56-1 One Report / Annual Report 2023
Sustainability Report Incorporated

PTTEP



JOURNEY TO THE ENDLESS POSSIBILITIES

PTT Exploration and Production Public Company Limited

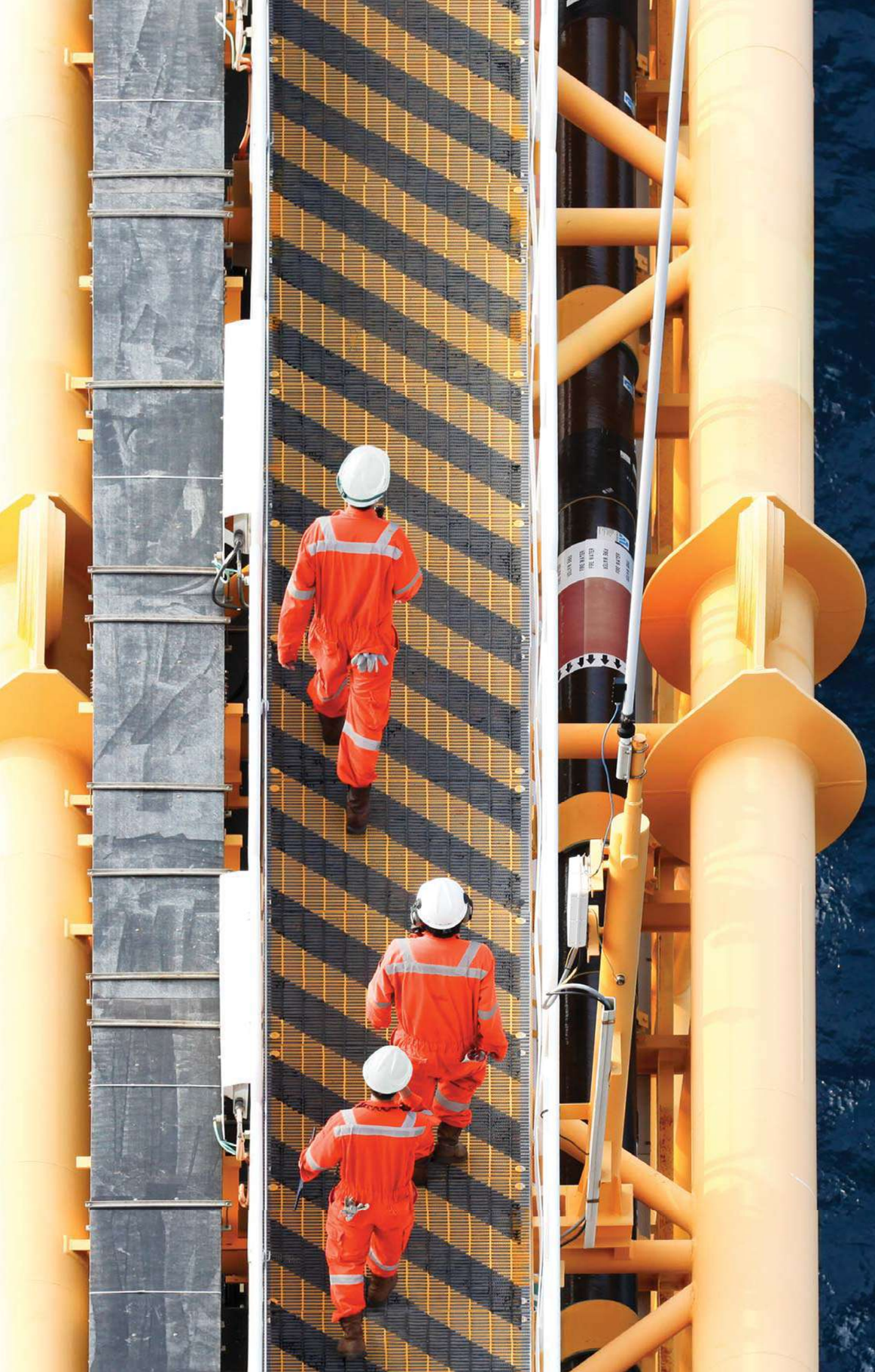
PTTEP
Journey to the Endless Possibilities

PTTEP is committed to ensuring energy security.
However, the challenges of the energy transition
are driving us towards becoming a low-carbon organization
and diversifying into new businesses in response to
the changing demands of the global energy landscape.

DRIVE VALUE
FOR EXCELLENCE

COMMITMENT TO
DECARBONIZATION

DIVERSIFY
FOR THE FUTURE



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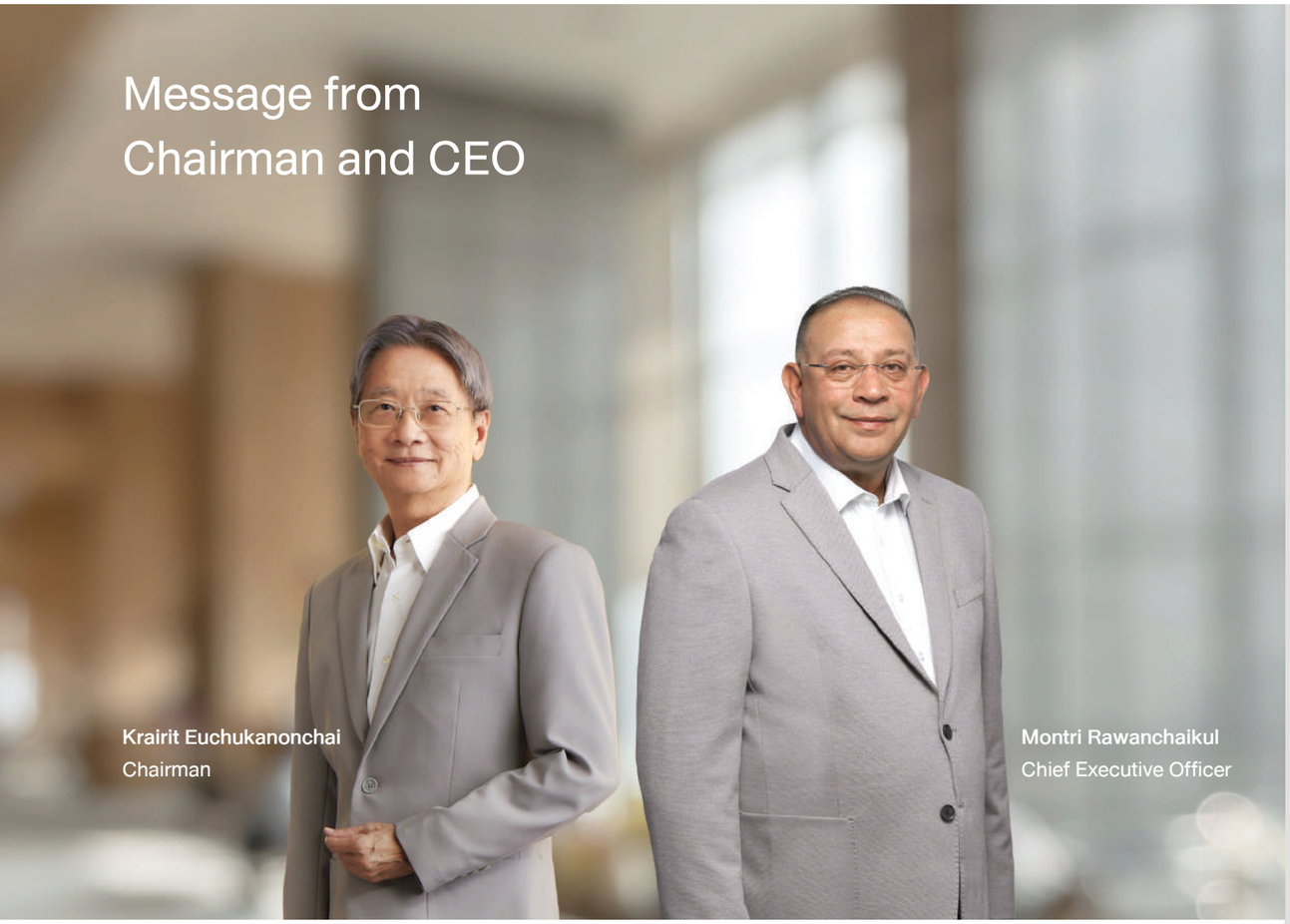
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For cases where this Annual Report (56-1 One Report) references information disclosed on the Company's website the disclosed information shall be deemed to be part of Form 56-1 One Report. The Board of Directors certifies the correctness and completeness of such disclosed information which is the same as information disclosed in Form 56-1 One Report.

Message from Chairman and CEO



Krairit Euchukanonchai
Chairman

Montri Rawanchaikul
Chief Executive Officer

Dear Shareholders,

In the past few years, the climate change has been an important factor in shaping the future of energy industry. Oil and gas companies have set their net zero targets and shifted business strategies in preparation for the energy transition. PTTEP realizes the importance of not only ensuring energy security for the country but also finding balance during the energy transition. We have set forth a strategic framework with three strategy pillars: (1) Drive Value, strengthening and monetizing the petroleum exploration and production business, (2) Decarbonize, reducing greenhouse gas emissions, and (3) Diversify, expanding into new businesses beyond E&P focusing on future energy and advanced technology.

This strategic framework will solidify energy security in the present and at the same time, work towards our target of becoming a low-carbon organization through exploring opportunities in the development of future sustainable energy sources. In 2023, PTTEP witnessed progress in our efforts as follows:

Strengthening Energy Security in the Present

In respect of Thailand's energy security, PTTEP in 2023 accelerated the G1/61 production ramp-up. Four wellhead platforms have been installed in addition to the eight existing ones, more than ten rigs have been prepared to expedite drilling activities of exploration wells, and subsea pipelines have been installed. Our goal is to ramp up gas production to 800 million cubic feet per day by April 2024, as stated in the Production Sharing Contract. The Company also increased gas production from other projects in the Gulf of Thailand namely G2/61 (Bongkot Field) and Arthit Field, to stay above the Daily Contract Quantity in order to minimize the impact from energy prices on the general Thai public.

Furthermore, PTTEP was successful in the 24th round of bidding for petroleum exploration and production in the Gulf of Thailand, acquiring two additional blocks: G1/65 and G3/65. Both are located near PTTEP's existing fields, which will accelerate the project development. This will contribute to the energy supply to meet the demands in the future.

Aside from the progress on petroleum exploration and production business in Thailand, PTTEP made several achievements in Malaysia, one of our strategic countries. We became a partner in an exploration and production block and made three oil and gas discoveries in offshore Sarawak. These discoveries include Chenda-1 exploration well in block SK405B, as well as Bangsawan-1 and Babadon-1 exploration wells in block SK438. The development of these fields can be accelerated via a cluster model to rapidly enhance petroleum production and ensure continuous growth for the Company.

PTTEP is not only committed to growing the E&P business for energy security, but also to exemplifying the highest standards in Safety, Security, Health, and Environment (SSHE) through achieving our target of zero incident organization. Our priority remains the management of Safety, Security, Health, and Environment (SSHE). With cooperation from employees, contractors, community around our operating sites and stakeholders, in 2023, PTTEP had an overall improvement in safety performance in various aspects, such as a reduction in statistics for Lost Time Injury Frequency (LTIF) and Total Recordable Incident Rate (TRIR).

Path Towards Net Zero Greenhouse Gas Emissions

Following the announcement to achieve Net Zero Greenhouse Gas (GHG) Emissions by 2050 through the EP Net Zero 2050 concept, PTTEP initiated various projects aimed at reducing GHG emissions. In 2023, the Company has reduced accumulated GHG emissions by more than 2.4 million tonnes of CO_2 equivalent when compared to the GHG emissions intensity from base year 2020.

Looking forward, one crucial initiative to reduce GHG is the Carbon Capture and Storage (CCS) project at Arthit Field in the Gulf of Thailand. Currently, the Front-End Engineering Design has been completed, and it is expected to be operational in 2027. This project aims to reduce carbon dioxide emissions from the production process by approximately 700,000 to 1,000,000 tonnes of CO_2 per annum.

> PTTEP in 2023 accelerated the G1/61 production ramp-up. Four wellhead platforms have been installed in addition to the eight existing ones, more than ten rigs have been prepared to expedite drilling activities of exploration wells, and subsea pipelines have been installed.

To enhance methane management efficiency in support of the Company's Net Zero goal and our commitment to stay at the forefront of the industry, PTTEP signed the Memorandum of Agreement (MoA) to participate in the United Nations Environment Programme (UNEP)'s Oil & Gas Methane Partnership 2.0 (OGMP 2.0). The Company also pledged the Oil & Gas Decarbonization Charter together with 52 global oil and gas companies as part of the United Nations Climate Change Conference (COP28). Under the charter, PTTEP aims for near-zero upstream methane emissions and zero routine flaring by 2030 (according to World Bank's "Zero Routine Flaring by 2030" Initiative).

PTTEP also implemented forest conservation and restoration projects covering more than 29,000 rai of land, to increase the sequestration of atmospheric greenhouse gases and carbon offsetting.

Diversify for Sustainable Future

To drive the business diversification in 2023, PTTEP has established the Technology, Carbon Solutions, and Sustainable Growth Group which will oversee the overall exploration of investment opportunities in clean energy to support the Company's future goal of becoming a low-carbon organization.

In 2023, PTTEP has expanded into clean energy business in various areas. This includes being part of a consortium with five leading global companies, to develop and manage a large-scale green hydrogen production project in the Sultanate of Oman, one of the top potential countries in terms of solar and wind energy. Furthermore, PTTEP has expanded investments in offshore renewable energy for the first time. The Company has invested in the Seagreen Offshore Wind Farm project, the largest offshore wind power plant in Scotland. Upon completion, PTTEP will hold an indirect investment in the project at 25.5 percent proportionately. This investment will generate immediate revenue for the Company. More importantly, participation in these two projects provides opportunities for PTTEP to learn and gain knowledge in the development of new forms of energy and technologies. These advancements will enhance PTTEP's expertise and experience to develop clean energy projects in the future for ensuring the country's energy security.

In Thailand, PTTEP signed a collaborative agreement with Japan-based INPEX Corporation under an international collaboration between the Thai Department of Mineral Fuels (DMF) and Japan Organization for Metals and Energy Security (JOGMEC) to conduct a study on carbon storage potential in the Northern Gulf of Thailand. The cooperation will lay the foundation for potential development of Carbon Capture and Storage (CCS) Hub in the Eastern Economic Corridor of Thailand (EEC), to help reduce industrial emissions and support national commitments towards GHG reduction goals.

Furthermore, PTTEP also launched the "Lan Sang Arun" solar power project in Lan Krabue District, Kamphaeng Phet Province, to harness renewable energy for the petroleum production process in S1 Project. This will help Thailand reduce GHG emissions, comparing to the existing conventional gas-fired power generation.

2023 Earnings

For 2023 financial performance, PTTEP generated a total revenue of THB 315,216 million (equivalent to USD 9,057 million), decreasing by approximately 6 percent from 2022. The average sales volume reached 462,007 barrels of oil equivalent per day (BOED), which is on par with the sales volume in 2022, while the average selling price dropped by 10 percent to USD 48.21 per barrel of oil equivalent (BOE) following a decline of global crude prices. However, the Company recorded significantly lower non-operating expenses, including oil price hedging and impairment charges. This resulted in a net profit of THB 76,706 million (equivalent to USD 2,208 million), around 40 percent of which was from the business expansion in Southeast Asia and the Middle East over the past years.

In 2023, PTTEP paid THB 54,280 million of income tax, royalties, and other remunerations to the government, which supports national development in various areas such as community, education, and research & development (R&D).

On sustainability performance, PTTEP broadened the scope and long-term goals in alignment with the United Nations Sustainable Development Goals. Our sustainability operations significantly support nine SDGs: Goals 3, 7, 8, 9, 12, 13, 14, 15 and 16.

As a result of our determination to operate with concerns about community, society, and the environment, PTTEP received 34 awards and certifications from 22 institutions, at both national and international levels in 2023. For example, inclusion in the Dow Jones Sustainability Indices (DJSI) 2023 – World Oil and Gas Upstream & Integrated Industry for the 9th year, FTSE4Good Index Series; Outstanding Company Performance Awards, Sustainability Awards of Honor, SET Award of Honor: Best Investor Relations, and Best Innovative Company Awards from SET Awards 2023; the highest AAA rating in the SET ESG Rating; Top-tier Award for Human Rights Role Model Organization 2023 for the 5th consecutive year; Corporate Governance recognition with "Excellent" rating (5 symbols) and "Top Quartile" placement in the Corporate Governance Report of Thai Listed Companies 2023; ESG Initiative of the Year; and several other awards for various CSR activities.

On behalf of PTTEP's Board of Directors, Management, and employees, we would like to thank shareholders, suppliers, business partners, financial institutions, public and private organizations, and all stakeholders for continuous support. PTTEP will remain committed to operating for Thailand's energy security and contributing to a good society through our responsibility for the environment, community, and society, aligned with the Company's corporate governance and business ethics, fostering sustainable growth for all.

In 2023, PTTEP paid THB 54,280 million of income tax, royalties, and other remunerations to the government, which supports national development in various areas such as community, education, and research & development (R&D).



Krairit Euchukanonchai
Chairman

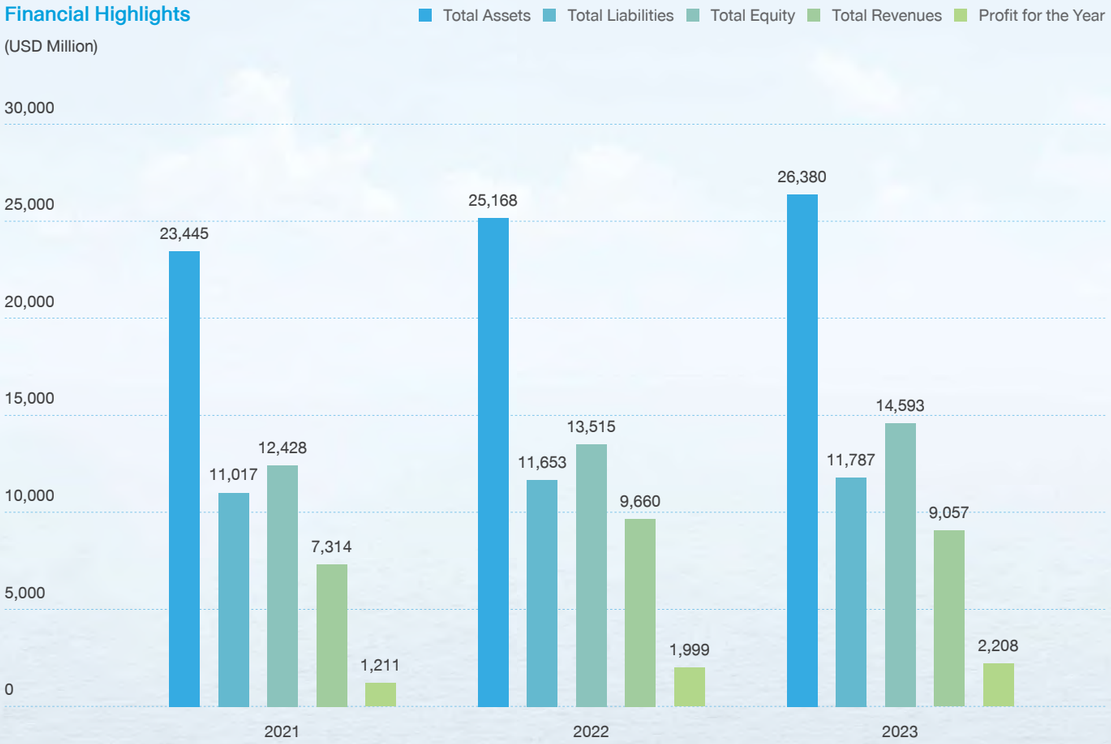


Montri Rawanchaikul
Chief Executive Officer

Financial Highlights

Financial Highlights

(USD Million)



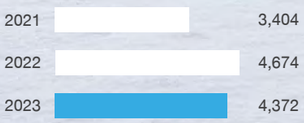
	2021	2022	2023
Dividend per Share (THB)	5.00	9.25	9.50*
Dividend Yield (%)**	4.24	5.24	6.35

* Total dividend of 2023 at the rate of THB 9.50 per share includes the interim dividend at the rate of THB 4.25 per share and the second half-year dividend at the rate of THB 5.25 per share. Payments of the interim dividend and the second half-year dividend will be proposed in 2024 General Shareholder's Meeting on April 1, 2024 for acknowledgment and approval, respectively.

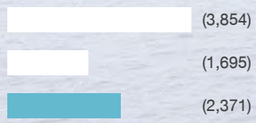
** Calculated from PTTEP's closing share price on the year-end date.

