains and losses on settlement.

We performed the following audit procedures to review the accuracy of gains and losses on settlement:

- Inquiring the relevant departments to understand calculation procedures, logic and accounting treatment related to gains and losses on settlement.
- Testing design and operation effectiveness of related internal controls.
- Reviewing closing journal entries for gains and losses on settlement to adjust the difference between the amount in the settlement report for raw material costs and supply costs of city gas/power generation at the end of year and the corresponding amount recognized during the current period.
- Conducting communication on plans and timing of charge rate approval with the relevant authorities to resolve assets and liabilities related to settlement gains and losses.
- Recalculating of relevant assets and liabilities related to gains and losses on settlement and comparison of it to the corresponding amount provided by the Group.

(2) Impairment of property, plant and equipment and intangible assets, which are related to the resource development projects of KOGAS Prelude Pty Ltd. (hereinafter referred to as "Australia Prelude FLNG").

As described in Note 3 (6) to the consolidated financial statements, the Group assesses at the end of each reporting period whether there is an indication that non-financial assets related to the resource development projects may be impaired, and when there is an indication of impairment, the Group estimates the recoverable amount of the assets to determine the amount of impairment losses.

The recoverable amount of non-financial assets related to the resource development projects is calculated based on complex assumptions and judgments on future cash flows and discount rates. The future cash flows are sensitive to fluctuations in assumptions, such as future oil and gas prices, reserves, production quantity and expenses.

Considering the necessity of judgments, materiality of amount, and the complexity of the assumptions used by management in calculating the recoverable amount of property, plant and equipment and intangible assets related to the resource development projects, we selected the impairment testing of those property, plant and equipment and intangible assets as our key audit matter.

As of December 31, 2022, property, plant and equipment and intangible assets related to the Australia Prelude FLNG resource development projects amount to ₩1,636,217 million.

We understood the Group's impairment testing process of property, plant and equipment and intangible assets. We involved the component auditors to obtain accurate understanding of the business environment, such as local law and taxation, in a place of business related to the Australia Prelude FLNG resource development projects. We directed and supervised the following audit procedures to the component auditors through the group audit instructions:

- Review and assessment of management's evaluation on whether there is an indication of impairment.
- Review on whether the assumptions used in the valuation report (future cash flow model) are consistent with the approved budget and business plan of the Group.
- Comparison and reconciliation of whether the future estimates of short-term and long-term oil prices used in the valuation report are consistent with the forecast data provided by an independent external institution.

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- Comparison and reconciliation of the forecast quantities of production used in the valuation report are consistent with the data from the reserves report issued by the external expert.
- Independent recalculation of the discount rate used in estimated cash flow discount, and subsequently, comparison and reconciliation of it with the discount rate used in the impairment testing.

Responsibilities of management and those charged with governance for the consolidated financial statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with KIFRS, and for such internal control as management determines is necessary to enable the preparation of the consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Auditor's responsibilities for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with KSA will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with KSA, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

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- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditor's report is Hee Seong Moon.

Ernst & Young Han Young

March 21, 2023

This audit report is effective as of March 21, 2023, the independent auditor's report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the independent auditor's report date to the time this report is used. Such events and circumstances could significantly affect the accompanying consolidated financial statements and may result in modifications to this report.

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Korea Gas Corporation and its subsidiaries
Consolidated statements of financial position
as of December 31, 2022 and 2021
(Korean won in millions)

	Notes	2022	2021
Assets			
Current assets:			
Cash and cash equivalents	5,6,46,47	₩ 813,275	₩ 564,523
Current financial assets	6,7,8,11,12,13,46,47	148,709	88,601
Trade and other receivables	9,46,47,48	12,121,935	6,979,471
Short-term contract assets	19	8,290	6,506
Inventories	14	7,622,624	3,582,845
Current tax assets		2,287	39,533
Current non-financial assets	15,16	4,374,437	1,886,259
		25,091,557	13,147,738
Non-current assets:			
Non-current financial assets	6,7,8,10,11,12,13,46,47	789,636	788,540
Long-term trade and other receivables	9,46,47,48	202,314	210,387
Property, plant and equipment	18,25,29	23,293,801	23,580,754
Intangible assets other than goodwill	20,29	1,705,791	1,745,695
Goodwill	21	145	145
Investments in associates and joint ventures	4,17	1,904,176	1,720,112
Net defined benefit assets	26	126,923	27,362
Deferred tax assets	43	941,967	942,197
Non-current non-financial assets	15,16	8,368,673	1,506,972
		37,333,426	30,522,164
Total assets		**₩ 62,424,983**	**₩ 43,669,902**

(Continued)

Korea Gas Corporation and its subsidiaries
Consolidated statements of financial position
as of December 31, 2022 and 2021
(Korean won in millions)

	Notes	2022	2021
Liabilities			
Current liabilities:			
Trade and other payables	23,25,46,47,48	₩ 3,728,558	₩ 3,576,069
Current financial liabilities	8,22,24,46,47	26,312,749	9,772,279
Short-term contract liabilities	19	68,423	79,982
Current tax liabilities		58,491	29,886
Current non-financial liabilities	16,29,31	377,877	437,399
Current provisions	27	88,468	126,048
		30,634,566	14,021,663
Non-current liabilities:			
Long-term trade and other payables	23,25,46,47,48	1,652,925	1,777,711
Non-current financial liabilities	7,8,22,24,46,47	17,317,948	16,521,037
Non-current non-financial liabilities	29,30,31	39,148	53,717
Net defined benefit liabilities	26	386	3,033
Deferred tax liabilities	43	2,234,631	2,007,361
Non-current provisions	27	134,639	166,044
		21,379,677	20,528,903
Total liabilities		**52,014,243**	**34,550,566**
Equity:			
Share capital	1,32	461,565	461,565
Share premium		1,303,548	1,303,548
Hybrid bonds	35	334,520	334,520
Retained earnings	33,34	7,476,257	6,185,268
Other components of equity	36	611,191	584,241
Equity attributable to equity holders of the parent		10,187,081	8,869,142
Non-controlling interests	1	223,659	250,194
Total equity		**10,410,740**	**9,119,336**
Total liabilities and equity		**₩ 62,424,983**	**₩ 43,669,902**

The accompanying notes are an integral part of the consolidated financial statements.

Korea Gas Corporation and its subsidiaries
Consolidated statements of comprehensive income
for the years ended December 31, 2022 and 2021

(Korean won in millions, except for earnings per share)

	Notes	2022	2021
Revenue	4,19,30,37	₩ 51,724,286	₩ 27,520,758
Cost of sales	44	48,828,263	25,859,008
Gross profit		2,896,023	1,661,748
Selling and administrative expenses	38,44	432,602	422,049
Operating profit		2,463,421	1,239,699
Other income	39	239,018	35,349
Other expenses	39	95,406	45,797
Other gains (losses), net	18,20,40	(187,611)	548,719
Finance income	41	2,674,908	881,472
Finance costs	42	3,503,048	1,472,443
Gains on investments in associates and joint ventures, net	17	353,966	180,335
Profit before income tax		1,945,248	1,367,334
Income tax expense	43	448,240	402,812
Profit for the year		1,497,008	964,522
Other comprehensive income (loss) for the year, net of tax			
Items that will not be reclassified subsequently to profit or loss			
Remeasurement gain of deifned benefit plans	26	38,873	43,706
Net gain (loss) on valuation of equity instruments at fair value through other comprehensive income		(5,629)	6,197
Share of other comprehensive income of associates and joint ventures		(7,722)	5,260
Items that will be reclassified subsequently to profit or loss			
Net loss on cash flow hedges		(84,485)	(103,166)
Exchange differences on translation of foreign operations		225,161	217,577
Net loss on hedge of investments in foreign operations		(176,808)	(159,667)
Share of other comprehensive income of associates and joint ventures		85,745	105,113
		75,135	115,020
Total comprehensive income for the year		₩ 1,572,143	₩ 1,079,542
Profit for the year attributable to:			
Owners of the parent		₩ 1,493,103	₩ 950,757
Non-controlling interests		3,905	13,765
		₩ 1,497,008	₩ 964,522
Total comprehensive income attributable to:			
Owners of the parent		₩ 1,558,926	₩ 1,053,582
Non-controlling interests		13,217	25,960
		₩ 1,572,143	₩ 1,079,542
Earnings per share in Korean won from continuing operations	45		
Basic earnings per share		₩ 17,317	₩ 11,078
Diluted earnings per share		₩ 16,174	₩ 10,973

The accompanying notes are an integral part of the consolidated financial statements.

Korea Gas Corporation and its subsidiaries
Consolidated statements of changes in equity
for the years ended December 31, 2022 and 2021

(Korean won in millions)

	Share capital and share premium	Retained earnings	Hybrid bonds	Other components of equity	Equity attributable to owners of the parent	Non-controlling interest	Total equity
As of January 1, 2021	1,765,113	5,190,805	-	525,122	7,481,040	254,116	7,735,156
Comprehensive income							
Profit for the year	-	950,757	-	-	950,757	13,765	964,522
Other comprehensive income (loss)							
Remeasurement gain of defined benefit plans	-	43,706	-	-	43,706	-	43,706
Gain on valuation of equity instruments at fair value through other comprehensive income	-	-	-	6,197	6,197	-	6,197
Net loss on cash flow hedges	-	-	-	(103,167)	(103,167)	-	(103,167)
Net loss on hedge of investments in foreign operations	-	-	-	(159,668)	(159,668)	-	(159,668)
Share of other comprehensive income of associates and joint ventures	-	-	-	110,373	110,373	-	110,373
Exchange differences on translation of foreign operations	-	-	-	205,384	205,384	12,194	217,578
Transactions with the equity holders of the parent							
Dividends paid	-	-	-	-	-	(7,512)	(7,512)
Capital increase of subsidiaries	-	-	-	-	-	7,470	7,470
Capital reduction of subsidiaries	-	-	-	-	-	(29,839)	(29,839)
Others							
Interest payment of hybrid bonds	-	-	334,520	-	334,520	-	334,520
As of December 31, 2021	₩ 1,765,113	₩ 6,185,268	₩ 334,520	₩ 584,241	₩ 8,869,142	₩ 250,194	₩ 9,119,336
As of January 1, 2022	₩ 1,765,113	₩ 6,185,268	₩ 334,520	₩ 584,241	₩ 8,869,142	₩ 250,194	₩ 9,119,336
Comprehensive income							
Profit for the year	-	1,493,103	-	-	1,493,103	3,905	1,497,008
Other comprehensive income (loss)							
Remeasurement gain of defined benefit plans	-	38,873	-	-	38,873	-	38,873
Gain on valuation of equity instruments at fair value through other comprehensive income	-	-	-	(5,629)	(5,629)	-	(5,629)
Net loss on cash flow hedges	-	-	-	(84,485)	(84,485)	-	(84,485)
Net loss on hedge of investments in foreign operations	-	-	-	(176,808)	(176,808)	-	(176,808)
Share of other comprehensive income of associates and joint ventures	-	-	-	78,023	78,023	-	78,023
Exchange differences on translation of foreign operations	-	-	-	215,849	215,849	9,313	225,162
Transactions with the equity holders of the parent							
Dividends paid	-	(234,136)	-	-	(234,136)	(5,611)	(239,747)
Capital reduction of subsidiaries	-	-	-	-	-	(34,142)	(34,142)
Others							
Income (loss) of hybrid bonds	-	(6,851)	-	-	(6,851)	-	(6,851)
As of December 31, 2022	₩ 1,765,113	₩ 7,476,257	₩ 334,520	₩ 611,191	₩ 10,187,081	₩ 223,659	₩ 10,410,740

The accompanying notes are an integral part of the consolidated financial statements.

Korea Gas Corporation and its subsidiaries
Consolidated statements of cash flows
for the years ended December 31, 2022 and 2021
(Korean won in millions)

	2022	2021
Cash flows from operating activities:		
Profit for the year	₩ 1,497,008	₩ 964,522
Adjustments to reconcile profit for the year to net cash flows provided by operating activities:		
Income tax expenses	448,240	402,812
Interest expenses	964,918	641,960
Depreciation and amortization	1,751,358	1,722,329
Gain on foreign currency translation, net	(792,600)	(101,030)
Impairment loss recognized in profit or loss	216,902	20,637
Reversal of impairment loss recognized in profit or loss	-	(551,258)
Loss on fair value	621,459	33,299
Loss on disposal of non-current assets	5,058	4,272
Interest income	(71,248)	(23,534)
Others, net	224,644	(44,563)
Changes in operating assets and liabilities:		
Increase in inventories	(4,059,646)	(2,201,752)
Increase in trade receivables	(4,608,102)	(2,525,520)
Increase in other receivables	(415,363)	(170,709)
Decrease in financial assets at fair value through profit or loss	26,759	12,206
Increase in other non-financial assets	(8,923,719)	(1,286,056)
Increase in other operating assets	(180,790)	(8,945)
Increase (decrease) in trade payables	(135,760)	1,829,758
Increase (decrease) in other payables	77,909	(113,786)
Decrease in financial liabilities at fair value through profit or loss	(5,985)	(105,108)
Increase (decrease) in other current liabilities	(247,679)	485
Increase (decrease) in other non-current non-financial liabilities	(108,043)	41,822
Decrease in other operating liabilities	(106,934)	(42,486)
Cash generated from operations	(13,821,614)	(1,500,645)
Dividends received	125,568	82,008
Interest paid	(899,082)	(649,315)
Interest received	14,151	40,585
Income taxes received	59	(43,173)
Net cash flows used in operating activities	(14,580,918)	(2,070,540)
Cash flows from investing activities:		
Proceeds from disposal of equity or debt instruments	176,922	75,038
Acquisition of equity or debt instruments	(8,490)	(14,422)
Proceeds from disposal of property, plant and equipment	1,194	8,078
Acquisition of property, plant and equipment	(1,178,508)	(1,156,241)
Receipt of government grants	39,589	29,497
Proceeds from intangible assets	937	1
Acquisition of intangible assets	(23,925)	(31,424)
Proceeds from disposal of financial assets at amortized cost	89,068	24,796
Acquisition of financial assets at amortized cost	(46,854)	(23,040)
Increase in advanced payments and loans	(106,668)	(106,295)
Receipt of advanced payments and loans	85,356	23,210
Acquisition through business combination	-	(500)
Others, net	(2,414)	1,029
Net cash flows used in investing activities	(973,793)	(1,170,273)

(Continued)

Korea Gas Corporation and its subsidiaries
Consolidated statements of cash flows
for the years ended December 31, 2022 and 2021

(Korean won in millions)
(cont'd)

	2022	2021
Cash flows from financing activities:		
Issuance of hybrid bonds	-	334,520
Proceeds from borrowings	122,505,747	46,719,031
Repayments of borrowings	(106,626,533)	(42,712,216)
Proceeds from issuance of debentures	2,348,099	1,310,741
Repayments of debentures	(1,985,960)	(2,004,000)
Payments of lease liabilities	(158,502)	(135,037)
Dividends paid	(239,747)	(7,569)
Decrease in non-controlling interest equity	(34,142)	(29,839)
Interest payment of hybrid bonds	(6,851)	-
Net cash flows provided by financing activities	15,802,111	3,475,631
Net foreign exchange difference	1,352	(2,056)
Net increase in cash and cash equivalents	248,752	232,762
Cash and cash equivalents at the beginning of the year	564,523	331,761
Cash and cash equivalents at the end of the year	₩ 813,275	₩ 564,523

The accompanying notes are an integral part of the consolidated financial statements.

1. General information

Korea Gas Corporation ("KOGAS" or the "Corporation") was incorporated as a government-invested entity on August 18, 1983, under the *Korea Gas Corporation Act* to engage in the development, production and distribution of liquefied natural gas (LNG). Under the Articles 3 and 5 of the supplementary provisions of the *Act on the Management of Public Institution*, the Corporation was designated as "Market-type Public Corporation" on April 2, 2007.

The Corporation's share was listed on the Korea Stock Exchange since December 15, 1999, and share capital as of December 31, 2022 amounts to ₩461,565 million. The shareholders of the Corporation and their shareholdings as of December 31, 2022 are as follows:

Shareholders	Number of shares	Percentage of ownership (%)
Government of the Republic of Korea	24,144,353	26.2
Korea Electric Power Corporation	18,900,000	20.5
Local governments	7,321,122	7.9
Treasury share[1]	6,486,050	7.0
Others	35,461,475	38.4
	92,313,000	100.0

[1] Exchangeable Shares for hybrid bonds issued by the Corporation are deposited with the Korea Securities Depository as of December 31, 2022.

(1) Details of the consolidated subsidiaries as of December 31, 2022 and 2021, are as follows:

Subsidiary	Business	Country of incorporation	Country of domicile	Percentage of ownership (%)	
				December 31, 2022	December 31, 2021
Korea Gas Technology Corporation	Construction & service	Korea	Korea	100.00	100.00
KOGAMEX Investment Manzanillo B.V.	LNG terminal construction	Netherlands	Mexico	100.00	100.00
KOMEX-GAS, S.de R.L. de C.V.	Service	Mexico	Mexico	99.97	99.97
KOGAS Iraq B.V.	Resource development	Netherlands	Iraq	100.00	100.00
KOGAS Badra B.V.	Resource development	Netherlands	Iraq	100.00	100.00
KOGAS Akkas B.V.	Resource development	Netherlands	Iraq	100.00	100.00
KOGAS Mansuriyah B.V.	Resource development	Netherlands	Iraq	100.00	100.00
KOGAS Canada Energy Ltd.	Resource development & LNG plant management	Canada	Canada	100.00	100.00
KOGAS Australia Pty. Ltd.	Resource development	Australia	Australia	100.00	100.00
KOGAS Prelude Pty. Ltd.	Resource development	Australia	Australia	100.00	100.00
KG Timor Leste Ltd.	Resource development	Marshall Islands	Timor Leste	100.00	100.00
KG Krueng Mane Ltd.	Resource development	Marshall Islands	Indonesia	100.00	100.00
KG Mozambique Ltd.	Resource development	Marshall Islands	Mozambique	100.00	100.00
KOGAS Mozambique, Lda.	Construction & service	Mozambique	Mozambique	99.99	99.99
KGLNG E&P Pty Ltd.	Resource development	Australia	Australia	100.00	100.00
KGLNG E&P II Pty Ltd.	Resource development	Australia	Australia	100.00	100.00

1. General information (cont'd)

(1) Details of the consolidated subsidiaries as of December 31, 2022 and December 31, 2021, are as follows: (cont'd):

Subsidiary	Business	Country of incorporation	Country of domicile	Percentage of ownership (%)	
				December 31, 2022	December 31, 2021
KGLNG Liquefaction Pty Ltd.	LNG plant management	Australia	Australia	100.00	100.00
KOGAS Cyprus Ltd.	Resource development	Cyprus	Cyprus	100.00	100.00
KC LNG Tech Co.,Ltd.	Engineering	Korea	Korea	50.20	50.20
KG-SEAGP Company Limited[1]	Resource development	Hong Kong	Myanmar	68.22	65.27
KG Myanmar Ltd.[2]	Resource development and others	Korea	Myanmar	100.00	100.00
KOGAS International Pte. Ltd.	LNG trading	Singapore	Singapore	100.00	100.00
Kogas Canada Partner Ltd.	Resource development & LNG plant management	Canada	Canada	100.00	100.00
Kogas Canada LNG Partnership	LNG plant management	Canada	Canada	99.99	99.99
Kogas Canada E&P Partnership	Resource development	Canada	Canada	99.99	99.99
Korea LNG Bunkering Co.,Ltd.	LNG Bunkering	Korea	Korea	100.00	100.00
KOREA LNG BUNKERING LINES Ltd[3]	Ship rental	Liberia	Korea	100.00	100.00

[1] The Corporation has the right to exercise 68.22% voting rights at the shareholders' meeting of KG-SEAGP Company Limited. However, voting rights ratio and ownership share may be different according to the shareholders agreement. The ownership share is calculated based on the ratio of cash flows expected to be distributed during the investment period, and the ownership share of the Corporation is 20%.
[2] The Corporation has the right to exercise 100% voting rights at the shareholders' meeting of KG Myanmar Ltd. However, voting rights ratio and ownership share may be different according to the shareholders agreement. The ownership share is calculated based on the ratio of cash flows expected to be distributed during the investment period, and the ownership share of the Corporation is 38.11%.

1. General Information (cont'd)

(2) Summarized financial information of consolidated subsidiaries as of December 31, 2022 and 2021, and the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022			
Subsidiary	Total assets	Total liabilities	Revenue	Profit (loss) for the year
Korea Gas Technology Group	₩ 273,198	₩ 137,397	₩ 326,663	₩ (6,644)
KOGAMEX Investment Manzanillo B.V.	137,225	93,506	-	(912)
KOMEX-GAS, S. de R.L. de C.V.	188	14	-	68
KOGAS Iraq B.V.	1,106,926	176,321	392,677	(91,482)
KOGAS Badra B.V.	547,472	32,004	202,672	115,271
KOGAS Akkas B.V.	17,288	14,553	-	(2,318)
KOGAS Mansuriyah B.V.	357	17	-	(82)
KOGAS Canada Energy Ltd.[1]	1,238,987	783,908	17,141	(7,961)
KOGAS Australia Pty. Ltd.[2]	4,272,434	3,565,097	1,097,908	159,418
KOGAS Prelude Pty. Ltd.	2,147,112	1,592,003	193,586	(42,667)
KG Timor Leste Ltd.	16	59,614	-	(1,799)
KG Krueng Mane Ltd.	-	85,364	-	(2,485)
KG Mozambique Ltd.	1,335,978	907,603	12,832	(46,622)
KOGAS Mozambique, Lda.	21,385	32	54	6,445
KOGAS Cyprus Ltd.	7,968	19	-	(26,167)
KC LNG Tech Co.,Ltd.	10,059	14,264	4,231	(3,994)
KG-SEAGP Company Limited	195,375	12,219	-	1,492
KG Myanmar Ltd.	229,575	2,825	-	7,594
KOGAS International Pte. Ltd.	31,726	15,770	806,765	4,877
Korea LNG Bunkering Ltd.[3]	60,345	14,073	23,680	(237)

[1] The condensed statements of financial position and comprehensive income of KOGAS Canada Energy Ltd. include financial information of KOGAS Canada Partner Ltd., KOGAS Canada LNG Partnership., and KOGAS Canada E&P Partnership.
[2] The condensed statements of financial position and comprehensive income of KOGAS Australia Pty. Ltd. include financial information of KGLNG E&P Pty Ltd., KGLNG E&P Ⅱ Pty Ltd., and KGLNG Liquefaction Pty Ltd.
[3] The condensed statements of financial position and comprehensive income of Korea LNG Bunkering Co Ltd. include financial information of KOREA LNG BUNKERING LINES Ltd.

	2021			
Subsidiary	Total assets	Total liabilities	Revenue	Profit (loss) for the year
Korea Gas Technology Group	₩ 274,456	₩ 141,776	₩ 301,544	₩ 2,591
KOGAMEX Investment Manzanillo B.V.	122,430	85,868	-	4,073
KOMEX-GAS, S. de R.L. de C.V.	2,255	308	4,125	1,762
KOGAS Iraq B.V.	1,080,909	123,912	375,742	64,627
KOGAS Badra B.V.	487,088	31,236	150,009	8,418
KOGAS Akkas B.V.	17,167	12,482	-	(6,406)
KOGAS Mansuriyah B.V.	200	33	-	(6,463)
KOGAS Canada Energy Ltd.[1]	993,601	579,437	12,160	(12,848)
KOGAS Australia Pty. Ltd.[2]	4,011,755	3,486,112	603,234	392,989
KOGAS Prelude Pty. Ltd.	2,173,891	1,615,461	286,500	4,071
KG Timor Leste Ltd.	15	54,115	-	(1,540)
KG Krueng Mane Ltd.	-	77,574	-	(1,974)
KG Mozambique Ltd.	1,118,284	766,052	-	(19,198)
KOGAS Mozambique, Lda.	21,855	6,849	286	6,140
KOGAS Cyprus Ltd.	34,074	13	-	(484)
KC LNG Tech Co.,Ltd.	13,283	13,494	5,131	(8,598)
KG-SEAGP Company Limited	183,860	24	-	14,908
KG Myanmar Ltd.	267,789	2,430	-	9,725
KOGAS International Pte. Ltd.	166,425	155,974	348,025	8,035
Korea LNG Bunkering Ltd.[3]	65,393	33,984	3,493	2,458

[1] The condensed statements of financial position and comprehensive income of KOGAS Canada Energy Ltd. include financial information of KOGAS Canada Partner Ltd., KOGAS Canada LNG Partnership., and KOGAS Canada E&P Partnership.
[2] The condensed statements of financial position and comprehensive income of KOGAS Australia Pty. Ltd. include financial information of KGLNG E&P Pty Ltd., KGLNG E&P Ⅱ Pty Ltd., and KGLNG Liquefaction Pty Ltd.
[3] The condensed statements of financial position and comprehensive income of Korea LNG Bunkering Co Ltd. include financial information of KOREA LNG BUNKERING LINES Ltd.

1. General Information (cont'd)

(3) Information on non-controlling interests

(Korean won in millions)

	2022				
	KC LNG Tech Co.,Ltd.	KG-SEAGP Company Limited	KG Myanmar Ltd.	Others	Total
Voting rights ratio [1]	50.20%	68.22%	100%	-	-
Current assets	₩ 2,951	₩ 139,980	₩ 53,697	₩ 2,308	₩ 198,936
Non-current assets	7,108	55,395	175,878	19,265	257,646
Current liabilities	13,917	12,219	536	46	26,718
Non-current liabilities	347	-	2,289	-	2,636
Net assets	(4,205)	183,156	226,750	21,527	427,228
Carrying amount of non-controlling interests	(2,094)	97,798	127,952	3	223,659
Revenue	4,231	-	-	54	4,285
Net profit (loss) for the year	(3,994)	1,492	7,594	6,513	11,605
Profit (loss) for the year attributable to non-controlling interests	(1,989)	1,194	4,700	-	3,905
Cash flows from operating activities	(1,638)	1,698	5,652	(76)	5,636
Cash flows from investing activities	268	10,709	41,083	6	52,066
Cash flows from financing activities prior to payment of non-controlling Interest dividends	(96)	(14,627)	(41,083)	(2,063)	(57,869)
Dividends paid to non-controlling interests	-	(490)	(5,120)	(1)	(5,611)
Net foreign exchange difference	-	395	-	156	551
Net increase in cash and cash equivalents	(1,466)	(2,315)	532	(1,978)	(5,227)

[1] Non-controlling interests of KG-SEAGP Company Limited and KG Myanmar Ltd. are calculated based on ownership interest ratio, not voting rights ratio.

(Korean won in millions)

	2021				
	KC LNG Tech Co.,Ltd.	KG-SEAGP Company Limited	KG Myanmar Ltd.	Others	Total
Voting rights ratio [1]	50.20%	65.27%	100%	-	-
Current assets	₩ 2,726	₩ 12,624	₩ 47,029	₩ 11,190	₩ 73,569
Non-current assets	10,557	171,236	220,760	12,920	415,473
Current liabilities	12,737	24	378	424	13,563
Non-current liabilities	757	-	2,052	6,733	9,542
Net assets	(211)	183,836	265,359	16,953	465,937
Carrying amount of non-controlling interests	(105)	97,274	153,023	2	250,194
Revenue	5,131	-	-	4,411	9,542
Net profit (loss) for the year	(8,598)	14,908	9,725	7,902	23,937
Profit (loss) for the year attributable to non-controlling interests	(4,282)	11,926	6,120	1	13,765
Cash flows from operating activities	(3,628)	1,700	6,557	9,110	13,739
Cash flows from investing activities	(183)	12,206	32,806	(103)	44,726
Cash flows from financing activities prior to payment of non-controlling interest dividends	5,412	(12,674)	(32,806)	(10,656)	(50,724)
Dividends paid to non-controlling interests	-	(967)	(6,558)	(1)	(7,526)
Net foreign exchange difference	-	396	-	168	564
Net increase in cash and cash equivalents	1,601	661	(1)	(1,482)	779

[1] Non-controlling interests of KG-SEAGP Company Limited and KG Myanmar Co., Ltd. are calculated based on ownership interest ratio, not voting rights ratio.

2. Basis of preparation and significant accounting policies

The principal accounting policies applied in the preparation of these consolidated financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

2.1 Basis of presentation

The Corporation and its subsidiaries (the "Group") maintains its accounting records in Korean won and prepares statutory consolidated financial statements in the Korean language in accordance with International Financial Reporting Standards as adopted by the Republic of Korea ("KIFRS") enacted by the *Act on External Audit of Stock Companies*. The accompanying consolidated financial statements have been translated into English from Korean financial statements. In the event of any differences in interpreting the financial statements or the independent auditor's report thereon, Korean version, which is used for regulatory reporting purposes, shall prevail.

Certain information attached to the Korean language consolidated financial statements, but not required for a fair presentation of the Group's financial position, financial performance or cash flows, is not presented in the accompanying consolidated financial statements.

The consolidated financial statements of the Group have been prepared in accordance with KIFRS. These are the standards, subsequent amendments and related interpretations issued by the International Accounting Standards Board ("IASB") that have been adopted by the Republic of Korea.

The preparation of consolidated financial statements requires the use of critical accounting estimates. Management also needs to exercise judgement in applying the Group's accounting policies. The areas involving a higher degree of judgment or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements are disclosed in Note 3.

2.2 Changes in Accounting Policies and Disclosures

2.2.1 New and amended standards adopted by the Group

The Group has applied the following standards and amendments for the first time for their annual reporting period commencing January 1, 2022.

(1) Amendments to KIFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets* – Costs of fulfilling onerous contract

An onerous contract is a contract under which the unavoidable costs of meeting the obligations under the contract costs (i.e., the costs that the Group cannot avoid because it has the contract) exceed the economic benefits expected to be received under it. The amendments specify that when assessing whether a contract is onerous or loss-making, an entity needs to include costs that relate directly to a contract to provide goods or services including both incremental costs (e.g., the costs of direct labour and materials) and an allocation of costs directly related to contract activities (e.g., depreciation of equipment used to fulfil the contract and costs of contract management and supervision). General and administrative costs do not relate directly to a contract and are excluded unless they are explicitly chargeable to the counterparty under the contract. These amendments had no material impact on the consolidated financial statements of the Group.

(2) Reference to the Conceptual Framework – Amendments to KIFRS 1103

The amendments replace a reference to a previous version of the IASB's Conceptual Framework with a reference to the current version issued in March 2018 without significantly changing its requirements. The amendments add an exception to the recognition principle of KIFRS 1103 Business Combinations to avoid the issue of potential 'day 2' gains or losses arising for liabilities and contingent liabilities that would be within the scope of KIFRS 1037 Provisions, Contingent Liabilities and Contingent Assets or KIFRS Interpretation 2121 Levies, if incurred separately. The exception requires entities to apply the criteria in KIFRS 1037 or KIFRS Interpretation 2121, respectively, instead of the Conceptual Framework, to determine whether a present obligation exists at the acquisition date. The amendments also add a new paragraph to KIFRS 1103 to clarify that contingent assets do not qualify for recognition at the acquisition date. These amendments had no material impact on the consolidated financial statements of the Group.

2. Basis of preparation and significant accounting policies (cont'd)

(3) Amendments to KIFRS 1016 *Property, Plant and Equipment* – Proceeds before Intended Use

The amendment prohibits entities deducting from the cost of an item of property, plant and equipment, any proceeds from selling items produced while bringing that asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Instead, an entity recognizes the proceeds from selling such items, and the costs of producing those items, in profit or loss. These amendments had no material impact on the consolidated financial statements of the Group.

(4) Amendments to KIFRS 1101 *First-time Adoption of International Financial Reporting Standards* – Subsidiary as a first-time adopter

The amendment permits a subsidiary that elects to apply paragraph D16(a) of KIFRS 1101 to measure cumulative translation differences using the amounts reported by the parent, based on the parent's date of transition to KIFRS. This amendment is also applied to an associate or joint venture that elects to apply paragraph D16(a) of KIFRS 1101. These amendments had no material impact on the consolidated financial statements of the Group.

(5) Amendments to KIFRS 1109 *Financial Instruments* – Fees in the '10 percent' test for derecognition of financial liabilities

The amendment clarifies the fees that an entity includes when assessing whether the terms of a new or modified financial liability are substantially different from the terms of the original financial liability. These fees include only those paid or received between the borrower and the lender, including fees paid or received by either the borrower or lender on the other's behalf. There is no similar amendment proposed for KIFRS 1039 Financial Instruments: Recognition and Measurement. These amendments had no material impact on the consolidated financial statements of the Group.

(6) Amendments to KIFRS 1041 *Agriculture* – Taxation in fair value measurements

The amendment removes the requirement in paragraph 22 of KIFRS 1041 that entities exclude cash flows for taxation when measuring the fair value of assets within the scope of KIFRS 1041. These amendments had no material impact on the consolidated financial statements of the Group.

2.2.2 New standards and interpretations not yet adopted by the Group

The new and amended standards and interpretations that are issued, but not yet effective, for the annual periods beginning on or after January 1, 2022 that the Group has not early adopted are disclosed below.

(1) Amendments to KIFRS 1001: *Classification of Liabilities as Current or Non-current*

The amendments to paragraphs 69 to 76 of KIFRS 1001 specify the requirements for classifying liabilities as current or non-current. The amendments clarify:

- What is meant by a right to defer settlement
- That a right to defer must exist at the end of the reporting period
- That classification is unaffected by the likelihood that an entity will exercise its deferral right
- That only if an embedded derivative in a convertible liability is itself an equity instrument would the terms of a liability not impact its classification

The amendments are effective for annual reporting periods beginning on or after January 1, 2023 and must be applied retrospectively. The Group is currently assessing the impact the amendments will have on current practice and whether existing loan agreements may require renegotiation.

2. Basis of preparation and significant accounting policies (cont'd)

(2) Amendments to KIFRS 1001 *Presentation of Financial Statements - Disclosure of Accounting Policy*

In February 2021, the IASB issued amendments to KIFRS 1001 and KIFRS Practice Statement 2 Making Materiality Judgements, in which it provides guidance and examples to help entities apply materiality judgements to accounting policy disclosures. The amendments aim to help entities provide accounting policy disclosures that are more useful by replacing the requirement for entities to disclose their 'significant' accounting policies with a requirement to disclose their 'material' accounting policies and adding guidance on how entities apply the concept of materiality in making decisions about accounting policy disclosures. The amendments to KIFRS 1001 are applicable for annual periods beginning on or after January 1, 2023 with earlier application permitted. These amendments are not expected to have a material impact on the Group.

(3) Amendments of KIFRS 1008 *Accounting Policy, Changes in Accounting Estimates and Errors - Definition of Accounting Estimates*

The revised standard clearly distinguishes changes in accounting estimates, changes in accounting policies, and correction of accounting errors. The revised standard also clarifies how an entity uses measurement techniques and inputs to develop accounting estimates. These amendments are effective for annual periods beginning on or after January 1, 2023, with early application permitted. These amendments are not expected to have a material impact on the Group.

(4) Amendments to KIFRS 1012 *Corporate Tax - Deferred tax on assets and liabilities arising from a single transaction*

In addition to the initial recognition exception for a transaction in which an asset or liability is initially recognized, requirement as a transaction that does not generate at the same time a taxable temporary difference and a deductible temporary difference has been added. These amendments are effective for fiscal years beginning on or after January 1, 2023, and early application is permitted. The Group is reviewing the impact of the amendments on the consolidated financial statements.

(5) Enactment of KIFRS 1117 *Insurance Contract*

KIFRS 1117 'Insurance Contract' is scheduled to replace KIFRS 1104 'Insurance Contract'. This standard estimates all cash flows from insurance contracts, measures insurance liabilities using a discount rate that reflects assumptions and risks at the time of reporting, and recognized revenue by reflecting services (insurance insurance) provided to policyholders for each fiscal year to be accrual basis. In addition, investment factors (cancellation/maturity refunds) paid to policyholders regardless of insurance events are excluded from insurance income, and insurance profit and loss and investment profit and loss are displayed separately so that information users can check the source of profit and loss. This standard is effective for the first fiscal year beginning on or after January 1, 2023, and early application is permitted to companies that have applied K-IFRS No. 1109 'Financial Instruments'. The enactment of this standard is not expected to have a material impact on the Group.

(6) Amendments to KIFRS 1001 *Presentation of Financial Statements* – Disclosure of gain or loss on valuation of financial liabilities subject to adjustment of exercise price

The amendment required the disclosure of the carrying amount of the financial liability and related gains and losses if all or part of the financial instrument is classified as a financial liability under which the exercise price is adjusted according to changes in the issuer's stock price. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. These amendments are not expected to have a material impact on the Group.