	2021	2022	2023
Financial Ratios			
EBITDA Margin (%)	73	75	74
Debt to Equity (times)	0.33	0.28	0.25
Return on Equity (%)	9.99	15.41	15.71
Return on Assets (%)	5.27	8.22	8.57
Return on Capital Employed (%)	8.15	12.54	13.05

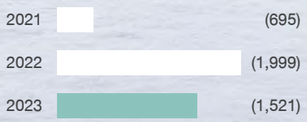
Net cash flows provided by operating activities*



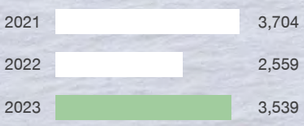
Net cash flows used in investing activities



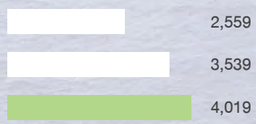
Net cash flows used in financing activities



Cash and cash equivalents at the beginning of the year**



Cash and cash equivalents at the end of the year**



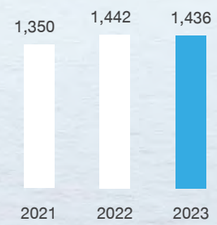
(USD Million)

* Including the impact of exchange rate changes

** Excluding short-term investment

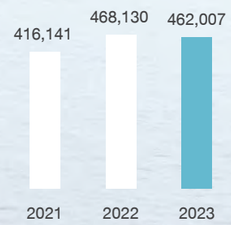
Petroleum Proved Reserves

(MMBOE)



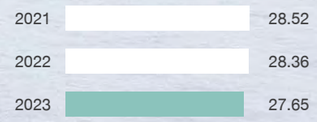
Petroleum and Natural Gas Sales Volume

(BOED)



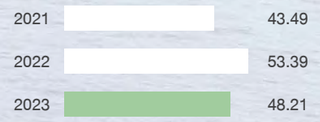
Unit Cost

(USD per BOE)

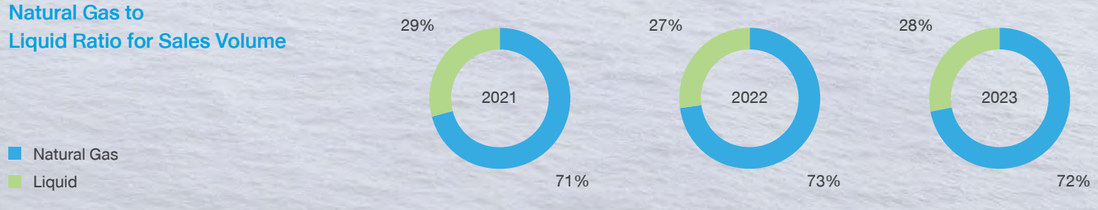


Average Selling Price

(USD per BOE)



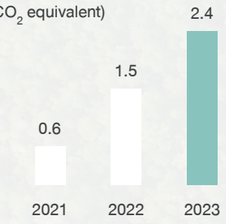
Natural Gas to Liquid Ratio for Sales Volume



Environmental, Social, Governance Highlight Performance

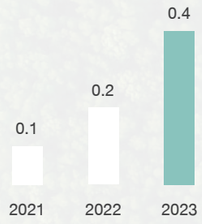
Accumulated GHG emissions reduction, compared to the GHG emissions intensity from base year 2020

(million tonnes of CO_2 equivalent)



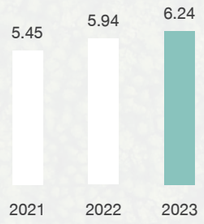
Waste diverted from disposal

(million tonnes)



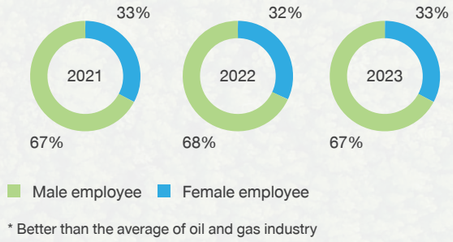
Employees' competency increased, compared to employees' competency in the previous year

(%)



Ratio of female employees*

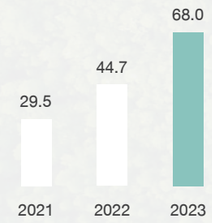
(%)



* Better than the average of oil and gas industry

Achieved Net Positive Impact (NPI) on ocean Biodiversity and Ecosystem Services (BES) values for offshore operations, compared to base year 2019

(% progress)



Hazardous waste to landfill for operations in Thailand

(tonne)

Produced water discharge to environment for operations in Thailand

(cubic meter)

2021
2022
2023

= 0

Safety performance

	2021	2022	2023
Lost Time Injury Frequency (LTIF)* (per one million man hours worked)	0.16	0.15	0.10
Total Recordable Incident Rate (TRIR)* (per one million man hours worked)	0.74	0.88	0.61

* Better than the latest average performance of IOGP

Capital expenditure (CAPEX) budget allocated to energy transition business

(million USD)

29.5

Technology projects in development phase

(no. of projects)

58

GRC maturity level

3.84/5

(Managed – Transform Level)

Breaches of information security

(no. of cases)

0

Community engagement score

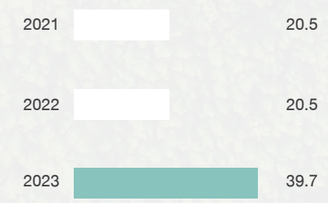
2.52/4

Average social return on investment from strategic CSR projects

3.43 : 1

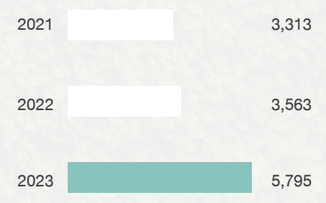
Increased income of focused communities participating in PTTEP projects, compared to baseline data before PTTEP project implementation

(%)



Conservation networks established

(no. of networks)



Value Creation

	Financial Capital	Production Capital	Human Capital	Intellectual Capital	Social and Relationship Capital, and Natural Resources Capital
Input	• Interest-bearing liabilities: USD 3,654 million • Debt to equity ratio: 0.25 times (Policy <0.5 times) • Shareholders' equity: USD 14,593 million (Ordinary shares 3,969,985,400 shares)	• Over 50 projects in 12 countries • Unit cost: USD 27.65 per barrel of oil equivalent • Net procurement value: USD 2,347 million • Over 450 initiatives for efficiency improvement and cost reduction	• 5,363 employees of more than 22 nationalities • Average 56 hours per year for employees' development and training • Total spending on training and development: THB 353.5 million • 2,238 suppliers • Suppliers, dealers and business partners' skills and experiences	• Total spending on technology and innovation development: USD 11.5 million including technology related to greenhouse gas (GHG) management at USD 2.2 million • Capital expenditure (CAPEX) budget allocated to energy transition business: USD 29.5 million • Collaboration with over 40 external organizations on technology and innovation development	• Total spending on CSR projects: USD 11.1 million • Employee volunteering on CSR projects more than 18,175.3 hours • Total spending on CSR projects in 4 aspects – basic needs, education, environment and culture: USD 9.9 million • CSR projects and activities • Donations to support stakeholders' expectations • Total spending on Sustainable Community around the Ocean workstream under Ocean for Life strategy: USD 1.4 million • 6 flagship projects • 29 community networks support for conservation activities in Songkhla, Pattani, Nakhon Si Thammarat, Surat Thani, Prachuap Khiri Khan, Chumphon, Rayong, Phetchaburi, Samut Songkhram, Samut Sakhon, Samut Prakan, Chon Buri, Chanthaburi and Narathiwat provinces • Total spending on Sustainable Ocean Health workstream under Ocean for Life strategy including PTTEP Ocean Data Platform: USD 1.2 million • Total spending on GHG management: USD 22.0 million • GHG emissions reduction projects: USD 18.0 million • Offsetting projects through blue carbon: USD 4.0 million • Total spending on environmental management: USD 113.9 million • Energy consumption: 54.28 million gigajoules • Water consumption: 84.78 million cubic meters
Process					
	Vision **Energy Partner of Choice** through competitive performance and innovation for long-term value creation	**Sustainability Framework** GRC HPO SVC Sustainability	**Business Strategic Pillars** • Drive Value • Decarbonize • Diversify		
Output	• Total revenue: USD 9,057 million • Sale volume: 462,007 barrels of oil equivalent per day • Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA): USD 6,433 million • Net income: USD 2,208 million • Royalty and income taxes: USD 1,920 million • Dividend payout ratio: 49%, or Dividend yield: 6.35% • Return on Capital Employed (ROCE): 13.05% • Credit ratings: BBB+ (S&P), Baa1 (Moody's), BBB+ (Fitch), AAA (TRIS)	• More than 635,000 barrels of oil equivalent per day (historically highest production volume) with 74% natural gas • Crude oil, condensate and LPG production: 60 million barrels of oil equivalent • Natural gas production reaching 1,073 billion cubic feet (191 million barrels of oil equivalent) • Proved reserves: 1,436 million barrels of oil equivalent with 72% natural gas	• Lost Time Injury Frequency (LTIF) and Total Recordable Incident Rate (TRIR) at 0.10 and 0.61 (No. per million manhours) respectively • Loss of Primary Containment Rate (LOPC) 0.05 per one million man hours worked and Oil and Chemical Spill Rate 0.22 tonnes per million tonnes of production • 100% of individual competency reviewed, 91% completing individual development plan • Employees' competency increased by 6.24% compared to 2022 employees' competency • 74% employee engagement score • 33% female employee ratio, better than the average of oil and gas industry • 93% local employment ratio, average from every country where PTTEP operates • 100% of employees completing training and maintaining acknowledgement on Good Corporate Governance and Business Ethics (CG&BE)	• 58 technology projects in development phase • Accumulated 18 projects implemented with a return of USD 240 million • Accumulated intellectual properties (29 granted patents, 9 registered software copyrights, 63 pending patent applications) • Current new businesses: AI and robotics business, green hydrogen production and renewable energy power plant • Expected new businesses: CCS, green methanol production and gas-to-power/LNG-to-power power plant	• 152 CSR projects in 4 aspects – basic needs, education, environment and culture • Average social return on investment 3.43 : 1 from strategic CSR projects • Achieved Net Positive Impact on Ocean Biodiversity and Ecosystem Services (BES) values for offshore operations: 68% (compared to base year 2019) • Increased income of focused communities participating in PTTEP projects: more than 39% (compared to baseline data before PTTEP project implementation) • 5,795 of conservation networks established • PTTEP Ocean Data Platform that includes meteorological and oceanographic data and PTTEP's project implementation with more than 8,000 views • Accumulated GHG emissions reduction by more than 2.4 million tonnes of CO_2 equivalent when compared to the GHG emissions intensity from base year 2020 • 2023 GHG emissions reduction of more than 0.9 million tonnes of CO_2 equivalent (GHG emissions intensity reduction by 12.3% from base year 2020) • Energy consumption and energy recovery reduction: 4.89 million gigajoules • Zero produced water discharge to environment* • Zero hazardous waste and industrial waste to landfill* • Waste diverted from disposal: 0.4 million tonnes
Stakeholder Groups	Government Agencies and Regulators; Suppliers and Contractors; Customers; Employees and Directors; Shareholders and Financial Institutions; Business Partners and Joint Ventures; Communities and Society; Media				

* For operations in Thailand only

Stakeholders' Voices

PTTEP prioritizes perceptions towards the Company's business operations among 8 stakeholder groups, which consist of (1) Government Agencies and Regulators (2) Suppliers and Contractors (3) Customers (4) Employees and Directors (5) Shareholders and Financial Institutions (6) Business Partners and Joint Ventures (7) Communities and Society (8) Media, gained through stakeholder engagement. The objectives of stakeholder engagement are to exchange and solicit their perceptions and expectations so that appropriate measures can be further defined.

PTTEP incorporates global trends and sustainability issues related to oil and gas industry as initial inputs for stakeholder engagement and analysis. Together with the issues raised by stakeholders, they serve as essential inputs for materiality assessment and play a crucial role in shaping corporate strategies, aiming to enhance the efficiency of our business operations and public disclosures.

For more details about stakeholder engagement and channels, please visit PTTEP website, "Sustainability" topic, "Stakeholder Management" sub-topic. Click here for more information.

Mr. Witsarut Thungsuntonkhun

Director, Petroleum Technology and Operations Supervision Division
Department of Mineral Fuels

PTTEP has thus far been a robust partner of the Department of Mineral Fuels, as the Company is committed to ensuring energy security and sustainability for Thailand. PTTEP has demonstrated resilience, expertise, and efficiency in tackling energy transitions, notably in Carbon Capture and Storage (CCS) project development.



Mr. Martin White

Asia Pacific Vice President
Halliburton Energy Services Inc.

PTTEP is committed to Business Model Resilience across the value chain. The Company has excelled in balancing a mission to supply energy and a commitment to conducting its business responsibly. At the same time, PTTEP is aware of how important the supply chain is to their business. They do not take their suppliers for granted, but listen to their challenges, and work closely with them.



Mr. Prasertsak Cherngchawano

Former Deputy Governor – Strategy
Electricity Generating Authority of Thailand

To achieve Carbon Neutrality and Net Zero targets of Thailand, PTTEP focuses on the development of Carbon Capture and Storage (CCS) technology. This effort is poised to benefit both electricity generation and petroleum production industries, representing synergistic approach towards sustainability.



Admiral Tanarat Ubol

Chairman of the Corporate Governance and Sustainable Development Committee (April–August 2023)
PTT Exploration and Production Public Company Limited

Clear strategies and objectives, together with a commitment to operational excellence by all management and employees, including leveraging knowledge and expertise of personnel to efficiently develop innovative technologies, serve to reinforce PTTEP as a leading company in sustainability, both at national and global levels.



Ms. Chanaphan Ekchookiat

First Vice President,
Senior Relationship Manager
Krung Thai Bank
Public Company Limited



PTTEP excels in its operations across economic, environmental, and social aspects. Its relentless efforts towards technology and innovation for digital transformation, environmental management excellence; particularly as a leading company in driving decarbonization, as well as human capital empowerment, reinforce confidence in PTTEP's potential to grow and thrive with stability and sustainability.



Mr. Raviwat Thaleongchok

Executive Vice President,
Corporate Strategy and Financial
PTT LNG Co., Ltd.

PTTEP, as an operator in the country's upstream energy sector, places significant emphasis on the development of new technologies and innovations as well as the management of risks and supply chain to foster energy security and stability.

Mr. Smitthi Harueanphuech

Director of Special Projects
Mae Fah Luang Foundation under Royal Patronage

Being resolute amid challenges in developing technologies and innovations to create new business opportunities is crucial, especially in the face of climate change impacts. PTTEP not only focuses on fostering sustainability in the business but also aims to simultaneously expand it into social and environmental dimensions.



Mr. Chamnan Manin

Manager
Phang-sai Crab and Aquatic Animals Hatchery Learning Center

For over a decade, PTTEP has genuinely and consistently engaged in community development through various social initiatives focusing on basic needs, education, environment and culture. These efforts have earned the communities' recognition as a true contributor.



Mr. Supachai Pokpong

Executive Editor
Kaohoon

Living up to its commitment to fostering research, technologies, and innovations while actively contributing to communities and the society, PTTEP is set for steady growth, boosting investors' confidence.



Awards of Success

In the year 2023, PTTEP received a total of 34 awards and certifications in various areas, from 22 institutions, at both national and international levels.

22 institutions | **34** awards

Business Management Awards

Thailand Top CEO of the Year 2023 award in the Natural Resource Exploration and Production, and Utility category

2 Human Resource Management Awards from Thailand Best Employer Brand Awards 2023 in the categories of Best HR Strategy in line with Businessand Managing Health at Work

HR Excellence Awards 2023 in the Catagory of Excellence in Hybrid Working

Best CEO in Visionary Leadership in Sustainable Energy from the Bangkok Post CEO of the Year 2023 awards

Outstanding Company Performance Awards from SET Awards 2023

Thailand Corporate Excellence Awards 2023 in the category of Financial Management Excellence

Innovation and Technology Awards

Best Innovative Company from SET Awards 2023

SETA Energy Awards 2023 in the Carbon Reduction category from PTTEP's implementation of strategies in pursuit of the EP Net Zero 2050 goal as well as our development of relevant technologies and innovations

Gold Award for Southeast Asia MIKE 2022 and the Most Outstanding Winners of the Global Most Innovative Knowledge Enterprise (MIKE) Award 2023

Investor Relations and Corporate Governance Awards

SET Award of Honor: Best Investor Relations from SET Awards 2023

3 awards from IR Magazine Forum & Awards – Southeast Asia 2023, in the categories of Best Investor Event, Best Use of Multimedia for IR, and Rising Star

3 awards from the IAA Awards for Listed Companies 2022-2023, namely Outstanding CEO, Outstanding CFO, and Best IR for the 2nd consecutive year

5 awards from the 13th Asian Excellence Awards 2023, namely Asia's Best CEO for the 6th consecutive year, Asia's Best CFO for the 10th consecutive year, Best Investor Relations Company (Thailand) for the 11th consecutive year, Best Investor Relations Professional for the 3rd consecutive year, and Best Environmental Responsibility

Corporate Governance recognition with the highest-level rating of "Excellent" or five symbols, along with Top Quartile placement among the listed companies whose market capitalization values exceed THB 10,000 million from the Thai Institute of Directors (IOD)'s Corporate Governance Report of Thai Listed Companies 2023 (CGR 2023)

Commendation Award from NACC Integrity Awards

Sustainability and Social Development Awards

Member of the 2023 Dow Jones Sustainability Indices (DJSI) for the 9th time in the DJSI World Index, and listed in the S&P Global Sustainability Yearbook in the Oil and Gas Upstream & Integrated Industry, for the 10th consecutive year

Member of
Dow Jones Sustainability Indices
Powered by the S&P Global CSA

Sustainability Yearbook Member
S&P Global

Recognized as an ESG Industry Top-rated Company in Oil & Gas Producers by Morningstar Sustainalytics

SUSTAINALYTICS 2023
ESG INDUSTRY TOP RATED

Member of the FTSE4Good Index Series for the 8th consecutive year

FTSE4Good

Rated at A Level by the MSCI ESG Ratings

MSCI

Rated at Management Level (B-List) in Climate Change Management and Water Management by CDP

CDP
DISCLOSURE INSIGHT ACTION

One of the 25 organizations in Asia honored with Steward Leadership 25 (SL25) Award, for the Ocean for Life strategy, creating sustainable value to stakeholders, society and the environment

STEWARD LEADERSHIP 25

International Green Apple Awards for Environmental Best Practice 2023 in Environmental Improvement, from PTTEP's reforestation of 105,000 rai o f land covering 27 provinces in Thailand

GREEN APPLE ENVIRONMENT AWARDS
FOR HELPING THE ENVIRONMENT
WINNER 2023

Green World Awards 2023 in Global Silver Winner, Science – CSR category, through the H.T.M.S. Underwater Learning Site project, generating income for local communities through tourism through man-made diving sites

GREEN WORLD AWARDS

Real Impact Awards 2022, from the implementation of CSR projects under the Ocean for Life strategy

Real Impact Awards 2565

Environmental Initiative Award from the 2023 SEAL Business Sustainability Awards, for the H.T.M.S. Underwater Learning Site project

SEAL
AWARD WINNER
2023

ESG Initiative of the Year (for companies in energy sector) from the Asian Oil & Gas Awards, through PTTEP's commitment to environmental, social and governance balance

ASIAN OIL&GAS AWARDS 2023

Sustainability Award of Honor for the 2nd consecutive year, with the highest AAA rating in the SET ESG Rating by the Stock Exchange of Thailand

SET AWARDS
SET AAA ESG Ratings 2023

Top-tier Award for 2023 Role Model Organization on Human Rights in State Enterprise sector for the 5th consecutive year from the Department of Rights and Liberties Protection, Ministry of Justice

Part

1

Structure and Business Operations

Amidst a rapidly changing global landscape, a focus has been placed on the energy industry, which as a group has made it a priority to find solutions for global warming. PTTEP, as Thailand's leading petroleum exploration and production company, remains committed to building national energy security through the value enhancement of our core exploration and production business. However, the challenges of the energy transition have required us to retool our capabilities as we strive towards becoming a low-carbon organization, and achieving our goal of Net Zero Greenhouse Gas Emissions. As part of this recalibration and simultaneously in response to the changing demands of the global energy landscape, we are diversifying into new businesses with a focus on innovative technology, decarbonization, and future energy. This strategic shift will continue to deliver shared value to all stakeholders on the path towards sustainability.



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1. Structure and Business Operations

1.1 Policy and Business Operation Overview

1.1.1 Vision and Mission

PTTEP is a leading Thai E&P company with global business operations, dedicated to supporting Thailand's energy security and the energy demand of the countries where we operate. We proactively prepare for the coming energy transition by focusing on an integrated natural gas business and related ventures in line with PTTEP Sustainability Framework. This includes managing greenhouse gas emissions, investing in low-carbon and future energy ventures, while striving to create sustainable value for all stakeholders. Our vision, mission, and strategy are defined as follows:



Procedure to Determine the Company's Vision and Mission

PTTEP Board of Directors (Board) annually reviews and approves the Company's vision and mission. The meetings are convened for the Board and management to discuss and redefine the Company's vision and mission including business strategy in alignment with the prevailing business environment. The systematic strategy planning process commences by updating the existing business environment, analyzing the evolving trends within the E&P industry, and assessing their implications on the Company in terms of opportunities and risks as well as integrating stakeholder inputs. In addition, the Company conducts a comprehensive review of our investment portfolio, evaluating both returns and risks. This evaluation serves as a foundation to define the vision, mission, and both short-term and long-term strategic directions to ensure alignment with the changing business landscape. The management will then develop the Company's workplan, budget, and Key Performance Indicators (KPIs), based on the given strategic directions and policies, to be proposed for approval by the Board prior to implementation. Upon approval, they will be cascaded to all relevant functions for detailed plan development to ensure effective implementation.

The Board is accountable for regularly overseeing and monitoring the management's execution of the strategic plans to ensure alignment with the strategic directions while the management is responsible for reporting performance against the strategic plans to the Board for acknowledgment on a quarterly basis.

1.1.2 PTTEP and Sustainability

PTTEP has a firm belief that the “Right Balance” of economic, social, and environmental aspects leads to a strong foundation for business sustainability. We have therefore developed “Sustainability Framework” to steer our business operations. This framework plays a pivotal role in ensuring business continuity to promote energy security while safeguarding both society and the environment. At PTTEP, we realize that it is important to build sustainability from within by fostering strong business performance on a robust business foundation. The goal is to create long-term value for all stakeholders while contributing to the sustainability of society as a whole (From We to World), aligning with our vision to become the “Energy Partner of Choice”.

The Sustainability Framework includes the following aspects: High Performance Organization (HPO); Governance, Risk Management and Compliance (GRC); and Sustainable Value Creation (SVC). The framework supports 17 United Nations Sustainable Development Goals (UN SDGs), focusing on 3, 7, 8, 9, 12, 13, 14, 15 and 16 which are directly related to the Company’s strategies, business operations, and long-term targets.



The Board plays a vital role as leaders and advocates for sustainability to ensure concrete implementation across the organization, guiding PTTEP on the path towards becoming a sustainable organization. While the Board approved the Sustainability Statement as a guideline for all employees and stakeholders, the Corporate Governance and Sustainability Committee is specifically tasked to supervise, promote, monitor and review sustainability performance at least 4 times a year.