2.3 Accounting policies

2.3.1 Revenue recognition

Revenue is recognized by applying a five-stage revenue recognition model (Identification of a contract with a customer → Identification of performance obligations in the contract → Determination of the transaction price → Allocation of the transaction price to the separate performance obligations in the contract → Recognition of revenue upon satisfying the performance obligations) to all of its contracts with customers. Revenue is measured based on the consideration determined by contracts with customers, excluding amounts collected on behalf of third parties. Further, the Group recognizes revenue when the control of goods or services is transferred to customers.

The Group is mainly engaged in the supply of natural gas and providing related services using supply facilities.

(a) Sale of goods

The Group's contracts with customers for the sale of natural gas includes a single performance obligation. Generally, the control of the goods is transferred to the customer at a point in time. Therefore, the Group recognizes revenue when the goods are transferred to the customers and the adoption of the standard has no impact on the timing of the Group's revenue recognition.

(b) Rendering of services

(i) Maintenance of gas facilities

The Group provides maintenance and repair services for gas facilities. In accordance with KIFRS 1115, revenue from installation services is recognized over a period of time using an input method to measure the progress of a service as customers simultaneously receive and consume the benefits provided by the Group. Assets that have the right to receive payment for the goods or services transferred to the customer and for which there is a condition beyond the time limit should be recognized as contract assets. As a result of the adoption of KIFRS 1115, the Group reclassified unbilled amount and overbilled amount arising from construction and service contracts to contract assets and liabilities.

(ii) Revenue from service to operate oversea projects

The Group provides services under the technical service contracts in which the Group has entered into with customers. These services include a single performance obligation in operation of the production of crude oil and gas. The Group recognized revenue over time by measuring its progress towards complete satisfaction of that performance obligation as the customer simultaneously receives and consumes the benefits of the Group’s performance. The Group recognizes revenue as the amount that is directly attributable to the value of the service rendered each month, which is the same as the period of recognition as stated under KIFRS 1018.

(iii) Joint usage of facilities

The contract for the use of plumbing facilities concluded with the customer includes a single obligation to provide the customer with the service of transferring the gas from the pre-agreed point of entry to withdrawal using the Group’s plumbing facilities. The Group recognizes revenue as the amount that is directly attributable to the value of the service rendered each month, which is the same as the period of recognition as stated under KIFRS 1018.

(c) Other significant judgments

In addition to the above, other significant matters as determined by applying the standard 1115 'Revenue from contracts with customers' are as follows.

2.3.1 Revenue recognition (cont'd)

(i) Transportation service

If the goods provided to the customer by the Group are not transferred to the customer without the shipping service, the customer cannot obtain benefits in itself, and the customer cannot receive the shipping service from the group other than the Group. You can not benefit from it with other resources. Therefore, the services provided by the Group are not identified as separate performance obligations.

(ii) Provision of goods sales guarantee

The Group have a warranty obligation on the quantity and quality of goods sold. The obligation for the quantity and quality of the group is that there is no option to purchase the warranty separately from the customer and the warranty (or any part of it) agrees that the product conforms to the agreed specifications. This is not a separate service that is separate from the supply of goods. On the other hand, if a penalty payment is expected due to the obligation, it should be deducted from the sales as the best estimate of the payment expected to the customer because it corresponds to the variable consideration. The adoption of KIFRS 1115 has no impact on the recognition of revenue.

(iii) Variable cost

If the contract contains significant variable consideration, the Group transfers the promised goods to the customer and estimates the amount to be paid in return. When the uncertainty associated with the variable cost is eliminated, the variable price is estimated at the commencement of the contract and included in the transaction price only to the extent that it is highly unlikely that a significant portion of the cumulative revenue already recognized will be returned. In this regard, there is no significant change in the amount that the Group recognizes in its contract with the customer. As described in Note 9 (3), the Group generally provides short-term lending to its customers, therefore contracts with customers do not include significant financial elements.

(d) Present and disclosure requirements

The Group has recognized the revenue recognized in its contract with customers by category to indicate how economic factors affect the nature, amount, timing and uncertainty of revenue and cash flows. The Group also discloses information about the relationship between disclosed revenue disclosures and reported revenue information for each reporting

2.3.2 Leases

The Group assesses at contract inception whether a contract is, or contains, a lease. That is, if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

2.3.2.1. As a lessee
At commencement or on modification of a contract that contains a lease component, the Group allocates the consideration in the contract to each lease component on the basis of its relative stand-alone prices. However, for the leases of property the Group has elected not to separate non-lease components and account for the lease and non-lease components as a single lease component.

The Group recognises a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the end of the lease term, unless the lease transfers ownership of the underlying asset to the Group by the end of the lease term or the cost of the right-of-use asset reflects that the Group will exercise a purchase option. In that case the right-of-use asset will be depreciated over the useful life of the underlying asset, which is determined on the same basis as those of property and equipment. In addition, the right-of-use asset is periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Group's incremental borrowing rate. Generally, the Group uses its incremental borrowing rate as the discount rate.

The Group determines its incremental borrowing rate by obtaining interest rates from various external financing sources and makes certain adjustments to reflect the terms of the lease and type of the asset leased.

Lease payments included in the measurement of the lease liability comprise the following:
- fixed payments, including in-substance fixed payments;
- variable lease payments that depend on an index or a rate, initially measured using the index or rate as at the commencement date;
- amounts expected to be payable under a residual value guarantee; and the exercise price under a purchase option that the Group is reasonably certain to exercise, lease payments in an optional renewal period if the Group is reasonably certain to exercise an extension option, and penalties for early termination of a lease unless the Group is reasonably certain not to terminate early.

2.3.2 Leases (cont'd)

The lease liability is measured at amortised cost using the effective interest method. It is remeasured when there is a change in future lease payments arising from a change in an index or rate, if there is a change in the Group's estimate of the amount expected to be payable under a residual value guarantee, if the Group changes its assessment of whether it will exercise a purchase, extension or termination option or if there is a revised in-substance fixed lease payment.

When the lease liability is remeasured in this way, a corresponding adjustment is made to the carrying amount of the right-of-use asset, or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

Short-term leases and leases of low-value assets
The Group has elected not to recognise right-of-use assets and lease liabilities for leases of low-value assets and short-term leases, including IT equipment. The Group recognises the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

2.3.2.2 As a lessor
At inception or on modification of a contract that contains a lease component, the Group allocates the consideration in the contract to each lease component on the basis of their relative stand-alone prices. When the Group acts as a lessor, it determines at lease inception whether each lease is a finance lease or an operating lease.

To classify each lease, the Group makes an overall assessment of whether the lease transfers substantially all of the risks and rewards incidental to ownership of the underlying asset. If this is the case, then the lease is a finance lease; if not, then it is an operating lease. As part of this assessment, the Group considers certain indicators such as whether the lease is for the major part of the economic life of the asset.

When the Group is an intermediate lessor, it accounts for its interests in the head lease and the sub-lease separately. It assesses the lease classification of a sub-lease with reference to the right-of-use asset arising from the head lease, not with reference to the underlying asset. If a head lease is a short-term lease to which the Group applies the exemption described above, then it classifies the sub-lease as an operating lease.

If an arrangement contains lease and non-lease components, then the Group applies KIFRS 1115 to allocate the consideration in the contract.

The Group applies the derecognition and impairment requirements in IFRS 1109 to the net investment in the lease. The Group further regularly reviews estimated unguaranteed residual values used in calculating the gross investment in the lease.

The Group recognises lease payments received under operating leases as income on a straight-line basis over the lease term as part of 'other revenue'.

2.3.3 Foreign currency translation

2.3.3.1 Functional and presentation currency

Items included in the consolidated financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which each entity operates (the "functional currency"). The consolidated financial statements are presented in Korean won, which is the Parent Company's functional and presentation currency.

2.3.3.2 Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies at year end exchange rates are generally recognized in profit or loss.

Non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was determined. Translation differences on assets and liabilities carried at fair value are reported as part of the fair value gain or loss. For example translation differences on non-monetary assets and liabilities such as equitiems held at fair value through profit or loss are recognized in profit or loss as part of the fair value gain or loss and translation differences on non-monetary assets such as equities classified as financial assets at fair value through other comprehensive income are recognized in other comprehensive income.

2.3.4 Borrowing costs

General and specific borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset are capitalized during the period of time that is required to complete and prepare the asset for its intended use or sale. Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalization. Other borrowing costs are expensed in the period in which they are incurred.

2.3.5 Government grants

Grants from the government are recognized at their fair value where there is a reasonable assurance that the grant will be received and the Group will comply with all attached conditions.

Government grants related to assets are presented in the statement of financial position by deducting the grant in arriving at the carrying amount of the asset. The grant is recognized in profit or loss over the life of a related asset by reducing depreciation expense.

If the Group received grants related to income, government grants which are intended to compensate the Group for expenses incurred are recognized as other income in profit or loss over the periods in which the Group recognizes the related costs as expenses. The government grants which are intended to give immediate financial support to the Group with no future related costs are recognized as government grant income in profit or loss at the time such grants can be rightfully claimed by the Group.

2.3.6 Investments in associates

An associate is any company that the Group can have a significant influence on, but has no control, and is generally an investee in which the group owns 20% to 50% of the voting shares. Investments in associates are initially recognized as acquisition cost and are accounted for using the equity method. Unrealized profits arising from transactions between the Group and associates are deducted as much as the portion of the Group's interest in associates. The application of the equity method is discontinued if the Group's equity interest in the associate is equal to or exceeds the investment interest in the associate (including the long-term investment that forms part of the net investment). However, if the Group has legal or agenda obligations for additional losses after the Group's stake is reduced to zero, or if payments are made on behalf of the associate, losses and liabilities are recognized only up to that amount. In addition, if there are signs of objective impairment on the investment of an associate, the difference between the recoverable amount and the carrying amount of the investment of the associate is recognized as an impairment loss. When the Group uses the financial statements of associates to apply the equity method, the financial statements of associates are adjusted, if necessary, by reviewing whether the same accounting policies applied by the Group have been applied to the same transactions or events in similar circumstances.

2.3.7 Joint arrangements

Joint arrangements in which two or more parties have joint control are classified as joint operations or joint ventures. Joint operators have the rights and obligations to the assets and liabilities of the joint operation, and recognize their share of the assets and liabilities, income and expenses of the joint operation. The joint venture participants have the right to the joint venture's net assets and apply the equity method. (Note 2.3.6)

The Group participates in unincorporated joint ventures that are not classified as joint arrangement over which the Group has no significant influence. The Group has rights and obligations over assets, liabilities, revenues and expenses corresponding to the percentage of ownership through unincorporated joint venture in accordance with the joint arrangements. In accordance with paragraph B11 of KIFRS 1111 and paragraph 10 of KIFRS 1108, the Group accounts for its assets and liabilities in relation to the percentage of ownership.

2.3.8 Retirement benefits

The Group operates both defined contribution and defined benefit pension plans.

For defined contribution plans, the Group pays contribution to publicly or privately administered pension insurance plans on mandatory, contractual or voluntary basis. The Group has no further payment obligation once the contribution have been paid. The contribution are recognized as employee benefit expense when they are due.

A defined benefit plan is a pension plan that is not a defined contribution plan. Generally, post-employment benefits are payable after the completion of employment, and the benefit amount depended on the employee’s age, periods of service or salary levels. The liability recognized in the statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and that have terms approximating to the terms of the related obligation. Remeasurement gains and losses arising from experience adjustments and changes in actuarial assumptions are recognized in the period in which they occur, directly in other comprehensive income.

Changes in the present value of the defined benefit obligation resulting from plan amendments or curtailments are recognized immediately in profit or loss as past service costs.

2.3.9 Current and deferred tax

The tax expense for the period consists of current and deferred tax. Current and deferred tax is recognized in profit or loss, except to the extent that it relates to items recognized in other comprehensive income or directly in equity. In this case, the tax is also recognized in other comprehensive income or directly in equity, respectively.

The tax expense is measured at the amount expected to be paid to the taxation authorities, using the tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period.

Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation. The Group recognizes current income tax on the basis of amounts expected to be paid to the tax authorities.

Deferred tax is provided in full, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. However, deferred tax is not accounted for if it arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor taxable profit or loss.

Deferred tax assets are recognized only if it is probable that future taxable amounts will be available to utilize those temporary differences and losses.

The Group recognizes a deferred tax liability all taxable temporary differences associated with investments in subsidiaries, associates, and interests in joint arrangements, except to the extent that the Group is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. In addition, The Group recognizes a deferred tax asset for all deductible temporary differences arising from such investments to the extent that it is probable the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets and liabilities and when the deferred tax balances relate to the same taxation authority. Current tax assets and tax liabilities are offset where the entity has a legally enforceable right to offset and intends either to settle on a net basis.

2.3.10 Non-current assets held for sale

Non-current assets are classified as held for sale when their carrying amount will be recovered principally through a sale transaction rather than through continuing use and a sale is considered highly probable. The assets are measured at the lower amount between their carrying amount and the fair value less costs to sell.

2.3.11 Property, plant and equipment

Property, plant and equipment are stated at cost after the initial recognition acquisition cost less accumulated depreciation and accumulated impairment losses.

The cost of property, plant and equipment includes any costs directly attributable to bringing the asset or expenses directly related to the construction. It also includes cost to the location and condition necessary for it to be capable of operating in the manner intended by management and the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located.

Subsequent costs are included in carrying amount or recognized as an asset if it is probable that future economic benefits associated with the item will flow, and the cost of the item can be measured reliably. Replaced part of the carrying amount is derecognized. Meanwhile, the cost of day-to-day servicing are recognized in profit or loss as incurred.

2.3.11 Property, plant and equipment (cont'd)

Depreciation of all property, plant and equipment, except for land and timber, is calculated using the method below to allocate their cost or revalued amounts, net of their residual amounts, over their estimated useful life. Also, reserves used in calculation of units of production method generally include Proved Reserves and Probable Reserves, and the Group regularly evaluates the reserve amount.

	Useful lives (years)	Depreciation method
Buildings	15 ~ 40	Straight-line method
Structures	5 ~ 50	Straight-line method
Machinery	4 ~ 30	Straight-line method
Vehicles	4 ~ 15	Straight-line method
Office equipment	4 ~ 5	Straight-line method
Tools and instruments	3 ~ 12	Straight-line method
Computerized facility	4 ~ 8	Straight-line method
Right-of-use assets	Lease period	Straight-line method
Others	Period of business	Straight-line method and units of production method

Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost of the item is depreciated separately.

The assets' depreciation method, residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period, the change is accounted for as a change in an accounting estimate.

Property, plant and equipment are derecognized on disposal, or when no future economic benefits are expected from its use or disposal. Gains or losses arising from derecognition of a property, plant and equipment, measured as the difference between the net disposal proceeds and the book amount of the asset, and are recognized in profit or loss for the year when the asset is derecognized.

2.3.12 Intangible assets

2.3.12.1 Intangible assets acquired separately

Intangible assets, except for resource development with finite useful lives that is acquired separately, are carried at cost less accumulated amortization and accumulated impairment losses. Amortization of intangible asset, except for the right to use harbor facilities from usable and profitable donation assets and intangible exploration evaluated assets are recognized on a straight-line basis over their estimated useful lives. The estimated useful life and amortization method are reviewed at the end of each reporting period, with the effect of any changes in estimate being accounted for on a prospective basis. Intangible assets with indefinite useful lives that are acquired separately are carried at cost less accumulated impairment losses.

The right to use harbor facilities from the usable and profitable donation assets will be amortized to reflect economic benefits of assets expected to be consumed, for example, free use of harbor facilities.

The followings are expenditures that are recognized at acquisition costs of intangible assets: acquisition of rights to explore for resource developments; topographical, geological and geophysical studies incurred in the exploration stage; and direct costs incurred in relation to trenching or drilling. If natural resources are not found, the intangible exploration and evaluation assets are written off. If hydrocarbons are found, further appraisal activities, which may include the drilling of deeper wells, are carried out. If as a result of appraisal the commercial development is expected to be certain, the intangible exploration and evaluation asset is classified as a mineral right.

Intangible exploration and evaluation assets are subject to technical, commercial and managerial review at least once a year to evaluate possibilities for entering into the development stage. When this is no longer the case, the costs are written off. When proven reserves of oil and natural gas are determined and development is sanctioned, the relevant intangible exploration and evaluation assets are depreciated using the unit of production method. Also, reserves used in calculation of units of production method generally include Proved Reserves and Probable Reserves, and the Group regularly evaluates the reserve amount.

2.3.12 Intangible assets (cont'd)

2.3.12.2 Internally-generated intangible assets - research and development expenditure

Expenditures on research activities are recognized as an expense in the period in which they are incurred.

Development expenditures are capitalized only if development costs can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable, and the Group intends to and has sufficient resources to complete development and to use or sell the asset. Other development expenditures are recognized in profit or loss as incurred.

The amount initially recognized for internally-generated intangible assets is the sum of the expenditure incurred from the date when the intangible asset first meets the recognition criteria described above. When the development expenditure does not meet the criteria described above, an internally generated intangible asset cannot be recognized and the expenditure is recognized in profit or loss in the period in which it is incurred.

Internally generated intangible assets are carried at acquisition cost less accumulated depreciation and accumulated impairment losses.

2.3.12.3 Derecognition of intangible assets

An intangible asset is derecognized on disposal, or when no future economic benefits are expected from its use or disposal. Gains or losses arising from derecognition of an intangible asset, measured as the difference between the net disposal proceeds and the carrying amount of the asset, and are recognized in profit or loss when the asset is derecognized.

2.3.13 Greenhouse gas emission rights

Greenhouse gas emission rights and liabilities generated in accordance with the "Act on Allocation and Transaction of Greenhouse Gas Emission Rights" are accounted for as follows.

2.3.13.1 Greenhouse gas emission rights

Greenhouse gas emission permits consist of emission permits allocated free of charge by the government and purchased emission permits. Emissions are recognized by adding purchase costs and other costs that are directly attributable to acquisition and incurred normally.

The Group holds emission credits for the purpose of fulfilling its legal obligations, and the holdings emission rights are classified as intangible assets, but the portion submitted to the government within one year from the end of the reporting period is classified as current assets. Emissions classified as intangible assets are carried at cost less accumulated impairment losses after initial recognition.

Greenhouse gas credits are removed when future economic benefits are no longer expected because they cannot be submitted, sold or used by the government.

2.3.13.2 Emissions liabilities

Emissions liabilities are current obligations to emit greenhouse gases and submit emission permits to the government, where there is a high possibility that resources will be outflowed to fulfill the obligations, and the amount required to fulfill the obligations can be reliably estimated. I am aware of it. Emissions liabilities are measured by adding the carrying amount of the permits held for the relevant performance year to be submitted to the government and the expected expenditure to fulfill the obligation for emissions in excess of the amount of permits held. Discharge liabilities are removed when filing with the government.

2.3.14 Impairment of non-financial assets

For goodwill and intangible assets that have an indefinite useful life and assets that are not in ready to use, recoverable amount of assets is assessed annually to determine the impairment amount. It is assessed when facts and circumstances suggest that the carrying amount of an exploration and evaluation assets exceed its recoverable amount, or when events or changes in circumstances indicate that the assets might be impaired after the assets are tested of impairment in every reporting period.

The recoverable amount is estimated for the individual asset. If it is not possible to estimate the recoverable amount of the individual asset, the recoverable amount of the cash-generating unit to which the asset belongs is determined. The recoverable amount of individual assets (or cash generating unit)is the greater of its value in use and its fair value less costs to sell. An impairment loss is recognized in profit or loss if the carrying amount of individual assets (or cash generating unit) exceeds its recoverable amount.

The carrying amount of individual assets (or cash generating unit) are to be increased to its recoverable amounts if impairment loss recognized in prior periods are reversed, except for the goodwill. However, the increased carrying amount of an asset attributable to a reversal of an impairment loss shall not exceed the carrying amount that would have been determined had no impairment loss been recognized for the assets in prior years. A reversal of an impairment loss for an asset are recognized as profit or loss.

2.3.15 Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is determined using the weighted average method for raw materials and finished goods, by using moving average method for stored goods and by using the identified cost method for materials in transit.

2.3.16 Provisions

Provisions are measured at the present value of management's best estimate of the expenditure required to settle the present obligation at the end of the reporting period, and the increase in the provision due to the passage of time is recognized as interest expense.

On the other hand, it is uncertain when the ultimate timing of the outflow of economic benefits will be as the Group expects the land to continue to occupy and use gas pipelines, which are recognized as right-of-use assets and lease liabilities. As this uncertainty is likely to persist over a long period of time, the Group does not recognize the provision for restoration related to land occupation and use because it cannot reliably estimate the timing of the expenditure required to meet the obligation.

2.3.17 Financial assets

2.3.17.1 Classification

The Group classifies its financial assets in the following measurement categories:

- those to be measured at fair value through profit or loss
- those to be measured at fair value through other comprehensive income, and
- those to be measured at amortized cost.

The classification depends on the Group's business model for managing the financial assets and the contractual terms of the cash flows.

For financial assets measured at fair value, gains and losses will either be recorded in profit or loss or other comprehensive income. For investments in debt instruments, this will depend on the business model in which the investment is held. The Group reclassifies debt investments when, and only when its business model for managing those assets changes.

For investments in equity instruments that are not held for trading, this will depend on whether the Group has made an irrevocable election at the time of initial recognition to account for the equity investment at fair value through other comprehensive income.

2.3.17.2 Measurement

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss.

A hybrid contract that includes an embedded derivative takes into account the entire hybrid contract when determining whether the contractual cash flows consist solely of principal and interest.

2.3.17.2.1 Debt instruments

Subsequent measurement of debt instruments depends on the Group's business model for managing the asset and the cash flow characteristics of the asset. The Group classifies its debt instruments into one of the following three measurement categories:

Amortized cost:
Assets that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortized cost. A gain or loss on a debt investment that is subsequently measured at amortized cost and is not part of a hedging relationship is recognized in profit or loss when the asset is derecognized or impaired. Interest income from these financial assets is included in 'finance income' using the effective interest rate method.

Fair value through other comprehensive income:
Assets that are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal and interest, are measured at fair value through other comprehensive income. Movements in the carrying amount are taken through other comprehensive income, except for the recognition of impairment loss (reversal of impairment loss), interest income and foreign exchange gains and losses which are recognized in profit or loss. When the financial asset is derecognized, the cumulative gain or loss previously recognized in other comprehensive income is reclassified from equity to profit or loss. Interest income from these financial assets is included in 'finance income' using the effective interest rate method. Foreign exchange gains and losses are presented in ''finance income (costs)' and impairment losses are presented in 'finance costs'.

2.3.17 Financial assets (cont'd)

Fair value through profit or loss:
Assets that do not meet the criteria for amortized cost or fair value through other comprehensive income are measured at fair value through profit or loss. A gain or loss on a debt investment that is subsequently measured at fair value through profit or loss and is not part of a hedging relationship is recognized in profit or loss and presented net in the consolidated statement of comprehensive income within ''finance income (costs)' in the year in which it arises.

2.3.17.2.2 Equity instruments

The Group subsequently measures all equity investments at fair value. Where the Group's management has elected to present fair value gains and losses on equity investments, which held for long-term investment or strategic purpose, in other comprehensive income, there is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment. Dividend income from such investments continue to be recognized in profit or loss as 'finance income' when the right to receive payments is established.

Changes in the fair value of financial assets at fair value through profit or loss are recognized in 'other income and expenses' in the statement of profit or loss as applicable. Impairment loss (reversal of impairment loss) on equity investments measured at fair value through other comprehensive income are not reported separately from other changes in fair value.

2.3.17.3 Impairment

Unlike KIFRS 1039, at the end of each reporting period, KIFRS 1109 requires the Group to account for the expected credit loss ("ECL") and related changes to reflect credit changes of financial assets from initial recognition in accordance with the expected credit loss model. This means that credit events do not have to occur before credit losses are recognized.

The Group recognizes loss allowances as the expected credit loss on debt instruments subsequently measured at amortized cost or FVOCI, lease receivables, contract assets and loan commitments and financial guarantees subject to impairment in accordance with KIFRS 1109.

In particular, if the credit risk of financial instruments has increased significantly since initial recognition, or if the financial assets have been credit-impaired at the acquisition, the allowance is measured at an amount equal to lifetime expected credit losses. On the other hand, if the credit risk of a financial instrument has not increased significantly since initial recognition (except for financial assets that are credit-impaired at acquisition), the Group measures the credit loss allowance for the financial instrument at an amount equal to 12-month expected credit losses.

2.3.17.4 Derecognition

Financial assets are derecognised when contractual rights to the cash flows of the financial asset expire, or when financial assets are transferred and substantially all the risks and rewards of ownership of the financial asset are transferred to other entities. If the risks and rewards of ownership of the financial assets are not transferred, and the financial assets transferred are kept under control, the Group continues to recognize them to the extent of its continuing involvement in the financial assets. If a transfer does not result in derecognition because the Group has retained substantially all the risks and rewards of ownership of the transferred asset, the Group continues to recognize the transferred asset in its entirety and recognizes a financial liability for the consideration received. The Group classified the financial liability as "borrowings" in the consolidated statement of financial position.

2.3.18 Financial liabilities

2.3.18.1 Classification and measurement

The Group's financial liabilities at fair value through profit or loss are derivatives that are not designated as hedging instruments.

The Group classifies non-derivative financial liabilities, except for financial liabilities at fair value through profit or loss, financial guarantee contracts and financial liabilities that arise when a transfer of financial assets does not qualify for derecognition, as financial liabilities carried at amortized cost and present as 'trade payables', 'borrowings', and 'other financial liabilities' in the consolidated statement of financial position.

2.3.18.2 Derecognition

Financial liabilities are removed from the statement of financial position when it is extinguished; for example, when the obligation specified in the contract is discharged or cancelled or expired or when the terms of an existing financial liability are substantially modified.

2.3.19 Derivative instruments

Derivatives are initially recognized at fair value on the date when a derivative contract is entered into and are subsequently remeasured at their fair value at the end of each reporting period. Changes in the fair value of any derivative instrument that does not qualify for hedge accounting are recognized immediately in profit or loss within 'finance income (costs)' based on the nature of transactions.

2.3.19.1 Hedge accounting

The Group designates certain hedging instruments, which include derivatives, embedded derivatives and non-derivatives in respect of foreign currency risk, as either fair value hedges, cash flow hedges, or hedges of net investments in foreign operations. Hedges of foreign exchange risk on firm commitments are accounted for as cash flow hedges.

At the inception of the hedging relationship, the entity documents the relationship between the hedging instrument and the hedged item, along with its risk management objectives and its strategy for undertaking various hedge transactions. Furthermore, at the inception of the hedge and on an ongoing basis, the Group documents whether the hedging instrument is highly effective in offsetting changes in fair values or cash flows of the hedged item.

2.3.19.2 Fair value hedges

Changes in the fair value of derivatives that are designated and qualify as fair value hedges are recognized in profit or loss immediately, together with any changes in the fair value of the hedged asset or liability that are attributable to the hedged risk. The change in the fair value of the hedging instrument and the change in the hedged item attributable to the hedged risk are recognized in the line of the statement of comprehensive income relating to the hedged item.

Hedge accounting is discontinued when the Group revokes the hedging relationship, when the hedging instrument expires or is sold, terminated, or exercised, or when it no longer qualifies for hedge accounting. The fair value adjustment to the carrying amount of the hedged item arising from the hedged risk is amortized to profit or loss from that date.

2.3.19 Derivative instruments (cont'd)

2.3.19.3 Cash flow hedges

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognized in other comprehensive income. The gains or losses relating to the ineffective portion is recognized immediately in profit or loss, and is included in the 'finance income and costs" line item.

Amounts previously recognized in other comprehensive income and accumulated in equity are reclassified to profit or loss in the periods when the hedged item is recognized in profit or loss, in the same line of the statement of comprehensive income as the recognized hedged item. However, when the forecasted transaction that is hedged results in the recognition of a non-financial asset or a non-financial liability, the gains and losses previously accumulated in equity are transferred from equity and included in the initial measurement of the cost of the non-financial asset or non-financial liability.

Hedge accounting is discontinued when the Group revokes the hedging relationship, when the hedging instrument expires or is sold, terminated, or exercised, or it no longer qualifies for hedge accounting. Any gains or losses accumulated in equity at that time remains in equity and is recognized when the forecast transaction is ultimately recognized in profit or loss. When a forecasted transaction is no longer expected to occur, the gains or losses accumulated in equity is recognized immediately in profit or loss.

2.3.20 Financial guarantee contracts

Financial guarantee contracts provided by an associate are measured at fair value at initial recognition and are subsequently recognized as a provision for financial guarantees measured at the greater of:

① Allowance for losses calculated based on the impairment of financial instruments

② The amount less the accumulated amortization recognized in accordance with Korean IFRS 1115, *Revenue from contracts with customers*

2.3.21 Goodwill

Goodwill is the excess of the aggregate of the consideration transferred and the amount recognized for non-controlling interests, and any previous interest held, over the net identifiable assets acquired and liabilities assumed. If the fair value of the net assets acquired is in excess of the aggregate consideration transferred, the Group re-assesses whether it has correctly identified all of the assets acquired and all of the liabilities assumed and reviews the procedures used to measure the amounts to be recognized at the acquisition date. If the re-assessment still results in an excess of the fair value of net assets acquired over the aggregate consideration transferred, then the gain is recognized in profit or loss.

2.4 Approval of issuance of the consolidated financial statements

The consolidated financial statements for the year ended December 31, 2022 were approved for issue by the Board of Directors on February 24, 2023 and are subject to change with the approval of shareholders at their Annual General Meeting.

3. Significant accounting estimates and assumptions

The preparation of the financial statements requires management to make estimates and assumptions that affect amounts reported therein. Estimations and assumptions are continuously evaluated with consideration to factors such as events reasonably predictable in the foreseeable future within the present circumstance according to historical experience. The resulting accounting estimates will, by definition, seldom equal the related actual results.

The estimates and assumptions on significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below.

3.1 Income taxes

The Group 's taxable income generated from these operations are subject to income taxes based on tax laws and interpretations of tax authorities in numerous jurisdictions. There are many transactions and calculations for which the ultimate tax determination is uncertain. As a result of the business activities as of the end of the reporting period, the Group recognized the tax effects expected to be borne in the future as current and deferred taxes through the best estimation process. However, the actual final income taxes burden in the future may not be consistent with the related assets and liabilities recognized, and this difference may affect the current and deferred tax assets and liabilities at the time when the final tax effect is finalized.

If certain portion of the taxable income is not used for investments or increase in wages or dividends in accordance with the Tax System for Recirculation of Corporate Income, the Group is liable to pay additional income tax calculated based on the tax laws. The new tax system is effective for three years from 2015. Accordingly, the measurement of current and deferred income tax is affected by the tax effects from the new tax system. As the Group's income tax is dependent on the investments, increase in wages and dividends, there is an uncertainty measuring the final tax effects.

The Group reviews whether there is uncertainty in the treatment of income taxes in accordance with KIFRS 2123, and if the tax authorities conclude that it is not likely to accept the uncertain income tax treatment, each uncertain income tax treatment is recognized as the amount calculated by the following methods to predict resolution of the uncertainty.

① Most likely amount: The most likely single amount in the range of possible outcomes

② Expected amount: Sum of the amount of all the amounts in the range of possible outcomes multiplied by each probability

If it is highly probable that future taxable income will be used for tax losses, the deferred tax asset is recognized for unused tax losses carried forward within the scope. The management of the Group shall make a significant judgment to determine the amount of deferred tax assets that can be recognized based on the future tax policy and the timing and level of taxable income.

3. Significant accounting estimates and assumptions (cont'd)

3.2 Fair value of financial instruments

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. The Group uses its judgment to select a variety of methods and make assumptions that are mainly based on market conditions existing at the end of each reporting period. Refer to Note 47 for further information.

3.3 Provisions

The Group accounts for provisions for post-processing, restoration, cleanup costs, and financial guarantees. Provisions for post-processing, restoration and cleanup costs are determined on the basis of estimates of the amount of expenditure, timing of expenditure, inflation rate, discount rate, etc. required for restoration, and other provisions are based on estimates of past experience, or estimates of future expenditures (see Note 27).

3.4 Net defined benefit liability

The cost of the retirement benefit plan and the present value of the retirement benefit obligation are determined through the actuarial valuation method. For the application of actuarial valuation methods, it is necessary to set up various assumptions. These assumptions include determining the discount rate, future salary increasing rate, increasing rate, and expected retirement rate. Due to the complexity of the assessment method and the underlying assumptions and long-term nature, the defined benefit obligation varies sensitively depending on these assumptions. All assumptions are reviewed at the end of each reporting period.

The details are described in the Note 26.

3.5 Impairment of financial assets

The Group measures loss allowances of financial assets based on assumptions on default risk and expected credit loss. When establishing these assumptions and determining input variables for the impairment measurement, the Group considers historical experience, current market and future forecast at the end of the reporting period.

3.6 Impairment of non-financial assets

The Group assesses the existence of impairment signs for all non-financial assets at each reporting date. For goodwill and intangible assets that have an indefinite useful life and assets that are not in ready to use, recoverable amount of assets is assessed annually to determine the impairment amount. It is assessed when facts and circumstances suggest that the carrying amount of an exploration and evaluation assets exceed its recoverable amount, or when events or changes in circumstances indicate that the assets might be impaired after the assets are tested of impairment in every reporting period. The recoverable amounts of assets or cash-generating units have been determined based on estimation of future cash flow and appropriate discount rate. Refer to Note 20.(3) for further information.

For assets other than goodwill, at the end of each reporting period, the Company evaluates whether there are any indications that an impairment loss on previously recognized assets is no longer present or has decreased, and if there are such indications, the recoverable amount is estimated. An impairment loss on an asset other than previously recognized goodwill, increased for the carrying amount to the recoverable amount if no impairment loss was recognized only if the estimate used to determine the asset's recoverable amount up to the carrying amount after amortization of the unrecognized the immediately preceding impairment loss and the reversal of the impairment loss is reflected in profit or loss.

3. Significant accounting estimates and assumptions (cont'd)

3.7 Leases

In determination of the lease term, the Group considers all relevant facts and circumstances that create an economic incentive to exercise the option to extend the lease, or not to exercise the option to terminate the lease. The Group determines the lease term as the non-cancellable term of the lease, together with any periods covered by an option to extend the lease if it is reasonably certain to be exercised, or any periods covered by an option to terminate the lease, if it is reasonably certain not to be exercised.

The Group reassesses the lease term when obligation is incurred upon the occurrence of an exercise (or not to exercise) the option to renew. The Group changes its judgment on whether it is reasonably certain to exercise an option (or not to exercise) only upon the occurrence of a significant event or a significant change in circumstances that is within the control of the lessee.

4. Segment information

(1) Details of reportable segments are as follows:

Operating segments	Activity
Natural gas wholesale	Import, production and wholesale of LNG, Compressed Natural Gas, Natural Gas
Others	Supply of power and heat, equipment conservation, terminal management, labor force management, exploration, development and production of gas and oil

(2) Details of segment results for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022				
	Total revenue	Inter-segment revenue	External revenue	Operating profit[1]	Depreciation and amortization[1]
Natural gas wholesale	₩ 50,301,773	₩ (686,295)	₩ 49,615,478	₩ 2,015,792	₩ 1,147,584
Others	3,078,209	(969,401)	2,108,808	528,963	610,445
Adjustments[1]	-	-	-	(81,332)	(6,104)
	₩ 53,379,982	₩ (1,655,696)	₩ 51,724,286	₩ 2,463,423	₩ 1,751,925

[1] Changes from elimination of internal transactions in reportable segment operating income and depreciation are presented as adjustments.

	2021				
	Total revenue	Inter-segment revenue	External revenue	Operating profit[1]	Depreciation and amortization[1]
Natural gas wholesale	₩ 26,156,771	₩ (1,250)	₩ 26,155,521	₩ 1,001,846	₩ 1,143,065
Others	2,090,249	(725,014)	1,365,235	233,421	585,837
Adjustments[1]	-	-	-	4,432	(6,074)
	₩ 28,247,020	₩ (726,264)	₩ 27,520,756	₩ 1,239,699	₩ 1,722,828

[1] Changes from elimination of internal transactions in reportable segment operating income and depreciation are presented as adjustments.

(3) Details of assets and liabilities about operating segments as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022			
	Assets	Investments in associates and joint ventures[1]	Acquisition of non-current assets[2]	Liabilities
Natural gas wholesale	₩ 59,270,172	₩ 1,611,982	₩ 568,749	₩ 51,292,146
Others	11,633,614	292,194	614,412	7,506,601
Adjustments[3]	(8,478,803)	-	-	(6,784,505)
	₩ 62,424,983	₩ 1,904,176	₩ 1,183,161	₩ 52,014,242

[1] Investments in associates represent the amounts after the assessment of invested shares included in reportable segment assets.
[2] Acquisition of non-current assets represents the aggregate amounts of property, plant and equipment, and intangible assets acquired during period before elimination of intra-group transactions.
[3] Changes from elimination of intra-group transactions in reportable segment assets and liabilities are presented as adjustments.

4. Segment information (cont'd)

(3) Details of assets and liabilities about operating segments as of December 31, 2022 and 2021, are as follows (Korean won in millions) (cont'd):

	December 31, 2021			
	Assets	Investments in associates and joint ventures[1]	Acquisition of non-current assets[2]	Liabilities
Natural gas wholesale	₩ 41,031,613	₩ 1,484,926	₩ 662,317	₩ 33,606,011
Others	11,034,730	235,186	586,374	7,187,132
Adjustments[3]	(8,396,441)	-	-	(6,242,577)
	₩ 43,669,902	₩ 1,720,112	₩ 1,248,691	₩ 34,550,566

[1] Investments in associates represent the amounts after the assessment of invested shares included in reportable segment assets.
[2] Acquisition of non-current assets represents the aggregate amounts of property, plant and equipment, and intangible assets acquired during period before elimination of intra-group transactions.
[3] Changes from elimination of intra-group transactions in reportable segment assets and liabilities are presented as adjustments.

(4) Details of external revenue for the years ended December 31, 2022 and 2021, and details of non-current assets as of December 31, 2022 and 2021, by geographic locations are as follows (Korean won in millions):

	External revenue from customers		Non-current assets[1]	
	December 31, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Korea	₩ 49,665,170	₩ 26,193,957	₩ 17,620,827	₩ 18,222,594
Mexico	-	4,125	-	-
Australia	658,929	428,796	4,456,108	4,366,402
Canada	17,141	12,160	1,067,061	827,144
Iraq	595,349	525,751	906,877	987,526
Mozambique	12,885	286	723,819	691,576
Cyprus	-	-	-	26,791
Singapore	670,009	281,844	748	678
Myanmar	104,803	73,837	236,623	222,236
	₩ 51,724,286	₩ 27,520,756	₩ 25,012,063	₩ 25,344,947

[1] Non-current assets represent the aggregate amounts of property, plant and equipment, and intangible assets before elimination of intra-group transactions.

5. Cash and cash equivalents

Cash and cash equivalents include cash and bank deposits. Cash and cash equivalents in the consolidated statements of cash flows is the same as the cash and cash equivalents in the consolidated statements of financial position (Korean won in millions):

	December 31, 2022	December 31, 2021
Cash on hand	₩ 84	₩ 34
Demand deposits	813,191	546,249
Short-term deposits classified as cash equivalents	-	18,240
	₩ 813,275	₩ 564,523

6. Restricted financial assets

Restricted cash and cash equivalents and financial assets as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	Description	December 31, 2022	December 31, 2021
Cash and cash equivalents	Restriction on use for special purpose business	₩ 137,853	₩ 66,125
Short-term financial instruments	Win-win cooperation fund deposits	4,000	-
Long-term financial instruments	Account opening guarantee	17	-
Non-current financial assets	Co-growth deposit and others	90,000	90,016
		₩ 231,870	₩ 156,141

7. Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss('FVTPL') as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022		December 31, 2021	
	Current	Non-current	Current	Non-current
Financial assets at FVTPL:				
Derivatives undesignated as hedging instruments	₩ 4,471	₩ 49,981	₩ 26,759	₩ 10,774
Derivatives designated as hedging instruments	117,240	-	230	79,488
Debt instruments	-	2,468	-	2,634
	₩ 121,711	₩ 52,449	₩ 26,989	₩ 92,896

8. Derivative instrument

(1) Details of derivative instruments as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022		December 31, 2021	
	Current	Non-current	Current	Non-current
Derivative instrument assets[1]				
Foreign currency forwards	₩ 2,418	₩ -	₩ 26,852	₩ -
Foreign currency swaps	117,240	3,594	-	79,718
Interest rate swaps	2,053	46,387	137	10,544
	₩ 121,711	₩ 49,981	₩ 26,989	₩ 90,262
Derivative instrument liabilities[1]				
Foreign currency forwards	₩ (624,039)	₩ -	₩ (5,985)	₩ (10)
Foreign currency swaps	(129,793)	(16,683)	-	(99,652)
Interest rate swaps	-	(8,628)	-	(933)
	₩ (753,832)	₩ (25,311)	₩ (5,985)	₩ (100,595)

[1] Contains derivatives for trading purposes and cash flow hedges.

8. Derivative instrument (cont'd)

(2) Details of foreign currency swap contracts as of December 31, 2022 are as follows (Korean won and Japanese yen in millions, and US dollars, Euro, Confoederatio Helvetica Franc and Hong Kong dollars in thousands):

Purpose	Financial institution	Contract period	Amount of contract				Interest rate of contract		Exchange rate of contract
			Sell		Buy		Sell	Buy	
Trading	DBS	2013.06~2028.06	USD	50,196	KRW	55,788	4.28%	3.30%	USD 1 = KRW 1,111.4
	Hana Bank	2013.07~2023.07	USD	65,325	KRW	74,601	4.27%	3.17%	USD 1 = KRW 1,142.0
	BNP Paribas	2013.08~2023.08	USD	82,910	KRW	92,635	4.27%	3.54%	USD 1 = KRW 1,117.3
	BNP Paribas	2013.08~2023.08	USD	41,133	KRW	46,049	4.24%	3.68%	USD 1 = KRW 1,119.5
	KDB	2018.08~2023.08	USD	100,832	KRW	112,861	3.56%	1.83%	USD 1 = KRW 1,119.3
	SOGE	2018.08~2023.08	USD	100,832	KRW	112,861	3.56%	1.83%	USD 1 = KRW 1,119.3
	BNP Paribas	2019.03~2023.11	USD	201,086	KRW	228,172	3.11%	1.70%	USD 1 = KRW 1,134.7
	KDB	2019.03~2023.11	USD	100,543	KRW	114,086	3.11%	1.70%	USD 1 = KRW 1,134.7
	BNP Paribas	2020.07~2027.07	USD	58,065	HKD	450,000	1.35%	1.42%	USD 1 = HKD 7.75
	BNP Paribas	2022.11~2024.11	USD	51,187	KRW	68,540	5.55%	3.91%	USD 1 = KRW 1,339.0
Cash flow hedge	DBS	2013.06~2028.06	KRW	55,788	EUR	38,000	3.30%	3.02%	EUR 1 = KRW 1,468.1
	Hana Bank	2013.07~2023.07	KRW	74,601	EUR	50,000	3.17%	3.00%	EUR 1 = KRW 1,492.0
	BNP Paribas	2013.08~2023.08	KRW	92,635	JPY	8,000	3.54%	1.46%	JPY 1 = KRW 11.58
	BNP Paribas	2013.08~2023.08	KRW	46,049	JPY	4,000	3.68%	1.46%	JPY 1 = KRW 11.51
	KDB	2018.08~2023.08	KRW	112,861	CHF	100,000	1.83%	0.21%	CHF 1 = KRW 1,128.6
	SOGE	2018.08~2023.08	KRW	112,861	CHF	100,000	1.83%	0.21%	CHF 1 = KRW 1,128.6
	BNP Paribas	2019.03~2023.11	KRW	228,172	CHF	200,000	1.70%	0.00%	CHF 1 = KRW 1,140.9
	KDB	2019.03~2023.11	KRW	114,086	CHF	100,000	1.70%	0.00%	CHF 1 = KRW 1,140.9
	BNP Paribas	2022.11~2024.11	KRW	68,540	HKE	400,000	3.91%	5.28%	HKD 1 = KRW 171.35

(3) Details of the interest rate swap contracts as of December 31, 2022 are as follows (Korean won in millions):

Purpose	Financial institution	Period	Amount		Interest rate of contract	
					Sell	Buy
Trading	KEB Hana Bank	2018.10~2023.10	₩	100,000	2.35%	3M CD + 0.21%
	KEB Hana Bank	2019.05~2023.05		100,000	1.78%	3M CD + 0.13%
	KEB Hana Bank	2020.09~2025.09		100,000	1.29%	3M CD + 0.31%
	KEB Hana Bank	2020.10~2025.10		200,000	1.30%	3M CD + 0.30%
	KEB Hana Bank	2021.05~2026.05		100,000	1.77%	3M CD + 0.23%
	KEB Hana Bank	2021.10~2026.10		300,000	2.07%	3M CD + 0.20%
	KEB Hana Bank	2022.10~2027.10		200,000	5.15%	3M CD + 0.91%
	KEB Hana Bank	2022.10~2027.10		100,000	5.36%	3M CD + 1.02%

8. Derivative instrument (cont'd)

(4) Details of foreign currency forward contracts as of December 31, 2022 are as follows (Korean won in millions and US dollars in thousands and Canada dollars in thousands):

Purpose	Financial institution	Contract date	Maturity date	Amount				Exchange rate of contract
				Sell		Buy		
Trading	KEB Hana Bank	2022-12-01	2023-01-02	KRW	260,134	USD	200,000	1,300.67
	KEB Hana Bank	2022-12-16	2023-01-02	KRW	209,563	USD	160,000	1,309.77
	HSBC	2022-12-01	2023-01-03	KRW	195,075	USD	150,000	1,300.50
	SOGE	2022-12-01	2023-01-03	KRW	130,050	USD	100,000	1,300.50
	Shinhan Bank	2022-12-06	2023-01-03	KRW	130,885	USD	100,000	1,308.85
	JP Morgan	2022-12-16	2023-01-04	KRW	175,513	USD	134,000	1,309.80
	HSBC	2022-12-14	2023-01-04	KRW	45,337	USD	35,000	1,295.35
	DBS	2022-12-06	2023-01-04	KRW	119,110	USD	91,000	1,308.90
	HSBC	2022-12-15	2023-01-04	KRW	130,042	USD	100,000	1,300.42
	ANZ	2022-12-22	2023-01-05	KRW	127,605	USD	100,000	1,276.05
	KEB Hana Bank	2022-12-22	2023-01-09	KRW	86,758	USD	68,000	1,275.85
	KB Bank	2022-12-20	2023-01-09	KRW	90,839	USD	70,000	1,297.70
	HSBC	2022-12-19	2023-01-10	KRW	78,093	USD	60,000	1,301.55
	City Bank	2022-12-26	2023-01-10	KRW	53,603	USD	42,000	1,276.25
	Busan Bank	2022-12-20	2023-01-12	KRW	84,344	USD	65,000	1,297.60
	CREDIT AGRICOLE	2022-12-28	2023-01-13	KRW	62,148	USD	49,000	1,268.32
	Hana Bank	2022-12-29	2023-01-13	KRW	126,728	USD	100,000	1,267.28
	Shinhan Bank	2022-12-26	2023-01-17	KRW	82,032	USD	64,000	1,281.75
	HSBC	2022-12-29	2023-01-17	KRW	126,715	USD	100,000	1,267.15
	Hana Bank	2022-12-26	2023-01-18	KRW	102,539	USD	80,000	1,281.74
	HSBC	2022-12-29	2023-01-18	KRW	126,710	USD	100,000	1,267.10
	KEB Hana Bank	2022-12-29	2023-01-19	KRW	63,355	USD	50,000	1,267.10
	ANZ	2022-12-29	2023-01-19	KRW	126,710	USD	100,000	1,267.10
	ING	2022-12-29	2023-01-19	KRW	63,356	USD	50,000	1,267.11
	HSBC	2022-12-30	2023-01-27	KRW	126,080	USD	100,000	1,260.80
	HSBC	2022-12-30	2023-01-27	KRW	63,123	USD	50,000	1,262.45
	KEB Hana Bank	2022-12-30	2023-01-27	KRW	100,938	USD	80,000	1,261.73
	DBS	2022-12-27	2023-01-12	KRW	36,772	USD	29,000	1,268.00
	NH Bank	2022-10-17	2023-01-13	KRW	161,026	USD	112,362	1,433.10
	NH Bank	2022-10-17	2023-01-13	KRW	62,392	USD	43,536	1,433.10
	NH Bank	2022-10-21	2023-01-18	KRW	58,249	USD	40,640	1,433.30
	Shinhan Bank	2022-11-10	2023-02-08	KRW	76,982	USD	56,152	1,370.95
	Daegu Bank	2022-11-14	2023-02-14	KRW	133,964	USD	101,254	1,323.05
	HSBC	2022-11-25	2023-02-23	KRW	57,821	USD	43,869	1,318.05
	KEB Hana Bank	2022-12-02	2023-02-28	KRW	136,744	USD	105,512	1,296.00
	Shinhan Bank	2022-09-06	2023-03-03	KRW	120,095	USD	87,795	1,367.90
	KEB Hana Bank	2022-12-05	2023-03-03	KRW	75,108	USD	58,264	1,289.10
	KEB Hana Bank	2022-12-05	2023-03-03	KRW	296,818	USD	230,252	1,289.10
	DBS	2022-09-07	2023-03-07	KRW	189,603	USD	137,513	1,378.80
	DBS	2022-09-07	2023-03-07	KRW	72,050	USD	52,256	1,378.80
	Mizhuo Bank	2022-12-08	2023-03-07	KRW	153,677	USD	116,723	1,316.60
	DBS	2022-09-13	2023-03-13	KRW	214,570	USD	156,975	1,366.90
	HSBC	2022-09-16	2023-03-15	KRW	323,446	USD	233,484	1,385.30
	ANZ	2022-09-16	2023-03-15	KRW	246,458	USD	177,845	1,385.80
	HSBC	2022-09-16	2023-03-15	KRW	86,033	USD	62,114	1,385.08
	HSBC	2022-09-19	2023-03-17	KRW	79,066	USD	57,232	1,381.50
	KEB Hana Bank	2022-09-21	2023-03-20	KRW	249,285	USD	180,016	1,384.80
	HSBC	2022-09-22	2023-03-21	KRW	76,510	USD	54,726	1,398.05
	HSBC	2022-09-22	2023-03-21	KRW	76,844	USD	54,965	1,398.05
	KEB Hana Bank	2022-09-22	2023-03-21	KRW	199,667	USD	142,793	1,398.30
	DBS	2022-12-21	2023-03-22	KRW	249,371	USD	194,328	1,283.25
	Mizhuo Bank	2022-11-23	2023-03-23	KRW	141,423	USD	104,991	1,347.00

8. Derivative instrument (cont'd)

(4) Details of foreign currency forward contracts as of December 31, 2022 are as follows (Korean won in millions and US dollars in thousands and Canada dollars in thousands) (Cont'd):

Purpose	Financial institution	Contract date	Maturity date	Amount				Exchange rate of contract
				Sell		Buy		
	DBS	2022-09-26	2023-03-24	KRW	64,179	USD	45,145	1,421.60
	SOGE	2022-09-26	2023-03-24	KRW	254,352	USD	178,932	1,421.50
	HSBC	2022-09-28	2023-03-27	KRW	78,502	USD	54,910	1,429.65
	HSBC	2022-09-28	2023-03-27	KRW	148,853	USD	104,119	1,429.65
	BNP Paribas	2022-09-29	2023-03-28	KRW	59,099	USD	41,486	1,424.55
	HSBC	2022-09-29	2023-03-28	KRW	81,316	USD	57,064	1,425.00
	HSBC	2022-09-29	2023-03-28	KRW	83,381	USD	58,513	1,425.00
	DBS	2022-09-29	2023-03-29	KRW	146,189	USD	102,740	1,422.90
	City Bank	2022-10-04	2023-03-31	KRW	66,903	USD	47,102	1,420.40
	ANZ	2022-10-05	2023-04-03	KRW	304,166	USD	215,919	1,408.70
	ANZ	2022-10-13	2023-04-11	KRW	81,456	USD	57,485	1,417.00
	ANZ	2022-10-13	2023-04-11	KRW	107,577	USD	75,919	1,417.00
	KEB Hana Bank	2022-07-13	2023-04-13	KRW	266,895	USD	205,620	1,298.00
	SC Bank	2022-10-18	2023-04-14	KRW	80,788	USD	57,244	1,411.30
	ANZ	2022-10-18	2023-04-14	KRW	118,151	USD	83,712	1,411.40
	SC Bank	2022-10-19	2023-04-17	KRW	194,400	USD	137,687	1,411.90
Trading	City Bank	2022-10-27	2023-04-25	KRW	60,844	USD	42,851	1,419.90
	Daegu Bank	2022-11-01	2023-04-28	KRW	149,471	USD	105,794	1,412.85
	HSBC	2022-10-31	2023-04-28	KRW	93,118	USD	66,018	1,410.50
	KEB Hana Bank	2022-10-31	2023-04-28	KRW	72,733	USD	51,383	1,415.50
	HSBC	2022-10-31	2023-04-28	KRW	79,540	USD	56,391	1,410.50
	Daegu Bank	2022-11-01	2023-04-28	KRW	80,621	USD	57,063	1,412.85
	Shinhan Bank	2022-11-03	2023-05-02	KRW	79,409	USD	56,319	1,410.00
	Shinhan Bank	2022-11-07	2023-05-04	KRW	59,743	USD	42,914	1,392.15
	BNP Paribas	2022-11-29	2023-05-26	KRW	151,685	USD	115,231	1,316.35
	Busan Bank	2022-12-21	2023-06-19	KRW	58,829	USD	45,960	1,280.00
	CREDIT AGRICOLE	2022-10-19	2023-07-14	KRW	263,615	USD	187,493	1,406.00
	CREDIT AGRICOLE	2022-10-19	2023-07-14	KRW	160,581	USD	114,211	1,406.00
	Bank of America	2022-11-30	2023-08-25	KRW	59,825	USD	46,026	1,299.80
	Bank of America	2022-12-01	2023-08-28	KRW	72,142	USD	56,002	1,288.20
	DBS	2022-12-27	2023-09-22	KRW	172,929	USD	137,820	1,254.75
	KEB Hana Bank	2022-07-28	2023-01-30	USD	22,864	KRW	29,667	1,297.55
	KEB Hana Bank Canada	2018-11-07	2023-08-04	USD	3,912	CAD	5,000	1.28
	KEB Hana Bank Canada	2018-11-07	2023-06-02	USD	3,909	CAD	5,000	1.28
Cash flow hedge	KEB Hana Bank Canada	2018-11-07	2023-04-04	USD	3,907	CAD	5,000	1.28
	KEB Hana Bank Canada	2018-11-07	2023-03-03	USD	3,905	CAD	5,000	1.28
	KEB Hana Bank Canada	2018-11-07	2023-01-04	USD	3,902	CAD	5,000	1.28

8. Derivative instrument (cont'd)

(5) Gains or losses on valuation of derivatives for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	Valuation gain (loss)		Transaction gain (loss)		Changes in accumulated other comprehensive income (loss)	
	2022	2021	2022	2021	2022	2021
Foreign currency forwards	₩ (620,290)	₩ 20,637	₩ 465,981	₩ 156,965	₩ (2,716)	₩ (1,190)
Foreign currency swap	(31,067)	(68,710)	-	-	(354)	12,242
Interest rate swap	30,202	14,074	(137)	-	-	-
	₩ (621,155)	₩ (33,999)	₩ 465,844	₩ 156,965	₩ (3,070)	₩ 11,052

As of December 31, 2022, losses on valuation of derivatives amounting to ₩2,931 million (2021: ₩107 million) in accumulated other comprehensive income are presented net of income tax.

(6) Hedging on non-financial items

The Group currently uses LNG ships that were built specifically for the Group's use for stable LNG supply through the long-term financial lease contract in US dollars with the lessor. As the lease expense is recovered through the sales price as a component of shipping expense, the lease expense and raw material cost, which is also denominated in US dollars, form part of the selling price and have the same exposure to foreign currency change.

In order for the Group to hedge the risk of foreign exchange rate change on foreign revenue from the natural gas for power generation, only foreign currency revenue with the same maturity date as the lease liability has been distinguished from long-term supply contract to be designated as the hedged item, and the payment of lease liability has been designated as hedging instrument of non-financial items to apply the hedge accounting.

For the years ended December 31, 2022 and 2021, losses on hedging instruments amount to ₩(-)111,103 million and ₩(-)152,899 million, respectively, and losses on hedging instruments recognized in other comprehensive income are net of tax effect amounting to ₩(-)81,660 million and ₩(-)110,852 million, respectively.

(7) Hedges of net investments in a foreign operation

In order for the Group to hedge the risk of exchange rate fluctuation caused by the foreign currency translation, hedge accounting has been applied to the net investment of overseas business regarding the difference in foreign exchange which arose between the functional currency of overseas business and of the Group.

The amounts recognized in the consolidated statements of comprehensive income for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Net loss on hedge of net investment in foreign operation, net of income tax	₩ (176,808)	₩ (159,668)

(8) Risk management strategies and application methods for risk management

The Group is exposed to certain risks associated with ongoing operations. The main risk managed by derivatives is interest rate risk, foreign exchange risk. The Group's risk management strategies and the methods applied to risk management are described in Note 47.

As of December 31, 2022, the Group entered into an interest rate swaps, currency swaps and currency forward contracts. Interest rate swaps and currency swaps are used to hedge the exposure to changes in cash flows of corporate bonds and currency futures are used to hedge exposures to cash flow changes in foreign currency short-term borrowings.

8. Derivative instrument (cont'd)

(8) Risk management strategies and application methods for risk management (cont'd)

(Japanese yen in millions, Euro, Confoederatio Helvetica Franc, Canada dollar and Hong Kong dollar in thousands):

	Currency	Contract amount	Description
Foreign currency swap	CHF	500,000	Purchase amount
	EUR	88,000	
	JPY	12,000	
	HKD	400,000	
Foreign currency forwards	CAD	25,000	Purchase amount

Because the terms of currency swaps and currency forward agreements are consistent with the terms of each currency (debt and foreign currency short-term borrowings), there is an economic relationship between the hedged item and the hedging instrument. In addition, because the underlying risk of interest rate swaps, currency swaps and currency forwarding is the same as the hedged risk component, the group has established a 1: 1 hedging ratio for the hedging relationship. In order to assess the hedging effect, the Group uses a major conditional equity method to compare the change in the fair value of the hedging instrument with the variability in the cash flow of the hedged item due to the hedged risk.

The ineffective portion of risk hedge can occur in the following cases:
- Different interest rates applied to discount the hedged item and the hedging instrument curve
- Difference in timing of the cash flow of the hedged item and the hedging instrument
- If the counterparty's credit risk has a different effect on the fair value measurement of the hedging instrument and the hedged item

As of December 31, 2022, there is no ineffective portion of hedge accounting.

9. Trade and other receivables

(1) Trade and other receivables as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022				December 31, 2021			
	Principal	Allowance for doubtful accounts	Present value discount	Book value	Principal	Allowance for doubtful accounts	Present value discount	Book value
Current:								
Trade receivables	₩ 11,331,333	₩ (20,949)	₩ -	₩ 11,310,384	₩ 6,675,746	₩ (19,705)	₩ -	₩ 6,656,041
Other receivables	811,657	(106)	-	811,551	324,489	(1,060)	-	323,429
	12,142,990	(21,055)	-	12,121,935	7,000,235	(20,765)	-	6,979,470
Non-current:								
Other receivables	218,827	(11,194)	(5,319)	202,314	217,104	-	(6,717)	210,387
	₩ 12,361,817	₩ (32,249)	₩ (5,319)	₩ 12,324,249	₩ 7,217,339	₩ (20,765)	₩ (6,717)	₩ 7,189,857

(2) Other receivables as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022				December 31, 2021			
	Principal	Allowance for doubtful accounts	Present value discount	Book value	Principal	Allowance for doubtful accounts	Present value discount	Book value
Current:								
Non-trade receivables	₩ 805,999	₩ -	₩ -	₩ 805,999	₩ 324,060	₩ (1,060)	₩ -	₩ 323,000
Accrued income	5,509	(106)	-	5,403	281	-	-	281
Deposit	149	-	-	149	148	-	-	148
	811,657	(106)	-	811,551	324,489	(1,060)	-	323,429
Non-current:								
Non-trade receivables	75,632	-	(2,866)	72,766	78,431	-	(5,573)	72,858
Accrued income	23,815	(11,194)	-	12,621	21,300	-	-	21,300
Deposit	119,380	-	(2,453)	116,927	117,373	-	(1,144)	116,229
	218,827	(11,194)	(5,319)	202,314	217,104	-	(6,717)	210,387
	₩ 1,030,484	₩ (11,300)	₩ (5,319)	₩ 1,013,865	₩ 541,593	₩ (1,060)	₩ (6,717)	₩ 533,816

9. Trade and other receivables (cont'd)

(3) Credit risk and provision for impairment

The Group's average period for credit offering on sale of city gas is 45 days. During the initial 45 days from the billing date, interests on trade receivables do not accrue. However, after the period, interests are charged on the balance of payables as the amount calculated by considering interest rate of general entity loans of KEB Hana Bank, the main bank of the Group.

The Group's average period for credit offering on the sale of power generation is 19 days. According to the contract by each customer, the billings are collected by one to three installments. Interests on trade receivables are not charged until the payment date. However, after the due date, interests are charged on the balance of payables as the amount calculated by considering interest rate of general entity loans of KEB Hana Bank, the main bank of the Group.

The Group has some receivables that exceed 120 days, and has established an allowance for bad debts based on past experience.

1) The aging analysis of trade receivables as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022	December 31, 2021
Receivables that are neither past due nor impaired	₩ 11,307,010	₩ 6,651,225
Receivables that are past due but not impaired		
45~60 days	300	13
60~90 days	86	5,201
90~120 days	33	-
Over 120 days	2,970	-
Receivables tested for the impairment		
60~90 days	-	-
90~120 days	-	-
Over 120 days	20,934	19,307
Subtotal	11,331,333	6,675,746
Deduction: allowance for bad debts	(20,949)	(19,705)
Deduction: current value discount	-	-
Total	₩ 11,310,384	₩ 6,656,041

At the end of each reporting period, the consolidated body evaluates whether the credibility of the accounts receivable has been damaged. There is objective evidence of damage to sales bonds, so bad debt reserves are set individually for significant items, and bonds excluding individual evaluations are classified as bonds subject to collective evaluation, and bad debt reserves are set according to the expected credit loss model.

9. Trade and other receivables (cont'd)

(3) Credit risk and provision for impairment (cont'd)

2) The aging analysis of other receivables as of December 31, 2022 and 2021,are as follows (Korean won in millions):

	December 31, 2022	December 31, 2021
Receivables that are neither past due nor impaired	₩ 1,006,670	₩ 540,533
Receivables tested for the impairment		
120 days~	23,814	1,060
Subtotal	1,030,484	541,593
Deduction: allowance for bad debts	(11,300)	(1,060)
Deduction: Present value discount	(5,319)	(6,717)
Total	₩ 1,013,865	₩ 533,816

3) Changes in allowance for doubtful accounts for trade and other receivables during the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022		2021	
	Trade receivables	Other receivables	Trade receivables	Other receivables
Beginning	₩ (19,705)	₩ (1,060)	₩ (17,745)	₩ (10,426)
Bad debt expenses for impaired receivables	(28)	(10,242)	(394)	-
Write-off of trade and other receivables	-	-	-	9,453
Reversal of unused amount	97	-	-	-
Other (exchange rate effect)	(1,313)	2	(1,566)	(87)
Ending	₩ (20,949)	₩ (11,300)	₩ (19,705)	₩ (1,060)

10. Financial assets at fair value through other comprehensive income

(1) Changes of financial assets at fair value through other comprehensive income ('FVOCI') for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022					
	Beginning balance	Acquisition	Disposal	Valuation[1]	Others	Ending balance
Unlisted equity securities [1]	₩ 69,585	₩ -	₩ -	₩ (7,661)	₩ -	₩ 61,924
	₩ 69,585	₩ -	₩ -	₩ (7,661)	₩ -	₩ 61,924
Non-current other financial assets at FVOCI	₩ 69,585	₩ -	₩ -	₩ (7,661)	₩ -	₩ 61,924

[1] Details of fair value measurement are disclosed in Note 47.

	2021					
	Beginning balance	Acquisition	Disposal	Valuation[1]	Others	Ending balance
Unlisted equity securities [1]	₩ 61,060	₩ -	₩ -	₩ 8,525	₩ -	₩ 69,585
	₩ 61,060	₩ -	₩ -	₩ 8,525	₩ -	₩ 69,585
Non-current other financial assets at FVOCI	₩ 61,060	₩ -	₩ -	₩ 8,525	₩ -	₩ 69,585

[1] Details of fair value measurement are disclosed in Note 47.

10. Financial assets at fair value through other comprehensive income (cont'd)

(2) Details of financial assets at fair value through other comprehensive income as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	December 31, 2022				
	Number of shares	Percentage of ownership	Acquisition cost	Book value	Fair value
Non-Marketable					
K.K.Korea Kamchatka Co. Ltd. [1]	328	10%	₩ -	₩ -	₩ -
Yemen LNG Company Limited	1,500	6%	19,355	61,313	61,313
Kor-Kaz CNG Investment Limited	691,985	8%	798	611	611
			₩ 20,153	₩ 61,924	₩ 61,924

[1] Acquisition cost, book value and fair value of this financial assets are ₩ 1,000.

	December 31, 2021				
	Number of shares	Percentage of ownership	Acquisition cost	Book value	Fair value
Non-Marketable					
K.K.Korea Kamchatka Co. Ltd. [1]	328	10%	₩ -	₩ -	₩ -
Yemen LNG Company Limited	1,500	6%	19,355	69,054	69,054
Kor-Kaz CNG Investment Limited	691,985	8%	798	531	531
			₩ 20,153	₩ 69,585	₩ 69,585

[1] Acquisition cost, book value and fair value of this financial assets are ₩ 1,000.

11. Financial assets measured at amortized costs

(1) Changes of financial assets measured at amortized cost as of December 31, 2022 and 2021 are as follows (Korean won in millions):

	December 31, 2022					
	Beginning balance	Acquisition	Disposal	Valuation	Others[1]	Ending balance
Government and public bond	₩ 524	₩ 80	₩ (70)	₩ -	₩ -	₩ 534
Fixed deposit	8,688	1,253	(8,985)	-	747	1,703
	₩ 9,212	₩ 1,333	₩ (9,055)	₩ -	₩ 747	₩ 2,237
Current financial assets measured at amortized cost	₩ 8,758	₩ 1,253	₩ (9,055)	₩ -	₩ 855	₩ 1,811
Non-current financial assets measured at amortized cost	454	80	-	-	(108)	426

[1] Transfer to current portion of its financial assets

11. Financial assets measured at amortized costs (cont'd)

(1) Changes of financial assets measured at amortized cost as of December 31, 2022 and 2021 are as follows (Korean won in millions) (cont'd):

	December 31, 2021					
	Beginning balance	Acquisition	Disposal	Valuation	Others[1]	Ending balance
Government and public bond	₩ 509	₩ 109	₩ (94)	₩ -	₩ -	₩ 524
Fixed deposit	953	8,694	(974)	-	15	8,688
	₩ 1,462	₩ 8,803	₩ (1,068)	₩ -	₩ 15	₩ 9,212
Current financial assets measured at amortized cost	₩ 1,047	₩ 8,694	₩ (1,068)	₩ -	₩ 85	₩ 8,758
Non-current financial assets measured at amortized cost	415	109	-	-	(70)	454

[1] Transfer to current portion of its financial assets

(2) Details of financial assets measured at amortized cost as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022			
	Financial assets measured at amortized cost	Provision for impairment	Others	Book value
Government and public bond	₩ 534	₩ -	₩ -	₩ 534
Fixed deposit	1,703	-	-	1,703
	₩ 2,237	₩ -	₩ -	₩ 2,237
Current financial assets measured at amortized cost	₩ 1,811	₩ -	₩ -	₩ 1,811
Non-current financial assets measured at amortized cost	426	-	-	426

	December 31, 2021			
	Financial assets measured at amortized cost	Provision for impairment	Others	Book value
Government and public bond	₩ 524	₩ -	₩ -	₩ 524
Fixed deposit	8,688	-	-	8,688
	₩ 9,212	₩ -	₩ -	₩ 9,212
Current financial assets measured at amortized cost	₩ 8,758	₩ -	₩ -	₩ 8,758
Non-current financial assets measured at amortized cost	454	-	-	454

12. Loans

(1) Details of short-term and long-term loans as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022				
	Face value	Present value discount	Present value premium	Allowance for doubtful accounts	Book value
Student loans[1]	₩ 8,498	₩ -	₩ -	₩ -	₩ 8,498
Employee shareholders loans[2]	241	-	-	-	241
Housing loans[3]	20,001	-	-	-	20,001
Housing lease support loans[4]	32,834	-	-	-	32,834
Associates	382,964	(90,949)	-	-	292,015
Joint ventures	46,732	-	-	(18,067)	28,665
Others	256,169	-	-	(52,308)	203,861
	₩ 747,439	₩ (90,949)	₩ -	₩ (70,375)	₩ 586,115
Short-term loans	178	-	-	-	178
Current portion of long-term loans	1,117	-	-	-	1,117
Long-term loans	746,144	(90,949)	-	(70,375)	584,820

[1] The Group provides loans to support education expenses for the children of employees who have served over one year. Repayments of loans are made by deducting a certain amount from the employees' wages.
[2] The Group provides loans at 4% interest rates for the purpose of encouraging employees to retain employee stock ownership in the long-term and to mitigate debt burden. Repayments of loans are made by deducting a certain amount from the employees' wages.
[3] In relation to relocation of the main office, the Group provides loans at a market interest rate (1.7 to 5.3% as of December 31, 2022) to employees without home ownership as support. The loans mature in three years and a lump sum payment for the loan should be paid on maturity.
[4] To support housing stability, the Group provides loans at 0.8 to 5.3% interest rate to employees who reside near the workplace but do not own homes. Loans should be repaid at the end of the lease term.

	December 31, 2021				
	Face value	Present value discount	Present value premium	Allowance for doubtful accounts	Book value
Student loans[1]	₩ 8,955	₩ -	₩ -	₩ -	₩ 8,955
Employee shareholders loans[2]	323	-	-	-	323
Housing loans[3]	27,436	-	-	-	27,436
Housing lease support loans[4]	41,894	-	-	-	41,894
Associates	294,738	(62,873)	-	-	231,865
Joint ventures	41,302	-	-	-	41,302
Others	212,891	-	-	(28,476)	184,415
	₩ 627,539	₩ (62,873)	₩ -	₩ (28,476)	₩ 536,190
Short-term loans	7,823	-	-	-	7,823
Current portion of long-term loans	653	-	-	-	653
Long-term loans	619,063	(62,873)	-	(28,476)	527,714

[1] The Group provides loans to support education expenses for the children of employees who have served over one year. Repayments of loans are made by deducting a certain amount from the employees' wages.
[2] The Group provides loans at 4% interest rates for the purpose of encouraging employees to retain employee stock ownership in the long-term and to mitigate debt burden. Repayments of loans are made by deducting a certain amount from the employees' wages.
[3] In relation to relocation of the main office, the Group provides loans at a market interest rate (1.0 to 3.4% as of December 31, 2021) to employees without home ownership as support. The loans mature in three years and a lump sum payment for the loan should be paid on maturity.
[4] To support housing stability, the Group provides loans at 0.8 to 1.9% interest rate to employees who reside near the workplace but do not own homes. Loans should be repaid at the end of the lease term.

12. Loans (cont'd)

(2) Details of loans to associates, joint ventures, and other loans as of December 31, 2022 and 2021, are as follows (Korean won in millions):

			Book value		Bad debt expenses	
	Maturity	Interest rate	December 31, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Associates :						
Coral FLNG S.A.	2035	-	₩ 286,560	₩ 218,760	₩ -	₩ -
South East Asia Gas Pipeline Company Ltd.	After CTD('13.12) 1 year grace period, 8 years repayment of principal	10.00%	5,455	13,105	-	-
Joint Ventures						
Hyundai Yemen LNG Company Limited[3]	In case YLNG Project has repayable cash	Interest-free	21,526	18,148	-	-
		Min{ Weighted average of YLNG PF interest rate after May, 2008 - 1%, 8%}	192	17,081	18,068	-
		Libor+5%	4,888	4,047	-	-
	In case of receiving dividends when the project has distributable cash	10.00%	2,059	2,027	-	-
Others:						
K.K.Korea Kamchatka Co. Ltd.[2]	Within 30 days from the distributable amount(=Cash flow - USD 10,000) exceeds nil	LIBOR+2%	-	-	-	-
Yemen LNG Company Limited[4]	In case YLNG Project has repayable cash	Interest-free	40,350	37,807	4,493	-
		Min{ Weighted average of YLNG PF interest rate after May, 2008 - 1%, 8%}	-	8,564	9,155	-
		Libor+5%	-	8,429	10,184	-
Empresa Nacional de Hidrocarbonetos, E.P	-[1]	8.70%	16,432	10,062	-	-
	-	Libor+1%	147,079	119,552	-	-
	Total		₩ 524,541	₩ 457,582	₩ 41,900	₩ -

[1] The expiration date of ENH Carry under the Development Loan Agreement (DLA) for the Coral FLNG business is the end date of the business (scheduled for June, 2047.).
[2] Considering the recoverability, the Group recognized ₩ 28,476 million of bad debt provisions.
[3] For the year ended December 31, 2022, considering the recoverability, the Group recognized ₩ 18,068 million of bad debt expenses on loans which took into consideration the timing of the loans and interest accrual.
[4] For the year ended December 31, 2022, considering the recoverability, the Group recognized ₩ 23,832 million of bad debt expenses on loans which took into consideration the timing of the loans and interest accrual.