In addition, PTTEP has disclosed the Sustainability Policy endorsed by Chief Executive Office on PTTEP website, under the Sustainability Policy and Guidelines sub-topic. Click here for more information To ensure seamless integration of sustainability across PTTEP's business operations, together with continual improvement and effective communication, the Corporate Sustainability Strategy Function bears the responsibility of ensuring effective implementation across all relevant functions. PTTEP Sustainability Governance and Structure can be found on PTTEP website under Sustainability topic, Sustainability Governance Structure sub-topic. Click here for more information

Sustainability Statement

PTTEP's sustainability means being a responsible and resilient organization. We aim to embrace energy transition and create sustainable value to the Company and our stakeholders with commitment to achieving Net Zero Greenhouse Gas Emissions by 2050. Our Sustainability Framework is based on 3 pillars: High Performance Organization (HPO); Governance, Risk Management, and Compliance (GRC); and Sustainable Value Creation (SVC).

While growing our business through the gas value chain, we will diversify beyond E&P with focus on technology and innovation, decarbonization, and future energy. Our competitiveness is driven by robust operations and efficiency improvement. We strive to become a GRC role model and zero incident organization. At PTTEP, we operate responsibly to ensure business sustainability with due care for the community, society and environment.

Approved by PTTEP's Board of Directors on August 19, 2022

Additionally, PTTEP emphasizes the importance of sustainability reporting to publicly disclose the performance of PTTEP's operational control activities in Thailand and overseas, in alignment with the material issues significant to our stakeholders in Environmental, Social and Governance (ESG) dimensions. This reporting complies with the guidelines of Global Reporting Initiative Standards: GRI Standards in "Accordance" criteria under Oil and Gas Sector Disclosures (OGSD): and other international sustainability reporting frameworks. In this report, the information of sustainability reporting contains material issues and outstanding sustainability performance in 2023 in alignment with PTTEP Sustainability Framework and Strategy. Details of the execution and results are published on PTTEP website under Sustainability topic, Click here for more information, which is designed as a centralized information portal for easy and accessible online access. The selected information on safety, occupational health and environment, human resource, and supply chain including the execution details was verified for accuracy and completeness according to AA1000APS principles concerning stakeholders' engagement, the scope of material issues, and responses to stakeholders' expectations. This information received Limited Assurance from KPMG Poomchai Business Advisory Limited. The assurance statement was shown in Assurance Statement sub-topic on PTTEP website. Click here for more information

1.1.3 Materiality Assessment

In 2023, PTTEP assessed and reviewed materiality issues on sustainability including ESG issues based on Double Materiality approach, considering the significance of issues in terms of impact on PTTEP and impact on environment, society (including impacts on human rights) as well as governance and economy, from the perspective of 8 key stakeholder groups: (1) Government Agencies and Regulators (2) Suppliers and Contractors (3) Customers (4) Employees and Directors (5) Shareholders and Financial Institutions (6) Business Partners and Joint Ventures (7) Communities and Society (8) Media. The double-materiality issues were prioritized according to the Global Reporting Initiative Standards: GRI Standards (2021) and AA1000 AccountAbility Principles: AA1000APS (2018). The materiality issues reflected national and international sustainability trends corresponding with the United Nations Sustainable Development Goals and Sustainability Accounting Standards Board's SASB Materiality Map™ for Oil & Gas – Exploration & Production Industry. The materiality assessment results served as part of the crucial inputs for shaping and improving corporate strategies. These results were also integrated into the Enterprise Risk Management process, empowering PTTEP to proactively address any risks related to the Company's sustainability materiality issues. The assessment process can be summarized as follows:

(1) Understanding the Organization's Context

- Review entire business activities, business relationships, sustainability context, and all stakeholders throughout the value chain.
- Review global trends, conduct peer reviews across the industry and engage with relevant stakeholders to predetermine materiality issues.

(2) Identifying Actual and Potential Impacts

- Identify actual and potential impacts of materiality issues encompassing environment, society (including impacts on human rights) as well as governance and economy, which include both positive and negative impacts in the short term and long term, covering all PTTEP's business activities throughout the value chain via conducting an interview session with relevant stakeholders and gathering other perceptions via an online survey.

(3) Assessing the Significance of the Impacts

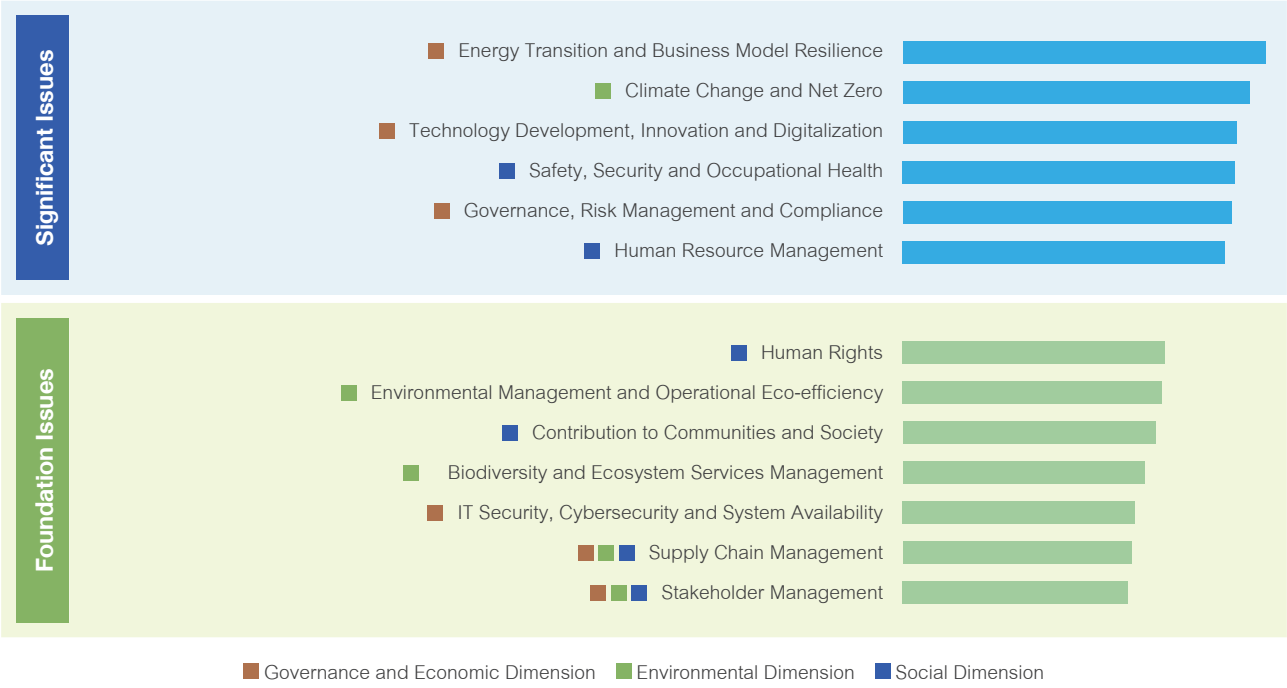
Based on the principles of double materiality, the assessment method is shown as follows:

- Engage with external stakeholders to obtain their perceptions on the Company's impacts on environment, society (including impacts on human rights) as well as governance and economy.
- Engage with internal stakeholders (employee group) to obtain their perceptions on sustainability-related impacts on the Company.
- Assess and determine the significance of identified impacts from stakeholder engagement by considering 2 dimensions: (1) severity (scale, scope, irremediability) and (2) likelihood of the impacts.

(4) Prioritizing the Most Significant Impacts

- Define selection criteria for key materiality issues.
- Validate key materiality issues against external professional views covering ESG dimensions. Then, combine the impact score from expert testing with the score obtained from the stakeholders.
- Propose key sustainability issues (materiality) for approval by the Management Committee and for acknowledgement by the Corporate Governance and Sustainability Committee.
- Incorporate materiality issues as part of the key inputs for shaping and enhancing the Company's sustainability strategy.
- Gather data on sustainability performance across all sustainability issues for public disclosure through diverse channels to efficiently respond to each stakeholder group. Then, collect feedback and recommendations from relevant stakeholders to improve the efficiency of business operations.

Materiality Issues



Full details on materiality assessment result can be found on PTTEP website under Sustainability topic, Sustainability Framework and Strategy sub-topic. Click here for more information

1.1.4 Corporate Strategy and Long-term Target

PTTEP is committed to delivering sustainable value from within to support the wider society (From We to World) and supporting the UN SDGs while considering the benefits of all stakeholders involved. Our corporate strategy is formulated with a focus on ensuring energy security and business resilience to address the ongoing global crisis and navigate the energy transition, together with environmental conservation. Therefore, PTTEP has established a 3-pillar strategic framework and long-term targets encompassing ESG dimensions as follows:

3 Business Strategic Pillars

Drive Value	Decarbonize	Diversify
• Strengthen exploration and production (E&P) and ensure Thailand's energy security • Maximize production • Expedite development • Monetize discovery • Enhance competitiveness of unit cost • Expand gas-weighted portfolio and liquefied natural gas (LNG) in upstream and midstream businesses	• Manage E&P portfolio to avoid increasing GHG emissions • Execute GHG emissions reduction plan • Accelerate Carbon Capture and Storage (CCS) projects • Maximize use of renewables and future energy in operation • Pursue emission offsetting and Ocean for Life	• Scale up AI and Robotics Ventures (ARV) • Develop CCS as a service • Explore hydrogen, and offshore renewables

ESG Long-term Target and SDGs in Focus

• Sustain 5% average production growth (Compound Annual Growth Rate – CAGR) • Maintain reserves to production ratio (R/P) to be greater than 5 years • Maintain competitive unit cost for E&P • Allocate 10% of PTTEP's total capital expenditure (CAPEX) budget for transition business during 2024-2030	• Achieve Net Zero GHG Emissions by 2050 (Scope 1 and Scope 2) of E&P business under PTTEP's operational control • Reduce GHG emissions intensity by at least 30% within 2030 and 50% within 2040 (from base year 2020) • Reduce methane emission intensity to less than 0.2% by 2030 • Reuse at least 50% of main structures, with safety awareness and efficient conditions by 2030 • Achieve zero waste to landfill by 2030	• Achieve Net Positive Impact (NPI) on ocean Biodiversity and Ecosystem Services (BES) value for offshore operations by 2030, compared to base year 2019 • Avoid operation in World Heritage sites as defined by UNESCO • Maintain no gross deforestation for E&P projects • Conserve and restore 256,000 rai of forestations by 2028 • Achieve zero oil and chemical spill • Establish 16,000 conservation networks by 2030	• Become Zero Incident Organization • Achieve community engagement score at 4 (Support) • Achieve 50% increase in income of focused communities participating in PTTEP projects, compared to baseline data before PTTEP project implementation	• Become GRC role model among Thai listed companies • Increase GRC maturity level to the highest level (Advantaged – GRC is part of business operations.) • Achieve zero non-compliance and zero corruption

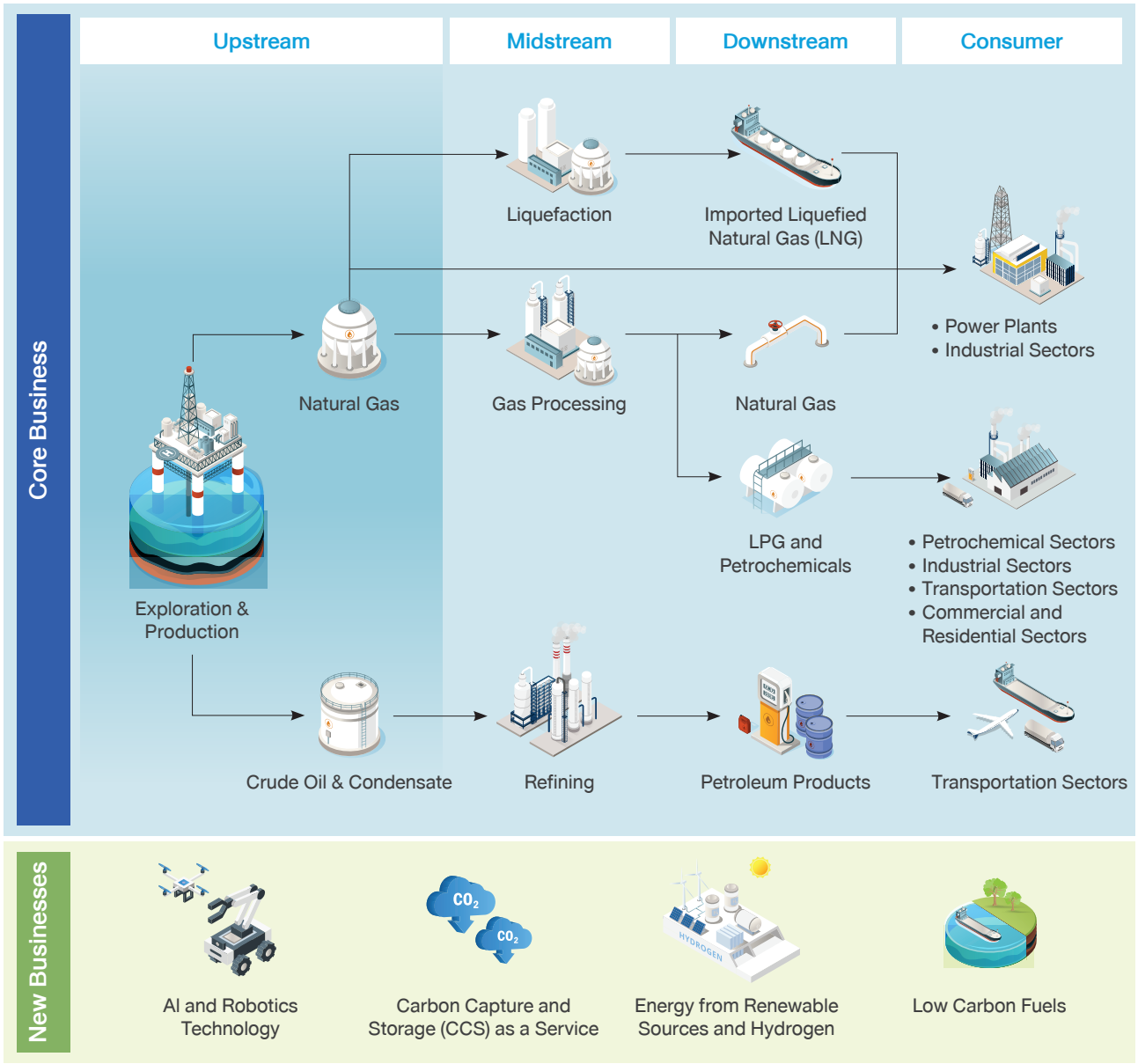
Supporting SDGs

1.2 Nature of Business Operation

1.2.1 Business Value Chain

At present, exploration and production of petroleum in Thailand and overseas are PTTEP Group's core business. This is categorized as an upstream business of Oil and Gas value chain. Major petroleum products consist of natural gas, crude oil, and condensate. PTTEP's mission is to provide reliable energy supply and sustainable value to all stakeholders. PTTEP does not only engage in midstream business and gas transportation pipeline business overseas, but also focuses on new businesses including those related to AI and Robotics technology, Carbon Capture and Storage (CCS) as a service, renewable energy, hydrogen, and low carbon fuels, to support sustainable energy transition in the future.

Diagram of PTTEP Business





1.2.2 Fueling Energy Security and Business Growth

PTTEP conducts business in petroleum exploration and production primarily to support Thailand's energy security and the energy demand of countries where we operate. For Thailand, where natural gas serves as a primary energy source utilized in domestic electricity generation, PTTEP dedicates ourself to natural gas production in the Gulf of Thailand (GoT). Presently, we operate 3 key natural gas projects in the GoT, namely G1/61, G2/61, and Arthit projects.

Despite challenges in accessing the area over the past 2 years, the G1/61 Project successfully expedited drilling and the installation of wellhead platforms. At the end of June 2023, the project managed to ramp up the production from 200 to 400 million standard cubic feet per day (MMSCFD), as targeted, while planning to steadily increase its natural gas production to 800 MMSCFD by 2024.

In 2023, PTTEP successfully accelerated the production of the G2/61 Project to over 825 MMSCFD while the Arthit Project was capable of producing over 327 MMSCFD. Throughout the year, both projects sustained this production level, surpassing the Gas Sales Agreement (GSA) threshold, ultimately minimizing the impact on domestic energy price and ensuring Thailand's energy security.

Besides, due to both domestic and international assets, PTTEP has managed to successfully maintain a unit cost to be at a low level according to the target and hit a historical production volume of more than 635,000 barrels of oil equivalent per day.



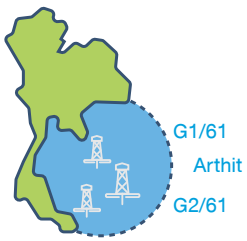
Currently, PTTEP has expanded our business, spanning over 50 petroleum exploration and production projects, both in Thailand and overseas, with priority in 3 key regions: Southeast Asia, the Middle East, and Africa. In pursuit of improved operational efficiency, optimized cost competitiveness, and strengthened adaptability for future changes, PTTEP has actively developed and executed over 60 initiatives to meet these objectives across our domestic and international assets throughout E&P business operations. The highlighted projects in 2023 are shown below:

- Advanced Production Optimization & Asset Performance Management: aiming to increase production, and minimize the chance of unplanned shutdown
- Integrated Platform & Smart Solutions for Machine Diagnostics: aiming to develop an integrated platform and solutions for predictive maintenance (AI-assisted condition-based monitoring) with data analysis, streamlined process for tracking anomalies
- Drilling Well Design Improvement: aiming to streamline drilling well design processes through the integration of advanced digital solutions, focusing on reducing drilling design time
- Automated Well Targeting & Subsurface Enhancement: aiming to enhance effectiveness in field development planning and resources evaluation to ensure cost reduction and reserves increase
- Engineering Design Improvement & Business Corporate Functions: aiming to use an automation system to streamline engineering work while providing data linkage to improve performance efficiency and reduce errors
- Process Improvement to Unlock Full Field Potential: aiming to enhance production volume to maximize gas production capacity in the GoT

Leveraging operational improvement to support business through various initiatives has yielded significant benefits: increased production, cost reduction in both current and future years, cost avoidance, and improved work efficiency. The cumulative net benefit has averaged more than USD 200 million, consistently contributing annually as a result of the implemented solutions.



Historically Highest Production Volume
635,000 barrels
of oil equivalent per day



Natural Gas Production Capacity
from the Gulf of Thailand
Over **1,500** MMSCFD

1.2.3 Development and Significant Changes in the Past 3 Years

Year 2021

On February 6, 2021, PTTEP Sabah Oil Limited (PTTEP SBO), a subsidiary of PTTEP Group, and its joint venture partners completed the first development phase of Malaysia Block H Project. Natural gas production, at depths greater than 1,100 meters from Rotan and Buluh deepwater fields, had commenced. Since then, the project has delivered to the PETRONAS Floating Liquefied Natural Gas-2 (PFLNG2) facility. The production target rate is 270 MMSCFD.

On February 10, 2021, PTTEP Group announced the appraisal drilling well result of Malaysia SK410B Project, located offshore in Sarawak, Malaysia. The appraisal drilling at Lang Lebah-2 followed the gas discovery of the first exploration well in 2019. The appraisal well, Lang Lebah-2, was drilled in September 2020 to a total depth of 4,320 meters with proven capacity of over 600 meters of net gas pay discovered, indicating a larger reservoir than the initial estimate. The drilling result registers a new record for PTTEP Group's largest gas discovery and will increase reserve and support the Company's (long-term) sustainable growth.

On February 24, 2021, PTTEP Group announced the discovery of gas at the Dokong-1, the first exploration well of Malaysia SK417 Project, located offshore in Sarawak, Malaysia. At a total depth of 3,810 meters, the well found 80 meters of net gas pay, indicating gas discovery. This high-quality gas discovery at Dokong-1 presents future synergy development and production opportunity as a cluster development with the previously discovered adjacent Malaysia SK410B Project.

On March 19, 2021, the Federal Court of Australia delivered the class action judgment on the Class Action lawsuit against PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEP AAA), a subsidiary of PTTEP Group, brought by a group of Indonesian seaweed farmers, claiming damages to their seaweed crops caused by the 2009 Montara incident.

On March 23, 2021, the conditions precedent to Completion, as prescribed in the signed Sale and Purchase Agreement (SPA) to acquire 20 percent interest in Oman Block 61 Project, Oman from BP Exploration (Epsilon) Limited through PTTEP MENA Limited (PTTEP MENA), a subsidiary of PTTEP Group, were fulfilled. The acquisition was then completed and effective from such date. This transaction was contemplated by the SPA dated February 1, 2021 with a total transaction value of approximately USD 2,450 million. The Oman Block 61 Project is a producing onshore gas block situated in the central part of Oman.

On March 30, 2021, PTTEP Group announced the discovery of gas at the Sirung-1, the first exploration well of Malaysia SK405B Project, located offshore of Sarawak, Malaysia. At a total depth of 2,538 meters, the well found 100 meters of significant oil and gas sandstone reservoirs. The appraisal well was scheduled to be drilled in 2022 to further affirm the petroleum potential of the field.

On April 26, 2021, PTTEP Group announced the force majeure declaration, made by TotalEnergies (the operator), to suspend operations of the Mozambique Area 1 Project for safety reason. This was due to the security situation in the city of Palma, Mozambique, situated approximately 20 kilometers from the project and construction site. All projects' staff and contractors were unharmed. The Operator had evacuated all staff and contractors out of the area and handed the project site to be under the care of the Government of Mozambique.

On May 19, 2021, PTTEP Group announced the discovery of gas at the Kulintang-1, the first exploration well of Malaysia SK438 Project, located offshore in Sarawak, Malaysia. At a total depth of 2,238 meters, the well found gas reservoirs. The exploration well is scheduled to be drilled to further affirm the petroleum potential of the field.