13. Other financial assets

Details of other financial assets as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022		December 31, 2021	
	Current	Non-current	Current	Non-current
Short-term financial instruments	23,891	-	44,379	-
Long-term financial instruments	-	17	-	7,891
Fund management deposits	-	90,000	-	90,000
	₩ 23,891	₩ 90,017	₩ 44,379	₩ 97,891

14. Inventories

Details of inventories as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022			December 31, 2021		
	Acquisition cost	Valuation allowance	Book value	Acquisition cost	Valuation allowance	Book value
Raw materials	₩ 6,841,723	₩ -	₩ 6,841,723	₩ 2,757,395	₩ -	₩ 2,757,395
Finished goods	143,711	-	143,711	115,110	-	115,110
Merchandise	407	-	407	319	-	319
Supplies	100,686	-	100,686	88,339	-	88,339
Goods in transit	536,097	-	536,097	621,682	-	621,682
	₩ 7,622,624	₩ -	₩ 7,622,624	₩ 3,582,845	₩ -	₩ 3,582,845

15. Non-financial assets

(1) Details of non-financial assets as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022		December 31, 2021	
	Current	Non-current	Current	Non-current
Advance payments	₩ 68,354	₩ -	₩ 90,273	₩ -
Prepaid expenses	210,410	69	14,420	70
Greenhouse gas emission rights	863	-	-	-
Other non-financial assets	4,094,810	8,368,604	1,781,566	1,506,902
	₩ 4,374,437	₩ 8,368,673	₩ 1,886,259	₩ 1,506,972

(2) Details of other non-financial assets as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022		December 31, 2021	
	Current	Non-current	Current	Non-current
Special consumption tax	₩ 152,554	₩ -	₩ 104,727	₩ -
Deposit	78	-	4,104	-
Others[1]	3,942,178	8,368,604	1,672,735	1,506,902
	₩ 4,094,810	₩ 8,368,604	₩ 1,781,566	₩ 1,506,902

[1] Others include assets recognized in relation to profit or loss on settlement of natural gas sales of ₩12,088,067 million and ₩3,081,450 million as of December 31, 2022 and 2021, respectively. (Note 16).

16. Natural gas sales charge settlement profits and losses

In accordance with the standard for natural gas supply price and the guidelines for raw material cost pass-through adjustment system for city gas supply and power generation, the difference (hereafter "settlement") between actual costs incurred and current year's revenues is reflected in calculation of the next year's supply price upon the approval of the Korean government.

The Group adjusts cost of sales by the settlement amount approved by the Korean government and recognizes the related asset and liability under other non-financial assets and other non-financial liabilities, respectively, in the case of city gas and power generating cost (average cost). In relation to the asset and liability, the settlement amount will be collected through price adjustments in accordance with the guidelines for raw material cost pass-through adjustment system and the collection period can change depending on government approval.

Details of other non-financial assets and liabilities arising from the settlement on natural gas sales as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022						
	Raw material cost				Supply cost		
	City gas (civilian demand)	City gas (commercial demand)	City gas (power generating)	Power generating	City gas	Power generating	Total
Other current non-financial assets	₩ 1,245,263	₩ 305,366	₩ 8,081	₩ 2,169,624	₩ 67,387	₩ -	₩ 3,795,721
Other non-current non-financial assets	7,340,316	89,480	-	862,550	-	-	8,292,346
Other current non-financial liabilities	-	-	-	-	-	(194,850)	(194,850)
	₩ 8,585,579	₩ 394,846	₩ 8,081	₩ 3,032,174	₩ 67,387	₩ (194,850)	₩ 11,893,217

	December 31, 2021						
	Raw material cost				Supply cost		
	City gas (civilian demand)	City gas (commercial demand)	City gas (power generating)	Power generating	City gas	Power generating	Total
Other current non-financial assets	₩ 471,169	₩ 321,335	₩ 23,912	₩ 660,167	₩ 151,578	₩ -	₩ 1,628,161
Other non-current non-financial assets	1,294,456	119,614	7,982	31,237	-	-	1,453,289
Other current non-financial liabilities	-	-	-	-	-	(374,382)	(374,382)
	₩ 1,765,625	₩ 440,949	₩ 31,894	₩ 691,404	₩ 151,578	₩ (374,382)	₩ 2,707,068

[1] The revision of the Natural Gas Supply Regulations during the last term has subdivided the classification of assets and liabilities for the raw material cost of city gas charges.

17. Investments in associates and joint ventures

(1) Details of investments in associates and joint ventures as of December 31, 2022 and 2021, are as follows (Korean won in millions, except percentage of ownership):

Associates and joint ventures	Business	Country of incorporation	Country of domicile	Fiscal year end	December 31, 2022			December 31, 2021		
					Percentage of ownership	Acquisition cost	Book value	Percentage of ownership	Acquisition cost	Book value
Korea Ras Laffan LNG Ltd.[2]	Resource development	Bermuda	Qatar	Dec 31	60.00%	₩ 19,532	₩ 305,552	60.00%	₩ 19,532	₩ 298,432
Korea LNG Ltd.	Resource development	Bermuda	Oman	Dec 31	24.00%	3,298	35,804	24.00%	3,298	37,632
Hyundai Yemen LNG Company	Resource development	Bermuda	Yemen	Dec 31	49.00%	482	11,161	49.00%	482	24,424
Korea LNG Trading Co., Ltd.	Shipping industry	Korea	Korea	Dec 31	28.00%	601	2,391	28.00%	601	2,102
Kor-Uz Gas Chemical Investment Ltd.	Resource development	Malaysia	Uzbekistan	Dec 31	45.00%	347,451	798,372	45.00%	347,451	675,865
South-East Asia Gas Pipeline Company Limited [3,7]	Pipe construction	Hong Kong	Myanmar	Sep 30	4.17%	13,704	48,162	4.17%	16,154	39,924
Sulawesi LNG Development Limited [5]	LNG terminal construction & management	United Kingdom	Indonesia	Dec 31	25.00%	99,077	245,637	25.00%	136,726	221,305
TOMORI E&P Limited [6]	Resource development	United Kingdom	Indonesia	Dec 31	49.00%	20,137	176,483	49.00%	126,847	194,995
Hydrogen EnergyNetwork Co, Ltd. [8]	Hydrogen infrastructure construction and operation	Korea	Korea	Dec 31	28.53%	30,000	24,842	28.52%	25,800	23,142
HyStation Co., Ltd. [1,11]	Hydrogen charge and operation	Korea	Korea	Dec 31	29.00%	290	290	-	-	-
Coral South FLNG S.A.[3]	Resource development	Mozambique	Mozambique	Dec 31	10.00%	182	87,439	10.00%	182	59,572
Coral South FLNG DMCC[1,3]	Resource development	UAE	UAE	Dec 31	10.00%	15	17	10.00%	15	16
Rovuma LNG S.A.[1,3.]	Resource development	Mozambique	Mozambique	Dec 31	10.00%	185	203	10.00%	185	190
Rovuma LNG Investments (DIFC) Ltd. [1,3]	Resource development	Mozambique	Mozambique	Dec 31	10.00%	6	6	10.00%	6	6
Kor-Uz Gas cylinder Investment Ltd.	Cylinder business investment	Korea	Uzbekistan	Dec 31	40.38%	5,790	1,604	40.38%	5,790	992
Kor-Uz Gas C&G Investment Ltd.	Charge business investment	Korea	Uzbekistan	Dec 31	38.85%	2,542	180	38.85%	2,542	143
TERMINAL KMS de GNL, S. De R.L. De C.V.	LNG terminal construction & management	Mexico	Mexico	Dec 31	25.00%	34,945	134,478	25.00%	34,945	120,137
GLNG Operations Pty.Ltd. [1,4]	LNG Plant management	Australia	Australia	Dec 31	15.00%	17	16	15.00%	17	15
ENH - KOGAS, SA.[2]	Pipe construction	Mozambique	Mozambique	June 30	70.00%	78	19,256	70.00%	78	12,827
LNG Canada Development Inc.[1,4]	LNG Plant construction	Canada	Canada	Dec 31	5.00%	-	-	5.00%	-	-
Manzanillo Gas Tech, S. de R.L. de C.V. [2]	LNG terminal maintenance & management	Mexico	Mexico	Dec 31	51.00%	60	1,641	51.00%	60	1,498
KLBV1 S.A[9]	LNG bunkering ship operation	Panama	Netherlands	Dec 31	40.00%	5,978	6,742	40.00%	5,978	5,895
Korea Superfreeze Incheon Inc. [10]	LNG cold-heat refrigerated & frozen logistics warehouse	Korea	Korea	Dec 31	20.00%	5,000	3,900	20.00%	1,000	1,000
	Total					₩ 589,370	₩ 1,904,176		₩ 727,689	₩ 1,720,112

17. Investments in associates and joint ventures (cont'd)

(1) Details of investments in associates and joint ventures as of December 31, 2022 and 2021, are as follows (Korean won in millions, except percentage of ownership) (cont'd):

[1] The associates and joint ventures did not apply the equity method as the difference between the book value and the net asset value is not significant.
[2] The associates and joint ventures are excluded from the consolidated subsidiaries since the Group is unable to exercise control in several cases such as unanimous approval required when making significant decisions.
[3] Although the percentage of ownership of the associates is less than 20%, the Group has significant influence considering the Group's right to participate in the investee's board of directors and shareholder constitution.
[4] Although the percentage of ownership of the Group is less than 20%, it is classified as a joint venture as it requires unanimity in making decisions on key sales and financial activities.
[5] The capital reduction occurred in relation to investment in Sulawesi LNG Development Limited in 2021, which resulted in a recognition of a gain on disposal of ₩10,688 million and ₩70 million in 2022 and 2021, respectively.
[6] The capital reduction occurred in relation to investment in TOMORI E&P LIMITED, which resulted in a recognition of a gain on disposal of ₩19,504 million in 2022.
[7] In relation to the investment equity of South-East Asia Pipeline Company Limited, paid-in capital reduction was conducted in 2022 and 2021.
[8] In relation to the investment equity of Hydrogen Energy Network Co, Ltd, capital was increased in 2022 and 2021.
[9] In relation to the investment equity of KLBV1 S.A., capital was increased in 2021.
[10] In relation to the investment equity of Korea Superfreeze Incheon Inc., capital was increased in 2022 and 2021.
[11] Newly established in 2022.

17. Investments in associates and joint ventures (cont'd)

(2) Changes in investments in associates and joint ventures for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022							
	Beginning balance	Acquisition	Disposal	Dividends received	Gain (loss) on equity method	Equity adjustments of investments in associates and joint ventures	Others	Ending balance
Korea Ras Laffan LNG Ltd.	₩ 298,432	₩ -	₩ -	₩ (102,996)	₩ 90,901	₩ 19,215	₩ -	₩ 305,552
Korea LNG Ltd.	37,632	-	-	(25,393)	25,226	(1,661)	-	35,804
Hyundai Yemen LNG Company[1]	24,424	-	-	-	(9,289)	(3,974)	-	11,161
Korea LNG Trading Co., Ltd.	2,102	-	-	-	138	151	-	2,391
Kor-Uz Gas Chemical Investment Ltd.	675,865	-	-	-	77,730	44,777	-	798,372
South-East Asia Gas Pipeline Company Limited.	39,924	-	(2,450)	-	7,962	-	2,726	48,162
Sulawesi LNG Development Limited.	221,305	-	(37,648)	-	50,538	11,442	-	245,637
TOMORI E&P Limited.	194,995	-	(106,710)	-	84,491	3,707	-	176,483
Hydrogen Energy Network Co, Ltd.	23,142	4,200	-	-	(2,444)	(56)	-	24,842
HyStation Co., Ltd.	-	290	-	-	-	-	-	290
Coral South FLNG S.A.	59,572	-	-	-	(10,820)	-	38,687	87,439
Coral South FLNG DMCC.	16	-	-	-	-	-	1	17
Rovuma LNG S.A.	190	-	-	-	-	-	13	203
Rovuma LNG Investments (DIFC) Ltd.	6	-	-	-	-	-	-	6
Kor-Uz Gas cylinder Investment Ltd.	992	-	-	-	159	453	-	1,604
Kor-Uz Gas C&G Investment Ltd.	143	-	-	-	1	36	-	180
TERMINAL KMS de GNL, S. De R.L. De C.V.	120,137	-	-	(2,584)	3,117	5,636	8,172	134,478
GLNG Operations Pty. Ltd.	15	-	-	-	-	-	1	16
ENH - KOGAS, SA.	12,827	-	-	-	6,682	-	(253)	19,256
LNG Canada Development Inc.	-	-	-	-	-	-	-	-
Manzanillo Gas Tech, S. de R.L. de C.V.	1,498	-	-	-	41	-	102	1,641
KLBV1 S.A	5,895	-	-	-	441	406	-	6,742
Korea Superfreeze Incheon Inc.	1,000	4,000	-	-	(1,100)	-	-	3,900
	₩ 1,720,112	₩ 8,490	₩ (146,808)	₩ (130,973)	₩ 323,774	₩ 80,132	₩ 49,449	₩ 1,904,176

[1] Although the percentage of ownership of the Group in the above equity securities is 49%, the equity method is applied considering the contractual terms regarding uneven dividends.

17. Investments in associates and joint ventures (cont'd)

(2) Changes in investments in associates and joint ventures for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions) (cont'd):

	2021							
	Beginning balance	Acquisition	Disposal	Dividends received	Gain (loss) on equity method	Equity adjustments of investments in associates and joint ventures	Others	Ending balance
Korea Ras Laffan LNG Ltd.	₩ 258,712	₩ -	₩ -	₩ (59,907)	₩ 75,905	₩ 23,722	₩ -	₩ 298,432
Korea LNG Ltd.	29,129	-	-	(11,017)	11,000	8,520	-	37,632
Hyundai Yemen LNG Company[1]	22,341	-	-	-	(1,272)	3,355	-	24,424
Korea LNG Trading Co., Ltd.	1,953	-	-	-	(21)	170	-	2,102
Kor-Uz Gas Chemical Investment Ltd.	569,619	-	-	-	53,076	53,170	-	675,865
South-East Asia Gas Pipeline Company Limited.	33,042	-	(4,651)	-	8,372	-	3,161	39,924
Sulawesi LNG Development Limited.	248,687	-	(70,381)	-	23,219	19,780	-	221,305
TOMORI E&P Limited.	173,568	-	-	-	5,927	15,500	-	194,995
Coral South FLNG S.A.	51,513	-	-	-	(7,962)	-	16,021	59,572
Coral South FLNG DMCC.	15	-	-	-	-	-	1	16
Hydrogen EnergyNetwork Co, Ltd.	14,153	10,500	-	-	(1,354)	(157)	-	23,142
Rovuma LNG S.A.	174	-	-	-	-	-	16	190
Rovuma LNG Investments (DIFC Ltd.	5	-	-	-	-	-	1	6
Kor-Uz Gas cylinder Investment Ltd.	1,221	-	-	-	(14)	(215)	-	992
Kor-Uz Gas C&G Investment Ltd.[2]	769	-	-	-	14	(68)	(572)	143
TERMINAL KMS de GNL, S. De R.L. De C.V.	102,182	-	-	(3,147)	7,762	3,878	9,462	120,137
GLNG Operations Pty.Ltd.	13	-	-	-	1	-	1	15
ENH - KOGAS, SA.	11,375	-	-	(7,927)	6,154	-	3,225	12,827
LNG Canada Development Inc.	-	-	-	-	-	-	-	-
Manzanillo Gas Tech, S. de R.L. de C.V.	1,205	-	-	-	178	-	115	1,498
KLBV1 S.A	3,056	2,922	-	-	(146)	63	-	5,895
Korea Superfreeze Incheon Inc.	-	1,000	-	-	-	-	-	1,000
	₩ 1,522,732	₩ 14,422	₩ (75,032)	₩ (81,998)	₩ 180,839	₩ 127,718	₩ 31,431	₩ 1,720,112

[1] Although the percentage of ownership of the Group in the above equity securities is 49%, the equity method is applied considering the contractual terms regarding uneven dividends.

[2] In relation to Kor-Uz Gas C&G Investment Ltd.'s investment interest, the recoverable amount of investment interest decreased significantly. The Group recognized impairment loss of ₩ 572 million in 2021, which included in 'Gains on investments in associates and joint ventures' of the consolidated statements of comprehensive income.

17. Investments in associates and joint ventures (cont'd)

(3) Summarized financial information of associates and joint ventures as of December 31, 2022 and 2021, and for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022			
	Assets	Liabilities	Revenue	Profit (loss) for the year
Korea Ras Laffan LNG Ltd.	₩ 509,406	₩ 152	₩ 175,556	₩ 151,502
Korea LNG Ltd.	149,345	162	107,361	105,110
Hyundai Yemen LNG Company	130,592	118,385	-	(44,035)
Korea LNG Trading Co., Ltd.	475,840	467,299	215,867	493
Kor-Uz Gas Chemical Investment Ltd.	1,802,000	27,840	-	179,316
South-East Asia Gas Pipeline Company Limited	1,925,026	597,735	447,974	162,234
Sulawesi LNG Development Limited	982,662	115	-	201,657
TOMORI E&P Limited	491,660	141,752	266,349	136,204
Hydrogen Energy Network Co., Ltd.	98,711	11,651	8,903	(8,451)
HyStation Co., Ltd.	770	37	-	(267)
Coral South FLNG S.A	10,190,988	9,397,576	80,662	189
Coral South FLNG DMCC	5,553,349	5,553,177	-	-
Rovuma LNG S.A.	1,986	-	-	(1)
Rovuma LNG Investments (DIFC) Ltd	223	494	-	(232)
Kor-Uz Gas cylinder Investment Ltd.	3,990	18	-	(39)
Kor-Uz Gas C&G Investment Ltd.	1,934	-	-	(3)
Terminal KMS de GNL, S. De R.L. De C.V.	1,007,287	469,377	113,257	12,468
GLNG Operations Pty Ltd.	103	-	-	(6)
ENH-KOGAS, SA.	34,820	7,311	43,939	8,368
LNG Canada Development Inc.	1	-	-	-
Manzanillo Gas Tech, S. de R.L. de C.V.	4,995	1,777	11,257	198
KLBV1 S.A	81,194	64,338	7,416	946
Korea Superfreeze Incheon Inc.	19,695	195	-	(5,247)

	2021			
	Assets	Liabilities	Revenue	Profit (loss) for the year
Korea Ras Laffan LNG Ltd.	₩ 497,612	₩ 227	₩ 101,080	₩ 126,506
Korea LNG Ltd.	157,018	217	47,857	45,834
Hyundai Yemen LNG Company	166,791	103,878	-	(2,596)
Korea LNG Trading Co., Ltd.	519,740	512,234	121,763	(76)
Kor-Uz Gas Chemical Investment Ltd.	1,523,173	21,252	-	133,457
South-East Asia Gas Pipeline Company Limited	1,817,870	699,149	440,097	190,256
Sulawesi LNG Development Limited	885,334	113	-	91,382
TOMORI E&P Limited	460,587	72,898	116,717	24,112
Coral South FLNG S.A	8,605,156	7,764,924	-	(1,994)
Coral South FLNG DMCC	4,726,640	4,726,478	-	-
Hydrogen Energy Network Co., Ltd.	93,287	12,145	5,882	(4,615)
Rovuma LNG S.A.	1,859	-	-	260
Rovuma LNG Investments (DIFC) Ltd	612	839	-	(280)
Kor-Uz Gas cylinder Investment Ltd.	2,473	15	-	(51)
Kor-Uz Gas C&G Investment Ltd.	1,840	-	-	10
Terminal KMS de GNL, S. De R.L. De C.V.	994,807	514,260	103,836	31,046
GLNG Operations Pty. Ltd.	103	1	-	8
GLNG Property Pty. Ltd.	-	-	-	-
ENH-KOGAS, SA.	23,616	5,291	35,312	8,844
LNG Canada Development Inc.	1	-	-	-
Manzanillo Gas Tech, S. de R.L. de C.V.	5,572	2,635	8,075	349
KLBV1 S.A	32,940	18,203	-	(340)
Korea Superfreeze Incheon Inc.	4,867	120	-	(253)

18. Property, plant and equipment

(1) Details of property, plant and equipment as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022				
	Acquisition cost	Governments grants	Accumulated depreciation	Accumulated impairment loss	Book value
Land	₩ 3,256,049	₩ -	₩ -	₩ -	₩ 3,256,049
Buildings	1,273,432	(2,780)	(553,248)	(3,042)	714,362
Structures	6,748,600	(1,382)	(2,933,386)	(51,817)	3,762,015
Machinery	18,417,399	(105,695)	(7,588,131)	(1,377,060)	9,346,513
Computerized facility	69,758	(7)	(53,426)	(2,279)	14,046
Vehicles	62,999	(10,125)	(33,923)	(340)	18,611
Office equipment	59,562	(320)	(49,456)	(579)	9,207
Tools and instruments	67,900	(121)	(59,930)	-	7,849
Timber	55,564	-	-	-	55,564
Construction-in-progress	2,011,205	(48,035)	-	(344,701)	1,618,469
Right-of-use assets	7,155,891	-	(5,074,159)	-	2,081,732
Others	8,588,919	-	(4,708,202)	(1,471,333)	2,409,384
	₩ 47,767,278	₩ (168,465)	₩ (21,053,861)	₩ (3,251,151)	₩ 23,293,801

	December 31, 2021				
	Acquisition cost	Governments grants	Accumulated depreciation	Accumulated impairment loss	Book value
Land	₩ 3,234,947	₩ -	₩ -	₩ -	₩ 3,234,947
Buildings	1,261,455	(2,640)	(515,091)	(2,845)	740,879
Structures	6,700,640	(1,439)	(2,690,971)	(48,473)	3,959,757
Machinery	17,810,899	(112,179)	(6,909,059)	(1,288,175)	9,501,486
Computerized facility	68,770	(17)	(48,882)	(2,132)	17,739
Vehicles	46,200	(2,589)	(32,098)	(319)	11,194
Office equipment	58,480	(25)	(47,514)	(541)	10,400
Tools and instruments	68,146	(209)	(58,829)	-	9,108
Timber	55,174	-	-	-	55,174
Construction-in-progress	1,638,692	(22,409)	-	(322,451)	1,293,832
Right-of-use assets	7,147,514	-	(4,821,790)	-	2,325,724
Others	7,700,249	-	(4,017,301)	(1,262,434)	2,420,514
	₩ 45,791,166	₩ (141,507)	₩ (19,141,535)	₩ (2,927,370)	₩ 23,580,754

18. Property, plant and equipment (cont'd)

(2) Changes in property, plant and equipment for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022							
	Beginning balance	Acquisition	Disposal	Depreciation	Reversal of impairment loss[1]	Others	Changes in the scope of consolidation	Ending balance
Land	₩ 3,234,947	₩ 1,223	₩ (1,348)	₩ -	₩ -	₩ 21,227	₩ -	₩ 3,234,947
Buildings	743,519	1,159	(1,526)	(41,549)	-	15,539	-	717,142
(Government grant)	(2,640)	(267)	-	127	-	-	-	(2,780)
Structures	3,961,196	117	(179)	(242,633)	-	44,896	-	3,763,397
(Government grant)	(1,439)	(50)	-	107	-	-	-	(1,382)
Machinery	9,613,665	12,381	(3,109)	(671,250)	-	500,521	-	9,452,208
(Government grant)	(112,179)	(16)	-	6,500	-	-	-	(105,695)
Computerized facility	17,756	2,387	(5)	(6,390)	-	305	-	14,053
(Government grant)	(17)	(4)	-	14	-	-	-	(7)
Vehicles	13,783	19,219	(4)	(4,271)	-	9	-	28,736
(Government grant)	(2,589)	(7,940)	-	470	-	(66)	-	(10,125)
Office equipment	10,425	2,631	(9)	(4,130)	-	610	-	9,527
(Government grant)	(25)	(358)	-	63	-	-	-	(320)
Tools and instruments	9,317	2,132	(1)	(3,935)	-	457	-	7,970
(Government grant)	(209)	(28)	-	116	-	-	-	(121)
Timber	55,174	-	(36)	-	-	426	-	55,564
Construction in progress	1,316,241	700,763	-	-	-	(350,500)	-	1,666,504
(Government grant)	(22,409)	(25,201)	-	-	-	(425)	-	(48,035)
Right-of-use assets	2,325,724	26,517	(3,441)	(267,931)	-	863	-	2,081,732
Others	2,420,514	420,140	-	(438,951)	(149,626)	157,307	-	2,409,384
	₩ 23,580,754	₩ 1,154,805	₩ (9,658)	₩ (1,673,643)	₩ (149,626)	₩ 391,169	₩ -	₩ 23,293,801

[1] Impairment loss amounting to ₩ 149,626 million is recognized in other property, plant and equipment of KG Mozambique Ltd and KOGAS Iraq B.V in 2022, and it was included in other gains (losses) in the consolidated statement of comprehensive income. Refer to Note 40 for further information.

	2021							
	Beginning balance	Acquisition[1]	Disposal	Depreciation	Reversal of impairment loss[2]	Others	Changes in the scope of consolidation	Ending balance
Land	₩ 3,051,451	₩ 1,929	₩ (1,802)	₩ -	₩ -	₩ 183,369	₩ -	₩ 3,234,947
Buildings	771,711	4,253	(1,560)	(41,242)	-	10,357	-	743,519
(Government grant)	(1,811)	(937)	-	108	-	-	-	(2,640)
Structures	4,183,391	549	(332)	(241,090)	-	18,678	-	3,961,196
(Government grant)	(1,543)	-	-	104	-	-	-	(1,439)
Machinery	9,706,671	22,733	(7,130)	(648,362)	258,451	281,302	-	9,613,665
(Government grant)	(111,229)	(7,652)	-	6,609	-	93	-	(112,179)
Computerized facility	18,079	6,100	(8)	(6,215)	-	(200)	-	17,756
(Government grant)	(38)	-	-	21	-	-	-	(17)
Vehicles	11,159	6,376	(23)	(3,747)	-	18	-	13,783
(Government grant)	(635)	(1,976)	-	180	-	(158)	-	(2,589)
Office equipment	11,497	2,693	(39)	(4,081)	-	355	-	10,425
(Government grant)	(35)	-	-	10	-	-	-	(25)
Tools and instruments	10,677	2,651	(1)	(4,270)	-	260	-	9,317
(Government grant)	(346)	-	-	137	-	-	-	(209)
Timber	55,117	-	(30)	-	-	87	-	55,174
Construction in progress	699,464	843,134	-	-	-	(226,357)	-	1,316,241
(Government grant)	(4,233)	(17,729)	-	-	-	(447)	-	(22,409)
Right-of-use assets	2,573,468	27,624	(2,814)	(273,748)	-	1,194	-	2,325,724
Others	2,161,329	326,220	(1,424)	(423,624)	183,465	174,548	-	2,420,514
	₩ 23,134,144	₩ 1,215,968	₩ (15,163)	₩ (1,639,210)	₩ 441,916	₩ 443,099	₩ -	₩ 23,580,754

[1] Assets acquired as a result of business combination are included.

[2] Reversal of impairment loss amounting to ₩ 457,276 million is recognized in machinery and other property in 2021, plant or equipment of KOGAS Australia Pty. Ltd., and impairment loss amounting to ₩15,360 million is recognized in relation to other property, plant or equipment of KOGAS Canada Ltd. Both were included in other gains (losses) in the consolidated statement of comprehensive income. Refer to Note 40 for further information.

19. Construction and service contracts

(1) Changes in the outstanding construction and service contracts for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022			
	Beginning balance	Increase[1] (decrease)	Revenue recognized[2]	Ending balance
Domestic construction contracts	₩ 191,695	₩ 113,127	₩ 112,693	₩ 192,129
Domestic service contracts	8,506	117	2,834	5,789
Overseas construction contracts	1,173	(377)	642	154
Overseas service contracts	2,975	2,109	1,590	3,494
	₩ 204,349	₩ 114,976	₩ 117,759	₩ 201,566

[1] For the year ended December 31, 2022, the increase in construction and service contracts amounted to ₩122,489 million, respectively, due to the new contracts and the decrease in construction and service contracts amounted to ₩7,513 million, respectively, due to the change in size of existing construction contracts.
[2] The current revenue recognition includes ₩4,424 million of revenue from service.

	2021			
	Beginning balance	Increase[1] (decrease)	Revenue recognized[2]	Ending balance
Domestic construction contracts	₩ 113,431	₩ 165,971	₩ 87,707	₩ 191,695
Domestic service contracts	333	9,715	1,542	8,506
Overseas construction contracts	3,555	318	2,700	1,173
Overseas service contracts	3,250	2,424	2,699	2,975
	₩ 120,569	₩ 178,428	₩ 94,648	₩ 204,349

[1] For the year ended December 31, 2021, the increase in construction and service contracts amounted to ₩184,140 million, respectively, due to the new contracts and the decrease in construction and service contracts amounted to ₩5,712 million, respectively, due to the change in size of existing construction contracts.
[2] The current revenue recognition includes ₩4,241 million of revenue from service.

(2) Accumulated revenues and costs of construction in progress as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022						
				Contract assets	Contract liabilities		
	Accumulated revenue	Accumulated cost	Accumulated profit or loss	Unbilled amount	Overbilled amount	Advances	Reserves
Domestic construction contracts	₩ 141,613	₩ 134,299	₩ 7,314	₩ 7,120	₩ 1,624	₩ 65,875	₩ -
Domestic service contracts	3,744	3,467	277	492	528	32	-
Overseas construction contracts	1,762	1,383	379	416	-	-	-
Overseas service contracts	1,835	1,400	435	182	326	38	-
Total	₩ 148,954	₩ 140,549	₩ 8,405	₩ 8,210	₩ 2,478	₩ 65,945	₩ -

19. Construction and service contracts (cont'd)

(2) Accumulated revenues and costs of construction in progress as of December 31, 2022 and 2021, are as follows (Korean won in millions) (cont'd):

	December 31, 2021						
				Contract assets	Contract liabilities		
	Accumulated revenue	Accumulated cost	Accumulated profit or loss	Unbilled amount	Overbilled amount	Advances	Reserves
Domestic construction contracts	₩ 80,046	₩ 79,748	₩ 298	₩ 4,146	₩ 4,799	₩ 74,515	₩ -
Domestic service contracts	1,090	954	136	129	477	64	-
Overseas construction contracts	31,994	18,496	13,498	1,773	89	-	-
Overseas service contracts	732	599	133	452	-	38	-
Total	₩ 113,862	₩ 99,797	₩ 14,065	₩ 6,500	₩ 5,365	₩ 74,617	₩ -

(3) Contract assets and liabilities, unbilled amount and overbilled amount arising from construction and service contracts as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022		December 31, 2021	
	Contract assets[1]	Contract liabilities	Contract assets[1]	Contract liabilities
Domestic construction contracts	₩ 7,120	₩ 67,499	₩ 4,146	₩ 79,314
Domestic service contracts	492	560	129	541
Overseas construction contracts	416	-	1,773	89
Overseas service contracts	182	364	452	38
Total	₩ 8,210	₩ 68,423	₩ 6,500	₩ 79,982

[1] Contract assets irrelevant to construction contracts are excluded.

(4) As of December 31, 2022, the major effects of changes in the estimated total contract costs, estimated total contract revenues and provision for construction losses related to the ongoing constructions of the Group are as follows (Korean won in millions):

	Changes in total contract revenues	Changes in estimated total contract costs	Effect on profit or loss in the current period	Effect on profit or loss in subsequent periods	Provision for construction losses
Domestic construction contracts	₩ 7,006	₩ 13,489	₩ (3,837)	₩ (2,646)	₩ -
Domestic service contract	(37)	2	(39)	-	-
Overseas construction contracts	(376)	126	(505)	3	-
Overseas service contracts	123	-	41	82	-
Total	₩ 6,716	₩ 13,617	₩ (4,340)	₩ (2,561)	₩ -

(5) During the years ended December 31, 2022, the Group does not have a contract of which the total contract revenue exceeds 5% of the Group's prior year revenue under the percentage-of-completion method.

(6) Contract assets and liabilities as of December 31, 2022 are as follows (Korean won in millions):

		December 31, 2022
Contract assets	Unbilled amount (arising from construction)	₩ 8,210
Contract liabilities	Overbilled amount (arising from construction)	2,478
	Advance receipts	65,945

19. Construction and service contracts (cont'd)

(7) Revenue recognized for contract liabilities as of December 31, 2022 and 2021 are as follows. (Korean won in millions):

	December 31, 2022	December 31, 2021
Contract liabilities recognized as revenue	₩ 79,882	₩ 44,709

20. Intangible assets other than goodwill

(1) Details of intangible assets other than goodwill as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022				
	Acquisition cost	Government grants	Accumulated amortization	Accumulated impairment loss	Book value
Intangible exploration and evaluation assets	₩ 765,398	₩ -	₩ -	₩ (296,745)	₩ 468,653
Computer software	136,768	(1,581)	(106,927)	(3,947)	24,313
Copy rights, patents and other industrial property rights	15,250	(20)	(4,755)	(6,355)	4,120
Development costs	35,485	-	(35,470)	-	15
Intangible assets under development	188	-	-	-	188
Right to contributed assets	417,058	-	(151,070)	-	265,988
Land use rights	4,498	-	(2,860)	-	1,638
Mineral rights	1,814,639	-	(403,737)	(508,113)	902,789
Others	446,156	-	(260,436)	(147,633)	38,087
Total	₩ 3,635,440	₩ (1,601)	₩ (965,255)	₩ (962,793)	₩ 1,705,791

	December 31, 2021				
	Acquisition cost	Government grants	Accumulated amortization	Accumulated impairment loss	Book value
Intangible exploration and evaluation assets	₩ 708,076	₩ -	₩ -	₩ (231,735)	₩ 476,341
Computer software	120,230	(2,010)	(99,278)	(3,691)	15,251
Copy rights, patents and other industrial property rights	15,098	(28)	(3,762)	(4,706)	6,602
Development costs	35,485	-	(35,463)	-	22
Intangible assets under development	7,603	-	-	-	7,603
Right to contributed assets	417,058	-	(140,693)	-	276,365
Land use rights	4,471	-	(2,727)	-	1,744
Mineral rights	1,713,813	-	(325,733)	(466,785)	921,295
Others	417,555	-	(238,979)	(138,104)	40,472
Total	₩ 3,439,389	₩ (2,038)	₩ (846,635)	₩ (845,021)	₩ 1,745,695

20. Intangible assets other than goodwill (cont'd)

(2) Changes in intangible assets other than goodwill for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022						
	Beginning balance	Acquisition/ capital expenditure	Disposal	Amortization	Impairment loss[1]	Others	Ending balance
Intangible exploration and evaluation assets	₩ 476,341	₩ 18,375	₩ (937)	₩ -	₩ (56,506)	₩ 31,380	₩ 468,653
Computer software	17,261	4,160	-	(7,922)	-	12,395	25,894
(Government grant)	(2,010)	(16)	-	445	-	-	(1,581)
Patent	6,630	16	-	(991)	(1,650)	135	4,140
(Government grant)	(28)	(2)	-	10	-	-	(20)
Development costs	22	-	-	(7)	-	-	15
Intangible assets under development	7,603	2,851	-	-	-	(10,266)	188
Right to contributed assets	276,365	-	-	(5,415)	-	(4,962)	265,988
Land use rights	1,744	27	-	(133)	-	-	1,638
Mineral rights	921,295	2,928	-	(59,202)	(9,120)	46,888	902,789
Others	40,472	17	-	(5,067)	-	2,665	38,087
	₩ 1,745,695	₩ 28,356	₩ (937)	₩ (78,282)	₩ (67,276)	₩ 78,235	₩ 1,705,791

[1] The impairment loss of ₩ 65,626 million for the year ended December 31, 2022 was recognized in relation to intangible exploration and evaluation assets and mining rights of KG Mozambique Ltd. and KOGAS Cyprus Ltd. The impairment loss of ₩ 1,650 million was recognized in relation to patent, copy rights, and other industrial property rights of KC LNG Tech Co., Ltd. and included in other gains (losses) in the consolidated statement of comprehensive income. Refer to Note 40 for further information.

	2021						
	Beginning balance	Acquisition/ capital expenditure	Disposal	Amortization	Reversal of impairment loss[1]	Others	Ending balance
Intangible exploration and evaluation assets	₩ 412,686	₩ 20,944	₩ -	₩ -	₩ 2,087	₩ 40,624	₩ 476,341
Computer software	15,993	7,646	(14)	(6,422)	-	58	17,261
(Government grant)	(116)	(2,010)	-	116	-	-	(2,010)
Patent	4,637	14	-	(981)	(4,706)	7,666	6,630
(Government grant)	(40)	(2)	-	14	-	-	(28)
Development costs	29	-	-	(7)	-	-	22
Intangible assets under development	3,244	4,276	-	-	-	83	7,603
Right to contributed assets	286,700	-	-	(5,663)	-	(4,672)	276,365
Land use rights	1,839	49	(7)	(137)	-	-	1,744
Mineral rights	824,569	1,788	-	(60,711)	90,188	65,461	921,295
Others	45,171	18	-	(9,827)	1,706	3,404	40,472
	₩ 1,594,712	₩ 32,723	₩ (21)	₩ (83,618)	₩ 89,275	₩ 112,624	₩ 1,745,695

[1] The reversal of impairment loss of ₩ 93,981 million for the year ended December 31, 2021 was recognized in relation to intangible exploration and evaluation assets and mining rights of KOGAS Australia Pty. Ltd. The impairment loss of ₩ 4,706 million was recognized in relation to patent, copy rights, and other industrial property rights of KC LNG Tech Co., Ltd. The reversal of impairment loss and impairment loss were included in other gains (losses) in the consolidated statement of comprehensive income. Refer to Note 40 for further information.

20. Intangible assets other than goodwill (cont'd)

(3) Details of impairment losses or reversal thereof for property, plant and equipment and intangible assets recognized for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022			
Country	Korea	Mozambique	Iraq	Cyprus
Operating segment		Other segment[1]		
Nature of assets	Operating asset related to LNG cargo containment system development and others	Property, plant and equipment, and intangible assets including assets for resource development		
Assets to be recognized for impairment		Cash-generating units and individual assets		
Calculation of recoverable amount		Present value of expected cash flows		
Assumptions used				
Post-tax discount rate[2]	-	13.50%	12.6%	-
Applied unit price	Unit price of technical fees under the agreement	International Index[3,4]	International Index[3,4]	-
Production	Estimated order volume based on ship order volume of external forecasting agency	Estimated output based on reserve report	Estimated output based on reserve report	-
Recoverable amount	-	1,059,427	687,510	
Reversal of impairment loss(Impairment loss)	(1,650)	(47,864)	(140,867)	(26,522)
Reason for impairment/reversal	Uncertainty of additional ship orders	Increase in discount rate and declaration of force majeure	Increase in future investment and decrease in production	Undrawn drilling budget due to lack of prospects
Sensitivity analysis of recoverable amount from changes in discount rate				
1% increase	-	(294,054)	(30,542)	-
1% decrease	-	348,750	32,872	-
Sensitivity analysis of recoverable amount from changes in applied unit price				
1% increase	-	477,507	-	-
1% decrease	-	(527,841)	-	-

[1] Cash generating unit of other segment is each mining area and project.
[2] Weighted average cost of capital considering risk of cash-generating units.
[3] The trends applied in oil and gas price are based on long-term forecast of major foreign research institutes
[4] After the forecast period, a 2% increase rate was applied.

20. Intangible assets other than goodwill (cont'd)

(3) Details of impairment losses or reversal thereof for property, plant and equipment and intangible assets recognized for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions): (cont'd):

	2021		
Country	Korea	Canada	Australia
Operating segment		Other segment[1]	
Nature of assets	Operating asset related to LNG cargo hold development and others	Property, plant and equipment, and intangible assets including assets for resource development	
Assets to be recognized for impairment		Cash-generating units and individual assets	
Calculation of recoverable amount		Present value of expected cash flows	
Assumptions used			
Post-tax discount rate[2]	15.40%	10.50%	6.50%
Applied unit price	Unit price of technical fees under the agreement	International Index[3,4]	International Index[3,4]
Production	Estimated order volume based on ship order volume of external forecasting agency	Estimated output based on reserve report	Estimated output based on reserve report
Recoverable amount	-	20,088	2,679,230
Reversal of impairment loss (Impairment loss)	(4,706)	(15,360)	551,258
Reason for impairment/reversal	Uncertainty of additional ship orders	Decrease in future economic feasibility due to downscale of development plan	Improvements in business environment, long- term increase in oil price and others
Sensitivity analysis of recoverable amount from changes in discount rate			
1% increase	-	(763)	(220,905)
1% decrease	-	792	253,211
Sensitivity analysis of recoverable amount from changes in applied unit price			
1% increase	-	5,111	372,548
1% decrease	-	(5,112)	(378,267)

[1] Cash generating unit of other segment is each mining area and project.
[2] Weighted average cost of capital considering risk of cash-generating units.
[3] The trends applied in oil and gas price are based on long-term forecast of major foreign research institutes
[4] After the forecast period, a 2% increase rate was applied.

(4) Details of individually significant intangible assets as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022		
	Details	**Amount**	**Remaining amortization period**
Intangible exploration and evaluation assets	Acquisition in exploration phase	₩ 468,654	Exploration phase
Right to contributed assets	Harbor facility usage right and others	265,988	25.70 years
Mineral rights	Mining rights	137,642	Production phase
	Mining rights	274,689	21.00 years
	Mining rights	31,685	16.02 years
	Mining rights	458,773	24.00 years

20. Intangible assets other than goodwill (cont'd)

(4) Details of individually significant intangible assets as of December 31, 2022 and 2021, are as follows (Korean won in millions) (cont'd):

	December 31, 2021		
	Details	Amount	Remaining amortization period
Intangible exploration and evaluation assets	Acquisition in exploration phase	₩ 476,341	Exploration phase
Right to contributed assets	Harbor facility usage right and others	276,365	26.81 years
	Mining Rights	135,403	Development phase
	Mining Rights	271,571	22.00 years
Mineral rights	Mining Rights	33,355	17.02 years
	Mining Rights	480,966	25.00 years

(5) Assets, liabilities, income, expenses, and cash inflows from operating activities and investment activities that arose from exploration and evaluation of mineral resources, are as follows (Korean won in millions):

	2022	2021
Assets	₩ 752,959	₩ 619,040
Liabilities	752,547	683,303
Income	12,832	2,101
Expenses	66,752	12,026
Cash inflows from operating activities	(3,984)	(155)
Cash inflows from investment activities	(13,263)	(20,944)

(6) The Group's property, plant and equipment and intangible assets include the Group's portion of jointly held assets in joint operations, and details of the Group's joint operations as of December 31, 2022 are as follows:

	Main business	Interest of investments	Location
Mozambique Area 4 mining area	Area 4 mining exploration, development and production	10.00%	Mozambique
Zubair Oil Field	Oil field development and production	23.80%	Iraq
Badra Contract Area	Oil field development and production	22.50%	Iraq
Mansuriya Contract Area	Gas field development and production	15.00%	Iraq
Akkas Contract Area	Gas field development and production	75.00%	Iraq
GLNG Project	Gas field development and production, sales	15.00%	Australia
Prelude mine in Australia	Development of mining area, gas production and sales	10.00%	Australia
Myanmar A-1 and A-3 mining area	Development of mining area, gas production and pipeline operation	8.50%	Myanmar
LNG Canada	LNG development	5.00%	Canada
Canadian Horn River	Mining Development and Gas Production	50.00%	Canada
Canadian Umiak	Mining Development and Gas Production	20.00%	Canada
Cyprus maritime fields	Resource Development	20.00%	Cyprus

21. Goodwill

(1) Goodwill as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022	December 31, 2021
Acquisition cost	₩ 145	₩ 145
Accumulated impairment loss	-	-
	₩ 145	₩ 145

(2) Changes in goodwill for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Beginning Balance	₩ 145	₩ -
Acquisition[1]	-	145
Ending Balance	₩ 145	₩ 145

[1] Acquired through a business combination in 2021.

22. Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022		December 31, 2021	
	Current	Non-current	Current	Non-current
Derivatives not designated as hedging instruments	₩ 720,882	₩ 17,206	₩ 5,985	₩ 73,255
Derivatives designated as hedging instruments	32,950	8,105	-	27,340
Total	₩ 753,832	₩ 25,311	₩ 5,985	₩ 100,595

23. Trade and other payable

(1) Trade and other payables as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022		December 31, 2021	
	Current	Non-current	Current	Non-current
Trade payables	₩ 2,682,434	₩ -	₩ 2,815,234	₩ -
Non-trade payables	322,935	323	258,871	190
Accrued expenses	336,244	-	229,020	-
Lease liabilities	378,923	1,652,602	268,784	1,777,521
Other payables[1]	8,022	-	4,160	-
Total	₩ 3,728,558	₩ 1,652,925	₩ 3,576,069	₩ 1,777,711

[1] Details of other payables for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022		2021	
	Current	Non-current	Current	Non-current
Royalty	₩ 8,022	₩ -	₩ 4,160	₩ -
Total	₩ 8,022	₩ -	₩ 4,160	₩ -

24. Borrowings and debentures

(1) Borrowings and debentures as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022	December 31, 2021
Current		
Short-term borrowings	₩ 23,601,077	₩ 7,832,479
Current portion of debentures	1,958,377	1,934,200
Less: discount on debentures	(537)	(385)
	25,558,917	9,766,294
Non-current		
Long-term borrowings, net of current portion	192,144	179,480
Debentures, net of current portion	17,146,773	16,287,703
Less: discount on debentures	(46,281)	(46,740)
	17,292,636	16,420,443
	₩ 42,851,553	₩ 26,186,737

(2) Repayment schedules of borrowings and debentures as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022		
	Borrowings	Debentures	Total
1 year or less	₩ 23,601,077	₩ 1,958,377	₩ 25,559,454
1 ~ 5 years	6,693	10,617,463	10,624,156
More than 5 years	185,451	6,529,310	6,714,761
	₩ 23,793,221	₩ 19,105,150	₩ 42,898,371

	December 31, 2021		
	Borrowings	Debentures	Total
1 year or less	₩ 7,832,479	₩ 1,934,200	₩ 9,766,679
1 ~ 5 years	3,075	8,753,806	8,756,881
More than 5 years	176,405	7,533,897	7,710,302
	₩ 8,011,959	₩ 18,221,903	₩ 26,233,862

24. Borrowings and debentures (cont'd)

(3) The Group's short-term borrowings as of December 31, 2022 and 2021 are as follows (Korean won in millions):

Lender	Interest rate	Maturity	December 31, 2022	December 31, 2021
Local currency borrowings (Overdraft and bank loans)				
NH Bank	-	-	₩ -	₩ 99,000
KEB Hana Bank	-	-	-	953,000
IBK Bank	-	-	-	49,000
KDB	-	-	-	963
KEB Hana Bank	4.49%~4.57%	2023.01	1,322,000	-
IBK Bank	2.97%	2023.02	49,500	-
NH Bank	4.94~4.98%	2023.01	199,000	-
The export-import Bank of Korea	4.60%	2023.04	200,000	-
KDB	14.77%	2023.11	963	-
KEB Hana Bank	6.25%	2023.12	17,750	-
			1,789,213	1,101,963
Local currency borrowings (Electronic short-term debentures)				
DB Securities Co., Ltd.	-	-	-	400,000
KTB Investment & Securities Co., Ltd.	-	-	-	810,000
Kyobo Securities Co., Ltd	-	-	-	20,000
Bookook Securities Co., Ltd	-	-	-	260,000
BNK Securities Co., Ltd	-	-	-	140,000
Woori Investment Bank Co., Ltd.	-	-	-	180,000
Eugene Investment & Securities Co., Ltd.	-	-	-	70,000
Cape Investment & Securities Co., Ltd	-	-	-	110,000
DB Securities Co., Ltd.	3.81%~4.76%	2023.01~2023.09	1,080,000	-
IBK Securities Co., Ltd.	4.21%~4.36%	2023.04~2023.12	70,000	-
SK Securities Co., Ltd	4.11%~4.16%	2023.05~2023.09	70,000	-
Kyobo Securities Co., Ltd	3.86%~4.71%	2023.02~2023.09	960,000	-
DAOL Investment & Securities Co., Ltd	3.36%~4.74%	2023.01~2023.09	790,000	-
DS Investment & Securities Co., Ltd	4.21%~4.74%	2023.02~2023.09	180,000	-
Bookook Securities Co., Ltd	3.36%~4.74%	2023.01~2023.12	440,000	-
BNK Securities Co., Ltd	4.66%~4.71%	2023.02~2023.03	50,000	-
Woori Investment Bank Co., Ltd	4.16%~4.71%	2023.01~2023.04	230,000	-
Eugene Investment & Securities Co., Ltd.	4.16%~4.74%	2023.02~2023.08	120,000	-
Cape Investment & Securities co., Ltd.	3.86%~4.74%	2023.01~2023.12	290,000	-
Hana Securities Co., Ltd.	4.16%~4.74%	2023.02~2023.08	130,000	-
HI INVESTMENT & SECURITIES CO.,LTD.	4.16%~4.71%	2023.03~2023.08	90,000	-
Hanyang Securities Co., Ltd	3.36%~4.74%	2023.01~2023.12	2,885,000	-
HEUNGKUK SECURITIES CO.,LTD.	4.11%~4.71%	2023.03~2023.08	215,000	-
			7,600,000	1,990,000
Local currency borrowings (commercial paper)				
KEB Hana Bank	-	-	-	100,000
KEB Hana Bank	-	-	-	100,000
KEB Hana Bank	-	-	-	100,000
KEB Hana Bank	-	-	-	100,000
KEB Hana Bank	-	-	-	200,000
KEB Hana Bank	-	-	-	100,000
KEB Hana Bank	-	-	-	300,000
KEB Hana Bank	3M CD + 0.21%	2023.01	100,000	-
KEB Hana Bank	3M CD + 0.13%	2023.02	100,000	-
KEB Hana Bank	3M CD + 0.31%	2023.01	100,000	-
KEB Hana Bank	3M CD + 0.30%	2023.01	200,000	-
KEB Hana Bank	3M CD + 0.23%	2023.02	100,000	-

24. Borrowings and debentures (cont'd)

(3) The Group's short-term borrowings as of December 31, 2022 and 2021 are as follows (Korean won in millions)(cont'd):

Lender	Interest rate	Maturity	December 31, 2022	December 31, 2021
Local currency borrowings (commercial paper)				
KEB Hana Bank	3M CD + 0.20%	2023.02	300,000	-
KEB Hana Bank	3M CD + 0.91%	2023.03	200,000	-
KEB Hana Bank	3M CD + 1.02%	2023.02	100,000	-
DB Securities Co., Ltd.	3.61%~5.11%	2023.01~2023.12	820,000	-
IBK Securities Co., Ltd.	4.76%~5.06%	2023.02~2023.05	120,000	-
SK Securities Co., Ltd	3.64%~4.76%	2023.02~2023.12	120,000	-
Kyobo Securities Co., Ltd	4.36%~5.11%	2023.02~2023.12	460,000	-
DAOL Investment & Securities Co., Ltd	3.56%~5.11%	2023.01~2023.11	1,120,000	-
DS Investment & Securities Co., Ltd	3.61%~4.81%	2023.01~2023.07	190,000	-
Bookook Securities Co., Ltd	3.56%~5.06%	2023.01~2023.12	1,230,000	-
BNK Securities Co., Ltd	3.61%~5.06%	2023.02~2023.09	600,000	-
Shinyoung Securities Co.,LTD	4.76%~4.76%	2023.02~2023.02	30,000	-
Woori Investment Bank Co., Ltd	3.56%~3.61%	2023.07~2023.07	100,000	-
Eugene Investment & Securities Co., Ltd.	3.61%~5.11%	2023.01~2023.11	110,000	-
Cape Investment & Securities co., Ltd.	3.61%~5.11%	2023.01~2023.12	160,000	-
Hana Securities Co., Ltd.	4.61%~4.61%	2023.11~2023.11	20,000	-
HI INVESTMENT & SECURITIES CO.,LTD.	4.46%~5.06%	2023.05~2023.11	60,000	-
Hanyang Securities Co., Ltd	3.56%~5.11%	2023.01~2023.12	1,215,000	-
HEUNGKUK SECURITIES CO.,LTD.	4.21%~4.86%	2023.01~2023.12	80,000	-
			7,635,000	1,000,000
Foreign currency borrowings				
ANZ	-	-	-	232,686
BNP Paribas	-	-	-	285,966
DBS	-	-	-	691,814
HSBC	-	-	-	117,468
KB Bank	-	-	-	89,368
KDB	-	-	-	1,178,320
MIZUHO	-	-	-	88,747
SC Bank	-	-	-	465,115
The export-import Bank of Korea	-	-	-	237,100
Shinhan Bank	-	-	-	353,932
The export-import Bank of Korea	3.69%~4.91%	2023.02~2023.04	380,190	-
Shinhan Bank	4.07%~5.39%	2023.03~2023.05	379,571	-
DBS	3.88%~5.70%	2023.03~2023.09	1,024,847	-
KDB	4.44%~5.25%	2023.02~2023.03	1,253,623	-
ANZ	4.54%~4.88%	2023.03~2023.04	756,316	-
HSBC	4.53%~5.38%	2023.03~2023.05	313,768	-
SOGE	4.70%~4.76%	2023.03	357,334	-
KB Bank	4.83%~5.17%	2023.02~2023.03	432,253	-
BNP Paribas	4.68%~5.70%	2023.03~2023.05	193,405	-
Citi Bank	4.58%~5.05%	2023.03~2023.04	111,338	-
NH Bank	4.92%~5.03%	2023.01	246,094	-
SC Bank	5.20%~5.35%	2023.04	240,672	-
CREDIT AGRICOLE	5.59%	2023.07	367,084	-
Daegu Bank	5.56%	2023.04	63,365	-
MIZUHO	5.77%	2023.03	276,372	-
Bank of America	5.79%~5.80%	2023.08	123,930	-
Busan Bank	5.44%	2023.06	56,702	-
			6,576,864	3,740,516
			₩ 23,601,077	₩ 7,832,479

24. Borrowings and debentures (cont'd)

(4) Long-term borrowings as of December 31, 2022 and 2021, are as follows (Korean won in millions and US dollars in thousands):

			December 31, 2022		December 31, 2021	
Lender	Interest rate	Maturity	Foreign currency (USD)	Local currency (KRW)	Foreign currency (USD)	Local currency (KRW)
Foreign currency borrowings:						
Korea Energy Agency [1]	-	- [2]	USD 151,617	₩ 192,144	USD 151,396	₩ 179,480
			USD 151,617	₩ 192,144	USD 151,396	₩ 179,480

[1] As of December 31, 2022, the Group has provided 15 blank promissory notes to the Korea Energy Agency as collaterals for the Group's borrowings.
[2] These are the conditional loan system which will be repaid only if the related exploration business is available as commercial.

(5) Debentures as of December 31, 2022 and 2021, are as follows (Korean won and Japanese yen in millions and US dollars, Euro, Swiss Franc, and Hong Kong dollars in thousands):

			December 31, 2022		December 31, 2021	
List	Interest rate	Maturity	Foreign currency	Local currency (KRW)	Foreign currency	Local currency (KRW)
304th	4.26%	2022.04	-	₩ -	-	₩ 140,000
305th	4.19%	2022.05	-	-	-	120,000
307th	4.13%	2022.05	-	-	-	140,000
310~311st	4.02%~4.03%	2022.08~2022.09	-	-	-	290,000
313rd	3.97%	2022.04	-	-	-	100,000
315~316th	3.86%	2022.05~2022.06	-	-	-	230,000
318th	3.28%	2027.07	-	170,000	-	170,000
320th	3.12%	2025.09	-	120,000	-	120,000
322~323rd	3.10%~3.13%	2024.09~2025.04	-	170,000	-	170,000
325~340th	2.94%~3.86%	2023.04~2028.08	-	1,830,000	-	1,830,000
344~345th	3.66%~3.71%	2029.04	-	230,000	-	230,000
347~350th	3.73%~3.87%	2024.05~2033.11	-	430,000	-	430,000
352~363rd	3.18%~4.02%	2024.03~2034.05	-	1,410,000	-	1,410,000
367~375th	2.17%~2.93%	2024.10~2030.08	-	1,270,000	-	1,270,000
377~380th	1.77%~2.75%	2030.07~2036.06	-	360,000	-	360,000
383rd	2.79%	2023.02	-	100,000	-	100,000
385~388th	2.61%~2.90%	2023.04~2038.05	-	450,000	-	450,000
390~395th	1.63%~2.16%	2027.04~2039.03	-	800,000	-	800,000
396th	1.44%	2022.07	-	-	-	110,000
397~398th	1.42%~1.57%	2028.09	-	170,000	-	170,000
399th	1.44%	2022.10	-	-	-	130,000
400th	1.60%	2039.10	-	110,000	-	110,000
403rd	1.70%	2039.11	-	40,000	-	40,000
404~409th	1.39%~1.74%	2027.05~2040.02	-	630,000	-	630,000
410~411st	1.01%~1.05%	2022.11	-	-	-	200,000
412~415th	1.68%~2.18%	2026.03~2031.08	-	400,000	-	400,000
417~418th	2.69%~6.25%	2024.09~2027.10	-	1,500,000	-	-
Global 4th	6.25%	2042.01	USD 750,000	950,475	USD 750,000	889,125
MTN 13rd	3.02%	2028.06	EUR 38,000	51,346	EUR 38,000	51,009
MTN 15th	3.00%	2023.07	EUR 50,000	67,560	EUR 50,000	67,117
MTN 16th	1.46%	2023.08	JPY 8,000	76,254	JPY 8,000	82,419
MTN 16th(2)	1.46%	2023.08	JPY 4,000	38,127	JPY 4,000	41,210
MTN 17th	4.00%	2024.01	USD 200,000	253,460	USD 200,000	237,100
Global 7th	3.88%	2024.02	USD 500,000	633,650	USD 500,000	592,750
Global 8th	3.50%	2026.07	USD 500,000	633,650	USD 500,000	592,750
MTN 18th	3.58%	2029.07	USD 100,000	126,730	USD 100,000	118,550
MTN 19th	3.58%	2029.07	USD 150,000	190,095	USD 150,000	177,825

24. Borrowings and debentures (cont'd)

(5) Debentures as of December 31, 2022 and 2021, are as follows (Korean won and Japanese yen in millions and US dollars, Euro, Swiss Franc, and Hong Kong dollars in thousands)(cont'd):

			December 31, 2022		December 31, 2021	
List	Interest rate	Maturity	Foreign currency	Local currency (KRW)	Foreign currency	Local currency (KRW)
MTN 20th	3.58%	2029.07	USD 100,000	126,730	USD 100,000	118,550
MTN 21st	3.50%	2029.10	USD 100,000	253,460	USD 100,000	118,550
MTN 22nd	3.13%	2025.10	USD 200,000	126,730	USD 200,000	237,100
MTN 23rd	3.30%	2025.11	USD 50,000	63,365	USD 50,000	59,275
MTN 24th	3.30%	2025.11	USD 50,000	63,365	USD 50,000	59,275
Global 9th	3.50%	2025.07	USD 500,000	633,650	USD 500,000	592,750
MTN 25th	2.83%	2026.03	USD 100,000	126,730	USD 100,000	118,550
MTN 26th	2.80%	2026.03	USD 100,000	126,730	USD 100,000	118,550
MTN 27th	2.70%	2026.05	USD 100,000	126,730	USD 100,000	118,550
Global 10-2nd	2.25%	2026.07	USD 400,000	506,920	USD 400,000	474,200
Global 11-1st	2.75%	2022.07	-	-	USD 400,000	474,200
Global 11-2nd	3.13%	2027.07	USD 400,000	506,920	USD 400,000	474,200
CHF 5th	0.21%	2023.08	CHF 200,000	274,574	CHF 200,000	259,494
CHF 6th	-	2023.11	CHF 300,000	411,861	CHF 300,000	389,241
GLOBAL 12nd	2.88%	2029.07	USD 500,000	633,650	USD 500,000	592,750
MTN 28th	1.42%	2027.07	HKD 450,000	73,148	HKD 450,000	68,414
Global 13-1st	1.13%	2026.07	USD 450,000	570,285	USD 450,000	533,474
Global 13-2nd	2.00%	2031.07	USD 350,000	443,555	USD 350,000	414,925
Global 14th	3.87%	2027.07	USD 500,000	633,650	-	-
MTN 29th	5.28%	2024.11	HKD 400,000	65,020	-	-
MTN 30th	5.53%	2024.12	USD 100,000	126,730	-	-
			USD 6,200,000		USD 6,000,000	
			CHF 500,000		CHF 500,000	
Total			JPY 12,000	19,105,150	JPY 12,000	18,221,903
			EUR 88,000		EUR 88,000	
			HKD 850,000		HKD 450,000	
			USD (39,237)		USD (39,525)	
Less: Discount on debentures			CHF (473)	(46,818)	CHF (1,116)	(47,125)
			HKD (6,053)		HKD (7,312)	
			USD 6,160,763		USD 5,960,475	
			CHF 499,527		CHF 498,884	
Balance after deduction			JPY 12,000	19,058,332	JPY 12,000	18,174,778
			EUR 88,000		EUR 88,000	
			HKD 843,947		HKD 442,688	
Less: Current portion				(1,958,377)		(1,934,200)
Less: Current portion of discount on debentures				537		385
Total				₩ 17,100,492		₩ 16,240,963

25. Lease

(1) Lease contract

During the current period, lease contracts with a lease term of 12 months or less were classified as short-term leases and recognized an expense of ₩ 2,518 million and lease contracts with an underlying asset of KRW 5 million or less were recognized as a small lease contract with an expense of ₩1,223 million.

(2) Details of lease liabilities as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022		December 31, 2021	
	Minimum lease payments	Present value of minimum lease payments	Minimum lease payments	Present value of minimum lease payments
Long-term transportation contract				
1 year or less	₩ 376,183	₩ 357,614	₩ 251,649	₩ 248,995
1~5 years	971,151	794,742	671,018	642,330
More than 5 years	1,308,720	727,520	1,163,174	1,002,152
	2,656,054	1,879,876	2,085,841	1,893,477
Lease other than long-term transportation contract				
1 year or less	21,762	21,309	20,298	19,789
1~5 years	58,927	55,499	55,379	51,864
More than 5 years	96,539	74,841	104,065	81,175
	177,228	151,649	179,742	152,828
Total				
1 year or less	397,945	378,923	271,947	268,784
1~5 years	1,030,078	850,241	726,397	694,194
More than 5 years	1,405,259	802,361	1,267,239	1,083,327
	₩ 2,833,282	₩ 2,031,525	₩ 2,265,583	₩ 2,046,305

(3) Details of liquidity classification of lease liabilities as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Current liabilities	₩ 378,923	₩ 268,784
Non-current liabilities	1,652,602	1,777,521
	₩ 2,031,525	₩ 2,046,305

(4) The changes in lease liabilities for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022					
	Beginning balance	Increase	Interest expenses	Decrease	Others	Ending balance
Lease liabilities	₩ 2,046,305	₩ 22,710	₩ 55,935	₩ (214,825)	₩ 121,400	₩ 2,031,525

	2021					
	Beginning balance	Increase	Interest expenses	Decrease	Others	Ending balance
Lease liabilities	₩ 2,001,047	₩ 25,740	₩ 29,513	₩ (247,200)	₩ 237,205	₩ 2,046,305

25. Lease (cont'd)

(5) The details of the composition of right-of-use assets for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022				
	Acquisition cost	Accumulated depreciation	Accumulated impairment loss	Other	Book value
Land	₩ 150,911	₩ (35,649)	₩ -	₩ -	₩ 115,262
Buildings	21,528	(9,198)	-	264	12,594
Structures	2,939	(261)	-	-	2,678
Machinery	19,219	(4,989)	-	-	14,230
Vehicles	12,350	(3,580)	-	-	8,770
Office equipment	-	-	-	-	-
Vessel	6,948,276	(5,020,127)	-	(265)	1,927,884
Aircrafts	623	(314)	-	-	309
Software	45	(41)	-	1	5
	₩ 7,155,891	₩ (5,074,159)	₩ -	₩ -	₩ 2,081,732

	2021				
	Acquisition cost	Accumulated depreciation	Accumulated impairment loss	Other	Book value
Land	₩ 146,932	₩ (26,175)	₩ -	₩ -	₩ 120,757
Buildings	16,738	(5,938)	-	-	10,800
Structures	2,750	(183)			2,567
Machinery	18,273	(3,267)	-	-	15,006
Vehicles	11,604	(8,335)	-	-	3,269
Office equipment	6	(4)	-	-	2
Vessel	6,949,798	(4,776,711)	-	-	2,173,087
Aircrafts	1,376	(1,144)	-	-	232
Software	37	(33)	-	-	4
	₩ 7,147,514	₩ (4,821,790)	₩ -	₩ -	₩ 2,325,724

(6) Changes in right-of-use assets for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022				
	Beginning balance	Increase	Depreciation	Others	Ending balance
Right-of-use assets					
Land	₩ 120,757	₩ 7,606	₩ (10,216)	₩ (2,885)	₩ 115,262
Buildings	10,800	7,334	(5,948)	408	12,594
Structures	2,567	-	(67)	178	2,678
Machinery	15,006	861	(1,658)	21	14,230
Vehicles	3,269	9,264	(3,628)	(135)	8,770
Office equipment	2	-	-	(2)	-
Vessel	2,173,087	811	(245,837)	(177)	1,927,884
Aircrafts	232	635	(572)	14	309
Software	4	6	(5)	-	5
	₩ 2,325,724	₩ 26,517	₩ (267,931)	₩ (2,578)	₩ 2,081,732

25. Lease (cont'd)

(6) Changes in right-of-use assets for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions) (cont'd):

	2021				
	Beginning balance	Increase	Depreciation	Others	Ending balance
Right-of-use assets					
Land	₩ 121,443	₩ 11,278	₩ (10,031)	₩ (1,933)	₩ 120,757
Buildings	9,419	5,999	(4,469)	(149)	10,800
Structures	2,412	-	(59)	214	2,567
Machinery	7,726	8,825	(1,566)	21	15,006
Vehicles	6,205	1,104	(3,899)	(141)	3,269
Office equipment	4	-	(2)	-	2
Vessel	2,425,603	413	(253,255)	326	2,173,087
Aircrafts	643	-	(452)	41	232
Software	13	5	(15)	1	4
	₩ 2,573,468	₩ 27,624	₩ (273,748)	₩ (1,620)	₩ 2,325,724

(7) Amounts recognized in the consolidated statements of profit or loss related to the leases for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022	2021
Depreciation of Right-of-use assets		
Land	₩ 10,216	₩ 10,031
Buildings	5,948	4,469
Structures	67	59
Machinery	1,658	1,566
Vehicles	3,628	3,899
Office equipment	-	2
Vessel	245,837	253,255
Aircrafts	572	452
Software	5	15
	₩ 267,931	₩ 273,748
Interest expenses (finance cost) of lease liabilities	₩ 55,935	₩ 29,513
Interest income (finance income) on present value discount of deposit	860	1,317
Short-term lease payment (included in cost of sales and administrative expenses)	2,518	2,137
Low-value lease payment (included in cost of sales and administrative expenses)	1,223	1,210

26. Retirement benefits

The Group operates both defined contribution and defined benefit pension plans.

(Defined Contribution Pension Plan)

- For defined contribution plan, the mandatory contribution amount of the Group is set on contractual or voluntary basis. The Group has no further payment obligation once the contribution has been paid.
- Employees select a publicly or privately administered pension insurance plan based on the rule of the plan and bear the risk.
- The pensionable right of employees is guaranteed in the plan as the contribution is accumulated in each employee's name, independently from the Group.

(Defined Benefit Pension Plan)

- For defined benefit plan, the benefit amount of the employees is set, depending on their age, periods of service or salary levels.
- Employees expect their own post-employment benefit amount reasonably and the Group bear the risk.

(1) Defined contribution plan

The expense recognized in the current period in relation to defined contribution plan was ₩13,466 million (2021: ₩6,119 million).

Details of recognized expense related to the defined contribution plan for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022	2021
Cost of sales	₩ 7,974	₩ 4,335
Selling, general and administrative expenses	5,281	1,702
Construction in progress	211	82
Total	₩ 13,466	₩ 6,119

(2) Defined Benefit Plan

According to defined benefit plan, the employees will receive their average salary for the past three months multiplied by the rate of payment considering the year of service on their retirement. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method.

(3) Details of net defined benefit liabilities (assets) recognized in the consolidated statements of financial position as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022	December 31, 2021
Present value of funded defined benefit liabilities	₩ 304,665	₩ 369,312
Fair value of plan assets	(431,200)	(393,641)
Net defined benefit liabilities	₩ (126,535)	₩ (24,329)

26. Retirement benefits (cont'd)

(4) Changes in the carrying amount of defined benefit liabilities for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Beginning balance	₩ 369,312	₩ 400,245
Current service cost	35,924	45,223
Interest expense	14,469	13,510
Remeasurements	(60,289)	(64,537)
Benefit payments	(6,128)	(8,944)
Convert to defined contribution	(48,364)	(16,208)
Settlements	(280)	-
Foreign exchange difference	20	23
Others	1	-
Ending balance	₩ 304,665	₩ 369,312

(5) Changes in the fair value of plan assets for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Beginning balance	₩ 393,641	₩ 397,687
Interest income	15,529	12,646
Remeasurements	(8,546)	(5,210)
Employer's contributions:	81,321	10,617
Benefit payments	(5,474)	(5,891)
Convert to defined contribution	(45,271)	(16,208)
Ending balance	₩ 431,200	₩ 393,641

The Group recognized accumulated actuarial gains and losses, net of tax, as other comprehensive income amounting to ₩ 36,890 million and ₩ (-)1,983 million as of December 31, 2022 and 2021, respectively.

(6) Plan assets as of December 31, 2022 and 2021, consist of (Korean won in millions):

	December 31, 2022	December 31, 2021
Deposits	₩ 88,244	₩ 44,665
Insurance instrument	140,962	57,201
Debt instrument	144,794	230,905
Equity instruments	-	1,357
Others	57,200	59,513
	₩ 431,200	₩ 393,641

(7) The principal actuarial assumptions as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022	December 31, 2021
Discount rate	6.21% ~ 6.17%	3.80% ~ 4.07%
Future salary growth rate	1.7%+promotion rate ~ 4.26%	1.4%+promotion rate ~ 4.36%

26. Retirement benefits (cont'd)

(7) The principal actuarial assumptions as of December 31, 2022 and 2021, are as follows (Korean won in millions)(cont'd):

Promotion rate used for future salary increases calculations in 2022, are as follows (Korean won in millions):

	Age	Experience rate
Promotion rate	30	2.872%
	35	2.512%
	40	2.231%
	45	2.007%
	50	1.824%

(8) The amounts recognized in profit or loss in relation to defined benefit plan for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Current service cost	₩ 35,924	₩ 45,223
Interest expense	14,469	13,510
Interest income	(15,529)	(12,646)
Others	(280)	-
	₩ 34,584	₩ 46,087

(9) The above amounts recognized in the consolidated statements of comprehensive income for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Cost of sales	₩ 24,472	₩ 33,823
Selling and administrative expenses	8,567	10,830
Construction in progress	1,545	1,434
	₩ 34,584	₩ 46,087

(10) Remeasurements of defined benefit plan recognized as other comprehensive income for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Remeasurements of defined benefit plan	₩ (60,289)	₩ (64,537)
Return on plan assets	8,546	5,210
	₩ (51,743)	₩ (59,327)

(11) The Group predicts that it will pay ₩11,513 million in relation to the defined benefit plan in 2022 ₩6,317 million in relation to the defined benefit plan in 2021).