On June 16, 2021, AI and Robotics Ventures Company Limited (ARV), a company of PTTEP Group, in partnership with Aerodyne Group (Aerodyne) from Malaysia and Digital Creation Co., Ltd. (DC) announced the launch of a joint venture company, AeroSky Solutions Co., Ltd. (AeroSky), with 33 percent shareholding interest by ARV. AeroSky will provide state-of-the-art drone-based enterprise solutions across the Thai market, including clients in the telecoms, electricity, oil & gas, and other infrastructure-led industries. The establishment of this joint venture is in line with the Company's strategy of expanding investment into new businesses through the use of technology and innovation to enhance efficiency and create long-term sustainability.

On September 1, 2021, PTTEP Group, with 24.5 percent participating interests and the operator of Algeria Hassi Bir Rekaiz Project in the People's Democratic Republic of Algeria (Algeria), received approval from the Government of Algeria to acquire the 24.5 percent shareholding interest in the project from partner CNOOC Limited (CNOOC), The shareholding interest of PTTEP Group then increased to 49 percent from such date. SONATRACH, a national oil company of Algeria, is a partner in this project with 51 percent participating interest.

On September 3, 2021, Asia Power and Transportation SG Holding PTE. LTD. (APT) was established, with 100 percent shareholding by EP-Tech Ventures Holding Company Limited (EP-Tech), a subsidiary of PTTEP Group. This is to support future investments of PTTEP Group.

On September 6, 2021, Delta Gas Transportation SG Holding PTE. LTD. (DGH) was established, with 100 percent shareholding by Asia Power and Transportation SG Holding PTE. LTD. (APT), a subsidiary of PTTEP Group. This is to support future investments of PTTEP Group.

On September 17, 2021, Mitsui Oil Exploration Company Limited (MOECO), a partner in the Myanmar M3 Project, notified to withdraw its shareholding interest at 20 percent. The withdrawal was effective on October 31, 2021. As a result, PTTEP International Limited (PTTEPI), a subsidiary of PTTEP Group, will have the shareholding interest at 100 percent in this project. However, the completion of the withdrawal is subject to the approval from the Government of Myanmar.

On September 21, 2021, AI and Robotics Ventures Company Limited (ARV), a subsidiary of PTTEP Group, established 4 subsidiaries to support its business growth plans, namely Rovula (Thailand) Company Limited (Rovula), Skyller Solutions Company Limited (Skyller), Varuna (Thailand) Company Limited (Varuna), and Cariva (Thailand) Company Limited (Cariva). Rovula is focused on using advanced Artificial Intelligence (AI) and robotics to provide end-to-end subsea and marine inspection, repair, and maintenance in the oil and gas industry and beyond. Skyller provides integrated asset inspection and management services via its proprietary platform to industrial asset owners by leveraging multiple fleets from drones to robotics and AI platform-as-a-service (PAAS) into unique solutions. Varuna leverages AI, satellite technology, and unmanned aerial vehicles (UAV) to offer state-of-the-art smart-farming and smart-forestry solutions to farmers and agricultural businesses. Cariva is a health data network which leverages AI, IoT, and robotics to empower and generate health insights for users, both individuals and businesses.

On September 30, 2021, PTTEP Group dissolved an inactive subsidiary, namely PTTEP Semai II Limited, in order to reduce administrative costs with no impact to PTTEP Group's operations.

On October 20, 2021, PTTEP Group dissolved an inactive subsidiary, namely Cove Energy Mozambique Rovuma Onshore Limited (CEMROL), in order to reduce administrative costs with no impact to PTTEP Group's operations.

On October 26-27, 2021, PTTEP Group established 3 subsidiaries to support its future investments, namely FutureTech Energy Ventures Company Limited (FTEV), FutureTech Solar (Thailand) Company Limited (FST), and Delta Gas Transportation Limited (DGT).

On October 29, 2021, the conditions precedent to completion, as prescribed in the signed Sale and Purchase Agreement (SPA) to sell 100 percent interest in Partex Brasil Ltda. and Partex Brasil Operações Petrolíferas Ltda. were fulfilled. The transaction was then completed and effective from such date. This transaction was contemplated by the SPA dated July 30, 2021, entered into by the sellers, Participations and Explorations Corporation, and Partex (Brazil) Corporation, subsidiaries of PTTEP Group. Partex Brasil Ltda. Holds 50 percent participating interests in the Potiguar Project, an onshore oil field located in the northeast of Federative Republic of Brazil (Brazil).

On November 5, 2021, PTTEP Group issued name-registered unsubordinated and unsecured digital debentures to the public for the total amount of THB 6,000 million carrying a step-up interest rate of 2.00-2.75 percent p.a., averaging to 2.25 percent p.a., with a tenor of 5 years. The debentures were Asia's first fully-digitalized corporate bond via Wallet.

On November 19, 2021, PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEP AAA) submitted a request for the relinquishment of AC/L3 Project in Australia, which will be effective after the official approval from the Government of Australia.

On November 22, 2021, the Government of Myanmar approved the relinquishment of exploration blocks of Myanmar M11 Project, at 100 percent participating interest, after fulfillment of the requirements of the Production Sharing Contract, the relinquishment request was submitted in September 2019.

On November 24, 2021, the Government of Myanmar approved the relinquishment of exploration blocks of Myanmar MOGE 3 Project, at 77.5 percent participating interest, after fulfillment of the requirements of the Production Sharing Contract, that the relinquishment request was submitted in July 2020.

On November 30, 2021, PTTEP Group announced successful gas discovery at the second exploration well, Nangka-1, offshore Malaysia SK417 Project, in Sarawak, Malaysia. This came after the gas discovery in Dokong Field was announced in early 2021. The appraisal well will be drilled to affirm the petroleum potential of the field.

On December 3, 2021, PTTEP MENA Limited (PTTEP MENA), a subsidiary of PTTEP Group, signed a Farm-in/Farm-out Agreement to acquire 25 percent stake in the Concession Area C onshore in the Emirate of Sharjah from Eni Sharjah B.V. Area C is an onshore gas and condensate concession block in the exploration phase, situated in the central part of Sharjah, UAE. The acquisition will be completed after fulfilling all conditions in the said agreement and obtaining all necessary government approvals.

On December 13, 2021, PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEP AAA), a subsidiary of PTTEP Group, exercised its right to appeal and filed a Notice of Appeal in the Federal Court of Australia, against the class action lawsuit brought by a group of Indonesian seaweed farmers, claiming damages to their seaweed crops caused by the 2009 Montara incident. On March 19, 2021 and October 25, 2021, the Federal Court of Australia delivered judgements in the class action and the Final Orders were delivered on November 15, 2021.

Year 2022

On January 21, 2022, PTTEP International Limited (PTTEPI), a wholly-owned subsidiary of PTTEP, was notified by TotalEnergies EP Myanmar for its intention to withdraw, as both partner and operator, from Yadana Project and Moattama Gas Transportation Company Limited (MGTC).

On March 1, 2022, the acquisition of 25 percent stake in the Sharjah Onshore Area C Project in UAE from Eni Sharjah B.V. through PTTEP MENA Limited (PTTEP MENA), a subsidiary of PTTEP had been completed.

On March 14, 2022, PTTEP Group announced the change in operatorship of Yadana Project and Moattama Gas Transportation Company Limited (MGTC) to be PTTEP International Limited (PTTEPI), a wholly-owned subsidiary of PTTEP and a partner in the project, with an effective date of July 20, 2022.

On March 22, 2022, PTTEP HK Offshore Limited (PTTEP HKO), a wholly-owned subsidiary of PTTEP Group, and SapuraOMV Upstream (Sarawak) Inc. were awarded the exploration Block SB412, which is located offshore northwest of Sabah, from the Malaysia Bid Round 2021. The consortium had signed a Production Sharing Contract (PSC) with Petroliam Nasional Berhad (PETRONAS), with the participation interests for PTTEP HKO at 60 percent (the operator) and SapuraOMV at 40 percent.

On March 31, 2022, PTTEP Group dissolved an inactive subsidiary, namely PTTEP Sadang Limited, in order to reduce administrative costs with no impact to PTTEP Group's operations.

On April 1, 2022, PTTEP Group dissolved an inactive subsidiary, namely Partex Services Portugal – Serviços para a Indústria Petrolífera, S.A. (PSP), in order to reduce administrative costs with no impact to PTTEP Group's operations.

On April 5, 2022, PTTEP Treasury Center Company Limited (PTTEP TC), a wholly-owned subsidiary of PTTEP Group, had successfully completed the issuance of senior guaranteed debentures with a bondholders' representative to institutional and high net-worth investors, for a total of THB 12,000 million. The debentures have 3 tranches consisting of 5-year tranche totaling THB 5,000 million, 7-year tranche totaling THB 1,000 million, and 10-year tranche totaling THB 6,000 million, carrying the coupon rates of 2.09 percent, 2.69 percent, and 3.05 percent per annum respectively, and are fully guaranteed by PTTEP.

On April 19, 2022, PTTEP Energy Development Company Limited (PTTEP ED), a wholly-owned subsidiary of PTTEP and an operator of G1/61 and G2/61 Project, together with the Department of Mineral Fuels as sellers, entered into Gas Sale Agreement, Condensate Sale Agreement, and Crude Sale Agreement with PTT Public Company Limited. PTTEP ED also reached an agreement with MP G2 (Thailand) Limited, a subsidiary of Mubadala Petroleum (Thailand) Holdings Limited (Mubadala), for PTTEP ED to be a sole investment operator and shall recognize all revenues and costs from the petroleum produced with effective date from December 1, 2021. This will assure continual petroleum production from G1/61 Project per development plan, as well as strengthen the country's energy security.

On April 24, 2022, PTTEP Energy Development Company Limited (PTTEP ED), a wholly-owned subsidiary of PTTEP, became an operator under a Production Sharing Contract of G1/61 and G2/61 projects.

On April 29, 2022, PTTEP International Limited (PTTEPI) and PTTEP Offshore Investment Company Limited (PTTEPO), subsidiaries of PTTEP, notified their decisions to withdraw from Yetagun Project and gas transportation company, Taninthayi Pipeline Company LLC (TPC), to all partners of Yetagun Project, with an effective date on May 31, 2022.

On May 17, 2022, PTTEP Business Center Company Limited (PTTEP BC), a subsidiary of PTTEP, signed the sale and purchase agreement to divest its share in PTT Global LNG Company Limited (PTTGL) to Siam Management Holding Company Limited, a subsidiary of PTT Group.

On June 1, 2022, the Algeria Hassi Bir Rekaiz Project, in partnership with SONATRACH SPA, successfully commenced the production with the oil production target at 13,000 barrels per day.

On July 15, 2022, PTTEP Group dissolved an inactive subsidiary, namely PTTEP FLNG Holding Company Limited (PTTEP FH), in order to reduce administrative costs with no impact to PTTEP Group's operations.

On August 1, 2022, PTTEP Group announced successful gas discovery in a deeper zone, of the first exploration well XF-002 in Abu Dhabi Offshore 2 Project, located in the north-west of Abu Dhabi, UAE. The XF-002 exploration well discovered significant raw gas in place for both shallow and deep target, total approximately 2.5-3.5 trillion cubic feet (TCF). The project will continue drilling nearby prospect to further evaluate potential of the block.

On August 1, 2022, PTTEP Group was informed by PTTEP International Limited (PTTEPI), Yangon Branch, a wholly-owned subsidiary of PTTEP, that there was a leakage at the Zawtika's onshore pipeline which resulted in the gas pressure drop and caused temporary natural gas supply suspension to Thailand. The preliminary investigation found no trace of explosion or fire.

On August 5, 2022, PTTEP Group announced that on August 4, 2022, the Malaysia-Thailand Joint Authority (MTJA), an authority established under an Agreement between the Government of Malaysia and the Government of the Kingdom of Thailand, had concluded the annexation of Production Sharing Contract (PSC) of the Malaysia-Thailand Joint Development Area (MTJDA) with PTTEP International Limited (PTTEPI), a wholly-owned subsidiary of PTTEP, and PETRONAS Carigali (JDA) Limited (PC JDA), a subsidiary of PETRONAS Carigali Sdn Bhd. The annexation, which has been duly approved by the governments of Thailand and Malaysia, attains the rights to an additional area for exploration and production (Open Area) and a 10-year production period extension until 2039, as well as securing an additional gas volume of at least 30 MMSCFD until 2025 to satisfy Thailand's gas demand.

On August 15, 2022, PTTEP Group announced that PTTEP International Limited (PTTEPI), Yangon Branch, a wholly-owned subsidiary of PTTEP, completed the onshore pipeline repair of the Zawtika Project and resumed normal gas delivery to Thailand on August 14, 2022.

On September 1, 2022, PTTEP Group announced that on August 31, 2022, PTTEP Netherlands Holding Coöperatie U.A. (PTTEP NH) and PTTEP Brazil Investment B.V. (PTTEP BI), subsidiaries of PTTEP, had entered into a Sale and Purchase Agreement (SPA) to sell their investments in PTTEP Brazil Investments in Oil and Gas Exploration and Production Limitada (PTTEP BL), which are registered in Brazil, altogether with all obligations to Ubuntu Engenharia e Serviços Ltda. PTTEP BL is holding 25 percent interest in the Barreirinhas AP1 Project and 20 percent interest in the Brazil BM-ES-23 Project. Completion of the sale is subject to the conditions prescribed in the SPA and this divestment marks the withdrawal of all PTTEP Group's investment in Brazil.

On October 25, 2022, the Government of Myanmar approved the relinquishment of exploration blocks of Myanmar MD-7 project, at a 50 percent participating interest, after fulfillment of the requirements of the Production Sharing Contract, the relinquishment request was submitted in October 2020.

On October 26, 2022, PTTEP MENA Limited (PTTEP MENA), a subsidiary of PTTEP, signed Farm-in/Farm-out Agreement to acquire 25 percent stake in the Sharjah Onshore Area A Project from Eni Sharjah B.V. (Eni). The completion was on December 23, 2022. After completion, the participation interest for this project would be as follows: Eni (Operator) 50 percent, SNOC 25 percent, and PTTEP MENA 25 percent.

On November 21, 2022, PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEP AAA) reported that it had participated in mediation process of the class action, as ordered by the Federal Court of Australia, and in line with the normal legal process under Australian Law. PTTEP AAA reached an in-principle agreement with the group of Indonesian seaweed farmers, that PTTEP AAA will pay AUD 192.5 Million (equivalent to approx. USD 129 Million) in full and final settlement of the class action (including PTTEP AAA's appeal). The in-principle settlement was made on a no admission of liability basis.

On November 22, 2022, PTTEP Group established Xplor Ventures Company Limited (XPV) to support future investments.

On December 16, 2022, PTTEP (Angola) Corporation (PANG), a subsidiary of PTTEP, entered into a Sale and Purchase Agreement (SPA) to sell its entire 2.5 percent participation interest in Block 17/06 Project in Angola to SOMOIL BLOCO 17/06 (SU), S.A., a wholly-owned subsidiary of Sociedade Petrolifera Angolana, S.A (SOMOIL). Completion of the sale was expected by mid-2023 subject to the conditions prescribed in the SPA. This divestment marks the withdrawal of all PTTEP Group's investment in Angola.

On December 22, 2022, PTTEP Group announced successful gas discovery at the second exploration well, Paprika-1, in Malaysia SK410B Project, located in offshore Malaysia. PTTEP Group will conduct further studies in order to evaluate future development plan.

On December 23, 2022, PTTEP Group dissolved an inactive subsidiary, namely Participations and Explorations Corporation (PEC), in order to reduce administrative costs with no impact to PTTEP Group's operations.

On December 30, 2022, PTTEP Group dissolved an inactive subsidiary, namely PTTEP South Sageri Limited (PTTEP SS), in order to reduce administrative costs with no impact to PTTEP Group's operations.

Year 2023

On January 10, 2023, PTTEP Group established subsidiaries to develop Artificial Intelligence and new technology business, namely Bedrock Analytics Company Limited (Bedrock), in order to support the Geospatial Location Intelligence Platform and AI Technology to provide advanced location insights, and Bind Systems Company Limited (BIND) to support Web 3.0 technology to provide security, privacy, and seamless access to Digital Identity and Personal/Enterprise data.

On January 10, 2023, PTTEP Group established a subsidiary to develop and commercialize Artificial Intelligence business, namely S2 Robotics Company Limited (S2), which provides subsea pipeline maintenance services using AI and Robotics (Nautilus) with reduced risks and repair time.

On February 15, 2023, PTTEP Sarawak Oil Limited (PTTEP SKO), a wholly-owned subsidiary of PTTEP Group, along with Petronas Carigali Sdn Bhd. (PCSB), and Petroleum Sarawak Exploration & Production Sdn Bhd. (PSEP) were awarded the exploration Block SK325 from Malaysia Bid Round 2022. The consortium entered into a Production Sharing Contract (PSC) with Petroliam Nasional Berhad (PETRONAS), with the participation interests for PCSB at 60 percent as the operator, PTTEP SKO at 32.5 percent and PSEP at 7.5 percent respectively.

On February 23, 2023, the Federal Court of AAeroustralia approved an in-principle agreement to settle the class action following the mediation agreement between PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEP AAA) and the group of Indonesian seaweed farmers, ordered on 21 November 2022. The approach to the distribution of the settlement amount of 192.5 Million Australian Dollars (equivalent to approx. 129 Million US Dollars) to the group members remains the subject of further orders of the Federal Court of Australia. Following the court's determination of those issues, the settlement sum will be paid as per agreed procedures.

On February 23, 2023, the divestment of PTTEP Brazil Investments in Oil and Gas Exploration and Production Limitada (PTTEP BL) was completed after the conditions precedent to completion prescribed in the Sale and Purchase Agreement had been fulfilled.

On March 3, 2023, PTTEP Group dissolved inactive subsidiaries, namely PTTEP Australia Pty Ltd (PTTEP AU) and PTTEP Australia Offshore Pty Ltd (PTTEP AO), in order to improve operational efficiency and minimize administrative costs. This has no impact to PTTEP Group's operations.

On March 7, 2023, PTTEP Energy Development Company Limited (PTTEP ED), a subsidiary of PTTEP, won the rights for petroleum exploration and production according to Ministry of Energy's announcement of the result of the 24th Bid Round for Offshore Exploration Blocks in the Gulf of Thailand. On June 1, 2023, PTTEP ED signed the Production Sharing Contract (PSC) for G1/65 and G3/65 Project with 100 percent interest and PTTEP ED as the operator of both blocks, and the PSC would be effective starting from such date. This achievement aligns with PTTEP's investment strategy, which aims to promote growth in strategic focus areas.

On March 29, 2023, PTTEP Group dissolved an inactive subsidiary, namely Partex (Brazil) Corporation (PBC), in order to improve operational efficiency and minimize administrative costs. This has no impact to PTTEP Group's operations.

On May 10, 2023, PTTEP Group, successfully completed the issuance of senior guaranteed debentures with a bondholders' representative to institutional investors for THB 1,500 million through PTTEP Treasury Center Company Limited (PTTEP TC), a wholly-owned subsidiary of PTTEP Group, for 3-year period carrying the coupon rate of 2.51 percent per annum and is fully guaranteed by PTTEP. The debentures are one of the first issuance via Web Portal under the Digital Infrastructure, developed by the Securities and Exchange Commission, Thailand (SEC), which digitizes bond issuance process, to enhance efficiency and security.

On May 11, 2023, PTTEP Group reported to the Stock Exchange of Thailand that the Company had a plan to manage liability exercise to ensure efficiency in financial management and in response to the current market conditions. The exercise consisted of transferring all outstanding debenture of the USD 490,000,000 Senior Debentures due in 2042 (the 2042 Notes) issued by PTTEP Canada International Finance Limited (PTTEP CIF) and guaranteed by PTTEP to PTTEP Treasury Center Company Limited (PTTEP TC). Concurrently, PTTEP CIF would like to make an offer to partially repurchase the 2042 Notes and PTTEP TC to make an offer to partially repurchase the USD 650,000,000 Senior debentures, guaranteed by PTTEP (the 2042 Notes). On June 12, 2023, the required consents have been obtained from the bondholders to amend the indenture of the 2042 Notes. PTTEP CIF will proceed with the transfer of all outstanding 2042 Notes to PTTEP TC. In addition, PTTEP Group would like to announce the result of the repurchase: USD 31,894,000 for the 2042 Notes and USD 50,000,000 for the 2059 Notes, resulting in a remaining outstanding principal amount of USD 458,106,000 and USD 600,000,000 for each respective debenture.

On June 21, 2023, PTTEP Group was awarded the Green Hydrogen Concession Block in the Sultanate of Oman (Oman) and entered into the Project Development Agreement and Sub-Usufruct Agreement with Hydrogen Oman SPC (Hydrom) for the exclusive business development and production rights of green hydrogen project in Block Z1-02 for 47 years, together with consortium partners, consisting of the FutureTech Energy Ventures Company Limited (FTEV), a wholly-owned subsidiary of PTTEP Group, together with POSCO Holdings, Samsung Engineering Co., Ltd., Korea East-West Power Co., Ltd., Korea Southern Power Co., Ltd., and MESCAT Middle East DMCC. The consortium will further carry out the feasibility and technical studies, in order to finalize the total capital expenditure requirement for the project.

On August 18, 2023, PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEP AAA), a subsidiary of PTTEP, entered into a Sale and Purchase Agreement (SPA) to sell its entire interests in petroleum retention lease, Cash Maple (AC/RL7), to INPEX Cash Maple Pty Ltd and TotalEnergies Exploration Australia Pty Ltd. PTTEP AAA was holding 100 percent interests in the retention lease. The sale transaction was completed on December 22, 2023 after the conditions precedent as prescribed in the Sale and Purchase Agreement have been satisfied.

On August 31, 2023, PTTEP Group dissolved an inactive subsidiary, namely PTTEP G7 Limited (PTTEP G7), in order to improve operational efficiency and minimize administrative costs. This has no impact to PTTEP Group's operations.

On September 1, 2023, PTTEP International Limited (PTTEPI), a subsidiary of PTTEP, signed an agreement to acquire 33.3333 percent stake in block G12/48 from TotalEnergies EP Thailand. After completion, PTTEPI, which is the operator, will hold 100 percent interest in the block.

On September 29, 2023, PTTEP Sarawak Oil Limited (PTTEP SKO), a subsidiary of PTTEP, entered into a Farm-out Agreement to transfer 10 percent of its participating interest in Block SK405B PSC to Petronas Carigali Sdn Bhd. (PCSB). The divestment will be completed after all conditions precedent stipulated in the said agreement are fulfilled. After completion, the participation interest will be as follows: PTTEP SKO (Operator) 49.5 percent, PCSB 25 percent and MOECO Oil (Sarawak) Sdn. Bhd. 25.5 percent.

On December 7, 2023, PTTEP Group announced that New oil and natural gas discoveries had been made in 3 fields, offshore Sarawak, Malaysia, including Chenda-1 exploration well in Block SK405B, Bangsawan-1 and Babadon-1 exploration wells in Block SK438, especially Babadon-1 revealing massive sweet gas sandstone reservoirs with thickness approximately 200 meters, considered as sizable field in the offshore Sarawak region which PTTEP has discovered in Malaysia, following the earlier achievement at the Lang Lebah Field. Furthermore, PTTEP had achieved a positive outcome with Sirung-2 appraisal well in Block SK405B, with affirmed petroleum potential resources. This success followed the prior discovery of oil and gas in Sirung-1 exploration well in 2021. The project is now moving towards the Pre-Front End Engineering Design (Pre-FEED).

On December 11, 2023, PTTEP Group established FutureTech SG Pte. Ltd. (FSG) with registered capital of USD 50,000 dollars, consisting of 50,000 ordinary shares at USD 1 each, to support future investments in the new business for energy transition. This company is wholly owned by the FutureTech Energy Ventures Company Limited (FTEV), a subsidiary of PTTEP, so that FSG is also a subsidiary of PTTEP.

On December 21, 2023, FutureTech SG Pte. Ltd. (FSG), a wholly-owned subsidiary of PTTEP Group, entered into a Share Purchase Agreement (SPA) to acquire 50 percent share capital in TotalEnergies Renewables Seagreen Holdco Ltd (TERSH) from TotalEnergies Renewables UK Ltd (TERUK), a subsidiary in TotalEnergies SE (TotalEnergies) for a total estimated consideration of approximately GBP 522 million (approximately USD 689 million equivalent), which subject to customary net working capital and closing adjustments from the signing date until completion. TotalEnergies Group will maintain its holding of the remaining 50 percent shares in TERSH. Presently, TERSH invests in a 51 percent stake in the Seagreen Offshore Wind Farm project, situated off the coast of Scotland, United Kingdom, in the North Sea. The project has 114 turbines with a total generating capacity of approximately 1.1 GW, the largest offshore wind farm in Scotland. The project started its full operation in October 2023. SSE Renewables Services (UK) Ltd., an experienced renewable energy company from Scotland, is the operator and holds the remaining 49 percent stake in the project. Upon the completion, PTTEP Group and TotalEnergies Group will hold 25.5 percent and 25.5 percent investment in the project respectively.

On December 22, 2023, PTTEP Group announced that the divestment of 2.5 percent interest in Block 17/06 Project in Angola to SOMOIL BLOCO 17/06 (SU), S.A. [renamed to ETU ENERGIAS – BLOCO 17/06 (SU), S.A.], a subsidiary of Sociedade Petrolifera Angolana, S.A. (renamed to ETU ENERGIAS, S.A.) had been completed. The conditions precedent, as prescribed in the Sale and Purchase Agreement had already been fulfilled, and the sale transaction was completed. A Sale and Purchase Agreement (SPA) was signed on December 16, 2022.

1.2.4 Use of Proceeds

As of December 31, 2023, details on the use of proceeds are as follows:

Domestic Bonds

The funds derived from all baht bonds of PTTEP, PTTEP296A and PTTEP26NA, and of PTTEP TC (guaranteed by PTTEP), PTTEPT274A, PTTEPT294A, PTTEPT324A, and PTTEPT265A, were utilized according to the objectives stated in the indenture and offering documents.

Foreign Bonds

The funds derived from all USD bonds of PTTEP TC (guaranteed by PTTEP), USD 458 million Bond issued in 2012, USD 600 million Bond issued in 2019, USD 350 million Bond issued in 2020, and USD 500 million Bond issued in 2020, were utilized according to the objectives stated in the indenture and offering documents.

1.2.5 PTT's Obligations according to Bond Issuance

- None -

1.2.6 Revenue Structure

PTTEP and our subsidiaries generate revenues primarily from sales of petroleum products, the prices of which are pegged to the world fuel price in US Dollar. Thus, PTTEP and its subsidiaries' revenue structure of 2021-2023 is presented in US Dollar to reflect the Company's revenue structure. The petroleum exploration and production projects in the production phase of PTTEP and its subsidiaries in 2023 are Bongkot[1], Contract 4, Arthit, S1, MTJDA, B8/32 & 9A, Sinphuhorm, L53/43 & L54/43, G4/43, E5, PTTEP1, G4/48, L22/43, Zawtika, Yadana, Vietnam 16-1, Natuna Sea A, Algeria 433a & 416b, Algeria Hassi Bir Rekaiz, Vietnam 9-2, Malaysia, Oman Block 61, Oman Block 6 (PDO), Oman Block 53, Dunga, G1/61 and G2/61.

In addition, PTTEP and our subsidiaries proportionately recognize revenues from gas pipeline transportation from Moattama Gas Transportation Company (MGTC) and Andaman Transportation Limited (ATL). Moreover, there is diversification to Beyond E&P businesses, including AI and Robotics Ventures Company Limited (ARV), Green Hydrogen Project, Offshore Wind Farm Project, Green e-methanol Project, Carbon Capture and Storage (CCS) Project and Solar Power Project. The Company has set strategic directions by focusing on sustainability of E&P business together with venturing into Beyond E&P business during the energy transition and to reduce greenhouse gas emissions.

[1] On March 7, 2023, the concession of Bongkot Project, which the Company holds 66.6667 percent participating interests, has ended. The Company returned those blocks. However, the concessionaire still has joint obligations for decommissioning until it has been finished as required by the specific laws.

Revenue Structure of PTTEP and Our Subsidiaries during 2021-2023

Product	Operated by	% of shares held by the Company	2021		2022		2023	
			Revenue (Million US Dollar)	%	Revenue (Million US Dollar)	%	Revenue (Million US Dollar)	%
Revenue from sales								
Crude oil	PTTEP	-	167.25	2.28	290.46	3.00	382.57	4.20
	PTTEPI[1]	100	37.60	0.51	54.34	0.56	40.87	0.45
	PTTEP Siam[2]	100	458.91	6.26	635.63	6.57	510.36	5.61
	PTTEP ED[3]	100	-	-	88.52	0.91	178.09	1.96
	Orange	53.9496	61.10	0.83	65.08	0.67	28.45	0.31
	B8/32 Partners	25.0009	28.31	0.39	30.16	0.31	13.18	0.14
	PTTEP HV	100	22.75	0.31	28.66	0.30	32.82	0.36
	PTTEP HL	100	89.50	1.22	130.64	1.35	96.30	1.06
	Natuna	50	3.36	0.05	2.47	0.03	2.95	0.03
	PTTEP AG	100	57.69	0.79	86.31	0.89	66.83	0.73
	PTTEP SBO	100	316.58	4.32	403.97	4.17	273.73	3.01
	PTTEP SKO[4]	100	103.1	1.41	216.64	2.24	164.60	1.81
	POC	100	321.27	4.38	468.00	4.83	407.45	4.48
	PKC	100	47.19	0.64	49.92	0.52	38.28	0.42
	PBL[5]	-	2.12	0.03	-	-	-	-
Natural gas	PTTEP	-	2,164.90	29.54	2,281.46	23.57	1,447.39	15.91
	PTTEPI[1]	100	822.23	11.22	1,078.50	11.14	1,109.10	12.19
	PTTEP Siam[2]	100	38.50	0.53	51.77	0.53	38.25	0.42
	PTTEP ED[3]	100	-	-	278.63	2.88	966.26	10.62
	Orange	53.9496	11.98	0.16	18.85	0.19	10.18	0.11
	B8/32 Partners	25.0009	5.54	0.08	8.74	0.09	4.72	0.05
	PTTEP HV	100	1.66	0.02	1.60	0.02	1.23	0.01
	PTTEP HL	100	0.99	0.01	0.71	0.01	0.92	0.01
	Natuna	50	67.71	0.92	72.70	0.75	52.17	0.57
	PTTEP SP	100	175.13	2.39	194.74	2.01	208.08	2.29
	PTTEP SBO	100	121.95	1.66	201.31	2.08	155.93	1.71
	PTTEP SKO[4]	100	71.97	0.98	149.04	1.54	130.78	1.44
	PTTEP MENA	100	218.78	2.98	326.04	3.37	225.17	2.47
	PKC	100	0.01	0.00	0.01	0.00	-	-

Product	Operated by	% of shares held by the Company	2021		2022		2023	
			Revenue (Million US Dollar)	%	Revenue (Million US Dollar)	%	Revenue (Million US Dollar)	%
LPG	PTTEP	-	7.69	0.10	7.41	0.08	7.38	0.08
	PTTEP Siam[2]	100	23.07	0.31	22.24	0.23	22.15	0.24
	PGC	100	42.24	0.58	47.92	0.50	36.62	0.40
Condensate	PTTEP	-	782.61	10.68	1,119.38	11.56	639.44	7.03
	PTTEPI[1]	100	80.33	1.10	123.72	1.31	114.99	1.26
	PTTEP Siam[2]	100	0.98	0.01	1.29	0.01	0.85	0.01
	PTTEP ED[3]	100	-	-	162.57	1.68	472.75	5.20
	PTTEP SP	100	59.11	0.81	81.29	0.84	66.14	0.73
	PTTEP SBO	100	-	-	4.09	0.04	2.99	0.03
	PTTEP SKO[4]	100	7.62	0.11	13.48	0.15	11.77	0.14
	PTTEP MENA	100	163.89	2.24	298.47	3.08	149.32	1.64
Naphtha	PGC	100	20.45	0.28	22.37	0.23	18.70	0.21
Deemed income for tax payment by Oman government	PTTEP MENA	100	124.88	1.70	148.43	1.53	381.32	4.19
Total revenue from sales			6,730.86	91.83	9,270.56	95.77	8,511.08	93.53

Remarks:

1 On April 29, 2022, PTTEP International Limited (PTTEPI) notified its intentions to withdraw from Yetagun project, which the Group had the participating interest at 19.32 percent. This withdrawal was effective on May 31, 2023.

2 On February 5, 2023, the concession of B6/27 Project, which PTTEP Siam Limited (PTTEP Siam), a subsidiary of the Company, holds 100 percent participating interests, has ended. PTTEP Siam returned those blocks. However, the concessionaire still has joint obligations for decommissioning until it has been finished as required by the specific laws.

3 On March 7, 2023, PTTEP Energy Development Limited (PTTEP ED), a subsidiary of the Group, won the bidding and got the rights for petroleum exploration and production of Exploration Blocks No. G1/65 and G3/65, located in the Gulf of Thailand. PTTEP ED is the operator with a 100 percent participating interest in both projects. PTTEP ED signed the Production Sharing Contract (PSC) of those two projects on May 30, 2023 with the effective date on June 1, 2023.

4 On February 15, 2023, PTTEP Sarawak Oil Limited (PTTEP SKO), a subsidiary of the Group, signed a Production Sharing Contract (PSC) with Petroliam Nasional Berhad (PETRONAS), for exploration and production rights of Block SK 325, located in the offshore Sarawak, Malaysia. PTTEP SKO holds a 32.5 percent participating interest in this Block. The Group classified this investment as an investment in a joint operation.

5 On July 30, 2021, Participations and Explorations Corporation (PEC) and Partex (Brazil) Corporation (PBC), subsidiaries of the Group, entered into a Sale and Purchase Agreement (SPA) to sell all shares of Partex Brasil Ltda. (PBL) which is registered in the Federative Republic of Brazil to Ubuntu Engenharia e Serviços Ltda. (Ubuntu). The sale was completed on October 29, 2021.

Product	Operated by	% of shares held by the Company	2021		2022		2023	
			Revenue (Million US Dollar)	%	Revenue (Million US Dollar)	%	Revenue (Million US Dollar)	%
Revenue from pipeline transportation								
Pipeline transportation	MGTC	25.5	55.60	0.76	99.60	1.03	75.76	0.83
	TPC	19.3178	0.61	0.01	0.21	0.00	-	-
	ATL	80	36.94	0.50	51.11	0.53	52.31	0.57
Total revenue from pipeline transportation			93.15	1.27	150.92	1.56	128.07	1.40
Other income								
Gain on foreign exchange rates			-	-	-	-	48.13	0.53
Gain on disposal of participating intersts			-	-	-	-	73.24	0.81
Gain from a bargain purchase			341.87	4.66	-	-	-	-
Interest income			16.75	0.23	44.03	0.45	152.27	1.67
Other income			131.60	1.80	195.14	2.02	144.55	1.59
Total other income			490.22	6.69	239.17	2.47	418.19	4.60
Total revenues			7,314.23	99.79	9,660.65	99.80	9,057.33	99.53
Share of profit of associates and joint ventures			15.17	0.21	19.56	0.20	42.56	0.47
Grand total after inclusion of share of profit of associates and joint ventures			7,329.40	100.0	9,680.21	100.0	9,099.89	100.0

In 2023, PTTEP and its subsidiaries reported total revenues of 9,057 million (equivalent to THB 315,216 million), a decrease of USD 603 million or 6 percent when compared to total revenues of USD 9,660 million in 2022 (equivalent to THB 339,902 million). The decrease was mainly from USD 759 million reduction in revenue from sales, according to lower average selling price and average sales volume per day. The average selling price decreased by 10 percent to 48.21 USD/BOE (2022: 53.39 USD/BOE) and the average sales volume per day primarily decreased from Oman Block 61 Project due to lower contractor entitlement and shutdown in this year, along with Bongkot Project end of concession in March 2023. However, it was offset with G1/61 Project and G2/61 Project due to full year recognition of sales volume, also G1/61 Project has successfully ramped up the natural gas production since the end of June 2023.

1.2.7 Products and Services

(1) Exploration and Production

Petroleum

Petroleum is defined as a naturally occurring hydrocarbon mixture, including crude oil, natural gas, condensate, related products, and other hydrocarbon products which are free in nature.

Crude oil is the portion of petroleum remains in liquid atmospheric pressure and temperature and obtained from oil wells and separation process, yet to be refined or purified.

Natural gas is hydrocarbon in gas or vapor phase at atmospheric temperature and pressure, commonly having methane as its major constituent.

Condensate is a low-density liquid hydrocarbon. It is condensed from hydrocarbon gas. Condensation occurs when gas is produced at the surface where temperature and pressure are lower than those in the reservoir.

Natural Gas Liquids (NGL) are components of natural gas that are separated from the gas state in the form of liquids. This separation occurs in a field facility or a gas processing plant. There are several types of natural gas liquids including Liquefied Petroleum Gas (LPG), which is obtained from crude oil refinery or natural gas separation process, and primarily consisting of Butane and Propane.

Crude oil, Condensate, and NGL are measured in barrel, while natural gas is measured in cubic foot at the standard conditions (One atmosphere or atm at 60 degrees Fahrenheit). All petroleum products can be converted to barrel of oil equivalent (BOE) based on their heat contents. One cubic foot of natural gas has a heating value of approximately 1,000 British thermal units (BTU), whereas one barrel of crude oil has a heating value of approximately 6,000,000 BTU.



Business Overview

PTTEP Group's core business is the exploration and production of petroleum in Thailand and foreign countries. As of December 31, 2023, PTTEP Group had petroleum exploration and production projects in 12 countries with the details as follows:



Thailand[1, 2]

- **G1/61 Project**
  Participation Interest 60%
  Operator: PTTEP Group
- **G2/61 Project**
  Participation Interest 100%
  Operator: PTTEP Group
- **Arthit Project**
  Participation Interest 80%
  Operator: PTTEP Group
- **S1 Project**
  Participation Interest 100%
  Operator: PTTEP Group
- **Contract 4 Project**
  Participation Interest 60%
  Operator: Chevron
- **PTTEP 1 Project**
  Participation Interest 100%
  Operator: PTTEP Group
- **B6/27 Project**
  Participation Interest 100%
  Operator: PTTEP Group
- **L22/43 Project**
  Participation Interest 100%
  Operator: PTTEP Group
- **L53/43 & L54/43 Project**
  Participation Interest 100%
  Operator: PTTEP Group
- **E5 Project**
  Participation Interest 20%
  Operator: ExxonMobil
- **G4/43 Project**
  Participation Interest 21.375%
  Operator: Chevron
- **Sinphuhorm Project**
  Participation Interest 80.48%
  Operator: PTTEP Group
- **B8/32 & 9A Project**
  Participation Interest 25.001%
  Operator: Chevron
- **G4/48 Project**
  Participation Interest 5%
  Operator: Chevron
- **G12/48 Project[3]**
  Participation Interest 67.6667%
  Operator: PTTEP Group
- **G1/65 Project[4]**
  Participation Interest 100%
  Operator: PTTEP Group
- **G3/65 Project[5]**
  Participation Interest 100%
  Operator: PTTEP Group

Overlapping Area

- **MTJDA Project**
  Participation Interest 50%
  Operator: CPOC
- **G9/43 Project**
  Participation Interest 100%
  Operator: PTTEP Group

Myanmar

- **Zawtika Project**
  Participation Interest 80%
  Operator: PTTEP Group
- **Yadana Project**
  Participation Interest 37.1%
  Operator: PTTEP Group
- **Myanmar M3 Project**
  Participation Interest 100%
  Operator: PTTEP Group

Malaysia

- **Malaysia Block K Project**
  Participation Interest 7.2-56%
  Operator: PTTEP Group
- **Malaysia SK309 and SK311 Project**
  Participation Interest 42-59.5%
  Operator: PTTEP Group
- **Malaysia Block H Project**
  Participation Interest 42-56%
  Operator: PTTEP Group
- **Malaysia SK410B Project**
  Participation Interest 42.5%
  Operator: PTTEP Group
- **Malaysia SK417 Project**
  Participation Interest 80%
  Operator: PTTEP Group
- **Malaysia SK405B Project**
  Participation Interest 59.5%
  Operator: PTTEP Group
- **Malaysia SK438 Project**
  Participation Interest 80%
  Operator: PTTEP Group
- **Malaysia SK314A Project**
  Participation Interest 59.5%
  Operator: PTTEP Group
- **Malaysia SK325 Project[6]**
  Participation Interest 32.5%
  Operator: PCSB
- **Malaysia SB412 Project**
  Participation Interest 60%
  Operator: PTTEP Group
- **Malaysia PM407 Project**
  Participation Interest 55%
  Operator: PTTEP Group

Vietnam

- **Vietnam 9-2 Project**
  Participation Interest 25%
  Operator: HV JOC
- **Vietnam 16-1 Project**
  Participation Interest 28.5%
  Operator: HL JOC
- **Vietnam B & 48/95 Project**
  Participation Interest 8.5%
  Operator: Vietnam Oil and Gas Group
- **Vietnam 52/97 Project**
  Participation Interest 7%
  Operator: Vietnam Oil and Gas Group

Indonesia

- **Natuna Sea A Project**
  Participation Interest 11.5%
  Operator: Harbour Energy

Kazakhstan

- **Dunga Project**
  Participation Interest 20%
  Operator: Dunga Operating GmbH

Oman

- **Oman Block 61 Project**
  Participation Interest 20%
  Operator: BP
- **Oman Block 6 Project (PDO)**
  Participation Interest 2%
  Operator: Petroleum Development Oman
- **Oman Block 53 Project**
  Participation Interest 1%
  Operator: Occidental
- **Oman Onshore Block 12 Project**
  Participation Interest 20%
  Operator: TotalEnergies

UAE

- **Abu Dhabi Offshore 1 Project**
  Participation Interest 30%
  Operator: Eni
- **Abu Dhabi Offshore 2 Project**
  Participation Interest 30%
  Operator: Eni
- **Abu Dhabi Offshore 3 Project**
  Participation Interest 30%
  Operator: Eni
- **Sharjah Onshore Area C Project**
  Participation Interest 25%
  Operator: Eni
- **Sharjah Onshore Area A Project**
  Participation Interest 25%
  Operator: Eni

Algeria

- **Algeria 433a & 416b Project**
  Participation Interest 35%
  Operator: GBRS
- **Algeria Hassi Bir Rekaiz Project**
  Participation Interest 49%
  Operator: GHBR

Mozambique

- **Mozambique Area 1 Project**
  Participation Interest 8.5%
  Operator: TotalEnergies

Australia

- **PTTEP Australasia Project[7]**
  Participation Interest 100%
  Operator: PTTEP Group

Mexico

- **Mexico Block 12 (2.4) Project[8]**
  Participation Interest 20%
  Operator: Petronas
- **Mexico Block 29 (2.4) Project**
  Participation Interest 16.67%
  Operator: Repsol

[1] The concessions of Bongkot Project Block B16 and Block B17 ended on March 7, 2023, with PTTEP Group's participating interest at 66.6667 percent interest. The operatorship has been transferred to PTTEP Energy Development Company Limited (PTTEP ED) under G2/61 Production Sharing Contract.

[2] The concession of Contract 3 Project ended on April 23, 2022, with PTTEP Group's participating interest at 5 percent. The operator had submitted the block relinquishment. However, all partners in the project remain obliged to decommissioning as prescribed by laws.

[3] On September 1, 2023, PTTEP International Limited (PTTEPI), a subsidiary of PTTEP, signed an agreement to acquire additional 33.3333 percent stake in Block G12/48 from TotalEnergies EP Thailand. All of which will be effective after the Government's approval.

[4,5] On March 7, 2023, PTTEP Energy Development Company Limited (PTTEP ED), a subsidiary of PTTEP, won the rights for petroleum exploration and production of Exploration Block G1/65 and Block G3/65 with 100 percent interest and operatorship. The Production Sharing Contract (PSC) was signed and effective starting from June 1, 2023.