(12) The expected maturity analysis of undiscounted pension benefits as of December 31, 2022, are as follows (Korean won in millions):

	December 31, 2022				
	Less than 1 year	Between 1-2 years	Between 2-5 years	Over 5 years	Total
Pension benefits	₩ 20,330	₩ 29,368	₩ 125,259	₩ 1,268,968	₩ 1,443,925

27. Provisions

(1) Details of provisions as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022			December 31, 2021		
	Current	Non-current	Total	Current	Non-current	Total
Provision for employee benefits	₩ 65,411	₩ 1,502	₩ 66,913	₩ 96,885	₩ 19,003	₩ 115,888
Provision for greenhouse gas emission	2,559	-	2,559	4,182	-	4,182
Provision for financial guarantee	-	10,075	10,075	-	15,789	15,789
Provision for lawsuit	20,498	-	20,498	18,382	528	18,910
Provision for restoration	-	118,389	118,389	-	125,952	125,952
Provision for loss-bearing contract	-	-	-	1,117	-	1,117
Others	-	4,673	4,673	5,481	4,772	10,253
	₩ 88,468	₩ 134,639	₩ 223,107	₩ 126,047	₩ 166,044	₩ 292,091

(2) Changes in provisions for the years ended December 31, 2022 and 2020, are as follows (Korean won in millions):

	2022					
	Beginning balance	Increase	Utilization	Reversed	Others	Ending balance
Provision for employee benefits	₩ 115,888	₩ 84,780	₩ (133,755)	₩ -	₩ -	₩ 66,913
Provision for greenhouse gas emission	4,182	15,277	(16,900)	-	-	2,559
Provision for financial guarantee	15,789	53,049	(58,380)	-	(383)	10,075
Provision for lawsuit	18,910	996	-	-	592	20,498
Provision for restoration	125,952	(15,139)	(919)	(12)	8,507	118,389
Provision for loss-bearing contract	1,117	-	-	(1,117)	-	-
Others	10,253	177	(20,041)	(205)	14,489	4,673
	₩ 292,091	₩ 139,140	₩ (229,995)	₩ (1,334)	₩ 23,205	₩ 223,107

	2021					
	Beginning balance	Increase	Utilization	Reversed	Others	Ending balance
Provision for employee benefits	₩ 110,629	₩ 86,086	₩ (71,809)	₩ (9,018)	₩ -	₩ 115,888
Provision for greenhouse gas emission	7,437	9,929	(13,184)	-	-	4,182
Provision for financial guarantee	17,996	72,315	(74,490)	-	(32)	15,789
Provision for lawsuit	12,328	8,285	(2,000)	-	297	18,910
Provision for restoration	130,747	(7,958)	(1,395)	(11,165)	15,723	125,952
Provision for loss-bearing contract	4,120	-	-	(3,003)	-	1,117
Others	5,157	2,372	(1,641)	(1,478)	5,843	10,253
	₩ 288,414	₩ 171,029	₩ (164,519)	₩ (24,664)	₩ 21,831	₩ 292,091

28. Emission rights and liabilities

(1) Free-allocation emission rights

The number of emission rights allocated by the government for each commitment year of the 3rd planned period as of December 31, 2022 are as follows (tCO2-eq):

	December 31, 2022					
	Allotment for 2021	Allotment for 2022	Allotment for 2023	Allotment for 2024	Allotment for 2025	Total
Free allocation emission rights	569,525	569,525	569,525	189,842	189,842	2,088,259

(2) Changes in greenhouse gas emission rights for each commitment year are as follows (tCO2-eq, Korean won in millions):

	Allotment for 2019		Allotment for 2020		Allotment for 2021	
	Quantity	Book value	Quantity	Book value	Quantity	Book value
As of January 1st	719,011	₩ -	700,119	₩ -	569,525	₩ -
Submission to government[1]	(934,562)	(5,469)	(842,561)	(3,160)	(687,660)	(2,915)
Trading	142,502	4,611	215,491	4,018	118,135	2,915
Borrowing	73,049	858	(73,049)	(858)	-	-
As of December 31th	-	₩ -	-	₩ -	-	₩ -

	Allotment for 2022		Total	
	Quantity	Book value	Quantity	Book value
As of January 1st	569,525	₩ -	2,558,180	₩ -
Submission to government[1]	(729,302)	(2,559)	(3,194,085)	(14,103)
Trading	-	-	476,128	11,544
Borrowing	-	-	-	-
As of December 31th	(159,777)	₩ (2,559)	(159,777)	₩ (2,559)

[1] Emissions for 2022 are estimated as of the end of the current period.

(3) Others

There is no greenhouse gas emission right provided as collateral as of December 31, 2022.

The estimated emissions is 729,302 tCO2-eq in 2022, and certified emissions in 2021 was 687,660 tCO2-eq. The Group changed calculation method according to the revisions to the emission certification guidelines (Ministry of Environment's notice No. 2019-245), and thus, there is a difference between the emission for submission to government and that of account statements until 2020.

29. Government grants

(1) Government grants related to assets are presented as a deduction of related assets and grants related to expenses are recognized in income on a systematic basis over the period to match with the related subsidized expenses.

(2) Details of government grants as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022	December 31, 2021
Liabilities		
Deferred government grants income	₩ 3,258	₩ 1,726
Assets		
Buildings	2,780	2,640
Structures	1,382	1,439
Machinery	105,695	112,179
Computerized facility	7	17
Furniture and equipment	320	25
Vehicles	10,125	2,589
Tools and instruments	121	209
Construction in progress	48,035	22,409
Computer software	1,581	2,010
Copy right, patents and other industrial property right	20	28
	170,066	143,545
	₩ 173,324	₩ 145,271

(3) Changes in government grants for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022						
	Beginning balance	Receipt	Acquisition	Offset	Revenue recognition	Others	Ending balance
Liability							
Deferred government grant income	₩ 1,726	₩ 34,544	₩ (23,672)	₩ -	₩ (9,270)	₩ (70)	₩ 3,258
Assets							
Buildings	2,640	-	267	(127)	-	-	2,780
Structures	1,439	-	50	(107)	-	-	1,382
Machinery	112,179	-	16	(6,500)	-	-	105,695
Computerized facility	17	-	4	(14)	-	-	7
Furniture and equipment	25	-	358	(63)	-	-	320
Vehicles	2,589	68	7,940	(470)	-	(2)	10,125
Tools and instruments	209	-	28	(116)	-	-	121
Construction in progress	22,409	10,207	14,994	-	-	425	48,035
Computer software	2,010	-	16	(445)	-	-	1,581
Copy right, patents and other industrial property right	28	-	2	(10)	-	-	20
	143,545	10,275	23,675	(7,852)	-	423	170,066
	₩ 145,271	₩ 44,819	₩ 3	₩ (7,852)	₩ (9,270)	₩ 353	₩ 173,324

29. Government grants (cont'd)

(3) Changes in government grants for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions) (cont'd):

	2021						
	Beginning balance	Receipt	Acquisition	Offset	Revenue recognition	Others	Ending balance
Liability							
Deferred government grant income	₩ 7,622	₩ 24,157	₩ (25,522)	₩ -	₩ (4,531)	₩ -	₩ 1,726
Assets							
Buildings	1,811	-	937	(108)	-	-	2,640
Structures	1,543	-	-	(104)	-	-	1,439
Machinery	111,229	-	7,652	(6,609)	-	(93)	112,179
Computerized facility	38	-	-	(21)	-	-	17
Furniture and equipment	35	-	-	(10)	-	-	25
Vehicles	635	-	1,976	(180)	-	158	2,589
Tools and instruments	346	-	-	(137)	-	-	209
Construction in progress	4,233	4,765	12,964	-	-	447	22,409
Computer software	116	-	2,010	(116)	-	-	2,010
Copy right, patents and other industrial property right	40	-	2	(14)	-	-	28
	120,026	4,765	25,541	(7,299)	-	512	143,545
	₩ 127,648	₩ 28,922	₩ 19	₩ (7,299)	₩ (4,531)	₩ 512	₩ 145,271

(4) Income from government grants for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Offsetting of government grants related to deferred income (sales)	₩ 9,270	₩ 4,531
Offsetting of government grants related to depreciation	7,852	7,299
Others	197	192
	₩ 17,319	₩ 12,022

29. Government grants (cont'd)

(5) Details of the increase and decrease in subsidies for each specific business assistance project in 2022 are as follows and the details may be changed as the result of subsidy settlement (Korean won in millions):

Department	Project	Period	Budget	Carry-over amount
Ministry of Land, Infrastructure and Transport	Development of optimal hydrogen distribution networks	2021.01~ 2022.12	₩ 295	₩ 295
Ministry of Trade, Industry and Energy	Hydrogen exchange monitoring system	2022.01~ 2023.12	2,764	-
Ministry of Trade, Industry and Energy	Hydrogen tube trailer support	2022.01~ 2022.12	8,000	-
Ministry of Trade, Industry and Energy	Establishment of hydrogen distribution information system	2022.01~ 2023.12	1,305	-
Ministry of Trade, Industry and Energy	Establishment of hydrogen distribution order and distribution market research and analysis	2022.01~ 2023.12	777	-
Ministry of Trade, Industry and Energy	Construction of medium-sized hydrogen production bases (Gwangju, Changwon)	2021.01~ 2023.10	55,150	17,739
Ministry of Trade, Industry and Energy	2022 Pyeongtaek Heavy Industries construction of hydrogen production bases	2022.01~ 2024.06	49,730	-
Ministry of Land, Infrastructure and Transport	Construction of Hydrogen Public Relations Center (Content)	2021.01~ 2022.04	500	100
Gimhae City	Hydrogen charging station operational support project support	2021.01~ 2023.02	10	10
Ministry of Trade, Industry and Energy	Electricity efficiency improvement project	2022.01~ 2022.12	10,481	-
Ministry of Culture, Sports and Tourism	Professional sports activation support (KBL)	2021.06~ 2022.05	427	184
Ministry of Culture, Sports and Tourism	Professional sports activation support (KBL)	2022.06~ 2023.05	210	-
Seosan City	Seosan hydrogen station consignment operation business	2020.12~ 2023.12	313	-
Anseong City	Anseong hydrogen station consignment operation business	2021.04~ 2026.03	214	-
Seoul City	Gangseo, Seoul hydrogen station consignment operation business	2022.01~ 2026.12	262	-
Pyeong Chang	Pyeong Chang hydrogen station consignment operation business	2022.01~ 2026.12	144	-
Hwaseong City	Hwaseong hydrogen station in sports complex consignment operation business	2021.07~ 2026.07	205	-
Chungju City	Chungju hydrogen station consignment operation business	2022.10~ 2027.09	145	-
Chuncheon City	Chuncheon hydrogen station consignment operation business	2022.01~ 2026.12	135	-
Cheonan City	Cheonan hydrogen station consignment operation business	2021.09~ 2026.08	272	-
Buan	Buan hydrogen station consignment operation business	2021.12~ 2026.11	308	61
Jeonju City	Samcheon, Jeonju hydrogen station consignment operation business	2022.03~ 2027.03	158	-
Ministry of Trade, Industry and Energy	LNG Bunkering ship construction support	2021.02~ 2023.04	55,400	-
			₩ 187,205	₩ 18,389

29. Government grants (cont'd)

(5) Details of the increase and decrease in subsidies for each specific business assistance project in 2022 are as follows and the details may be changed as the result of subsidy settlement (Korean won in millions): (cont'd):

	Increase					
	Receipt			Interest		
Department	Self-burden	Local government charges	Government subsidy	Self-burden	Local government charges	Government subsidy
Ministry of Land, Infrastructure and Transport	₩ -	₩ -	₩ -	₩ -	₩ -	₩ -
Ministry of Trade, Industry and Energy	-	-	2,764	-	-	-
Ministry of Trade, Industry and Energy	8,800	-	8,000	-	-	42
Ministry of Trade, Industry and Energy	-	-	1,305	-	-	-
Ministry of Trade, Industry and Energy	-	-	777	-	-	-
Ministry of Trade, Industry and Energy	17,100	-	-	-	-	-
Ministry of Trade, Industry and Energy	3,426	-	8,250	-	-	-
Ministry of Land, Infrastructure and Transport	-	-	-	-	-	-
Gimhae City	-	-	-	-	-	-
Ministry of Trade, Industry and Energy	-	-	10,481	-	-	-
Ministry of Culture, Sports and Tourism	-	-	-	-	-	1
Ministry of Culture, Sports and Tourism	-	-	210	-	-	-
Seosan City	-	313	-	-	-	-
Anseong City	-	214	-	-	-	-
Seoul City	-	262	-	-	-	-
Pyeong Chang	-	144	-	-	-	-
Hwaseong City	-	205	-	-	-	-
Chungju City	-	145	-	-	-	-
Chuncheon City	-	135	-	-	-	-
Cheonan City	-	272	-	-	-	-
Buan	-	308	-	-	-	-
Jeonju City	-	158	-	-	-	-
Ministry of Trade, Industry and Energy	24,380	-	8,860	-	-	3
	₩ 53,706	₩ 2,156	₩ 40,647	₩ -	₩ -	₩ 46

29. Government grants (cont'd)

(5) The details of the increase and decrease of subsidies for each specific business assistance project in 2022 are as follows (Korean won in millions) and the details can be changed as the result of subsidy settlement (cont'd):

	Decrease						
	Execution			Settlement			
Department	Self-burden	Local government charges	Government subsidy	Self-burden	Local government charges	Government subsidy	Carry-over amount
Ministry of Land, Infrastructure and Transport	₩ -	₩ -	₩ 266	₩ -	₩ -	₩ 29	₩ -
Ministry of Trade, Industry and Energy	-	-	2,220	-	-	-	544
Ministry of Trade, Industry and Energy	8,765	-	7,940	35	-	102	-
Ministry of Trade, Industry and Energy	-	-	1,189	-	-	-	116
Ministry of Trade, Industry and Energy	-	-	560	-	-	-	217
Ministry of Trade, Industry and Energy	330	-	7,106	-	-	-	27,403
Ministry of Trade, Industry and Energy	1,759	-	8,250	-	-	-	1,667
Ministry of Land, Infrastructure and Transport	-	-	100	-	-	-	-
Gimhae City	-	-	-	-	-	-	10
Ministry of Trade, Industry and Energy	-	-	8,817	-	-	1,664	-
Ministry of Culture, Sports and Tourism	-	-	184	-	-	1	-
Ministry of Culture, Sports and Tourism	-	-	126	-	-	-	84
Seosan City	-	558	-	-	(245)	-	-
Anseong City	-	379	-	-	(165)	-	-
Seoul City	-	388	-	-	(126)	-	-
Pyeong Chang	-	383	-	-	(239)	-	-
Hwaseong City	-	389	-	-	(184)	-	-
Chungju City	-	154	-	-	(9)	-	-
Chuncheon City	-	631	-	-	(496)	-	-
Cheonan City	-	585	-	-	(313)	-	-
Buan	-	411	-	-	(42)	-	-
Jeonju City	-	732	-	-	(574)	-	-
Ministry of Trade, Industry and Energy	24,380	-	8,860	-		3	-
	₩ 35,234	₩ 4,610	₩ 45,618	₩ 35	₩ (2,393)	₩ 1,799	₩ 30,041

The details of the specific business above may change according to the result of subsidy settlement.

29. Government grants (cont'd)

(6) Details of the increase and decrease in property, plant and equipment and intangible asset for each specific business assistance project in 2022 are as follows (Korean won in millions):

Department	Project	Account	Location	Beginning	Acquisition	Depreciation	Ending
Ministry of Trade, Industry and Energy	Hydrogen tube trailer support	Vehicle	-	₩ 1,587	₩ 7,940	₩ (259)	₩ 9,268
Ministry of Trade, Industry and Energy	Establishment of hydrogen distribution information system	Software	-	833	-	(176)	657
Ministry of Trade, Industry and Energy	Construction of hydrogen exchange	Software	-	56	-	(13)	43
Ministry of Land, Infrastructure and Transport	Development Of optimal Hydrogen distribution networks	Software	-	1,005	-	(204)	801
Ministry of Trade, Industry and Energy	Construction of Hydrogen production bases	Construction in progress	Gwangju	3,520	3,166	-	6,686
Ministry of Trade, Industry and Energy	Construction of Hydrogen production bases	Construction in progress	Changwon, Gyeongsang nam-do	5,413	3,940	-	9,353
Ministry of Trade, Industry and Energy	2022 Pyeongtaek Heavy Industries construction of hydrogen production bases	Construction in progress	Pyeongtaek, Gyeonggi-do	3,450	8,250	-	11,700
Ministry of Land, Infrastructure and Transport	Construction of Hydrogen Public Relations Center (Content)	Equipment and others	Daegu	400	100	(40)	460
Ministry of Land, Infrastructure and Transport	Construction of Hydrogen Public Relations Center (Content)	Structures and others	Daegu	180	-	(22)	158
Ministry of Trade, Industry and Energy	LNG Bunkering ship construction support	Vessels	-	2,900	8,860	-	11,760
				₩ 19,344	₩ 32,256	₩ (714)	₩ 50,886

30. Customers' contribution to construction costs

Changes in deferred income related to contribution to construction for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022	2021
Beginning balance	₩ 2,318	₩ 1,767
Increase	358	649
Offset	(146)	(98)
Ending balance	₩ 2,530	₩ 2,318

31. Non-financial liabilities

Details of non-financial liabilities as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022		December 31, 2021	
	Current	Non-current	Current	Non-current
Advance receipts	₩ 11,283	₩ -	₩ 3,801	₩ -
Unearned revenues	19,840	-	22,689	-
Withholdings	17,144	-	22,464	-
Deferred income	1,717	4,070	826	3,218
Others[1]	327,893	35,078	387,619	50,499
	₩ 377,877	₩ 39,148	₩ 437,399	₩ 53,717

[1] Others include liabilities recognized in accordance with natural gas sales charge settlement profit and loss ₩194,850 million and ₩374,382 million as of December 31, 2022 and 2021, respectively (Refer to Note 16)

32. Equity

(1) Details of share capital as of December 31, 2022 and 2021, are as follows (Korean won in millions except par value in Korean won):

				December 31, 2022			December 31, 2021		
	Total shares authorized	Total shares issued	Par value	Government	Non-government	Total	Government	Non-government	Total
Common stock	200,000,000 shares	92,313,000 shares	₩ 5,000	₩ 120,722	₩ 340,843	₩ 461,565	₩ 120,722	₩ 340,843	₩ 461,565

(2) Changes in the number of shares outstanding for the years ended December 31, 2022 and 2021, are as follows (in shares):

	2022		2021	
	Common share	Preferred share	Common share	Preferred share
Beginning balance	85,826,950	-	85,826,950	-
Acquisition of treasury share				
Ending balance	85,826,950	-	85,826,950	-

(3) Details of share premium as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022	December 31, 2021
Share premium	₩ 1,303,548	₩ 1,303,548

33. Retained earnings and dividends

(1) Retained earnings as of December 31, 2022 and 2021, consist of (Korean won in millions):

	December 31, 2022	December 31, 2021
Legal reserve[1]	₩ 230,783	₩ 230,782
Other reserves	4,325,884	3,931,676
Unappropriated retained earnings	2,919,590	2,022,810
	₩ 7,476,257	₩ 6,185,268

[1] The Korea Gas Corporation Act requires the Corporation to appropriate as a legal reserve an amount equal to a minimum of 10% of its profits for each reporting period until the reserve equals 50% of its capital. The legal reserve may be used to reduce a deficit or may be transferred to common stock in connection with a free issuance of shares.

(2) Other reserves as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022	December 31, 2021
Business expansion	₩ 3,556,426	₩ 3,183,794
Dividend equalization	219,282	219,282
Business rationalization	792	792
Accident compensation	461,565	439,989
Improvement of financial structure	87,819	87,819
	₩ 4,325,884	₩ 3,931,676

(3) Changes in retained earnings for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Beginning balance	₩ 6,185,268	₩ 5,190,805
Profit attributable to owners of the parent	1,493,103	950,757
Dividends paid	(234,136)	-
Remeasurements of defined benefit plan	38,873	43,706
Interest expense on hybrid bonds	(6,851)	-
Ending balance	₩ 7,476,257	₩ 6,185,268

(4) Dividends paid for the years ended December 31, 2022 and 2021, are as follows (Korean won):

	2022				
	Total shares issued	Treasury stock	Shares eligible for dividends	Dividends per share	Total dividends
Common share	92,313,000	6,486,050	85,826,950	₩ 2,728	₩ 234,135,919,600

	2021				
	Total shares issued	Treasury stock	Shares eligible for dividends	Dividends per share	Total dividends
Common share	92,313,000	6,486,050	-	₩ -	₩ -

33. Retained earnings and dividends (cont'd)

(5) Changes in remeasurements for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Beginning balance	₩ 41,674	₩ (6,089)
Gains and losses	51,743	59,327
Tax effect	(12,871)	(15,621)
Disposal of retained earnings	(33,863)	4,057
Ending balance	₩ 46,684	₩ 41,674

34. Statement of appropriation of retained earnings

The accumulated deficit for the year ended December 31, 2022, is expected to be disposed at the shareholders' meeting of the Corporation's to be held on March 29, 2023. The appropriation date for the year ended December 31, 2021, was on March 29, 2022.

The statements of appropriation of retained earnings for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Retained earnings before appropriation		
Unappropriated retained earnings carried over from prior year	₩ -	₩ -
Profit for the year	852,889	594,482
Remeasurements of defined benefit plan	28,132	33,862
Payment of interest of hybrid bonds	(6,850)	-
Retained earnings before disposition	₩ 874,171	₩ 628,344
Transfers from voluntary reserves and others		
Reserve for business expansion	-	-
Retained earnings available for appropriation	₩ 874,171	₩ 628,344
Appropriation of retained earnings		
Reserve for accident compensation	₩ -	₩ 21,575
Dividends	-	234,136
Reserve for business expansion	874,171	372,633
Unappropriated retained earnings to be carried forward subsequent year	₩ -	₩ -

35. Hybrid bonds

Details of hybrid bonds as of December 31, 2022 and 2021, are as follows (Korean won):

Terms	Details of the terms
Issued amount	₩335,328,785,000
Maturity	The principal of this bond is repaid on the maturity date of November 16, 2051. If the principal repayment date falls on a bank holiday, repayment is made on the next business day, and interest after the principal repayment date is not calculated. However, the issuer may continuously extend the maturity of the bond under the same issuance conditions by notifying the Korea Securities Depository five business days before the expiration date, and the bond creditor cannot offset the bond as an automatic bond.
Interest rate	(A) The interest rate on the bonds in this case shall be 2.043% per annum. (B) The interest rate obtained by adding the additional interest rate prescribed in item (ii)(c) to the interest rate prescribed in item (i)(a) shall be applied from the time when five years have elapsed since the issuance of the bonds. (C) The additional interest rate shall be the average interest rate (Truncation of 4 decimal places) of the 5-year unguaranteed bonds of each issuer evaluated two business days before the date on which the KOREA ASSET PRICING Co., KIS PRICING INC., NICE P&I INC., and FnPricing Inc. (if the names of the above credit rating companies are changed for any reason, including merger or spin-off, after the date of conclusion of this contract, applicable corporations will be included as well.) should calculate or recalculate. The additional interest rate shall be recalculated every five years after the initial calculation when five years have elapsed since the issuance of the bonds.
Interest payment terms	Interest is paid in installments by 1/4 of the annual interest rate every 3 months from the issuance date of this bond to the redemption date. However, if the interest payment date falls on a bank holiday, interest is paid on the next business day, and interest after the interest payment date is not calculated. After the issuance date of the bond, the issuer may defer the payment of interest, in entirety or partially, to the next interest payment term, if necessary.
Dividend terms	(A) After the issuance date of this bond, the issuer may, at its option, defer payment of all or part of interest (including interest for which the interest payment date has already been deferred pursuant to this subparagraph) until the next interest payment date. (B) Even if the issuer suspends payment of all or part of the interest pursuant to item (A), the issuer shall, at the option of the issuer, on the subsequent interest payment date, pay interest with deferred payment following its decision (hereinafter referred to as “deferred interest”) and the accumulated interests, and no resolution on cash and stock dividends shall be made until the full amount of interest to be paid on the date of interest payment and deferred interest is paid. In case where the resolution on cash and stock dividend is made violating the aforementioned term, the interest payment date preceding the dividend resolution shall be considered as the due date for the accumulated interest including the deferred amount. In addition, if the issuer exercises the prepayment right pursuant to the Article 20, the accumulated interest including the deferred interest should be paid by the issuer on the date when the prepayment right is exercised. However, if the applicable interest payment date falls on bank holiday, repayment is made on the next business day, and interest after the interest payment date is not calculated.
Exchange terms	Exchange of treasury stock held by the company for 1 share for every 51,700 KRW of electronically registered debentures
Exchange request period	2021.12.16~ 2051.10.16
Other terms	1. Early redemption right of the issuing company (Call Option): ① After 5 years have elapsed from the issuance date of this bond, the entire bond can be repaid in advance on the day corresponding to each interest payment date. ② Notwithstanding ①, the external auditor’s opinion statement stating that the debentures in this case cannot be recognized as capital for accounting due to changes in KIFRS or changes in laws, regulations, guidelines of related organizations or accounting firms. Alternatively, if the issuer submits an external auditor's external audit (review) report that reflects the above information to investors, the issuer may prepay the bonds on the interest payment date immediately following the occurrence of the cause. However, the issuing company may make a prepayment in accordance with this regulation only after the effective date of the change in accounting standards. ③ When the issuer exercises the redemption right in accordance with ① or ②, the issuer pays the entire principal amount of the bonds by paying the entire face value without a separate discount or surcharge, and the full amount of unpaid interest. ④ When the issuer exercises the prepayment right pursuant to ① or ②, the issuing company must notify the principal and interest payment agency and Korea Securities Depository of its intention at least 5 business days prior to the date of exercising the prepayment right. 2. Investor’s right to claim redemption in advance (Put Option): Not applicable

As the aforementioned hybrid bonds do not substantially bear the contractual payment obligation, the Group classified the hybrid bonds as equity, and recognized ₩334,520 million as equity, deducting issuance costs from the issuance amount for the year ended December 31, 2021.

36. Other components of equity

(1) Other components of equity as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022	December 31, 2021
Other capital surplus	₩ 20,910	₩ 20,910
Accumulated other comprehensive income (loss)	48,828	21,878
Treasury share	(152,424)	(152,424)
Other equity	693,877	693,877
	₩ 611,191	₩ 584,241

(2) Other capital surplus for the years ended December 31, 2022 and 2021, consists of (Korean won in millions):

	2022	2021
Gain on disposal of treasury share	₩ 21,353	₩ 21,353
Others	(443)	(443)
	₩ 20,910	₩ 20,910

(3) Accumulated other comprehensive income for the years ended December 31, 2022 and 2021, consists of follows (Korean won in millions):

	2022	2021
Other comprehensive income - fair value measurement gain on valuation of financial assets	₩ 30,195	₩ 35,824
Loss on valuation of cash flow hedges	(146,272)	(61,788)
Hedges of net investment in a foreign operation	(244,243)	(67,435)
Share of other comprehensive income of associates and joint ventures	120,156	42,133
Exchange differences on translation of foreign operations	288,992	73,144
	₩ 48,828	₩ 21,878

(4) Changes in treasury share for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022		2021	
	Shares	Book amount	Shares	Book amount
Beginning balance	6,486,050	₩ 152,424	6,486,050	₩ 152,424
Changes	-	-	-	-
Ending balance	6,486,050	₩ 152,424	6,486,050	₩ 152,424

(5) Other equity for the years ended December 31, 2022 and 2021, consists of (Korean won in millions):

	2022	2021
Revaluation surplus	₩ 693,877	₩ 693,877

37. Revenue from contracts with customers

(1) Details of revenue for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Revenue from contracts with customers	₩ 51,714,870	₩ 27,515,425
Revenue from government grant	9,270	4,723
Revenue contribution to construction	146	608
	₩ 51,724,286	₩ 27,520,756

(2) Details of revenue from contracts with customers for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

	2022		2021	
	Domestic	Overseas	Domestic	Overseas
Revenue by product/services				
Revenue from sale of goods				
Power generating	₩ 28,741,408	₩ -	₩ 12,715,847	₩ -
City gas	20,195,222	-	12,971,871	-
Direct supply	210,346	-	121,222	-
Individual supply	148,742	-	890	-
Use of plumbing facilities	125	-	87	-
Others	31,646	-	19,935	-
Overseas operations	-	1,460,928	-	796,415
	₩ 49,327,489	₩ 1,460,928	₩ 25,829,852	₩ 796,415
Revenue from other than sales of goods				
Revenue from rendering of services	3,223	596,992	1,620	532,861
Revenue from construction contracts	112,693	642	87,707	2,701
Other revenue	205,895	7,008	255,108	9,161
	₩ 321,811	₩ 604,642	₩ 344,435	₩ 544,723
	₩ 49,649,300	₩ 2,065,570	₩ 26,174,287	₩ 1,341,138
Timing of revenue recognition				
At a point in time	49,328,208	1,460,928	25,841,265	796,415
Over a period of time	321,092	604,642	333,022	544,723
	₩ 49,649,300	₩ 2,065,570	₩ 26,174,287	₩ 1,341,138

Meanwhile, no external customer accounted for more than 10% of revenue during the years ended December 31, 2022 and 2021.

(3) Seasonal characteristics of sales

The Group's operations are highly cyclical as the revenue is generally higher during the winter season due to the heating demand of gas in the cities. For operating profit and profit for the year, there were significant differences between the summer and winter seasons in 2022.

38. Selling and administrative expenses

Details of selling and administrative expenses for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Salaries	96,726	95,299
Retirement benefits	12,375	10,700
Employee welfare benefits	21,560	11,073
Insurance	1,832	2,761
Depreciation	18,062	16,594
Amortization	4,093	4,476
Impairment loss on trade receivables	28	394
Reversal of allowance for doubtful accounts	(97)	-
Commission expenses	64,328	64,971
Advertising expenses	12,966	7,173
Training expenses	8,424	7,246
Vehicles maintenance expenses	292	217
Periodicals and printing expenses	497	524
Business promotion expenses	268	187
Rental expenses	5,041	4,728
Communication expenses	591	623
Taxes and duties	101,677	100,582
Supplies expenses	753	620
Water, lighting and heating	1,745	1,539
Repairs and maintenance expenses	1,222	739
Research and development expense	39,523	49,217
Travel and transportation	3,039	2,195
Clothing expenses	569	629
Association fee	983	981
Sales promotion costs	5,629	7,785
Ordering expenses	600	468
Reward	382	421
Resource and development	24,273	22,591
Miscellaneous expenses	1,044	1,026
Mining operation	3,727	4,723
Research referral service cost	450	1,567
Total	₩ 432,602	₩ 422,049

39. Other income and expenses

(1) Details of other income for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Gains on exemption of debt	₩ 2,957	₩ -
Reversal of other provisions	217	1,584
Earnings from government grant (non-operating)	197	-
Gains from compensation and reimbursement[1]	231,534	31,568
Rental income	1,863	1,624
Other income	2,250	572
	₩ 239,018	₩ 35,348

[1] Reimbursement of ₩ 226,863 million was recognized in relation to compensation for damages of bid rigging for main plumbing construction and litigations for damages of bid rigging of storage tank, for the year ended December 31, 2022.

(2) Details of other expenses for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Recognition of other provision	₩ -	₩ 128
Other bad debt expenses	53,201	-
Strike-bound amortization	16,974	16,974
Donation	16,535	16,777
Compensation and indemnity losses	6,555	9,072
Other losses	2,141	2,846
	₩ 95,406	₩ 45,797

40. Other gains and losses

(1) Details of other gains (losses) for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Gains on disposal of property, plant and equipment	₩ 2,496	₩ 7,384
Reversal of losses on impairment of property, plant and equipment	-	457,276
Reversal of losses on impairment of intangible assets	-	93,981
Other gains	60,469	47,700
Losses on disposal of property, plant and equipment	(7,553)	(11,649)
Losses on disposal of intangible assets	-	(6)
Losses on impairment of property, plant and equipment	(149,626)	(15,360)
Losses on impairment of intangible assets	(67,276)	(4,706)
Other losses	(26,121)	(25,901)
	₩ (187,611)	₩ 548,719

(2) Details of content of other gains for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Gains on disposal of inventories	₩ 2,993	₩ 1,220
Gains from lease modification	44	-
Miscellaneous gains / Others	52,378	38,270
Miscellaneous gains / Service revenue	1,340	7,160
Miscellaneous gains / Gains from financial guarantee	3,714	1,050
	₩ 60,469	₩ 47,700

(3) Details of content of other losses for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Losses on disposal of inventories	₩ (647)	₩ (6,157)
Miscellaneous losses / Others	(24,308)	(18,404)
Miscellaneous losses / Service costs	(1,166)	(1,340)
	₩ (26,121)	₩ (25,901)

41. Finance income

(1) Details of finance income for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Interest income	₩ 71,248	₩ 23,534
Gains on valuation of financial assets at fair value through profit or loss	-	700
Dividend income	11	10
Gains on valuation of derivative instruments	44,611	40,946
Gains on transaction of derivative instruments	917,405	220,271
Foreign currency translation gains	1,041,473	477,367
Foreign currency transaction gains	600,160	118,645
	₩ 2,674,908	₩ 881,473

(2) Details of content of interest income included in finance income for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Cash and cash equivalents	₩ 16,893	₩ 837
Financial assets at FVTPL	4,978	372
Financial assets at amortized costs[1]	297	387
Loans and receivables[1]	45,326	15,697
Short-term financial instruments[1]	310	45
Other financial assets[1]	103	3,498
Trade and other receivables[1]	3,341	2,698
	₩ 71,248	₩ 23,534

[1] Amount of each items are sum up to the interest income of the debt instruments measured at amortized cost which is described in Note 46. (2).

42. Finance cost

(1) Details of finance costs for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Interest expense	₩ 964,918	₩ 641,960
Losses on valuation of financial assets at fair value through profit or loss	303	-
Losses on valuation of derivative instruments	665,767	74,945
Losses on transaction of derivative instruments	451,561	63,306
Foreign currency translation losses	248,873	376,337
Foreign currency transaction losses	1,171,626	315,894
	₩ 3,503,048	₩ 1,472,442

(2) Details of content of interest expenses included in finance costs for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Short-term borrowings	₩ 347,519	₩ 32,508
Long-term borrowings	2,967	4,560
Debentures	576,523	571,504
Derivative financial liabilities	27,948	34,398
Lease liabilities	55,935	29,513
Other financial liabilities	2,247	3,629
	1,013,139	676,112
Less : capitalization of interests[1]	(48,221)	(34,152)
	₩ 964,918	₩ 641,960

[1] Borrowing cost were capitalized at the weighted average rate of 4.02% (2021 : 3.90%).

43. Income tax

(1) Major components of income tax expense(benefit) for the years ended December 31, 2022 and 2021, consist of (Korean won in millions):

	2022	2021
Current tax expense:		
Current taxes payable	₩ (8,525)	₩ 57,657
Adjustment on prior year tax returns[1]	38,153	(20,294)
Deferred tax expenses:		
The effect of change of temporary differences	731,530	373,679
Utilization of previously unrecognized tax loss carryforwards, tax credit and temporary difference from prior years	(6,526)	(8,230)
Amount due to carry-over of tax deduction	9,194	-
Amount due to the change of tax rate or tax law	(315,586)	-
Income tax expenses	₩ 448,240	₩ 402,812

[1] The Group paid taxes levies amounting to ₩30,411 million as a result of the tax audit for the period from 2017 to 2021 in 2022. In addition, the Group received a tax refund of ₩16,053 million due to the cancellation of tax complaints in 2021.