[6] In February 2023, PTTEP Group, along with Petronas Carigali Sdn Bhd. (PCSB), and Petroleum Sarawak Exploration & Production Sdn Bhd. (PSEP) was awarded the exploration Block SK325, which is located offshore of Sarawak, Malaysia.

[7] PTTEP Australasia Project consists of several concession blocks in Australia, with participating interests of 90-100 percent. On February 27, 2023, PTTEP Group was approved by the Government of Australia to transfer its entire interests in petroleum retention lease in Katandra Field (AC/RL10) to Bengal Energy Ltd. On July 27, 2023, PTTEP Group was approved by Australian government to return the exploration block of AC/RL4 (Tenacious). On August 18, 2023, PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEP AAA), a subsidiary of PTTEP, entered into a Sale and Purchase Agreement (SPA) to sell its total interests in petroleum retention lease, Cash Maple (AC/RL7), to INPEX Cash Maple Pty Ltd and TotalEnergies Exploration Australia Pty Ltd. PTTEP AAA holds 100 percent interests in the retention lease and the divestment was completed on December 22, 2023.

[8] On June 12, 2023, the operator of Mexico block 12 (2.4) project, relinquished the exploration block due to no petroleum potential confirmed. The completion will be subject to the Government of Mexico approval.

Oversea projects changed during the year:

- On December 22, 2023, the sale of PTTEP Group's entire 2.5 percent participation interest in the Block 17/06 Project, Angola, was completed.
- In August 2023, PTTEP Group completed the relinquishment of the Mariana Oil Sands Project, Canada, according to the government's conditions.
- On February 23, 2023, the sale of the entire investment in PTTEP Brazil Investments in Oil and Gas Exploration and Production Limitada (PTTEP BL) which holds 25 percent interest in the Barreirinhas AP1 Project and 20 percent interest in the Brazil BM-ES-23 Project was completed.
- On March 20, 2023, PTTEP Group relinquished Malaysia PM415 following the PSC to Government after completion of minimum work commitments. PTTEP Group holds participating interest of 70%.

Principal Projects in Operation

The following is a summary of project activities undertaken during 2023. Production and sales figures described hereunder are total production and sales figures for the respective projects.

1) **Project Activity Highlights in Thailand:** Most PTTEP Group's projects in Thailand are in the Production Phase, located both in the Gulf of Thailand and onshore. The following are the highlights of key project activities in Thailand during 2023.

G1/61 Project

The G1/61 Project is natural gas, condensate, and crude oil producing project located in the Gulf of Thailand. PTTEP Group has 60 percent participating interest and is the operator for the project under Production Sharing Contract (PSC) since April 24, 2022.

In June 2023, the G1/61 has increased its average gas production level from 210 MMSCFD to 400 MMSCFD. The project has continued its investment in 3 new wellhead platforms. Besides, the project has continuously drilled new production wells, to support gas ramp-up plan at 800 MMSCFD within April 2024, which is the commitment under the PSC and Gas Sales Agreement (GSA).

G2/61 Project

The G2/61 Project is natural gas and condensate producing project located in the Gulf of Thailand. PTTEP Group is the operator with 100 percent interest under Production Sharing Contract (PSC) since April 24, 2022.

The project has successfully transitioned from the concession to G2/61 PSC from March 8, 2023 and has the natural gas production rate at the minimum of 825 MMSCFD. The project continued development activities such as construction and installation of new platforms, and drilling development wells to maintain the gas production at 700 MMSCFD in 2024 according to the GSA commitment.

Arthit Project

The Arthit Project is natural gas and condensate producing project located in the southern part of the Gulf of Thailand. PTTEP Group has 80 percent participating interest in the project and is the operator.

In 2023, the project had achieved production target and completed the production wells drilling in order to increase production levels. The average natural gas sales volume for the project was approximately 326 MMSCFD (approximately 53,120 BOED), and the average condensate sales volume was approximately 15,934 BPD.

Block G8/50, located adjacent to the north of Arthit Project and operated by PTTEP Group with 80 percent working interest, produced through Arthit Project's central processing platform with the natural gas being sold to PTT under Arthit Project's sales contract. Since March 2019, G8/50 has ceased its production. However, this does not affect the total sales volume of the Arthit Project.

S1 Project

The S1 Project is the largest onshore oil field in Thailand, with the production area covering parts of Kamphaeng Phet, Sukhothai, and Phitsanulok provinces. PTTEP Group is the operator with 100 percent interest. The project extension was officially approved for another 10 years of petroleum production period, from March 15, 2021, to March 14, 2031.

The product from the S1 Project consists of crude oil, natural gas, and liquefied petroleum gas (LPG). Crude oil produced at S1 is sold to PTT and is transported via truck and rail to the refineries of Thai Oil Public Company Limited, Bangchak Corporation Public Company Limited (Bangchak) refineries, PTT Global Chemical Public Company Limited, and IRPC Public Company Limited. The produced gas from the project is sold to PTT, UAC Global Public Company Limited, and Thai Housewives Product for Climate Change Protection Cooperative Limited (TCCT), and the other part that undergoes LPG separation will be sold to PTT.

In 2023, the project continuously drilled development wells and other activities to maintain its production level. Environmental impact assessments were also undertaken in both existing and new production areas. The project's average sales volume of crude oil was approximately 24,800 BPD, while the natural gas sales averaged at 4 MMSCFD (approximately 830 BOED), and the average LPG sales volume was 160 metric tons per day (approximately 1,400 BOED).

Contract 4 Project

The Contract 4 Project and Block G7/50 are located in the Gulf of Thailand. PTTEP Group holds a 60 percent interest in the project, with Chevron as the operator. All of the natural gas and condensate produced from the project is sold to PTT under long-term gas and condensate sales agreements.

In 2023, the project sold natural gas at an average rate of approximately 400 MMSCFD (approximately 66,000 BOED) and condensates at an average rate of approximately 15,500 BPD. The project continued to drill additional development wells aiming to maintain the production plateau.

PTTEP 1 Project

The PTTEP 1 Project is located in Suphan Buri and Nakhon Pathom provinces. PTTEP Group is the sole owner and operator. Crude oil produced at the project is sold to PTT and is transported via truck to the Bangchak refinery. In 2023, the project's average sales volume of crude oil was approximately 140 BPD.

B6/27 Project

The B6/27 Project is located in the Gulf of Thailand, off the coast of Chumphon Province. PTTEP Group is the sole owner and operator. The concession contract ended on February 5, 2023. Currently, project has approved the Final Decommissioning Plan (FDP) and Decommissioning Cost Estimation (DCE) by the Department of Mineral Fuels.

L22/43 Project

The L22/43 Project is located in Phitsanulok and Phichit provinces. PTTEP Group is the sole owner and operator. The project has been under production suspension since 2018 and completely revisited the field potential.

In 2023, the project had completed an evaluation of potential study and in progress of two producing wells performance testing for further production resumption in Q2/2024. The forecasted crude oil sales volume is approximately 75 BPD.

L53/43 and L54/43 Project

The L53/43 and L54/43 projects are located in Suphan Buri, Kanchanaburi, Phra Nakhon Si Ayutthaya, and Ang Thong provinces. PTTEP Group is the sole owner and operator. Crude oil produced from the project is sold to PTT and is transported via truck to the Bangchak refinery.

The project has drilled 2 development wells to increase the field potential and enable the project to maximize oil production. In 2023, the average crude oil sales volume was approximately 1,000 BPD. While, the L53/43 Project has shut down since 2019.

E5 Project

The E5 Project is located in Khon Kaen Province. PTTEP Group holds 20 percent participating interest in the project with ExxonMobil as the operator with 80 percent participating interest. All of the natural gas produced by the E5 Project is sold to PTT as per a long-term GSA until the end of concession. The natural gas is supplied through pipelines to EGAT's Nam Phong Power Plant.

In 2023, the project's average sales volume of natural gas sales was 6.4 MMSCFD (approximately 1,040 BOED).

G4/43 Project

The G4/43 Project is located in the Gulf of Thailand. PTTEP Group holds a 21.375 percent interest in the project with Chevron as the operator. The project has mutual long-term GSA and crude oil sale agreements with the B8/32 & 9A Project. However, in March 2023, the unfortunate incident happened at Benchamas 2 Floating, Storage and Offloading Vessel (BFSO2), causing production suspension for 7 months. The production was resumed in October 2023.

In 2023, the project's sales volume of crude oil and natural gas averaged approximately 800 BPD and 0.5 MMSCFD (approximately 90 BOED), respectively.

Sinphuhorm Project

The Sinphuhorm Project is located in Udon Thani and Khon Kaen provinces. PTTEP Group is the operator with 80.48 percent direct and indirect participating interests, after the acquisition in APICO. The natural gas is supplied through the pipeline to EGAT's Nam Phong Power Plant. The investment plan fulfilled the development and work plan's activities to maintain the sales volume as per the new GSA's commitment and obligation.

In 2023, the project's average sales volume of natural gas sales was 92 MMSCFD (approximately 15,000 BOED) and approximately 215 BPD for condensates.

B8/32 & 9A Project

The B8/32 & 9A Project is located in the Gulf of Thailand, off the coast of Chumphon Province. PTTEP Group holds a 25.001 percent interest in the project with Chevron as the operator. The project currently has long-term GSAs with PTT and annual crude sales agreement with other purchasers for spot cargos.

During 2023, the project continued to carry out development drilling and waterflood operations in order to maintain the crude oil production levels. However, in March 2023, the unfortunate incident happened at Benchamas 2 Floating, Storage and Offloading Vessel (BFSO2), causing production suspension for 7 months, and the project has resumed production since October 2023. Sales volume averaged approximately 5,500 BPD for crude oil and approximately 23 MMSCFD for natural gas (approximately 3,900 BOED).

G4/48 Project

The G4/48 Project is located in the Gulf of Thailand, off the coast of Surat Thani Province. PTTEP Group holds a 5 percent interest in the project with Chevron as the operator. The project has mutual long-term gas sales agreements and crude oil sale agreements for spot cargo.

In 2023, sales volume from the project averaged 0.2 MMSCFD for natural gas (approximately 27 BOED) and approximately 47 BPD for crude oil.

G12/48 Project

The G12/48 Project, located adjacent to the east of Bongkot South Field, is held and operated by PTTEP Group with 66.6667 percent working interest. After Bongkot concession ended on March 7, 2023, the production has produced through G2/61-South's Central Processing platform under Operation and Maintenance (O&M) Support Agreement with PTTEP ED.

In 2023, the average sales volume was 6.29 MMSCFD for natural gas (approximately 1,021 BOED) and approximately 110 BPD for condensates.

G1/65 Project

The G1/65 Project is located in the north of the Gulf of Thailand. PTTEP Group is the operator with 100 percent interest. On June 1, 2023, PTTEP Group signed the PSC, which has a 6-year exploration period and a 20-year production period. During 2023, subsurface technical

study has started and 2024 work program and budget was approved by the Department of Mineral Fuels. The exploration well will be drilled by 2025.

G3/65 Project

The G3/65 Project is located in the north of the Gulf of Thailand. PTTEP Group is the operator with 100 percent interest. On June 1, 2023, PTTEP Group signed the PSC, which has a 6-year exploration period and a 20-year production period. Currently, subsurface technical study has started and 2024 work program and budget was approved by the Department of Mineral Fuels. The exploration well will be drilled by 2024.

Projects Located in Overlapping Areas

MTJDA Project

The MTJDA Project, where PTTEP Group has a 50 percent participating interest with CPOC as the operator. PTTEP Group, Petronas (Malaysia's natural oil company) and the Malaysia-Thailand Joint Authority (MTJA) executed a GSA for the sales of the natural gas from the MTJDA Project to PTT and Petronas, whilst crude oil and condensates produced from the project were sold through auction.

In 2023, the project continuously drilled production and infill wells to maintain the production level, and exploration and development wells to develop new phases. The project has an average sales volume of approximately 287 MMSCFD (approximately 45,940 BOED) for natural gas and approximately 9,495 BPD for condensates.

G9/43 Project

The G9/43 Project is located in the Gulf of Thailand with PTTEP Group as the sole owner and operator. At present, all activities for this project were suspended, pending the resolution of the boundary dispute between the governments of Thailand and Cambodia.

2) International Projects: PTTEP Group has overseas projects separated into the following regions.

2.1) Project Activity Highlights in Other Southeast Asia Countries

PTTEP Group has projects in this region which are located in Myanmar, Malaysia, Vietnam, and Indonesia. The following section highlights the project activities.

Zawtika Project

The Zawtika Project is a gas project located in the Gulf of Moattama, Myanmar. PTTEP Group holds 80 percent participating interest and is the operator, with Myanmar Oil and Gas Enterprise (MOGE) holding the remaining 20 percent interest. The gas produced from this project is sold to PTT, supplying Thai market under long-term GSA on a Take-or-Pay basis and partially sold to MOGE for domestic consumption in Myanmar under the long-term sales contract. To transport natural gas from Zawtika Project to Thailand, PTTEP Group and the joint venture partners established a gas transportation company called Andaman Transportation Limited (ATL) to construct and operate an offshore and onshore pipeline from the project to the Thai border.

In 2023, despite the local unrest situation in Myanmar and US sanctions against MOGE, the Project could still deliver gas as per commitment and obligation under GSAs. Nonetheless, the situation is being closely monitored. PTTEP has identified potential risks, and prepared asset readiness to ensure uninterrupted supply of natural gas.

In addition, in order to maintain gas production in accordance with existing obligations, the Project has completed the installation of Phase-1D wellhead platforms and has continued a drilling of development wells which proceeds as planned. The Project also completed an appraisal campaign of 9 wells out of total 12 wells in 2023. The average sales volume of natural gas for the project in 2023 was 330 MMSCFD (approximately 51,400 BOED).

Yadana Project

The Yadana Project is a gas field located in the Gulf of Mottama, Myanmar. PTTEP Group holds 37.0842 percent as the operator and the partner of Yadana project and Moattama Gas Transportation Company Limited (MGTC), participating with Unocal Myanmar Offshore (Chevron) and Myanma Oil and Gas Enterprise (MOGE) holding the 41.1016 percent and 21.8142 percent interest, respectively.

The natural gas produced from the project is continuously sold to PTT for exporting to Thailand on a Take-or-Pay basis pursuant to long-term GSA, and a certain portion is sold to MOGE for domestic use in Myanmar. In 2023, the project delivered gas sales approximately at 516 MMSCFD (approximately 64,400 BOED).

Myanmar M3 Project

At present, Myanmar domestic gas supply is declining mainly from Yadana Field. Therefore, the project strategy was revised to "Phase Development" to support natural gas consumption in Thailand and Myanmar.

Phase 1: Development Myanmar M3 project which is located offshore in the Gulf of Mottama. The gas production will be tie-in to existing MOGE PLC for domestic gas supply. As for the withdrawal of Mitsui Oil Exploration Company Limited (MOECO), a joint partner of Myanmar M3 Project with its shareholding interest at 20 percent, Myanmar Government had already approved the withdrawal in November 2022, resulting in PTTEP Group holding 100 percent shareholding interest in this project. PTTEP Group is now waiting for the approval of PSC Supplementary and negotiating for other Commercial Agreements, such as the Gas Sales Agreement.

Phase 2: Development of new pipeline, power plant and LNG project. LNG will be supplied to new a 600-megawatt power plant and sold to Yangon area to fulfill domestic gas shortage. Currently, MOU for new pipeline and LNG project is under the approval process with MOGE. PTTEP Group is still closely monitoring the situations to assess risks as well as to prepare for an appropriate action plan.

Malaysia Block K Project

The Malaysia Block K Project consists of Kikeh, Siakap North-Petai (SNP), and Gumusut-Kakap (GK) fields which are producing oil fields located offshore Sabah, Malaysia. PTTEP Group holds participating interest of 56 percent and 22.4 percent in the Kikeh and SNP fields respectively and is the operator. Shell is the operator of GK, with PTTEP's participating interest at 7.2 percent.

In 2023, the project had an average production volume for crude oil of approximately 20,561 BPD and 11.70 MMSCFD for natural gas. In addition, during the year, the main projects that contributed to production was the Kikeh Phase 3A which achieved First Oil in Q1/2023.

Malaysia SK309 and SK311 Project

The Malaysia SK309 and SK311 project are oil and gas producing fields in the shallow water offshore Sarawak, Malaysia. PTTEP Group holds a participating interest of 59.5 percent in all fields except the East Patricia oil field, where the Company has a 42 percent participating interest and operates all fields in the blocks.

In 2023, the project had a total average crude and condensate production rate of approximately 15,556 BPD and an average gas rate of approximately 215 MMSCFD.

Malaysia Block H Project

The Malaysia Block H Project is a natural gas field located in the deepwater offshore Sabah, Malaysia. PTTEP Group holds 56 percent interest in Rotan Field and 42 percent interest in the remaining areas.

In 2023, the average production was 217 MMSCFD. The production was suspended for 1 month in Q1/2023 due to the unavailability of the purchaser's vessel, Petronas

Floating Liquefied Natural Gas 2 (PFLNG 2). There were 2 exploration wells drilled and completed post-drill evaluation in the year 2023.

Malaysia SK410B Project

The Malaysia SK410B Project is located offshore Sarawak, Malaysia. PTTEP Group holds participating interest of 42.5 percent in the project and is the operator. In 2023, the Front-End Engineering Design (FEED) was completed in October. The Final Investment Decision (FID) for the project is expected in mid-2024 with the first gas production target in 2028.

Likewise, the gas development study for Paprika Field has already been started, with the proposal and endorsement of the development plan by Malaysia Government.

Malaysia SK417 Project

The Malaysia SK417 Project is located in the shallow water of offshore Sarawak, Malaysia. PTTEP Group holds participating interest of 80 percent in the project and is the operator. Successful exploration wells were Dokong-1 completed in January 2021 and Nangka-1 in September 2021. In addition, the remaining 1 appraisal and 1 exploration wells are planned as per minimum work commitments to be drilled in 2024 and 2025 respectively.

Malaysia SK405B Project

The Malaysia SK405B Project is located in the shallow water of offshore Sarawak, Malaysia. PTTEP Group holds participating interest of 59.5 percent in the project and is the operator. After the discovery of crude oil and natural gas reservoir by Sirung-1, Sirung-2 and Chenda-1 wells during 2021-2023, the reservoir modeling and upside potential have been studied for reservoir dynamic performance prediction and future exploration/appraisal program identification. The development concept selection was finalized and approved by Malaysia Government in November 2023.

Malaysia SK438 Project

The Malaysia SK438 Project is located in the shallow water of offshore Sarawak, Malaysia. PTTEP Group holds participating interest of 80 percent in the project and is the operator. In 2023, the project has delivered 2 exploration wells: Bangsawan-1 and Babadon-1, as planned. Both wells revealed massive sweet gas sandstone reservoirs with thickness up to 200 meters, considered as sizable field in the offshore Sarawak region which PTTEP has discovered in Malaysia, following the earlier achievement at the Lang Lebah Field. Babadon-1 is expected to be sizable for further development.

Malaysia SK314A Project

The Malaysia SK314A Project is located in the shallow water of offshore Sarawak, Malaysia. PTTEP Group holds participating interest of 59.5 percent in the project and is the operator. In the year 2023, the project was undergoing for a well drilling (Mong Merah-1) and post-drilled evaluation. Currently, the project is in the process of remaining potential evaluation for future exploration activities.

Malaysia SK325 Project

The Malaysia SK325 Project is located in shallow water offshore Sarawak. PTTEP Group holds participating interest of 32.5 percent and is a joint venture partner. The project has been awarded the exploration Block from Malaysia Bid Round 2022 and is currently in the preparation process for the commencement of geophysical information of 3D seismic data acquisition and evaluate petroleum potential to identify the exploration commitment wells in 2024-2026 campaign.

Malaysia SB412 Project

The Malaysia SB412 Project is located in the shallow-deep water of offshore Sabah, Malaysia. PTTEP Group holds participating interest of 60 percent and is the operator. In the year 2023, the project was undergoing for 3D

seismic reprocessing activity as work commitment and performing the prospect evaluation for decision making to exploration Phase 2 in early 2024.

Malaysia PM407 Project

The Malaysia PM407 Project is located in the shallow water of offshore Peninsular, Malaysia. PTTEP Group holds participating interest of 55 percent and is the operator. In the year 2023, the project drilled the first exploration well according to the commitment, which is Simpoh Beludu-1. Currently, the project is evaluating remaining petroleum potential after Simpoh Beludu-1 well result for further exploration plan.

Vietnam 9-2 Project

The Vietnam 9-2 Project is producing natural gas and crude oil located offshore southeast of Vietnam. PTTEP Group has a 25 percent interest in the project with Hoan Vu Joint Operating Company (HV JOC) as the operator. The crude oil produced from the project is sold to domestic refineries while the produced natural gas is sold to Vietnam Oil and Gas Group, a state-owned enterprise, for domestic consumption.

In 2023, the project had an average sales volume for natural gas of 9 MMSCFD (approximately 1,900 BOED) and for crude oil of approximately 4,460 BPD.

Vietnam 16-1 Project

The Vietnam 16-1 Project is producing natural gas and crude oil located offshore southeast Vietnam. PTTEP Group has a 28.5 percent interest in the project, with Hoang Long Joint Operating Company (HL JOC) as the operator. The crude oil production of the project is sold to domestic refineries and exported to international market through an auction. Natural gas is sold to the Vietnam Oil and Gas Group, a state-owned enterprise, for domestic consumption.

In 2023, the average sales volume was approximately 5 MMSCFD of natural gas (approximately 1,250 BOED) and 11,440 BPD of crude oil.

Vietnam B & 48/95 Project

The Vietnam B & 48/95 Project is located offshore of Vietnam. PTTEP Group holds 8.5 percent of participating interest in the project with Vietnam Oil and Gas Group as the operator. The Project was granted approval for the Field Development Plan and is currently in the negotiation process on commercial terms in order to push forward the Final Investment Decision (FID) with targeted first production by the end of 2026, and ramping up to 490 MMSCFD, including the production from Vietnam 52/97 Project.

Vietnam 52/97 Project

The Vietnam 52/97 Project is located offshore of Vietnam. PTTEP Group holds 7 percent of participating interest in the project with Vietnam Oil and Gas Group as the operator. The project was granted approval for the Field Development Plan and is currently in the negotiation process on commercial terms in order to push forward the Final Investment Decision (FID) with targeted first production by the end of 2026 and ramping up to 490 MMSCFD, including the production from Vietnam B & 48/95 Project.

Natuna Sea A Project

The Natuna Sea A Project is located to the west of the Natuna Sea in Indonesia. In 2013, PTTEP Group jointly signed a share purchase agreement with Pertamina, on a 50:50 basis, to acquire subsidiaries of Hess Corporation holding 23 percent interest in the Natuna Sea A Project. As a result, PTTEP holds an 11.5 percent interest in the project, with Premier Oil (which later on changed the name to Harbour Energy) as the operator. The crude oil and condensate produced are sold through the National Oil Company (Pertamina), while natural gas produced is sold in Singapore for domestic consumption.

In 2023, the average sales volume for natural gas and oil were approximately 113 MMSCFD and 1,040 BPD respectively.

2.2) Project Activity Highlights in Central Asia

PTTEP Group's project in this region is located in Kazakhstan, with the key project highlights as follows:

Dunga Project

The Dunga Project is a producing oil field located onshore west of Kazakhstan. PTTEP Group holds a 20 percent interest, with Dunga Operating GmbH as the operator (previously operated by Total E&P Dunga GmbH, effective on November 20, 2023). In 2023, the project had an average sales volume for crude oil of approximately 10,790 BPD and natural gas of 1.5 MMSCFD (approximately 250 BOED). Besides, the Project is continuing development of Dunga Phase 3 which will increase the production capacity target to 17,500 BPD in 2024.

2.3) Project Activity Highlights in the Middle East

PTTEP Group's projects in this region are located in Oman and UAE, with the key project highlights as follows:

Oman Block 61 Project

The Oman Block 61 Project is a producing onshore gas block situated in central Oman. PTTEP Group has signed a Sale and Purchase Agreement (SPA) to acquire 20 percent of interest from BP Exploration (Epsilon) Limited, which is the operator, and the agreement was completed on March 23, 2021. The project currently has a full production capacity of natural gas and condensate at 1,500 MMSCFD and 56,000 barrels per day (BPD), respectively.

Oman Block 6 Project (PDO)

The Oman Block 6 Project (PDO) is the largest producing oil asset in central Oman, covering an area of approximately one-third of the country. PTTEP Group holds a 2 percent participating interest in this project, with Petroleum Development Oman (PDO) as the operator (Operating Consortium). In 2023, the project had an average sales volume of approximately 650,000 BPD.

Oman Block 53 Project

The Oman Block 53 Project is a large producing onshore oil field located in southern Oman. PTTEP Group holds 1 percent participating interest in this project, with Occidental as the operator. In 2023, the project had an average sales volume for crude oil of approximately 84,600 BPD.

Oman Onshore Block 12 Project

The Oman Onshore Block 12 is a large onshore exploration block with an acreage of around 10,000 square kilometers, located in central Oman. PTTEP Group holds a 20 percent participating interest in the project, with TotalEnergies as the operator. Currently, the project continues geological and geophysical studies throughout the year 2023 and plan to drill the 2 exploration wells in 2024.

Abu Dhabi Offshore 1 Project

The Abu Dhabi Offshore 1 Project is located in the offshore northwest of Abu Dhabi, UAE. PTTEP Group holds a 30 percent participating interest in the project, with Eni Abu Dhabi B.V. as the operator. The project has completed the preliminary Geological and Geophysical study reports, and is in the process of finalizing the full study reports.

Abu Dhabi Offshore 2 Project

The Abu Dhabi Offshore 2 Project is located in the offshore northwest of Abu Dhabi, UAE. PTTEP Group holds 30 percent participating interest in the project, with Eni Abu Dhabi B.V. as the operator.

The project has successfully made another significant gas discovery of the first exploration well XF-002 with significant raw gas in place for both shallow and deep target, total

approximately 2.5-3.5 trillion cubic feet (TCF) in August 2022, and completed one appraisal well in early January 2023. Currently, it is in the process of further evaluation of petroleum potential for drilling another exploration well. The first gas production is expected in 2025.

Abu Dhabi Offshore 3 Project

The Abu Dhabi Offshore 3 Project is located in the offshore northwest of Abu Dhabi, UAE. PTTEP Group holds 30 percent participating interest in the project, with Eni Abu Dhabi B.V. as the operator. Currently, the project is undergoing petroleum potential evaluation for the preparation of appraisal well and exploration well which are to be drilled in 2024-2025.

Sharjah Onshore Area C Project

The Sharjah Onshore Area C Project is onshore field, located in Sharjah with PTTEP as a Joint Venture holding 25 percent participating interest, while Eni Sharjah B.V. (Operator) holds a 50 percent participating interest and SNOC (Sharjah National Oil Corporation) holds a 25 percent participating interest. The 3D seismic survey has been completely carried out for the whole Block in 2023, it is currently undertaking 3D seismic processing to assess its hydrocarbon potential.

Sharjah Onshore Area A Project

The Sharjah Onshore Area A Project is an onshore field, located in Sharjah with PTTEP as a Joint Venture holding 25 percent participating interest, while Eni Sharjah B.V. (Operator) holds a 50 percent participating interest and SNOC (Sharjah National Oil Corporation) holds a 25 percent participating interest. The project is in the process of Geological and Geophysical study reports to assess its petroleum potential.

2.4) Project Activity Highlights in Africa

PTTEP Group's projects in this region are located in Algeria, Mozambique, and Angola, with the key project highlights as follows:

Algeria 433a & 416b Project

The Algeria 433a & 416b Project is located onshore in eastern Algeria. PTTEP Group holds a 35 percent participating interest in the project, with Groupement Bir Seba (Joint Operating Company) as the operator. In the first half of 2023, OPEC continued partial production quota cuts due to world economic volatility, but in the latter half of 2023, some relaxation has been applied. Consequently, the project's average production of crude oil in 2023 was at approximately 15,696 BPD.

Algeria Hassi Bir Rekaiz Project

The Algeria Hassi Bir Rekaiz Project is located onshore in the eastern part of Algeria. The operator is Groupement Hassi Bir Rekaiz (GHBR), as a joint operating company between PTTEP Group, with a stake in the joint venture 49 percent and SONATRACH, Algeria's national oil company with a stake at 51 percent. In 2023, the project achieved its goal of increasing crude oil production from 13,000 barrels per day to 17,000 barrels per day since August 25, 2023 and is studying and planning for the second phase of development to increase production to 30,000 and 60,000 barrels per day by 2027 and 2030, respectively.

Mozambique Area 1 Project

The Mozambique Area 1 Project, which is a large LNG project located in offshore Mozambique, is currently in the Development Phase. PTTEP Group holds an 8.5 percent participating interest in the project, with TotalEnergies as the operator.

In 2021, the project commenced foundation work for onshore LNG facilities, temporary Beach Landing, subsea pipeline dredging, and construction of security infrastructures. The project finance had closed, and the first debt drawdown was achieved. However, due to the Palma unrest situation, which is close to the project construction site, in April 2021, force majeure was then declared, to suspend all construction works at the site, for the safety reason of all employees and stakeholders.

In 2023, the security situation has been continuously improving in particular within the control area close to the project site. Although there are still some random incidents in other areas of Cabo Delgado, but it is likely that the site access and the construction resumption could be achieved in the first half of 2024.

2.5) Project Activity Highlights in Australasia

PTTEP Group has a project in this region which is located in the Timor Sea, Australia comprising 6 concession permits with the following as key highlights:

PTTEP Australasia Project

PTTEP Australasia Project is located in Australia, which is Oliver Field (AC/RL12). PTTEP Group holds 100 percent participating interest and is the operator and the project is in the process of evaluation of commercial potential.

2.6) Project Activity Highlights in North and South America

PTTEP Group's projects in this region are located in Canada and Mexico. The following are significant activities in this region:

Mariana Oil Sands Project

The Mariana Oil Sands Project is located in Alberta, Canada. PTTEP Group holds a 100 percent participating interest and is the operator of the Thornbury, Hangingstone, and South Leismer Fields. Well abandonment campaign and reclamation activities were conducted in 2021. The surrender of all mineral leases was completed in August 2023.

Mexico Block 29 (2.4) Project

The Mexico Block 29 (2.4) Project is located in the Campeche basin, southern part of Gulf of Mexico. PTTEP Group holds a 16.67 percent participating interest and Repsol is the operator. The project is currently undergoing a pre-development study of Polok and Chinwol fields and evaluation of future petroleum potential.

Projects Ended Concession Divestment and Relinquishment in 2023

Bongkot Project

The Bongkot Project is located in the southern part of the Gulf of Thailand, consisting of Bongkot North and Bongkot South fields (Blocks B15, B16, and B17). PTTEP Group hold a 66.6667 percent interest after the completion of the additional stake of 22.2222 percent in Blocks B15, B16, and B17 from Shell and Block G12/48 from a Thai Energy Company Limited which is a subsidiary of Shell since June 2018 and was the operator. The project has been produced since 1993. All of natural gas and condensate produced from the Bongkot Field is sold to PTT, under a Take-or-Pay basis pursuant to long-term Gas Sales Agreements (GSA).

The Bongkot Project concession expired on March 7, 2023. In 2023, the average natural gas sales volume for the project was approximately 127 MMSCFD (approximately 20,190 BOED), and the average condensate sales volume was approximately 4,100 BPD.

PTTEP Australasia Project

Cash-Maple Field (AC/RL7): On August 18, 2023, PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEP AAA) entered into a Sale and Purchase Agreement (SPA) to sell its entire interests in petroleum retention lease, Cash Male (AC/RL7), to INPEX Cash Maple Pty Ltd and TotalEnergies

Exploration Australia Pty Ltd. The sale transaction was been completed on December 22, 2023.

Katandra Field (AC/RL10): On February 27, 2023, PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEP AAA) was approved by the Government of Australia to transfer its entire interests in the petroleum retention lease in Katandra Field (AC/RL10) to Bengal Energy Ltd.

Tenacious Field (AC/RL4): On July 27, 2023, PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEP AAA) was approved by the Australian government to return the exploration block of AC/RL4, which expired on June 15, 2023.

Malaysia PM415 Project

The Malaysia PM415 Project is located in the shallow water of offshore Peninsular, Malaysia. PTTEP Group holds a participating interest of 70 percent and is the operator.

The project was relinquished to the Government after the completion of minimum work commitments and remaining petroleum potential evaluation with no petroleum potential confirmed. It was effective on March 20, 2023.

Mexico Block 12 (2.4) Project

The Mexico block 12 (2.4) Project is located in the Mexican Ridges, Western Gulf of Mexico. The Company holds a 20 percent participating interest in the project, with Petronas as the operator.

The exploration well drilling was completed according to work commitment under the contract license, with no petroleum potential confirmed. Presently, it is under a total area relinquishment process with relevant authorities in Mexico.

(2) Midstream

Oman LNG (OLNG)

PTTEP by PTTEP Oman E&P Corporation (POC), formerly Partex Oman Corporation, has a 2 percent stake in Oman LNG LLC (OLNG) which owns two 3.4 million tons per annum capacity liquefaction trains located near Sur, Oman. The third liquefaction train by a separate company, Qalhat Liquefied Natural Gas SAOC (QLNG) in which OLNG is a joint investor, has an additional capacity of 3.6 million tons per annum. The three trains have a combined nameplate capacity of 10.4 million tons per annum. In 2021. All 3 trains had Debottlenecking to increase production capacity by another 1 million tons, currently at 11.4 million tons per year. The LNG produced is sold to South Korean and Japanese markets through existing long-term contracts (SPAs), due to expire by the end of 2024.

PTTEP holds a 2 percent stake in OLNG through PTTEP Oman E&P Corporation (POC). Other shareholders include the Oman Investment Authority (OIA), representing the Government of Oman (51 percent), Shell (30 percent), TotalEnergies (5.5 percent), Korea LNG (5 percent), Mitsubishi Corporation (2.8 percent), Mitsui & Co (2.8 percent), and Itochu (0.9 percent).

As a result of OLNG's participation in holding 36.8 percent of shares in QLNG, PTTEP is also an indirect shareholder of 0.7 percent in QLNG. Other shareholders in QLNG include OIA (46.8 percent), Naturgy (7.4 percent), Mitsubishi Corporation (3 percent), Itochu (3 percent) and Osaka Gas (3 percent).

On October 23, 2023, the Minister of Energy and Minerals of the Sultanate of Oman (MEM) presided over the signing ceremony for the renewal of shareholder contracts of OLNG and QLNG as well as gas supply contracts and other main contracts related to renewal. As a result, the OLNG shareholder contract has been extended until December 31, 2034 (10 years) and the QLNG shareholder contract has been extended until December 31, 2029 (5 years).

ADNOC Gas Processing (AGP)

PTTEP by PTTEP Gas Corporation (PGC), formerly Partex Gas Corporation, owns a 2 percent of ADNOC Gas Processing (AGP) with ADNOC, the national oil company of the United Arab Emirates, owning a 68 percent stake while Shell and Total each holding 15 percent.

AGP, formerly known as GASCO prior to 2017, is an operating company engaged in processing associated and non-associated natural gas from UAE's onshore and offshore fields. Gas is supplied to AGP via pipelines from ADNOC's upstream entities: ADNOC Onshore (formerly ADCO), ADNOC Offshore (formerly ADMA), and other non-associated gas fields.

Associated gas supplied from ADNOC Onshore's oil fields is processed in Asab 0/3, Bab and Bu Hasa gas processing facilities. The AGP Joint Venture partners are entitled to the respective share of C3+, i.e. LPG (Propane and Butane) and Paraffinic Naphtha production from this associated gas until the concession ends in 2028.

(3) Gas Transportation Pipeline

PTTEP Offshore Investment Company Limited (PTTEPO), a wholly-owned subsidiary of PTTEP, has major investments in other companies, such as an 80 percent holding in Andaman Transportation Limited (ATL) and 37.1 percent in Moattama Gas Transportation Company Limited (MGTC). The objective of the Company is to invest in gas pipeline transportation of Zawtika and Yadana projects connected at the border between Myanmar and Thailand.

(4) Jetty and Warehouse

Petroleum Development Support Base was established to provide jetty and warehouse services to support PTTEP Group's offshore exploration and production activities both in Thailand and abroad. The Support Base mainly accommodates the Company's own offshore operating projects in Thailand, such as Bongkot Project, Arthit Project, G1/61 Project, G2/61 Project, as well as offshore operating projects in the Republic of the Union of Myanmar such as Myanmar M3 Project, Yadana Project and Zawtika Project. Moreover, the Support Base can also support offshore operating projects of other oil and gas companies, such as PTT, Chevron Thailand Exploration and Production Limited, Carigali-PTTEPI Operating Company Sdn Bhd. (CPOC). Currently, our Support Base consists of 2 sites in the provinces of Songkhla and Ranong.

1) *Petroleum Development Support Base (Songkhla Branch)* (Total area of 121 rais) solely provides marine jetty berthing and warehousing services. It is owned and operated by PTTEP International Limited (PTTEPI), a subsidiary of PTTEP. The jetty is equipped with a 380-meter wharf which is capable of simultaneously berthing six supply vessels with a size of more than 500 gross tonnage each. The jetty is also equipped with storage facilities and operated with a high standard of material-handling equipment. The Support Base also operates under an international management system which focuses on safety and security while taking into account the issues of occupational health and the environment. It strictly follows the International Ship and Port Facilities Security Code (ISPS Code) which has been approved by the Marine Safety and Environment Bureau of the Marine Department of Thailand. The jetty is therefore recognized as one of the country's leading shore-based facilities for petroleum exploration and production activities. Warehousing service facilities are divided into four sections, namely the storage warehouse, storage yard, free zone storage warehouse, and free zone storage yard for optimal storage of materials and equipment. This facility is also used for certain goods that have been granted tax and duty benefits in its duty-free areas.

2) *Petroleum Development Support Base (Ranong Branch)* (Total area of 25 rais exclusive of Jetty) provides marine jetty berthing and warehousing services which are operated by PTTEPI. Nevertheless, the jetty is owned by the Port Authority of Thailand. The jetty has a 150-meter wharf which is capable of simultaneously berthing two supply vessels with the

size of more than 500 gross tonnage each. The Support Base is also fully equipped with storage facilities and standard material-handling equipment. Warehousing service facilities are divided into four sections, same with the Petroleum Development Support Base (Songkhla Branch).

To ensure that the services of both Support Base branches meet high international standards and safety levels, performance audits are continually conducted at both sites, emphasizing safety, security, occupational health and the environment. Both are also operated by and equipped with high security systems, such as parameter and high mast lights, barbed-wire fencing, a CCTV system, and 24-hour security guards. PTTEP is also aware of its responsibilities to society and the environment, especially the local communities surrounding the Support Bases. The Company's efforts in this regard have resulted in several international accreditations including the International Environment Control Program (ISO 14001 certification), and the Occupational Health and Safety Management System (ISO 45001 certification). The Company has also prepared an Emergency Response Plan under the ISO 22301 standard to handle unexpected and emergency cases. The Company regularly conducts drills to ensure that our Support Bases are capable of responding to emergency situations with the adoption of the latest technologies and methods for operational continuity.

(5) Information Technology and Communication Services

PTTEP owns 20 percent of shares in PTT Digital Solutions Company Limited (PTT Digital). PTT Digital has been hired to provide the Company with all information technology and communication services. The agreement covers infrastructure design and implementation, consultancy, procurement, and outsourcing services. The current service agreement is valid for 5 years, starting from January 1, 2021.

(6) Property Leasing

PTT and PTTEP have jointly established, constructed, and managed the Energy Complex Investment Project under Energy Complex Company Limited (Energy Complex). The complex is considered to be the energy business center of the country, also comprising the Ministry of Energy, subsidiaries and associated companies of PTT Group.

(7) Manpower Services

PTTEP Services Limited (PTTEP Services) was established with objective is to supply manpower to support PTTEP Group's operational activities and accommodate PTTEP's domestic and international expansions which have high demand for competent staff.

PTTEP Services has recruited and hired various types of staff, such as specialists, engineers, operators, and technicians, etc., both Thais and non-Thais, to serve PTTEP since July 1, 2004. The Company has continuously developed and improved its remuneration, welfare, and benefits to ensure its staff are provided with fair remuneration and good welfare and benefit programs that make them feel motivated. This has also helped to improve the Company's competitiveness in the market.

To enhance staff's capability to effectively support PTTEP's operations, PTTEP Services has provided several training and development programs based on PTTEP's business requirements. The programs focus on compulsory Safety, Security, Health and Environment (SSHE) training, Functional Training as well as Soft Skills Training in areas of innovation and interpersonal skills. In addition, the Company has provided basic training on subjects including English, digital and information technology to assist staff in order for them to perform their jobs effectively.

PTTEP Services' business has continuously grown and expanded. Apart from supplying manpower for PTTEP, the Company has also provided manpower for Carigali-PTTEPI Operating Company Sdn Bhd. (CPOC), a PTTEP joint venture company in Malaysia.

(8) AI and Robotics Technology

PTTEP established AI and Robotics Ventures Co., Ltd. (ARV) on September 21, 2018 with the aim of making ARV the "Deep Tech Venture Builder" with specific focus on robotics and artificial intelligence (AI). They are expected to deliver positive impact on society while continuously exploring and capturing new business opportunities beyond the energy sector. At present, there are six portfolio ventures under the ideation, incubation and acceleration of ARV, providing various technology products and services to cover the needs of various industries both in Thailand and abroad. Among those established and registered in 2021 are Rovula (Thailand) Co., Ltd., Skyller Solutions Co., Ltd., Varuna (Thailand) Co., Ltd., and Cariva (Thailand) Co., Ltd. In addition, two newly established and registered companies in 2023 include Bind Systems Co., Ltd. which provides self-sovereign-identity (SSI) based technologies for seamless, secure and scalable juristic and B2C use cases such as digital-corporate identification, digital credential sharing, digital-compliant electronic power of attorneys; and Bedrock Analytics Co., Ltd., which leverages geospatial and machine-learning technologies to offer location intelligence for governments, enterprises and B2C. Furthermore, ARV has formed joint-ventures with strategic partners across various industries, establishing a total of seven companies under the names ZeaQuest, ATI, AeroSky, B-MedX, SKYVIV, S2 Robotics, and NILA.

ARV was honored with 2 prestigious awards at the Asian Technology Excellence Awards 2023. The first award was "Thailand Technology Excellence Award for Robotics – Technology" for the practical use of "HORRUS", Thailand's first fully automated drone solution to assist in the patrolling, analyzing, and processing of traffic data, enabling the Department of Highways to manage traffic conditions more efficiently during the festive seasons. The second award was the "Thailand Technology Excellence Award for Robotics – Oil & Gas" for the development of "Offshore Robotics Ecosystem" which combines various technologies through the digital platform and connects with various robots, enhancing efficiency in offshore operations. Additionally, ARV received the Best Corporate Innovation Product award at Krungsri Tech Day, reflecting the company's success in technology development and innovation.

ARV is dedicated to developing deep technology to foster sustainable growth, taking into account the environment, society and good corporate governance. Notably, the application of the "Smart Forest Solution" technology, a tool for processing and managing data of forest areas, enhancing the carbon sequestration process and methodologies, and assisting in the assessment and calculation of carbon credits quantities. The deployment of "Smart City Digital Platform" in several dozen municipalities throughout Thailand is a proud leap towards modernizing local agencies, and ultimately contributing to an improved community quality of life. "NAUTILUS", the world's first subsea pipeline repair robot, has successfully undertaken its first commercial emergency pipeline repair mission, enhancing efficiency of the work process and minimizing environmental impact. In the field of healthcare, the development of "PreceptorAI," a medical artificial intelligence technology, aims to assist medical professionals to diagnose and recommend treatments more accurately, comprehensively, and quickly.