(2) Details of the reconciliation between profit (loss) before income tax and income tax expenses (benefits) for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Profit before income tax	₩ 1,945,248	₩ 1,367,334
Income tax expenses based on statutory tax rate	534,943	376,017
Adjustments:		
Effect of progressive tax rate	(361,429)	(189,070)
Effect of non-taxable income	(51,735)	(10,156)
Effect of non-deductible expense	103,530	11,213
Effect of deferred tax assets written off	10,637	2,529
Effect on change applied tax rate between current tax and deferred tax	9,105	(134)
Difference in tax rate of those subject to deferred tax	2,361,571	146,106
Changes in tax rate or tax law	(315,681)	
Effect of other changes in deferred tax	(1,940,841)	27,397
Effect of tax directly to equity	74,404	41,867
Utilization of previously unrecognized tax loss carryforwards, tax credit and temporary difference from prior years	(32,263)	(168)
Tax rates differences in overseas subsidiaries and associated operations	17,846	17,505
	410,087	423,106
Adjustment for prior years' income taxes	38,153	(20,294)
Income tax expenses	₩ 448,240	₩ 402,812
Effective tax rate	23.04%	29.46%

43. Income tax (cont'd)

(3) Deferred taxes that were directly (charged) credited to other comprehensive income and loss for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Deferred tax		
Amounts arising from items recognized in other comprehensive income		
Other comprehensive income - Fair value measurement Equity gain or loss on valuation of equity instruments	₩ 2,032	₩ (2,329)
Gains on valuation of cash flow hedges derivative instruments	29,536	38,681
Net investment in foreign operations	67,065	60,564
Remeasurements of defined benefit plan	(12,871)	(15,621)
Investments in associates	(612)	(18,786)
Foreign currency translation gains from foreign operations	(10,747)	(20,642)
	₩ 74,403	₩ 41,867

43. Income tax (cont'd)

(4) Details of deferred tax assets (liabilities) for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022					
	Beginning balance	Statement of profit or loss	Other comprehensive income	Equity	Others	Ending balance
Price adjustment on raw materials	₩ (726,822)	₩ (2,452,647)	₩ -	₩ -	₩ -	₩ (3,179,469)
Gain on valuation of derivatives	(76,528)	(1,948)	-	-	-	(78,476)
Loss on valuation of derivatives	87,996	171,642	-	-	-	259,638
Accrual for post-employment benefits	71,186	(4,653)	(12,871)	-	-	53,662
Deposit for post-employment benefit insurance	(66,894)	13,351	-	-	-	(53,543)
Foreign currency translation losses	719,957	(15,503)	67,065	-	-	771,519
Foreign currency translation gains	(691,483)	(210,378)	-	-	-	(901,861)
Derivative financial liabilities (hedge)	12,149	(442)	(983)	-	-	10,724
Derivative financial assets (hedge)	(11,673)	424	1,077	-	-	(10,172)
Gains on valuation of fair value through other comprehensive income	(13,708)	497	2,032	-	-	(11,179)
Government grants	39,700	3,040	-	-	-	42,740
Land (advanced depreciation provision)	(27,044)	983	-	-	-	(26,061)
Customers contribution to construction costs	449	(39)	-	-	-	410
Temporary depreciation	(3,496)	(951)	-	-	-	(4,447)
Accumulated depreciation in excess of tax limit	(47,929)	26,890	-	-	(14,260)	(35,299)
Leased vessels	(134,521)	43,348	-	-	-	(91,173)
Lease liabilities	17,739	(6,191)	(732)	-	-	10,816
Gain on revaluation	(631,874)	54,113	-	-	-	(577,761)
Deemed depreciation	(908,700)	33,044	-	-	-	(875,656)
Evaluation of equity method	(215,237)	119,038	(612)	-	-	(96,811)
Gain on evaluation of equity method (KOLNG, KORAS)	668	(24)	-	-	-	644
Loss on evaluation of equity method (KOLNG, KORAS)	391	(14)	-	-	-	377
Investments in securities (KOLNG)	431	(16)	-	-	-	415
Change in other comprehensive income due to equity method (KGM etc.)	(2,079)	76	-	-	-	(2,003)
Loss on evaluation of equity method (HYLNG)	526	(19)	-	-	-	507
Consent dividend income (CFC(Jubair))	167,502	(41,074)	-	-	-	126,428
Consent dividend income (CFC(Badra))	10,745	(10,745)	-	-	-	-
Consent dividend income (CFC(KG-SEAGP))	1,318	(1,318)	-	-	-	-
Consent dividend income (CFC(Kogas Internaitonal))	196	(2)	-	-	-	194
Others	(66,817)	(29,951)	19,427	-	2,219	(75,122)
Subtotal	(2,493,852)	(2,309,469)	74,403	-	(12,041)	(4,740,959)
Deferred tax on unused tax losses and tax credits						
Tax loss carried	1,099,846	1,925,325	-	4,785	62,433	3,092,389
Tax credits	93,268	17,224	-	-	-	110,492
Others	235,574	(51,692)	-	-	61,532	245,414
Subtotal	1,428,688	1,890,857	-	4,785	123,965	3,448,295
Total	₩ (1,065,164)	₩ (418,612)	₩ 74,403	₩ 4,785	₩ 111,924	₩ (1,292,664)

43. Income tax (cont'd)

(4) Details of deferred tax assets (liabilities) for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions) (cont'd):

	2021					
	Beginning balance	Statement of profit or loss	Other comprehensive income	Equity	Others	Ending balance
Price adjustment on raw materials	₩ (359,491)	₩ (367,331)	₩ -	₩ -	₩ -	₩ (726,822)
Gain on valuation of derivatives	(58,184)	(18,344)	-	-	-	(76,528)
Loss on valuation of derivatives	87,996	-	-	-	-	87,996
Accrual for post-employment benefits	79,217	7,590	(15,621)	-	-	71,186
Deposit for post-employment benefit insurance	(74,921)	8,027	-	-	-	(66,894)
Foreign currency translation losses	577,317	82,076	60,564	-	-	719,957
Foreign currency translation gains	(631,101)	(60,382)	-	-	-	(691,483)
Derivative financial liabilities (hedge)	15,516	-	(3,367)	-	-	12,149
Derivative financial assets (hedge)	(11,673)	-	-	-	-	(11,673)
Gains on valuation of fair value through other comprehensive income	(11,379)	-	(2,329)	-	-	(13,708)
Government grants	36,364	3,336	-	-	-	39,700
Land (advanced depreciation provision)	(27,049)	5	-	-	-	(27,044)
Customers contribution to construction costs	288	161	-	-	-	449
Temporary depreciation	(2,394)	(1,102)	-	-	-	(3,496)
Accumulated depreciation in excess of tax limit	152,457	(193,802)	-	-	(6,584)	(47,929)
Leased vessels	(171,787)	37,266	-	-	-	(134,521)
Lease liabilities	19,426	(3,147)	1,460	-	-	17,739
Gain on revaluation	(662,407)	30,533	-	-	-	(631,874)
Deemed depreciation	(908,700)	-	-	-	-	(908,700)
Evaluation of equity method	(169,802)	(26,650)	(18,785)	-	-	(215,237)
Gain on evaluation of equity method (KOLNG, KORAS)	668	-	-	-	-	668
Loss on evaluation of equity method (KOLNG, KORAS)	391	-	-	-	-	391
Investments in securities (KOLNG)	431	-	-	-	-	431
Change in other comprehensive income due to equity method (KGM etc.)	(2,079)	-	-	-	-	(2,079)
Loss on evaluation of equity method (HYLNG)	526	-	-	-	-	526
Consent dividend income (CFC(Jubair))	167,502	-	-	-	-	167,502
Consent dividend income (CFC(Badra))	10,745	-	-	-	-	10,745
Consent dividend income (CFC(KG-SEAGP))	2,020	(702)	-	-	-	1,318
Consent dividend income (CFC(Kogas Internaitonal))	-	196	-		-	196
Others	(102,436)	14,497	19,945	-	1,177	(66,817)
Subtotal	(2,042,539)	(487,773)	41,867	-	(5,407)	(2,493,852)
Deferred tax on unused tax losses and tax credits						
Tax loss carried	1,001,084	47,740	-	-	51,022	235,574
Tax credits	72,356	20,912	-	-	-	1,428,688
Others	163,773	53,672	-	-	18,129	(1,065,164)
Subtotal	1,237,213	122,324	-	-	69,151	1,099,846
Total	₩ (805,326)	₩ (365,449)	₩ 41,867	₩ -	₩ 63,744	₩ 93,268

43. Income tax (cont'd)

(5) Details of deferred tax assets (liabilities) in the consolidated statements of financial position as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022	December 31, 2021
Deferred tax assets	₩ 941,967	₩ 942,197
Deferred tax liabilities	(2,234,631)	(2,007,361)
	₩ (1,292,664)	₩ (1,065,164)

(6) Details of unrecognized deductible temporary differences as deferred tax assets, tax loss carryforwards and unused losses as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022	December 31, 2021
Temporary deductible difference	₩ 5,093,725	₩ 5,352,410
Tax loss carryforwards	818,399	733,992
Tax credits	819,592	742,591
	₩ 6,731,716	₩ 6,828,993

(7) Expiration dates for tax credits and tax loss carry forwards which are not recognized as deferred tax asset as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022		December 31, 2021	
	Tax credit	Tax losses carryforwards	Tax credit	Tax losses carryforwards
Within 1 year	₩ 778	₩ -	₩ 133	₩ -
1 ~ 2 years	11,778	-	98	-
2 ~ 3 years	7,310	-	64	-
After 3 years	798,533	819,592	733,697	742,591
	₩ 818,399	₩ 819,592	₩ 733,992	₩ 742,591

(8) The aggregate amount of temporary differences associated with investments in subsidiaries for which deferred tax liability is not recognized as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022	December 31, 2021
Domestic and foreign subsidiary companies	₩ 277,161	₩ 182,238

(9) The analysis of deferred tax assets and liabilities as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022	December 31, 2021
Deferred tax assets		
Deferred tax asset to be recovered after more than 12 months	4,235,788	2,623,311
Deferred tax asset to be recovered within 12 months	728,713	266,549
	₩ 4,964,501	₩ 2,889,860
Deferred tax liabilities		
Deferred tax liability to be recovered after more than 12 months	(5,072,432)	(3,469,670)
Deferred tax liability to be recovered within 12 months	(1,184,733)	(485,354)
	(6,257,165)	(3,955,024)
Deferred tax liabilities, net	₩ (1,292,664)	₩ (1,065,164)

44. Expenses by nature

Details of expenses by nature for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022			
	Changes in inventories	Selling and administrative expenses	Cost of sales	Total
Changes in inventories:				
Finished goods	₩ (25,784)	₩ -	₩ -	₩ (25,784)
Merchandise	-	-	672,541	672,541
Raw materials used	-	-	45,306,244	45,306,244
Salaries	-	96,726	373,173	469,899
Retirement benefits	-	12,375	32,414	44,789
Employee welfare	-	21,560	41,408	62,968
Insurance premium	-	1,832	14,619	16,451
Depreciation	-	18,062	1,632,319	1,650,381
Amortization	-	4,093	73,933	78,026
Bad debts expenses	-	28	-	28
Reversal of provision for impairment	-	(97)	-	(97)
Commission	-	64,328	89,054	153,382
Advertising	-	12,966	326	13,292
Training	-	8,424	3,200	11,624
Vehicles maintenance	-	292	4,279	4,571
Periodicals and printing	-	497	281	778
Business promotion expenses	-	268	218	486
Rents	-	5,041	13,188	18,229
Communication	-	591	1,162	1,753
Taxes and dues	-	101,677	72,761	174,438
Supplies	-	753	1,534	2,287
Utilities	-	1,745	226,783	228,528
Repairs and maintenance	-	1,222	47,377	48,599
Research and development	-	39,523	397	39,920
Travel and transportation	-	3,039	3,049	6,088
Clothing expenses	-	569	1,274	1,843
Association fee	-	983	422	1,405
Sales promotion costs	-	5,629	-	5,629
Promotional expenses	-	600	-	600
Outsourcing	-	-	25,372	25,372
Facility management	-	-	271,742	271,742
Other expenses[1]	-	29,876	(55,023)	(25,147)
Total	₩ (25,784)	₩ 432,602	₩ 48,854,047	₩ 49,260,865

[1] The settlement amount of supply cost is included in cost of sales classified as other expenses and the related details are described in Note 16

44. Expenses by nature (cont'd)

Details of expenses by nature for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions) (cont'd):

	2021			
	Changes in inventories	Selling and administrative expenses	Cost of sales	Total
Changes in inventories:				
Finished goods	₩ (39,551)	₩ -	₩ -	₩ (39,551)
Merchandise	-	-	236,776	236,776
Raw materials used	-	-	22,343,187	22,343,187
Salaries	-	95,299	392,863	488,162
Retirement benefits	-	10,700	38,128	48,828
Employee welfare	-	11,073	41,598	52,671
Insurance premium	-	2,761	12,352	15,113
Depreciation	-	16,594	1,604,470	1,621,064
Amortization	-	4,476	78,543	83,019
Bad debts expenses	-	394	-	394
Commission	-	64,971	109,362	174,333
Advertising	-	7,173	365	7,538
Training	-	7,246	1,685	8,931
Vehicles maintenance	-	217	3,591	3,808
Periodicals and printing	-	524	312	836
Business promotion expenses	-	187	179	366
Rents	-	4,728	14,719	19,447
Communication	-	623	1,175	1,798
Taxes and dues	-	100,582	36,705	137,287
Supplies	-	620	1,411	2,031
Utilities	-	1,539	142,438	143,977
Repairs and maintenance	-	739	55,679	56,418
Research and development	-	49,217	227	49,444
Travel and transportation	-	2,195	2,617	4,812
Clothing expenses	-	629	1,056	1,685
Association fee	-	981	433	1,414
Sales promotion costs	-	7,785	-	7,785
Promotional expenses	-	468	-	468
Outsourcing	-	-	23,678	23,678
Facility management	-	-	226,369	226,369
Other expenses[1]	-	30,328	528,641	558,969
Total	₩ (39,551)	₩ 422,049	₩ 25,898,559	₩ 26,281,057

[1] The settlement amount of supply cost is included in cost of sales classified as other expenses and the related details are described in Note 16

45. Earnings per share

(1) Basic earnings per share for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Basic earnings per share		
Continuing operation	₩ 17,317	₩ 11,078
Total Basic earnings per share	₩ 17,317	₩ 11,078

(2) Diluted earnings per share for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Diluted earnings per share		
Continuing operation	₩ 16,174	₩ 10,973
Total diluted earnings per share	₩ 16,174	₩ 10,973

(3) Basic earnings per share

Earnings for the year used for deriving basic earnings per share for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Profit for the year used for basic earnings per share	₩ 1,493,103	₩ 950,757
Interest expenses of hybrid bonds	(6,851)	-
Profit for the year from continuing operations attributable to common shares	₩ 1,486,252	₩ 950,757

Weighted-average number of common shares outstanding used for deriving basic earnings per share for the years ended December 31, 2022 and 2021, are as follows:

	2022	2021
Weighted-average number of common shares outstanding	85,826,950	85,826,950
Effect of treasury share	-	-
Weighted-average number of common shares in circulation for calculating basic earnings per share[1]	85,826,950	85,826,950

[1] The parent company acquired no treasury share in 2022.

45. Earnings per share (cont'd)

(4) Diluted earnings per share

Diluted earnings per share are calculated using the weighted-average number of common shares adjusted assuming that all potential dilutive common shares are converted into common shares.

The net profit of the diluted earnings per share calculation for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Profit on controlling interest attributable to common share	₩ 1,486,252	₩ 950,757
<Effect of assuming conversion>		
Interest expenses of hybrid bonds	6,851	-
Diluted earnings attributable to common stock	₩ 1,493,103	₩ 950,757

The weighted-average number of common shares to calculate diluted earnings per share is calculated from the weighted-average number of common shares used in calculating basic earnings per share by adjusting as follows (in shares):

	2022	2021
Weighted-average number of common shares outstanding	85,826,950	85,826,950
<Number of shares deemed to be issued free of charge>		
Hybrid bonds	6,486,050	817,420
Weighted-average number of diluted common shares outstanding	92,313,000	86,644,370

46. Financial instruments by category

(1) Categorizations of financial instruments as of December 31, 2022 and 2021, are as follows (Korean won in millions):

1) 2022

① Current financial assets

	December 31, 2022						
				Financial assets measured at FVTPL			
Current financial assets:	Debt instruments at amortized cost	Debt instruments at FVOCI	Equity instruments at FVOCI	Derivatives not designated as hedging instruments	Derivatives designated as hedging instruments	Others	Total
Cash and cash equivalents	₩ 813,275	₩ -	₩ -	₩ -	₩ -	₩ -	₩ 813,275
Financial assets at FVTPL	-	-	-	4,471	117,240	-	121,711
Financial assets at amortized cost	1,811	-	-	-	-	-	1,811
Short-term financial instruments	23,891	-	-	-	-	-	23,891
Loans	1,295	-	-	-	-	-	1,295
Trade and other receivables [1]	12,121,935	-	-	-	-	-	12,121,935
Total	₩ 12,962,207	₩ -	₩ -	₩ 4,471	₩ 117,240	₩ -	₩ 13,083,918

[1] Contract assets are excluded.

46. Financial instruments by category (cont'd)

(1) Categorizations of financial instruments as of December 31, 2022 and 2021, are as follows (Korean won in millions) (cont'd):

1) 2022 (cont'd)

② Non-current financial assets

	December 31, 2022						
				Financial assets measured at FVTPL			
Non-current financial assets:	Debt instruments at amortized cost	Debt instruments at FVOCI	Equity instruments at FVOCI	Derivatives not designated as hedging instruments	Derivatives designated as hedging instruments	Others	Total
Financial assets at FVTPL	₩ -	₩ -	₩ -	₩ 49,981	₩ -	₩ 2,468	₩ 52,449
Financial assets at FVOCI	-	-	61,924	-	-	-	61,924
Financial assets at amortized cost	426	-	-	-	-	-	426
Long-term financial instruments	17	-	-	-	-	-	17
Loans	584,819	-	-	-	-	-	584,819
Trade and other receivables[1]	202,314	-	-	-	-	-	202,314
Other non-current financial assets	90,000	-	-	-	-	-	90,000
	₩ 877,576	₩ -	₩ 61,924	₩ 49,981	₩ -	₩ 2,468	₩ 991,949

[1] Contract assets are excluded.

③ Current financial liabilities

	December 31, 2022			
		Financial liabilities at fair value through profit or loss		
Current financial liabilities	Financial liabilities at amortized cost	Derivatives not designated as hedging instruments	Hedging derivative instruments	Others	Total
Trade and other receivables	₩ 3,728,558	₩ -	₩ -	₩ -	₩ 3,728,558
Financial liabilities at FVTPL	-	720,882	32,950	-	753,832
Short-term borrowing	23,601,077	-	-	-	23,601,077
Debentures	1,957,840	-	-	-	1,957,840
	₩ 29,287,475	₩ 720,882	₩ 32,950	₩ -	₩ 30,041,307

(*) Provisions for financial guarantee are excluded.

46. Financial instruments by category (cont'd)

(1) Categorizations of financial instruments as of December 31, 2022 and 2021, are as follows (Korean won in millions) (cont'd):

1) 2022 (cont'd)

④ Non-current financial liabilities

	December 31, 2022				
		Financial liabilities at fair value through profit or loss			
Non-current financial liabilities	Financial liability at amortized cost	Derivatives not designated as hedging instruments	Hedging derivative instruments	Others	Total
Trade and other receivables	₩ 1,652,925	₩ -	₩ -	₩ -	₩ 1,652,925
Financial liabilities at FVTPL	-	17,206	8,105	-	25,311
Long-term borrowing	192,144	-	-	-	192,144
Bonds	17,100,492	-	-	-	17,100,492
	₩ 18,945,561	₩ 17,206	₩ 8,105	₩ -	₩ 18,970,872

(*) Provisions for financial guarantee are excluded.

2) 2021

① Current financial assets

	December 31, 2021						
				Financial assets measured at FVTPL			
Current financial assets:	Debt instruments at amortized cost	Debt instruments at FVOCI	Equity instruments at FVOCI	Derivatives not designated as hedging instruments	Derivatives designated as hedging instruments	Others	Total
Cash and cash equivalents	₩ 564,523	₩ -	₩ -	₩ -	₩ -	₩ -	₩ 564,523
Financial assets at FVTPL	-	-	-	26,759	230	-	26,989
Financial assets at amortized cost	8,758	-	-	-	-	-	8,758
Short-term financial instruments	44,379	-	-	-	-	-	44,379
Loans	8,476	-	-	-	-	-	8,476
Trade and other receivables [1]	6,979,470	-	-	-	-	-	6,979,470
Total	₩ 7,605,606	₩ -	₩ -	₩ 26,759	₩ 230	₩ -	₩ 7,632,595

[1] Contract assets are excluded.

46. Financial instruments by category (cont'd)

(1) Categorizations of financial instruments as of December 31, 2022 and 2021, are as follows (Korean won in millions) (cont'd):

2) 2021 (cont'd)

② Non-current financial assets

	December 31, 2021						
				Financial assets measured at FVTPL			
Non-current financial assets:	Debt instruments at amortized cost	Debt instruments at FVOCI	Equity instruments at FVOCI	Derivatives not designated as hedging instruments	Derivatives designated as hedging instruments	Others	Total
Financial assets at FVTPL	₩ -	₩ -	₩ -	₩ 10,774	₩ 79,488	₩ 2,634	₩ 92,896
Financial assets at FVOCI	-	-	69,585	-	-	-	69,585
Financial assets at amortized cost	454	-	-	-	-	-	454
Long-term financial instruments	7,891	-	-	-	-	-	7,891
Loans	527,714	-	-	-	-	-	527,714
Trade and other receivables[1]	210,387	-	-	-	-	-	210,387
Other non-current financial assets	90,000	-	-	-	-	-	90,000
	₩ 836,446	₩ -	₩ 69,585	₩ 10,774	₩ 79,488	₩ 2,634	₩ 998,927

[1] Contract assets are excluded.

③ Current financial liabilities

	December 31, 2021				
		Financial liabilities at fair value through profit or loss			
Current financial liabilities	Financial liabilities at amortized cost	Derivatives not designated as hedging instruments	Hedging derivative instruments	Others	Total
Trade and other receivables	₩ 3,576,069	₩ -	₩ -	₩ -	₩ 3,576,069
Financial assets at FVTPL	-	5,985	-	-	5,985
Short-term borrowing	7,832,479	-	-	-	7,832,479
Debentures	1,933,815	-	-	-	1,933,815
	₩ 13,342,363	₩ 5,985	₩ -	₩ -	₩ 13,348,348

(*) Provisions for financial guarantee are excluded.

46. Financial instruments by category (cont'd)

(1) Categorizations of financial instruments as of December 31, 2022 and 2021, are as follows (Korean won in millions) (cont'd):

2) 2021 (cont'd)

④ Non-current financial liabilities

	December 31, 2021				
		Financial liabilities at fair value through profit or loss			
Non-current financial liabilities	Financial liability at amortized cost	Derivatives not designated as hedging instruments	Hedging derivative instruments	Others	Total
Trade and other receivables	₩ 1,777,711	₩ -	₩ -	₩ -	₩ 1,777,711
Financial liabilities at fair value through profit or loss	-	73,255	27,340	-	100,595
Long-term borrowing	179,480	-	-	-	179,480
Bonds	16,240,963	-	-	-	16,240,963
	₩ 18,198,154	₩ 73,255	₩ 27,340	₩ -	₩ 18,298,749

(*) Provisions for financial guarantee are excluded.

(2) Net gains or losses on each category of financial instruments for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Cash and cash equivalents		
Interest income	₩ 16,893	₩ 837
Gain (loss) on foreign currency transactions	771	(1,530)
Gain (loss) on foreign currency translation	(3,792)	294
Financial assets at fair value through profit or loss		
Interest income	4,978	372
Gain on foreign currency transactions	23,586	3,099
Gain on valuation of derivatives	44,611	38,190
Gain on transactions of derivatives	917,405	220,271
Gain on foreign currency translation	-	5
Gain (loss) on valuation	(303)	700
Dividends income	11	10
Financial assets at amortized cost		
Interest income	49,377	22,325
Gain (loss) on foreign currency transactions	(7,620)	4,297
Gain on foreign currency translation	370,649	465,437
Financial assets at fair value through other comprehensive income		
Comprehensive income (loss) recognized during the year	(7,661)	8,525
Financial liabilities at fair value through profit or loss		
Loss on foreign currency transactions	(20,984)	(4,454)
Loss on valuation of derivative instruments	(665,767)	(72,190)
Loss on transactions of derivative instruments	(451,561)	(63,306)
Financial liability at amortized cost		
Interest expense	(985,191)	(641,714)
Loss on foreign currency transactions	(567,219)	(198,661)
Gain (loss) on foreign currency translation	425,743	(364,706)
Comprehensive loss recognized during the year	(111,103)	(152,899)
Hedging derivative instruments		
Interest expenses	(27,948)	(34,398)
Comprehensive income (loss) recognized during the year	(3,070)	10,865
Others		
Capitalization of interest	48,221	34,152
	₩ (949,974)	₩ (724,479)

47. Risk management

(1) Risk management framework

The Group manages various risks that may incur by each business unit and the main risks are capital risk, credit risk, liquidity risk, currency risk, interest rate risk and others. These risks are recognized, measured, controlled and reported in accordance with the basic policy for risk management determined by the Group.

The Group's risk management policies are established to identify and analyze the risks faced by the Group, to set appropriate risk limits and controls, and to monitor risks and adherence to limits.

Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the Group's activities. The Group's Audit Committee oversees how management monitors compliance with the Group's risk management policies and procedures and reviews the adequacy of the risk management framework in relation to the risks faced by the Group.

(2) Capital risk management

The Group's objectives when managing capital are to safeguard the Group's ability to continue as a going concern, so the Group can continue to provide returns for shareholders and benefits for other stakeholders, and to maintain an optimal capital structure to reduce the cost of capital.

In order to maintain or adjust the capital structure, the Group may adjust the amount of dividends paid to shareholders, return capital to shareholders, issue new shares or sell assets to reduce debt.

Consistent with others in the industry, the Group monitors capital on the basis of the gearing ratio. This ratio is calculated as net debt divided by total capital. Net debt is total borrowings (including ‘short and long-term borrowings' as shown in the consolidated statement of financial position) less cash and cash equivalent. Total capital is ‘equity' as shown in the consolidated statement of financial position plus net debt.

The gearing ratios as of December 31, 2022 and 2021 are as follows (Korean won in millions, except gearing ratio):

	December 31, 2022	December 31, 2021
Liabilities		
Short-term borrowings	₩ 23,601,077	₩ 7,832,479
Current portion of debentures	1,957,840	1,933,815
Current portion of lease liabilities	378,923	268,784
Long-term borrowings	192,144	179,480
Debentures, net of current portion	17,100,492	16,240,963
Lease liabilities, net of current portion	1,652,602	1,777,521
Total Liabilities	₩ 44,883,078	₩ 28,233,042
Cash equivalents		
Cash and cash equivalents	813,275	564,523
Total cash equivalents	₩ 813,275	₩ 564,523
Net debt	44,069,803	27,668,519
Total equity	10,410,740	9,119,336
Total capital	₩ 54,480,543	₩ 36,787,855
Gearing ratio	80.89%	75.21%

47. Risk management (cont'd)

(3) Financial risk management

1) Credit Risk

Credit risk is a risk that a counterparty cannot fulfill its obligation under a financial instrument or customer contract, resulting in financial loss. The Group is exposed to credit risks from operating activities (mainly trade receivables), banking and financial institution deposits, foreign exchange transactions and other financial instruments.

In order to control the risk arising from the default of the debtor, the Group has secured sufficient collateral in consideration of the credibility of the counterparty. The credit rating of the counterparty is based on the credit rating provided by an independent external credit rating agency, but if it is not possible to obtain the data, the credit rating is measured using the transaction information obtained with the counterparty, and the credit rating is continuously remeasured.

The Group's investments in debt instruments are considered to be low risk investments. The credit ratings of the investments are monitored for credit deterioration.

There are no significant concentrations of credit risk, whether through exposure to individual customers, specific industry sectors and regions.

The Group has four types of financial assets that are subject to the expected credit loss model:
- trade receivables for sales of goods and rendering of services,
- contract assets relating to rendering of services,
- loans to subsidiaries and associates
- debt investments carried at fair value through profit or loss
- debt investments carried at fair value through other comprehensive income, and
- other financial assets carried at amortized cost.

While cash equivalents are also subject to the impairment requirement, the identified impairment loss was immaterial.

The Group applies the simplified method to recognize loss allowance for all financial assets held based on lifetime expected credit losses.

The book amount of financial assets means maximum exposure in respect of credit and counterparty risk. Meanwhile, financial guarantee contracts provided by the Group are recognized as provision for financial guarantee, and maximum exposure to credit risk of financial guarantee contracts is the maximum guaranteed amount that the Group should pay upon the guarantee's claims.

The maximum exposure to credit risk as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022	December 31, 2021
Cash and cash equivalents (excluding cash on hands)	₩ 813,191	₩ 564,489
Financial assets at FVTPL	174,160	119,885
Short-term and long-term financial assets	23,908	52,270
Financial assets at amortized cost	2,238	9,212
Loans and receivables	676,115	626,190
Trade and other receivables	12,324,250	7,189,857
Financial guarantee contracts[1]	1,483,515	1,324,463
	₩ 15,497,377	₩ 9,886,366

[1] The amount is the maximum guaranteed amount that the Group should pay upon the guarantee's claim.

47. Risk management (cont'd)

(3) Financial risk management (cont'd)

1) Credit Risk (cont'd)

Details of financial guarantee contracts as of December 31, 2022, are as follows (Korean won in millions, and US dollars in thousands):

	Currency		Total guaranteed amount
Related parties[1]			
Terminal KMS de GNL, S. de R.L. de C.V.	USD	18,708	₩ 23,708
	USD	9,500	12,039
KLBV1.S.A	USD	20,843	26,415
Coral FLNG S.A.	USD	579,932	734,948
Coral South FLNG DMCC	USD	487,470	617,771
Others[1]			
Empresa Nacional de Hidrocarbonetos, E.P	USD	54,158	68,634
			₩ 1,483,515

[1] Details of these financial guarantee contracts are described in Note 48. (2). 6). and Note 52. (2).

2) Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Group's approach to managing liquidity is to ensure, as far as possible, that it will always have sufficient liquidity to meet its liabilities when due, under both normal and stressed conditions. The management of the Group believes that they are able to repay the financial liabilities by cash flows from operating activities and cash inflows from financial assets.

Aggregate maturities of the Group's financial liabilities as of December 31, 2022, are as follows (Korean won in millions):

	Book value	Cash flows in contract	1 year or less	1 ~ 5 years	More than 5 years
Non-derivative financial liabilities					
Debentures	₩ 19,058,332	₩ 22,491,273	₩ 2,541,291	₩ 12,098,072	₩ 7,851,910
Borrowings	23,793,221	23,905,181	23,701,414	9,197	194,570
Lease liabilities	2,031,525	2,833,283	397,945	1,030,079	1,405,259
Trade and other payables[1]	3,349,958	3,349,958	3,349,635	323	-
Provision of financial guarantee[2]	10,075	1,483,515	1,483,515	-	-
	₩ 48,243,111	₩ 54,063,210	₩ 31,473,800	₩ 13,137,671	₩ 9,451,739
Derivative financial liabilities					
Derivative financial liabilities[3]	₩ 779,143	₩ 797,377	₩ 769,824	₩ 14,110	₩ 13,443

[1] Lease liabilities are excluded because they are presented separately.
[2] In case of finance guarantee contract, the amount is distributed to the earliest period when the guarantee could be demanded.
[3] Derivative for trading purpose and cash flow hedge are included.

47. Risk management (cont'd)

2) Liquidity risk (cont'd)

Aggregate maturities of the Group's financial liabilities as of December 31, 2021, are as follows (Korean won in millions):

	Book value	Cash flows in contract	1 year or less	1 ~ 5 years	More than 5 years
Non-derivative financial liabilities					
Debentures	₩ 18,174,778	₩ 21,683,451	₩ 2,453,303	₩ 10,211,377	₩ 9,018,771
Borrowings	8,011,959	8,018,168	7,838,689	5,504	173,975
Lease liabilities	2,046,305	2,265,583	271,947	726,397	1,267,239
Trade and other payables[1]	3,307,475	3,307,475	3,307,285	190	-
Provision of financial guarantee[2]	15,789	1,324,463	1,324,463	-	-
	₩ 31,556,306	₩ 36,599,140	₩ 15,195,687	₩ 10,943,468	₩ 10,459,985
Derivative financial liabilities					
Derivative financial liabilities[3]	₩ 106,580	₩ 123,906	₩ 24,774	₩ 88,615	₩ 10,517

[1] Lease liabilities are excluded because they are presented separately.
[2] In case of finance guarantee contract, the amount is distributed to the earliest period when the guarantee could be demanded.
[3] Derivative for trading purpose and cash flow hedge are included.

3) Currency risk

The Group is exposed to currency risk on loans, purchases and borrowings that are denominated in a currency other than the Group's functional currency. The main currencies in which these transactions are displayed are USD, CAD, AUD, etc. The Group uses forward exchange contracts in which the redemption date and maturity date is completely same, to hedge its currency risk.

In respect of other monetary assets and liabilities denominated in foreign currencies, the Group ensures that its net exposure is kept to an acceptable level by buying or selling foreign currencies at spot rates when necessary to address short-term imbalances.

The book amounts of foreign currency assets and liabilities as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022						
	USD	EUR	AUD	CAD	JPY	CHF	CNY
Assets							
Cash and cash equivalents	₩ 396	₩ 825	₩ 58,423	₩ 22,057	₩ -	₩ -	₩ -
Trade and other receivables	38,122	9	9,163	55,655	-	-	1,229
Financial assets measured at fair value through profit or loss	-	-	-	1,735	-	-	-
Financial assets at amortized cost	-	-	93	-	-	-	-
Financial assets	125,495	-	-	-	-	-	-
Loans and receivables	-	-	-	-	-	-	-
Total assets	164,013	834	67,679	79,447	-	-	1,229
Liabilities							
Trade and other payables	2,405,812	1,892	40,558	45,973	662	236	-
Borrowings	6,769,008	-	-	-	-	-	-
Debentures	7,857,260	118,906	-	-	114,382	686,435	-
Lease liabilities	1,879,985	-	332	1,900	-	-	-
Other financial liabilities	10,075	-	-	-	-	-	-
Total liabilities	18,922,140	120,798	40,890	47,873	115,044	686,671	-
Net exposure	₩ (18,758,127)	₩ (119,964)	₩ 26,789	₩ 31,574	₩ (115,044)	₩ (686,671)	₩ 1,229

47. Risk management (cont'd)

3) Currency risk (cont'd)

	December 31, 2022						
	MXN	AED	MZN	GBP	HKD	SGD	VND	IDR
Assets								
Cash and cash equivalents	₩ 173	₩ 23	₩ 255	₩ -	₩ -	₩ 101	₩ 23	₩ -
Trade and other receivables	-	-	-	-	-	-	38	-
Financial assets measured at fair value through profit or loss	-	-	-	-	-	-	-	-
Financial assets at amortized cost	-	-	1,703	-	-	139	-	-
Financial assets	-	-	-	-	-	-	-	-
Loans and receivables	-	17	-	-	-	-	-	-
Total assets	173	40	1,958	-	-	240	61	-
Liabilities								
Trade and other payables	-	-	-	25	751	-	-	1
Borrowings	-	-	-	-	-	-	-	-
Debentures	-	-	-	-	138,168	-	-	-
Lease liabilities	-	-	-	-	-	886	411	-
Other financial liabilities	-	-	-	-	-	-	-	-
Total liabilities	-	-	-	25	138,919	886	411	1
Net exposure	₩ 173	₩ 40	₩ 1,958	₩ (25)	₩ (138,919)	₩ (646)	₩ (350)	₩ (1)

	December 31, 2021						
	USD	EUR	AUD	CAD	JPY	CHF	MXN
Assets							
Cash and cash equivalents	₩ 3,384	₩ 567	₩ 24,646	₩ 9,851	₩ -	₩ -	₩ 4
Trade and other receivables	51,083	9	13,786	73,096	6	-	-
Financial assets measured at fair value through other comprehensive income	-	-	-	1,902	-	-	-
Financial assets at amortized cost	-	-	-	-	-	-	-
Financial assets	105,031	-	-	-	-	-	-
Loans and receivables	-	-	-	-	-	-	-
Other financial assets	-	-	510	-	-	-	-
Total assets	159,498	576	38,942	84,849	6	-	4
Liabilities							
Trade and other payables	2,285,739	1,846	(29,201)	41,048	716	223	-
Borrowings	3,919,996	-	-	-	-	-	-
Debentures	7,113,000	118,126	-	-	123,629	648,735	-
Lease liabilities	1,893,583	-	482	1,511	-	-	-
Other financial liabilities	15,789	-	-	-	-	-	-
Total liabilities	15,228,107	119,972	(28,719)	42,559	124,345	648,958	-
Net exposure	₩ (15,068,609)	₩ (119,396)	₩ 67,661	₩ 42,290	₩ (124,339)	₩ (648,958)	₩ 4

47. Risk management (cont'd)

3) Currency risk (cont'd)

	December 31, 2021						
	AED	MZN	GBP	SGD	KWD	HKD	VND
Assets							
Cash and cash equivalents	₩ 13	₩ 89	₩ -	₩ 17	₩ 144	₩ -	₩ 23
Trade and other receivables	-	-	-	-	-	-	37
Financial assets measured at fair value through other comprehensive income	-	-	-	-	-	-	-
Financial assets at amortized cost	-	8,689	-	-	-	-	-
Financial assets	-	-	-	-	-	-	-
Loans and receivables	16	-	-	-	-	-	-
Other financial assets	-	-	-	-	-	-	-
Total assets	29	8,778	-	17	144	-	60
Liabilities							
Trade and other payables	-	-	45	-	-	413	-
Borrowings	-	-	-	-	-	-	-
Debentures	-	-	-	-	-	68,414	-
Lease liabilities	-	-	-	(1)	-	-	527
Other financial liabilities	-	-	-	-	-	-	-
Total liabilities	-	-	45	(1)	-	68,827	527
Net exposure	₩ 29	₩ 8,778	₩ (45)	₩ 18	₩ 144	₩ (68,827)	₩ (467)

Foreign currency exchange rate as of December 31, 2022 and 2021, are as follows

	December 31, 2022	December 31, 2021
USD	₩ 1,267.30	₩ 1,185.50
EUR	1,351.20	1,342.34
JPY	9.53	10.30
CAD	935.38	930.61
AUD	858.41	858.89
CHF	1,372.87	1,297.47
CNY	181.44	186.26
GBP	1,527.67	1,600.25
HKD	162.55	152.03
SGD	943.11	877.14
AED	345.06	322.75
MZN	19.77	18.62
MXN	65.15	57.94
KWD	4,139.20	3,918.75
VND	0.05	0.05
IDR	0.08	0.08

Sensitivity analysis of profit before income tax from changes of foreign exchange rate for the year ended December 31, 2022, are as follows (Korean won in millions):

	10% Increase	10% Decrease
Profit (loss) before income tax	₩ 29,826	₩ (29,826)

47. Risk management (cont'd)

4) Interest rate risk

The Group borrows funds at fixed and variable interest rate. Also, the Group's management monitors the level of interest rates and maintains the balance of borrowings at variable rates and fixed rates.

Variable interest rate financial instrument (1) as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022	December 31, 2021
Long-term borrowings	₩ 181,011	₩ 169,594
Lease liabilities	605,869	572,665
Total	₩ 786,880	₩ 742,259

[1] Excluded fully hedged variable interest rate financial instrument.

Sensitivity analysis of profit before income tax from changes of interest rate for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022		2021	
	100bp Increase	100bp decrease	100bp Increase	100bp decrease
Profit before income tax	₩ (7,869)	₩ 7,869	₩ (7,423)	₩ 7,423

5) Major assets and liabilities affected by estimates

Changes in defined benefit obligation due to changes in actuarial assumptions as of December 31, 2022, are as follows (Korean won in millions):

	1% increase	1% decrease
Salary growth rate	₩ 24,952	₩ (22,018)
Discount rate	(20,947)	24,060

47. Risk management (cont'd)

(4) Fair value of financial assets and liabilities

1) Carrying amounts and fair value of financial assets and liabilities as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022		December 31, 2021	
	Book value	Fair value	Book value	Fair value
Assets carried at fair value				
Financial assets at fair value through other comprehensive income	₩ 61,924	₩ 61,924	₩ 69,585	₩ 69,585
Financial assets at fair value through profit and loss	174,160	174,160	119,885	119,885
	₩ 236,084	₩ 236,084	₩ 189,470	₩ 189,470
Assets carried at amortized cost[1]				
Trade and other receivables	₩ 12,324,249	₩ -	₩ 7,189,857	₩ -
Financial assets at amortized cost	2,237	-	9,212	-
Loans and receivables	676,115	-	626,190	-
Short-term and long-term financial assets	23,908	-	52,270	-
Cash and cash equivalents	813,275	-	564,523	-
	₩ 13,839,784	₩ -	₩ 8,442,052	₩ -
Liabilities carried at fair value				
Financial liabilities at fair value through profit or loss	₩ 779,143	₩ 779,143	₩ 106,580	₩ 106,580
	₩ 779,143	₩ 779,143	₩ 106,580	₩ 106,580
Liabilities carried at amortized cost[1]				
Debentures	₩ 19,058,332	₩ 18,301,015	₩ 18,174,778	₩ 19,288,824
Lease liabilities	2,031,525	-	2,046,305	-
Borrowings	23,793,221	-	8,011,959	-
Trade and other payables [2]	3,349,958	-	3,307,475	-
	₩ 48,233,036	₩ 18,301,015	₩ 31,540,517	₩ 19,288,824

[1] Financial assets and liabilities at amortized cost (except for debentures) are excluded because the difference between fair value and book value is not important.
[2] Lease liabilities are excluded because they are presented separately.

47. Risk management (cont'd)

(4) Fair value of financial assets and liabilities (cont'd)

2) Rate of interest used in determining fair value

Details of discount ratios as of December 31, 2022 and 2021, are as follows:

	December 31, 2022	December 31, 2021
Derivative instruments	0.809~1.000%	0.911~1.013%
Debentures	0.467~5.203%	(-)0.401~2.694%

3) The level of fair value hierarchy are as follows:

No Significant changes in the business and economic environment that could affect the fair value of financial assets and financial liabilities occurred during the reporting period.

Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities
Level 2: All inputs other than quoted prices included in level 1 that are observable (either directly that is, prices, or indirectly that is, derived from prices) for the asset or liability
Level 3: Unobservable inputs for the asset or liability

The fair value measurements classified by fair value hierarchy as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022			
	Level 1	Level 2	Level 3	Total
Financial assets at fair value through other comprehensive income	₩ -	₩ -	₩ 61,924	₩ 61,924
Financial assets at fair value through profit or loss	-	171,692	2,468	174,160
Financial liabilities at fair value through profit or loss	-	779,143	-	779,143

	December 31, 2021			
	Level 1	Level 2	Level 3	Total
Financial assets at fair value through other comprehensive income	₩ -	₩ -	₩ 69,585	₩ 69,585
Financial assets at fair value through profit or loss	-	117,251	2,634	119,885
Financial liabilities at fair value through profit or loss	-	106,580	-	106,580

Changes in financial instruments categorized within Level 3 for the year ended of December 31, 2022, are as follows:

	Beginning balance	Acquisition cost	Profit or loss	Other comprehensive income	Disposal	Transfer	Ending balance
Financial assets at fair value through other comprehensive income	₩ 69,585	₩ -	₩ -	₩ (7,661)	₩ -	₩ -	₩ 61,924

47. Risk management (cont'd)

(4) Fair value of financial assets and liabilities (cont'd)

4) Unobservable inputs in the market

The valuation techniques used to measure the fair value of financial instruments classified as Level 2 as of December 31, 2022 are as follows (Korean won in millions):

Description	Fair value	Valuation technique
Financial assets at fair value through profit or loss	₩ 171,692	Market forward exchange rate and yield curve, etc.
Financial liabilities at fair value through profit or loss	779,144	Market forward exchange rate and yield curve

The valuation method used in the fair value measurements of financial instruments classified as Level 3 and significant but unobservable inputs as of December 31, 2022, are as follows (Korean won in millions):

	December 31, 2022				
	Valuation techniques	Type	Book value	Inputs	Range of inputs
Financial assets at fair value through other comprehensive income	Discounted cash flow method	Energy business stock	₩ 61,313	Weighted average cost of equity capital	32.47%
				Selling price	3.43 ~ 9.98$ /MMBTU

Changes in financial assets at fair value through other comprehensive income due to changes WACC used in fair value measurements of financial assets as of December 31, 2022, are as follows (Korean won in millions):

	Fluctuations in the value of books	1% decrease	1% increase
Changes in WACC	Increase(decrease) of financial assets at fair value through other comprehensive income	₩ 4,153	₩ (3,831)

Fair value hierarchy classifications of the financial assets and financial liabilities that are not measured at fair value but those with disclosed fair values as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022			
	Level 1	Level 2	Level 3	Total
Debentures	₩ 9,791,188	₩ 8,509,827	₩ -	₩ 18,301,015

	December 31, 2021			
	Level 1	Level 2	Level 3	Total
Debentures	₩ 10,387,070	₩ 8,901,754	₩ -	₩ 19,288,824

48. Related party transactions

(1) Details of the Group's related parties as of December 31, 2022, are as follows:

Relationship	Related parties
Ultimate parent	Government of the Republic of Korea [1]
Subsidiaries	Korea Gas Technology Corporation.
	KOGAMEX Investment Manzanillo B.V.
	KOMEX-GAS,S.de R.L de C.V
	KOGAS Iraq B.V.
	KOGAS Badra B.V.
	KOGAS Akkas B.V.
	KOGAS Mansuriya B.V.
	KOGAS Canada Energy Ltd.
	KOGAS Australia Pty Ltd.
	KOGAS Prelude Pty Ltd.
	KG Timor Leste Ltd.
	KG Krueng Mane Ltd.
	KG Mozambique Ltd.
	KOGAS Mozambique Lda.
	KOGAS Cyprus Ltd.
	KC LNG Tech Co., Ltd.
	KG-SEAGP Company Limited
	KG Myanmar Ltd.
	KOGAS International Pte Ltd.
	KGLNG E&P Pty Ltd. [2]
	KGLNG Liquefaction Pty Ltd. [2]
	KGLNG E&P II Pty Ltd. [2]
	KOGAS Canada Partner Ltd. [9]
	KOGAS Canada E&P Partnership [9]
	KOGAS Canada LNG Partnership [9]
	Korea LNG Bunkering Ltd.
	Korea LNG Bunkering Lines Ltd. [10]
Associates	Korea Ras Laffan LNG Ltd.
	Korea LNG Ltd.
	Korea LNG Trading Co., Ltd.
	South-East Asia Gas Pipeline Company Limited [3]
	Hydrogen Energy Network Co, Ltd.
	Kor-Uz Gas cylinder Investment Ltd.
	Kor-Uz Gas C&G Investment Ltd.
	Coral FLNG S.A. [4]
	Coral South FLNG DMCC [4]
	Rovuma LNG, S.A. [4]
	Rovuma LNG Investments (DIFC) Ltd. [4]
	HyStation Co., Ltd. [11]
Joint ventures	Kor-Uz Gas Chemical Investment Ltd.
	Sulawesi LNG Development Limited
	TOMORI E&P LIMITED
	Hyundai Yemen LNG Company
	KLBV1 S.A.
	TERMINAL KMS de GNL, S. De R.L. De C.V. [5]
	Manzanillo Gas Tech, S. de R.L. de C.V. [5]
	GLNG Operations Pty Ltd [6]
	ENH-KOGAS, SA. [7]
	LNG Canada development Inc [8]
	Korea Superfreeze Incheon Inc
Other related party [12]	Korea Electric Power Corporation
	Korea Southern Power Co., Ltd.
	Korea Midland Power Co., Ltd.
	Korea Western Power Co., Ltd
	Korea East-West Power Co., Ltd.
	Korea South-East Power Co., Ltd
	KOSPO Youngnam Power Co., Ltd.

48. Related party transactions (cont'd)

[1] Even though the government of the Republic of Korea can exercise control in making decision, there are no significant transactions with the Corporation in 2022 and 2021.
[2] A subsidiary of KOGAS Australia Pty. Ltd.
[3] An associate of KG-SEAGP Company Limited.
[4] An associate of KG Mozambique Ltd.
[5] A joint venture of KOGAMEX Investment Manzanillo B.V.
[6] A joint venture of KOGAS Australia Pty. Ltd.
[7] A joint venture of KOGAS Mozambique Lda.
[8] A joint venture of KOGAS Canada Energy Ltd.
[9] A subsidiary of KOGAS Canada Energy Ltd.
[10] A subsidiary of Korea LNG Bunkering Ltd.
[11] Newly established in 2022.
[12] Korea Electric Power Corporation and significant counter parties of subsidiaries of Korea Electric Power Corporation, which exercises significant influence on the Group.

48. Related party transactions (cont'd)

(2) All inter-company transactions are eliminated as part of the consolidation process and are not disclosed in the notes to the consolidated financial statements.

1) Significant transactions which occurred in the normal course of business with related parties for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

		Sales and other income		Purchases and other expense	
Related party	Transaction	2022	2021	2022	2021
Korea Ras Laffan LNG Ltd.	Dividends	₩ 102,996	₩ 59,907	₩ -	₩ -
Korea LNG Ltd.	Dividends	25,393	11,017	-	-
Hyundai Yemen LNG Company	Interest income	561	591	-	-
	Other bad debt expenses			18,068	-
Korea LNG Trading Co., Ltd.	Costs of sales	-	-	204,151	115,010
	Interest expense	-	-	15,634	4,500
	Import penalty compensation	75	-	-	-
South-East Asia Gas Pipeline Company Limited	Interest income	773	1,987	-	-
Terminal KMS de GNL, S. de R.L. de C.V	Miscellaneous gains	90	87	-	-
TOMORI E&P LIMITED	Gains on disposal of shares of associates	19,504	-	-	-
Manzanillo Gas Tech, S. de R.L. de C.V.	Revenue	-	5,861	-	-
	Miscellaneous gains	6,652	746	-	-
	Retirement benefit	12	-	-	-
ENH-KOGAS, SA.	Revenue	54	286	-	-
LNG Canada Development	Miscellaneous gains and others	13	537	-	-
Korea Electric Power Corporation	Miscellaneous gains and others	45	29	-	-
	Commission expenses	-	-	143	164
	Utility expenses and others	-	-	111,981	98,728
	Cost of land	-	-	-	2,413
Korea Southern Power Co., Ltd.	Revenue[1]	3,721,327	1,714,646	-	-
	Rental income	309	287	-	-
	Miscellaneous gains	18	17	-	-
	Earnings from construction charges	-	511	-	-
	Lease payments	-	-	42	36
	Interest expenses	-	-	8	7
Korea Midland Power Co., Ltd.	Revenue[1]	2,085,438	1,039,994	-	-
	Miscellaneous gains and others	37	27	-	-
	Rental income	-	1	-	-
	Lease payments	-	-	486	486
	Interest expenses	-	-	108	114
	Inventory exchange	430,476	66,208	430,476	66,208
Korea Western Power Co., Ltd.	Revenue[1]	2,821,054	1,393,448	-	-
	Utility expenses and others	-	-	2,435	1,055
	Lease payments	-	-	136	169
	Interest expense	-	-	24	29
Korea East-West Power Co., Ltd.	Revenue[1]	2,054,964	897,072	-	-
	Fuel maintenance costs and others	-	-	-	113
	Lease payments	-	-	168	162
	Interest costs	-	-	14	16
Korea South-East Power Co., Ltd.	Revenue[1]	817,724	344,479	-	-
	Rental income	38	35	-	-
	Fuel maintenance costs and others	-	-	109	80
KOSPO Youngnam Power Co., Ltd.	Revenue[1]	495,630	256,468	-	-

[1] Amount is before deduction of individual consumption taxes.

48. Related party transactions (cont'd)

2) Account balances, excluding loans and borrowings, with related parties as of December 31, 2022 and 2021, are as follows (Korean won in millions):

		Receivables		Payables	
Related party	Account	December 31, 2022	December 31, 2021	December 31, 2022	December 31, 2021
LNG Canada development	Other receivables	₩ 81	₩ 68	₩ -	₩ -
Korea Ras Laffan LNG Ltd.	Other receivables	3,042	-	-	-
Korea LNG Ltd.	Other receivables	2,374	-	-	-
Korea LNG Trading Co., Ltd.	Lease liabilities	-	-	376,673	417,449
	Current portion of lease liabilities	-	-	69,580	62,836
	Trade payables	-	-	10,413	13,452
	Accrued expense	-	-	4,370	6,410
	Prepaid expense	2,795	546	-	-
Hyundai Yemen LNG Company	Accrued income	15,022	13,537	-	-
Terminal KMS de GNL, S. de R.L. de C.V.	Long-term non-trade receivables	198	230	-	-
	Trade receivables	-	-	-	-
ENH-KOGAS, SA.	Other receivables	53	99	-	-
Korea Electric Power Corporation	Other payables	-	-	84	4
	Accrued expense	-	-	11,445	10,134
	Lease liabilities	-	-	3	3
Korea Southern Power Co., Ltd.	Trade receivables	501,215	220,767	-	-
	Lease liabilities	-	-	461	419
Korea Midland Power Co., Ltd.	Trade receivables	320,301	156,944	-	-
	Lease liabilities	-	-	5,926	6,266
Korea Western Power Co., Ltd.	Trade receivables	454,804	156,725	-	-
	Other payables	-	-	658	-
	Lease liabilities	-	-	1,152	1,445
Korea East-West Power Co., Ltd.	Trade receivables	332,183	142,264	-	-
	Lease liabilities	-	-	810	930
Korea South-East Power Co., Ltd.	Trade receivables	215,934	98,156	-	-
	Other payables	-	-	72	5
KOSPO Youngnam Power Co., Ltd.	Trade receivables	59,464	28,292	-	-

48. Related party transactions (cont'd)

3) Loans to related parties as of December 31, 2022 and December 31, 2021, are as follows (Korean won in millions):

		December 31, 2022	December 31, 2021
Associates	South-East Asia Gas Pipeline Company Limited	₩ 5,456	₩ 13,105
	Coral FLNG S.A	286,484	218,712
	Rovuma LNG Investments (DIFC) Ltd.	76	47
Joint ventures	Hyundai Yemen LNG Company Limited	28,664	41,302
		₩ 320,680	₩ 273,166

4) Limits of financial commitments for loans to related parties as of December 31, 2022 are as follows (US dollars in thousands):

		Loan limit	
		December 31, 2022	
Joint ventures	Hyundai Yemen LNG Company Limited	USD	93,500
Associates	Coral FLNG S.A	USD	371,200
	Rovuma LNG Investments (DIFC) Ltd	USD	200

5) Fund transactions with related parties for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

		2022			
		Loan transactions		Cash contribution	
Relationship	Related party	Loans	Collections	Acquisition	Disposal
Associates	Hydrogen Energy Network Co., Ltd.	₩ -	₩ -	₩ 4,200	₩ -
	HyStation Co., Ltd.	-	-	290	-
	Coral FLNG S.A	77,905	-	-	-
	Rovuma LNG Investments (DIFC) Ltd	26	-	-	-
	South-East Asia Gas Pipeline Company Limited	-	(8,337)	-	-
Joint ventures	Sulawesi LNG Development Limited	-	-	-	(37,648)
	Hyundai Yemen LNG Company	2,772	-	-	-
	Korea Superfreeze Incheon Inc	-	-	3,000	-
	ENH-KOGAS, SA.	-	-	-	-

48. Related party transactions (cont'd)

5) Fund transactions with related parties for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions) (cont'd):

		2021			
		Loan transactions		Cash contribution	
Relationship	Related party	Loans	Collections	Acquisition	Disposal
Associates	Hydrogen Energy Network Co., Ltd.	₩ -	₩ -	₩ 10,500	₩ -
	Coral FLNG S.A.	42,916	-	-	-
	Rovuma LNG Investments (DIFC) Ltd.	46	-	-	-
	South-East Asia Gas Piepline Company Ltd.	-	(7,620)	-	(4,651)
Joint ventures	Sulawesi LNG Development Limited	-	-	-	(70,381)
	Hyundai Yemen LNG	2,734	-	-	-
	KLBV1 S.A	-	-	2,922	-
	Korea Superfreeze Incheon Inc	-	-	1,000	-
	ENH-KOGAS, SA.	-	(7,272)	-	-

The Group has funding agreements proportionate to its ownership percentage in accordance with the joint arrangements among the Group, and its subsidiaries and associates in relation to the overseas resource development as of December 31, 2022 and 2021.

6) The payment guarantees provided to related parties as of December 31, 2022, are as follows (US dollars in thousands):

Guarantor	Related party[1]	Detail	Amount		Beneficiary
KOGAS	Terminal KMS de GNL, S.de R.L. de C.V.	Operation and maintenance expense guarantee	USD	18,708	Manzanillo Gas Tech
KOGAS	Terminal KMS de GNL, S.de R.L. de C.V.	PF repayment guarantee	USD	9,500	KEB Hana Bank
KOGAS	Coral FLNG S.A.	Guarantee payment for outstanding debt indicated in FLNG EPCIC contract [2]	USD	579,932	TJS Consortium
KOGAS	Coral South FLNG DMCC	Guarantee payment for repayment duty of Coral South FLNG business related project financing principal and interest[3]	USD	487,470	Sumitomo Mitsui Banking Corporation
KOGAS	KLBV1 S.A.	Guarantee payment for ship financing contracts	USD	20,843	Bank of America

[1] The related parties are the Corporation's subsidiaries, or the Corporation's associates or joint ventures, or the Corporation's subsidiaries' associates or joint ventures.
[2] Guarantee obligation is effective if the aggregate outstanding debt is more than USD 50 million.
[3] Guarantee obligation on the actual withdrawn principal and interest occur in the event of a default, and the guarantee is provided until the financial completion date (planned on January 31, 2024).

48. Related party transactions (cont'd)

7) The performance guarantees provided to related parties as of December 31, 2022, are as follows (US dollars in thousands):

Guarantor	Related party[1]	Detail	Amount		Beneficiary
KOGAS	Sulawesi LNG Development Limited	Guarantee from KOGAS in the percentage of Sulawesi LNG development (SLD) ownership (25%) on SLD's obligation to provide finance to DSLNG.	USD	13,762	DSLNG, Pertamina, Medco
KOGAS	Sulawesi LNG Development Limited	KOGAS bears obligation in its ownership percentage (25%) of SLD in relation to funding resolution arising as the result of share acquisition, and execution of funding in accordance with DSLNG's shareholder contract.	USD	13,762	DSLNG
KOGAS	Sulawesi LNG Development Limited	In the event that SLD fails to comply with its obligation to guarantee the amount of operating funds, KOGAS shall be liable for the share of SLD (25%)	USD	2,995	MUFG UNION BANK, N.A
KOGAS	Terminal KMS de GNL, S.de R.L. de C.V.	Guarantee of contract performance [2]	USD	42,500	KEB Hana Bank / HSBC Mexico

[1] The related parties are associates or joint ventures of the Group.
[2] Counter-guarantee through granting credit by KEB Hana Bank

8) Collaterals guarantees provided to related parties by the Group as of December 31, 2022, are as follows (Korean won in millions and US dollars in thousands):

Beneficiary	Contract date	Maturity date	Collateralized amount		Carrying amount		Collateral
KEXIM and 7 others	2009.09.16	2029.08.31	USD	48,800	₩	25	Shares invested in KOGAMEX Investment Manzanillo B.V. and all related rights[1]
Sumitomo Mitsui Banking Corporation	2017.05.31	2033.05.26	USD	487,470	USD	69,171	Provided as collateral to LNG sales revenue account, Coral South FLNG S.A and Coral South FLNG DMCC shares owned by KG Mozambique Ltd to the project finance lender[2]
	2017.09.20				USD	14	

[1] The Group provide stocks KOGAMEX Investment Manzanillo B.V's stocks as collateral for Terminal KMS de GNL, S. De R.L. de C.V.'s project financing
[2] This collateral is provided from the date of the related collateral agreement to the completion date of repayment of lenders' principal and interest. The effect of the collateral agreement is forfeited when principal and interests are fully repaid at the request of the lenders before the financial completion date.

9) Key management compensation for the years ended December 31, 2022 and 2021, consists of (Korean won in millions):

	2022	2021
Short-term employee benefits	₩ 2,770	₩ 2,789
Retirement benefits	95	92
	₩ 2,865	₩ 2,881

49. Non-cash transactions

(1) The significant non-cash transactions for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022	2021
Transfer of construction-in-progress to property, plant and equipment	₩ 404,939	₩ 316,184
Transfer of current portion of debentures	1,928,660	1,895,200
Transfer of current portion of lease liabilities	266,089	204,515
Transfer of current portion of long-term loans	187	235
Increase in lease liabilities due to increase in right-of-sue assets	22,710	36,099

50. Adjustment in liabilities arising from financing activities

Changes in liabilities arising from financing activities for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	2022			
	Current portion of lease liabilities	Non-current portion of lease liabilities	Short-term borrowings	Current portion of debentures
Beginning balance	₩ 268,784	₩ 1,777,521	₩ 7,832,479	₩ 1,933,815
Cash flows	(158,502)	-	15,879,241	(1,985,960)
Acquisition-new leases	2,602	20,108	-	-
Exchange differences	208	121,606	(110,643)	80,656
Other non-financial changes	265,831	(266,633)	-	1,929,329
Ending balance	₩ 378,923	₩ 1,652,602	₩ 23,601,077	₩ 1,957,840

	2022				
	Long-term borrowings	Debentures	Current portion of derivative liabilities (assets)	Non-current portion of derivative liabilities (assets)	Total
Beginning balance	₩ 179,480	₩ 16,240,964	₩ -	(52,157)	₩ 28,180,886
Cash flows	(27)	2,348,099	-	-	16,082,851
Acquisition-new leases	-	-	-	-	22,710
Exchange differences	12,135	433,481	(31,501)	6,142	512,084
Other non-financial changes	556	(1,922,052)	(54,120)	54,120	7,031
Ending balance	₩ 192,144	₩ 17,100,492	₩ (85,621)	8,105	₩ 44,805,562

50. Adjustment in liabilities arising from financing activities (cont'd)

	2021			
	Current portion of lease liabilities	Non-current portion of lease liabilities	Short-term borrowings	Current portion of debentures
Beginning balance	₩ 208,108	₩ 1,792,939	₩ 3,110,297	₩ 2,003,645
Cash flows	(135,038)	-	4,002,864	(2,004,000)
Acquisition-new leases	1,834	23,906	-	-
Exchange differences	129	156,067	119,318	39,000
Other non-financial changes	193,751	(195,391)	600,000	1,895,170
Ending balance	₩ 268,784	₩ 1,777,521	₩ 7,832,479	₩ 1,933,815

	2021				
	Long-term borrowings	Debentures	Current portion of derivative liabilities (assets)	Non-current portion of derivative liabilities (assets)	Total
Beginning balance	₩ 760,983	₩ 16,285,136	₩ -	(10,867)	₩ 24,150,241
Cash flows	3,951	1,310,741	-	-	3,178,518
Acquisition-new leases	-	-	-	-	25,740
Exchange differences	14,469	533,584	-	(41,290)	821,277
Other non-financial changes	(599,923)	(1,888,497)	-	-	5,110
Ending balance	₩ 179,480	₩ 16,240,964	₩ -	(52,157)	₩ 28,180,886

51. Purchase agreements

(1) As of December 31, 2022, the Group has acquisition commitments for up to ₩1,594,353 million (₩716,271 million as of December 31, 2021) for major construction projects.

(2) The Group's inventory purchase contracts as of December 31, 2022, are as follows (Tons in thousands):

	Contract period	Total contract quantity
Malaysia LNG Sdn. Bhd.	2008~2028	2,000
	1999~2024	4,920
Rasgas Company Limited	2007~2026	2,100
	2013~2032	2,000
Qatar Petroleum	2025~2044	2,000
Oman LNG L.L.C.	2000~2024	4,060
Sakhalin Energy Investment Company Ltd.	2008~2028	1,500
Petronas LNG	2023~2039	1,155
Gladstone LNG	2016~2036	3,500
Shell Eastern Trading (Pte.) Ltd.	2013~2038	3,640
	2024~2039	150
	2026~2034	320
	2027~2036	280
Total Gas & Power Limited	2014~2031	2,000
TOTALENERGIES GAS & POWER LIMITED	2021~2025	200
Sabine Pass LNG	2017~2037	2,800
PT Donggi Senoro LNG	2015~2027	700
BP Singapore Pte. Limited	2025~2039	1,580

(3) As of December 31, 2022, the shareholders of KG-SEAGP Company Limited, the subsidiary of the Corporation, consist of the Corporation and PEF. The Corporation may exercise the redemption right to the preferred stock of PEF after 7 years (expected in 2023) from the issuance date (2016). If the right is not exercised, the PEF may sell its preferred stock and also the common stock of the Corporation to a third party.

(4) As of December 31, 2022, the shareholders of KG Myanmar Ltd., the subsidiary of the Corporation, consist of the Group and trustees. The Group may exercise the redemption right to the preferred stock of trustees after 7 years (expected in 2024) from the issuance date (2017). If the right is not exercised, trustees have a right to sell their preferred stock and also the common stock owned by the Group to a third party.

(5) As of December 31, 2022, the Group has entered purchase agreements in relation to overseas resource development.

52. Commitments and contingencies

(1) The Group is involved in various lawsuits and claims for alleged damages totaling ₩ 161,249 million and AUD 213 million as of December 31, 2022, and ₩ 134,023 million, AUD 213 million, USD 6 million as of December 31, 2021, which arose in the ordinary course of business. The Group lost the first trial which is related to the compensation for damages related to Sabin Pass Membrane Supply Contract with Samsung Heavy Industries. As a result, the Group recognized ₩ 10,328 million as a provision for lawsuit as of December 31, 2022. Santos Australia PTY LTD. lost the second trial of a lawsuit on royalty calculations in the Harris County District Court on March 11, 2021. As a result, the Group recorded for the JVP's share of ₩ 9,174 million as provision for lawsuit.

The management expects that the lawsuits and claims will not have a materially adverse effect on the Group's financial position, operating result or cash flows, except for the two cases mentioned above. It is possible that additional losses could occur depending on the results of the lawsuits.

(2) As of December 31, 2022, the Group has provided guarantees for others excluding related parties, on the payment of debts amounting to USD 74,522 thousand, CAD 1,785,318 thousand, EUR 1,540 thousand, and ₩ 55,400 million (USD 74,484 thousand, CAD 1,600,578 thousand, EUR 1,540 thousand and ₩ 55,400 million as of December 31, 2021).

(3) Details of collateralized amounts of the Group as of December 31, 2022, are as follows (Korean won in millions and US dollars in thousands):

Beneficiary	Commence-ment date	Maturity date	Collateralized amount		Carrying amount		Remark
ING Bank N.V	2013.01.14	2027.06.20	USD	310,140 [1]	₩	798,372	Kor-Uz Gas Chemical LLC invested by Kor-Uz Gas Chemical Investment Ltd. holds Kor-Uz Gas Chemical Investment Ltd in connection with borrowings from major shareholders. Provide shares and all rights thereof as collateral.[2]
Bank of Tokyo Mitsubishi	2008.05.19	Until the completion of the obligation performance (2027 is the expected year.)	USD	2		61,613[3]	Providing guarantees to perform obligations related to PF of YLNG (The PF balance, which is equivalent to the construction share at the end of December 31, 2022, is USD 77,041 thousand)
			Equity Funding			40,350[4]	
Shell Canada Energy, Diamond LNG Canada Ltd., Brion Kitmat LNG partnership	2014.05.01	Until the end of the guarantee obligation	USD	854,179	USD	852,301	Providing project tangible and intangible assets as guarantees to partner company of LNG Canada business
The Korea Development Bank	2021.11.29	2022.11.29	₩	1,160	₩	963	Provision of patent security for interest rate reduction purposes upon loan

[1] The collateralized amount is subject to change based on the future investment plan.
[2] The lenders are under negotiation between stakeholders as a delay of opening letters of credit and overdue of payments relating to gas sales and purchase transactions between Uz-Kor Gas Chemical LLC, a seller, and Uztransgaz, a buyer, fall under a default condition
[3] The book amount of the equity instrument as of December 31, 2022, which is classified to Financial assets measured at fair value through non-current comprehensive income, is evaluated at fair-value.
[4] The carrying amount of loan as of December 31, 2022.

52. Commitments and contingencies (cont'd)

(4) Details of commitments held by the Group as of December 31, 2022, are as follows (Korean won in millions, US dollars, Canadian dollars, Euros, Australian dollars in thousands):

	Financial institution	Limit		Amount	
Corporate card	KEB Hana Bank and another	KRW	4,680	KRW	1,820
Foreign currency loan	The Korea Development Bank and others	USD	6,332,854	USD	5,189,666
Daily bank overdraft	KEB Hana Bank	KRW	200,000	KRW	-
Bank overdraft	Daegu Bank and others	KRW	200,000	KRW	148,500
General loan	KEB Hana Bank and others	KRW	2,347,000	KRW	1,639,750
Foreign currency commitment	KEB Hana Bank and others	CAD	6,398	CAD	6,398
		USD	673,754	USD	612,259
		EUR	1,540	EUR	-
Commitment to acquire commercial paper	KEB Hana Bank	KRW	1,200,000	KRW	1,200,000
Win-win growth commitments	KEB Hana Bank	KRW	13,000	KRW	-
Commitment related to imported L/C	KEB Hana Bank and others	USD	350,500	EUR	-
				USD	544
				JPY	-
				GBP	-
		CAD	3,158	CAD	3,158
Performance guarantees	Seoul Guarantee Insurance and others	USD	9,985	USD	9,985
		AUD	56,447	AUD	52,106
		KRW	123,073	KRW	84,186
Industrial operation loan	The Korea Development Bank	KRW	1,763	KRW	963
Win-win payment loan	Industrial Bank of Korea	KRW	3,000	KRW	-

(5) As of December 31, 2022, the Group has provided LOU (Letter of Undertaking) for 13 of the transporters currently in operation or planned to be introduced. If the transporter fails to fulfill the requirements under the contract, the Corporation will be liable for any obligations related to execution of the contract. The Group accounts for a lease liability of KRW 1,879,876 million related to the contract of long-term transportation as of December 31, 2022 (2021: KRW 1,893,477 million).

(6) Uncertainty related to COVID-19

The Group's business performance and related activities, customers and suppliers' business performance, and related activities are significantly affected by economic factors beyond the Group's control, such as crude oil and natural gas market conditions, long-term price forecasts, credit spread, risk-free interest rates, and market risk premiums of the countries in which major business is operated. These economic factors are significantly affected by the global economic downturn due to global public health threats, such as the World Health Organization's Pandemic Declaration on Covid-19 in March 2020, and the oil price war between oil-producing countries. The Group conducts continuous monitoring of uncertainty-causing factors such as Covid-19, and the Group will immediately reflect the impact of these factors on the consolidated financial statements if they are reasonably and reliably estimated.

(7) Uncertainty related to staging a coup in Myanmar

In February 2021, the Myanmar military detained a number of senior government officials, including state advisor Aung San Suu Kyi, and declared a state of emergency for one year. In this regard, in preparation for emergencies, the Group maintains a system of constant contact with the operator, and conducts normal business activities by reinforcing local situation monitoring. The financial impact of this is difficult to estimate reasonably and not reflected in the consolidated financial statements.

52. Commitments and contingencies (cont'd)

(8) Uncertainty of the impact of the Ukraine crisis

The armed conflict in Ukraine, which occurred in February 2022, and related sanctions against Russia by the international community, will affect not only the companies subjected to sanctions, but also companies directly or indirectly engaged in business with Ukraine or Russia and being exposed by the industry or economy of Ukraine or Russia.

The Group imports some of the LNG imports from Russia through long-term contracts. Currently, the contract is being implemented normally, but the Corporation is continuously monitoring the situation that may have an impact, such as additional financial sanctions from the international community. As of December 31, 2022, the financial impact cannot be reasonably estimated.

The operation of the Iraqi oil field business, in which the Group's subsidiary, KOGAS Badra B.V. participates, is operated by Gazprom Neft Badra B.V., a grandchild company of Gazprom Neft, an economically sanctioned company. The subsidiary's future operations are expected to be affected by the expansion of sanctions against Russia due to the Ukraine crisis, but the financial impact cannot be estimated reasonably.

The Group's joint venture, Kor-Uz Gas Chemical Investment Ltd.'s polymer sales in Russia and imports of raw materials are expected to be affected by the Ukraine crisis, and in the process of switching sales and suppliers, but the financial impact cannot be reasonably estimated.

(9) Uncertainties related to economic and financial sanctions against Myanmar State Oil and Gas Company (MOGE) by EU

In February 2022, the European Union's economic and financial sanctions were announced against the Myanmar State Oil and Gas Company (MOGE), which owns 15% stake in the Myanmar A-1/A-3 gas field business. The business, in which the Corporation holds 8.5% stake, is operating normally, and the Group is continuously monitoring the situation that may have an impact, such as additional economic and financial sanctions from the international community. As of December 31, 2022, the financial impact cannot be reasonably estimated.

(10) Mozambique Area4 Business Force majeure Notice

MRV, the operator of the Mozambique Area 4 project involving the Group, has notified the Mozambique government of force majeure against some of the obligations of the Area 4 mining rights except Coral FLNG due to worsening security conditions in northern Mozambique's Cabodelgado area.

(11) Due to the approval of the East Timor government on June 24, 2021 and the revision of the PSC on August 20, 2021, the Group was obligated to pay the withdrawal share under the agreement. The limit of amount is USD 3.5 million and it is valid until December 27, 2026.

(12) The Group entered into a settlement agreement (March 2, 2020) with Samsung Engineering for USD 10,000,000 (KOGAS Badra B.V. USD 3,000,000) in connection with Samsung Engineering's claim on CPF-2 (gas treatment facilities). However, under the joint operation agreement, the Group's payment obligation is not determined until the consultation between the Iraq government and the operator is finalized.

(13) KGLNG E&P and KGLNG E&P II have signed a Royalty payment contract with Tri-Star Petroleum Company and one other company in connection with the Australian GLNG mine, and some mining rights and book value of 66,075 million won are required to be agreed upon at disposal.

(14) In March 2019, Ovintiv Inc. (formerly 'Encana'), the business operator of the Hon River project, claimed a refund of the Infrastructure royalty credit (CAD 4,800,000) of which Encana paid in advance to the Group in 2011, as the Infrastructure royalty credit is not feasible. However, the Group and its legal counsel decided that there is no obligation for the Group to refund of the amount.

52. Commitments and contingencies (cont'd)

(15) The Group has signed an agreement with the Canadian government to subsidize a total of CAD 11 million over a four-year period in exchange for promising to manufacture, transport, install and connect four LMS wind turbines, compressor packages and related auxiliary equipment to LNG facilities. The Canadian government may demand repayment of subsidies if certain conditions are not met, and as of December 31, 2022, about 8.55 million CAD of debt could be incurred if consolidated companies have to repay subsidies.

(16) On October 31, 2019, the Group has entered into a MERRF (Marine Emergency Response Research Facility) funding agreement with Gitga'at for the compensation to natives in order proceed the LNG project. The termination fee amounts to CAD 250,000 and paid CAD 145,000 as of December 31, 2022.

(17) In February 2020, the Group signed a contract with General Electric related to LNG Canada business, and the termination fee amounts to CAD 680,000.

(18) In October 2019, the Group participated in Phase 2 Define phase 2 of LNG Canada joint venture, which began operations in November 2019, and if Phase 2 FID fails, the Group have CAD 90,000 contingency obligations related to Phase 2 Define withdrawal.

(19) The Group is required to acquire Marine services during the execution phase of LNG Canada projects to support the operational phase. A written resolution has been signed for the contract signed in 2019, and the contingent liability of the Group for the tugboat is CAD 4.2 million as of December 31, 2022.

(20) As of December 31, 2022, the minimum expenditure obligation of the Group for overseas resource development projects including Cyprus amounts to approximately EUR 15.4 million.

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