In 2023, Varuna and Cariva, subsidiaries under the supervision of ARV, secured funding from external investors for the first time, enabling these new investors to establish strategic advantages, enhance capabilities, and strengthen the businesses. Varuna's fundraising success in 2023 will strengthen its position as a leader in end-to-end nature-based carbon credit solutions, covering the supply, measurement of carbon credits, and the development of the digital carbon credit trading platform. Cariva's fundraising will contribute to advancing the development of solutions and artificial intelligence technology for personalized healthcare and precision medicine.

In the pursuit of ARV's future business development plans as a Venture Builder, ARV has signed a Memorandum of Understanding (MOU) with Stanford Research Institute (SRI International) to elevate Thailand's capacity building in deep technology and foster innovation engine to expedite the transfer of cutting-edge innovations from the lab to the market. Such attempts aim to further apply this knowledge and technology and create new businesses. It does not only increase the value of ARV, PTTEP Group and its partners, but also propels Thailand towards becoming a Deep Technology Innovation Hub of ASEAN.

(9) Energy Transition Business

PTTEP has set a strategic direction to grow its new business to prepare for energy transition and to seek new sources of income to sustain long-term growth of PTTEP. In this regard, PTTEP's strategic direction is to focus on the following business units:

Carbon Capture and Storage (CCS)

PTTEP emphasizes carbon capture and storage technology since CCS plays a crucial role in decarbonization for both Thailand and PTTEP, especially in the period of energy transition. In addition, carbon capture and storage business also fosters sustainability for industrial sectors in Thailand.

PTTEP plans to operate carbon capture and storage business by: (1) promoting the enactment of laws, regulations, and exploration activities of Eastern CCS Hub project in eastern Thailand; (2) seeking investment opportunities in carbon capture and storage in Europe and the United States; and (3) developing the Eastern CCS Hub project and providing support for the expansion of Blue Hydrogen business.

Low-Carbon Hydrogen

In 2023, PTTEP, together with 5 globally-renowned companies including POSCO Holdings, Samsung Engineering Co., Ltd., Korea East-West Power Co., Ltd., Korea Southern Power Co., Ltd., and MESCAT Middle East DMCC, a subsidiary of ENGIE from France, engaged in propelling a large-scale green hydrogen project in the Sultanate of Oman (Oman Z1-02). Low-carbon hydrogen is important for PTTEP because: (1) low-carbon hydrogen is critical in reducing greenhouse gas emissions in the atmosphere, especially for industries which are unable to switch to direct use of electricity produced from renewable sources (electrification) such as steel, petrochemicals, sea transport, and aviation; (2) low-carbon hydrogen has a potential to contribute a significant portion of income to PTTEP; and (3) PTTEP can leverage knowledge and experiences from upstream business to support its Blue Hydrogen business.

PTTEP plans to operate low-carbon hydrogen business by: (1) promoting green hydrogen project development in Oman (Oman Z1-02) for final investment decision (FID) in 2026; (2) seeking investment opportunities in Oman, the United Arab Emirates, and the United States of America; (3) looking for hydrogen supply to meet Thailand's demand and leverage carbon capture and storage to produce Blue Hydrogen in Thailand.

Renewable Power

PTTEP has set up Future Tech Solar (Thailand) Company Limited (FST), which is a subsidiary of Future Tech Energy Venture Company Limited (FTEV), to operate a solar power plant. Such plant has a capacity to produce 9.9 megawatt of electricity which will be used to fuel the S1 project, in replacement of gas based solar power plant. In addition, offshore wind is an interesting business for PTTEP because offshore wind allows PTTEP to leverage its capability in exploration and production and the demand for renewable energy is expected to grow continually. PTTEP plans to operate offshore wind business by: (1) seeking investment opportunities in offshore wind and developing greenfield projects to build up capabilities; (2) exploring the potential of harvesting offshore wind in the Gulf of Thailand and nearby areas to meet growing demand of clean energy in Thailand; and (3) exploring the potential of using offshore wind in exploration and production as well as carbon capture and storage businesses.

Low-Carbon Fuels

PTTEP is determined to develop and operate the business of low-carbon fuels such as bio-methanol, green methanol, and sustainable aviation fuels (SAF) because (1) regulations and laws regarding greenhouse gas emissions have become more stringent, causing maritime and aviation industries to seek low-carbon fuels for use in their operations and consequently resulting in growing demand for low-carbon fuels and Thailand has feedstock supplies with the potential to support low-carbon fuel production such as bio-methanol. PTTEP plans to operate low-carbon fuel business by: (1) conducting feasibility studies of bio-methanol plants in Thailand; (2) promoting the development of e-methanol projects in Singapore; (3) scaling up production capacity to meet the demand of maritime industries; and (4) leveraging bio-methanol ecosystem to extend to other low-carbon fuels such as e-methanol and sustainable aviation fuel (SAF).

Furthermore, as technology capability is a key enabler for achieving sustainable growth aspiration, PTTEP also builds up its technological capability through in-house technology management and investments in technology start-ups through corporate venture capital (CVC) to acquire technological capability to support PTTEP's business expansion.

1.2.8 Permission to Operate, Concession, or Investment Promotion

1.2.8 (1) Petroleum exploration and production business

PTTEP operates a petroleum exploration and production business in the Kingdom of Thailand and abroad. The Company's investments in foreign countries must comply with all applicable laws and regulations of the countries where PTTEP invests in including (1) Production Sharing Contract, (2) Concession, or (3) Services Agreement. Within the Kingdom of Thailand, the Company must comply with the Petroleum Act B.E. 2514 (1971) and its amendments which set out the rights to explore, exploit, and produce petroleum under the concession regime, production sharing contract regime, and services agreement regime. Key points in the petroleum business are as follows:

(1) Demarcation of Petroleum Exploration and Production Areas

The Department of Mineral Fuels, the Ministry of Energy, as the government authority under petroleum law, is responsible for demarcating each petroleum exploration and production area (Block) and inviting oil companies to submit their applications requesting for concession, production sharing contract, or services agreement. As for the process, the Petroleum Committee has a duty to render consultation to the Minister. The Minister with the approval of the Cabinet has the authority to sign the concession, production sharing contract, or services agreement to award the right to explore, exploit, and produce petroleum. Qualifications of each applicant will be considered by the State to award the right to explore, exploit, and produce petroleum including but not limited to the adequacy of the investment funds to be brought in and used in the exploration activities, transfer of knowledge and technology, employment of the Thai nationals, and the utmost benefits of the State.

(2) Characteristics of a Joint Venturer

A petroleum concession, a production sharing contract or a services contract may be awarded to a single concessionaire/contractor or multiple concessionaires/contractors. Since the risk of the petroleum exploration and production business is relatively high in its nature, it is common for concessionaires or contractors to form a joint venture in order to diversify such business risk. In a joint venture, a company will be designated as the "operator" to conduct the exploration and production operations on behalf of its partner(s) and commonly under the supervision of a management committee or an operating committee which is composed of representatives of all parties. Other non-operator companies will participate in making operational decisions including technical, work program, and budget. The operator will request for cash advance (Cash Call) from all parties to spend on the

project. Generally, whether any particular oil company will become a project operator depends largely on its investment conditions, readiness, and business strategy in that project.

(3) Nature of Operations and Investment Decisions

Before an oil company decides to invest in petroleum exploration in the Kingdom of Thailand or abroad, it must consider the prospect of having a successful exploration as well as other investment risk factors. A thorough study of the information available is conducted to determine whether the area has high petroleum potential and whether the project is commercially feasible. The success ratio of exploration wells in neighboring areas as well as other risk factors in the invested countries must also be considered. If the project is commercially feasible, the company will apply for a right to explore, exploit, and produce petroleum or, if such right is already awarded, "farm-in" to the existing petroleum concession.

After the oil company is awarded a right to explore, exploit, and produce petroleum, an exploration program will be conducted. This process normally takes 2-3 years. If the petroleum reserves are found in any exploration area, the oil company will determine the amount of investment funds required for the development phase and the expected sales value of the petroleum based on the petroleum reserves to be produced from the exploration area. If the result indicates that it is worth investing, such exploration area is considered to be commercially viable. The operator shall then apply for approval of the petroleum production area and simultaneously may start its production activity. The operator is still able to explore the remaining exploration areas if it is within the time frame of the exploration period as mentioned in the concession, the production sharing contract, or the services contract. At this stage, the operator must have a certain degree of confidence about the investment. However, as the investment expenditure required for such development phase is very high; the operator must normally be able to identify buyers of the petroleum in advance, whereas a long-term sales agreement for the petroleum to be produced shall be signed. Currently, PTT Public Company Limited (PTT) is the biggest petroleum buyer in Thailand.

The principal elements of the sales agreement for petroleum generally include the determination method of the sales price and quantity of the petroleum to be delivered. Sales of natural gas from domestic areas are made at the delivery point specified in the contract, while sales of natural gas from foreign areas are made at the Thai borders. PTT is currently responsible for the installation of most of the gas pipelines for the production amount as specified in the gas sales agreement. Sales of crude oil are made at the delivery point specified in the contract. Sales of condensate are made at the delivery point specified in the contract as well.

(4) Description of Laws Relating to the Business

The operation of petroleum business in Thailand is governed by 2 major enactments, namely the Petroleum Act B.E. 2514 (1971) and the Petroleum Income Tax Act B.E. 2514 (1971) and its amendments. The concessionaire and contractor must be a limited company or a juristic person which has the same status as a limited company, established under the laws of Thailand or foreign laws. Several major features of these laws in Thailand are as follows:

1) Concession

1.1) The concessionaire(s) and the co-venturer(s) shall pay the royalty which is normally paid in cash. However, the Minister may demand such royalty payment in any kind of petroleum with a prior notice of not less than 6 months. The royalty can be used as credit against income tax (THAILAND I) or deducted as expenses (THAILAND III).

1.2) Petroleum income tax is prescribed at a rate not lower than 50 percent but not to exceed 60 percent of the net profit from the petroleum operation.

1.3) Interest paid cannot be deducted as expenses for income tax purposes.

1.4) Each concessionaire could be awarded concessions with no limitation in terms of the number of blocks.

THAILAND I for the petroleum concessions awarded by the Ministry of Industry[1] from B.E. 2514 (1971) to B.E. 2532 (1989) and those onshore petroleum concessions issued before B.E. 2525 (1982)

THAILAND II[2] for the onshore petroleum concessions awarded by the Ministry of Industry from B.E. 2525 (1982) to B.E. 2532 (1989)

THAILAND III for the petroleum concessions awarded by the Ministry of Industry from B.E. 2533 (1990)

Details of the Terms: THAILAND I, II, and III

Term	THAILAND I	THAILAND II	THAILAND III
Royalty Rates	12.5 percent of income from sales or disposal of petroleum which may be treated as tax credit	12.5 percent of income from sales or disposal of petroleum which may be treated as tax credit	progressive rate at sliding scale of 5-15 percent, deemed to be expense which could be deducted in tax calculation
Petroleum Income Tax	50 percent of net profit from petroleum business operation	50 percent of net profit from petroleum business operation	50 percent of net profit from petroleum business operation
Special Benefits	-	annual benefits and annual production bonus	special remunerator benefit which could be deducted in tax calculation
Exploration Period	8 years with a 4-year extension	8 years with a 4-year extension	6 years with a 3-year extension
Production Period	not exceeding 30 years from the exploration's expiration date, with an extension not exceeding 10 years	not exceeding 30 years from the exploration's expiration date, with an extension not exceeding 10 years	not exceeding 20 years from the exploration's expiration date, with an extension not exceeding 10 years
Concession Areas	not exceeding 10,000 sq. km. per exploration block, up to 5 exploration blocks	not exceeding 10,000 sq. km. per exploration block, up to 5 exploration blocks	not exceeding 4,000 sq. km. per exploration block, up to 5 exploration blocks[3]

2) Production Sharing Contract

2.1) All petroleum operation expenditure shall be the responsibility of the contractor whereas the contractor shall be recovered such expenditure by deducting it from the production. The expenditure that can be deducted shall be the actual expenditure according to the work program and budget approved by the Director General of the Department of Mineral Fuels, the Ministry of Energy, but shall not exceed 50 percent of the overall petroleum production.

[1] Currently, the Ministry of Energy

[2] Under Section 36 of the Petroleum Act (No. 4) B.E. 2532 (1989), all petroleum concessionaires under THAILAND II have applied to be subject to the criteria under THAILAND III.

[3] Under Section 28 of the Petroleum Act (No. 6) B.E. 2550, effective on October 18, 2007, there is currently no limitation in terms of number of blocks.

2.2) The contractor shall pay the royalty to the State at the rate of 10 percent of the overall petroleum production.
2.3) The remaining petroleum production after deducting the royalty and the recoverable expenditure shall be shared to the contractor, but not exceeding 50 percent.
2.4) Petroleum income tax is prescribed at a rate not lower than 20 percent of the net profit from petroleum operations.

3) Services Contract

3.1) Services contract can be either the hiring for exploration and production contract, the hiring for exploration contract, or the hiring for production contract.
3.2) The contractor shall be paid by the State according to the terms and conditions of each services contract.
3.3) All petroleum operation expenditure shall be the responsibility of the contractor.
3.4) Payment shall be made to the contractor after deducting the royalty.

At present, PTTEP has obtained the rights to explore, exploit, and produce petroleum in Thailand under concession and production sharing contract regime.

1.2.8 (2) Renewable Power Business

PTTEP has established FutureTech Solar (Thailand) Company Limited (FST), which is a subsidiary of FutureTech Energy Ventures Company Limited (FTEV), to operate a 9.9 megawatts solar power project in order to supply electricity to the S1 Project. The operation of such renewable power business is mainly subject to the Energy Industry Act B.E.2550 (2007) including its amendments, regulations, and notifications related to energy business licenses.

1.2.9 Market and Competition

PTTEP has invested in both domestic and overseas projects, including Myanmar, Vietnam, Malaysia, Indonesia, Australia, Mexico, Algeria, Mozambique, Kazakhstan, United Arab Emirates (UAE), and Oman. The target markets include both domestic and overseas where we have invested in. The Company's petroleum products include natural gas, crude oil, condensate, naphtha, and LPG.

In 2023, total sales by the Company and our subsidiaries averaged 462,007 barrels of oil equivalent per day (BOED). The total sales ratio of natural gas to liquid and other petroleum products (Crude oil, Condensate, Naphtha, and LPG) was 72:28 percent by volume and 54:46 percent by value, as shown below:

Product	Volume	Value (Million USD)
Natural Gas	744,347 MMSCF or 120.85 MMBOE	4,350.19
Condensate	19.00 MMBBL	1,458.25
Naphtha	96,580 metric tons or 0.82 MMBOE	55.32
Crude Oil	27.49 MMBBL	2,236.47
LPG	59,485 metric tons or 0.49 MMBOE	29.53

(1) Marketing Characteristics

PTTEP primarily sells our outputs from domestic and regional projects, i.e. Myanmar and the Malaysia-Thailand Joint Authority (MTJA) to the Thai market through PTT, the major buyer and processor of all the products. PTT then turns the processed products into the country's power sector, petrochemical industry sector, transportation sector, industry sector, and household sector.

The marketing of petroleum products varies with their characteristics and field location, which in turn differentiate the market and sales price structures. Details are as follows:

1) Natural Gas

Due to capital-intensive investment in developing oil and gas exploration business, Gas Sales Agreements (GSAs) must be agreed or signed between buyer and seller before any major investment is made. GSAs are typically long-term contracts, ranging from 15 to 30 years. Prices, volumes, and points of sale are stipulated for each of the contracts. Currently, the designated transfer points for all domestically sold gas are at the Central Processing Platforms (CPPs), from which the buyer will invest in the transmission system to the CPPs. The delivery point of the gas sold from the Republic of the Union of Myanmar to Thailand is however at the Myanmar-Thai border. In this case, the seller is responsible for investment in the transmission pipelines from the CPPs to the border. Gas prices are usually linked to Crude or fuel oil prices and several key economic indices to reflect costs and be competitive compared with fuel oil, which was considered as alternative fuel for power generation at the time those GSAs were negotiated, for the GSA period.

Sales volumes are based on the assessed reserves on the negotiation date. GSAs stipulate obligations between buyer and seller for a committed volume. If the buyer does not take the volume of gas as committed to in the GSA, it must pay for the committed volume whether the gas is taken or not (Take-or-Pay). As a consequence, the buyer is entitled to take delivery free of charge in subsequent years (Make-Up Gas). On the other hand, should the seller fail to deliver as nominated by the buyer, the buyer is entitled to the agreed discount price of the undelivered volumes as stipulated in the agreement (Shortfall).

2) Condensate and Crude Oil

Condensate and crude oil prices are determined by their properties and benchmarked with crude oil prices of those predominantly sold in the region. Contracts are either short-term or long-term, and some are sold in spot markets.

3) Naphtha

Naphtha produced from ADNOC Gas Processing Project (AGP), the largest gas processing complex located onshore of Abu Dhabi, UAE, is sold by Abu Dhabi National Oil Company (ADNOC) which represents as Marketing Agent. Selling price followed official selling price in the region and naphtha is sold under short-term contract.

4) LPG

LPG produced from S1 Project is sold to PTT under a long-term contract with the price in line with the government's policy and announcements by the Committee on Energy Policy Administration. Moreover, LPG produced from ADNOC Gas Processing Project (AGP), the largest gas processing complex located onshore of Abu Dhabi, UAE, is sold under a short-term contract the selling price of which refers to official selling price in the region.

Sales of petroleum products from PTTEP's international fields vary from country to country as follows:

- Zawtika and Yadana projects in Myanmar: Approximately 75 percent of the produced natural gas from Zawtika and Yadana projects is primarily sold to Thailand through PTT, while the remaining 25 percent is sold to Myanmar which mainly used for its domestic power generation and small volume to industrial sector.

- Vietnam 9-2 and Vietnam 16-1 projects in Vietnam: All of the oil output produced from both Vietnam 9-2 and Vietnam 16-1 projects are sold under short-term and medium-term contracts to a refinery in Vietnam, for the consumption in Vietnam. While the produced gas from both projects is sold to Vietnam Oil and Gas Group, a state enterprise, for consumption in Vietnam.
- Algeria 433a & 416b and Hassi Bir Rekaiz projects in Algeria: The Bir Seba Field and Hassi Bir Rekaiz Field have been commercialized their producing crude oil through auction under a short-term contract which major buyer is the European refineries.
- Oman Block 6 (PDO), Oman Block 53, and Oman Block 61 projects in Oman: Crude oil from these 3 blocks is sold under medium-term contracts while natural gas produced from Block 61 is sold under long-term contract to the Government of the Sultanate of Oman (GOSO). Natural gas produced in Block 6 and Block 53 is entitled to GOSO.
- Dunga Project in Kazakhstan: A producing oil field located onshore west of Kazakhstan is operated and sold by Total. The crude oil is sold under a short-term contract to both domestic and export markets.
- Malaysia Block K, Malaysia Block H, and Malaysia SK309 and SK311 projects in Malaysia: Crude oil from Malaysia SK309 and SK311 Project, together with Kikeh, Siakap North-Petai (SNP), and Gumusut-Kakap (GK) fields from Malaysia Block K Project, and Malaysia Block H Project are sold under short-term contracts in Malaysia and in spot markets. Natural gas produced from the Malaysia SK309 and SK311 and Malaysia Block H projects are sold under long-term contract to Petroliam Nasional Berhad (PETRONAS), the Malaysia national oil company, and used as gas supply to the Petronas LNG Complex.

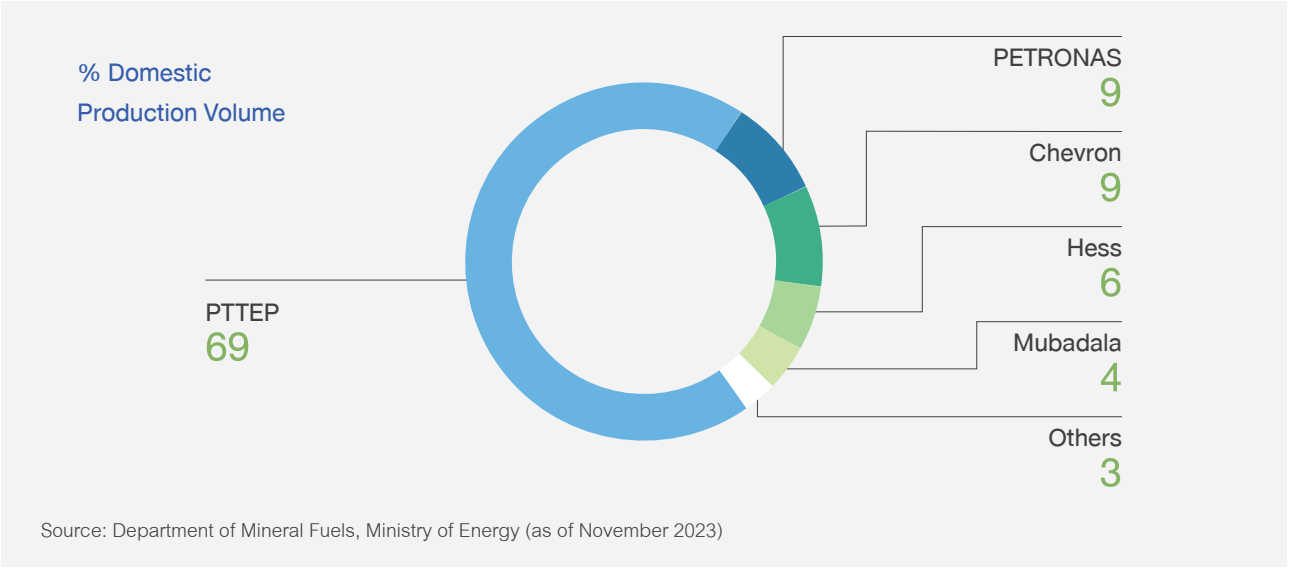
For the MTJDA Project in the Malaysia-Thailand Joint Development Area, the produced natural gas is sold to PTT for the consumption in Thailand. Starting from April 2015, the gas has also been sold to Malaysia according to the Gas Balancing Agreement between PTT and PETRONAS. The condensate output meanwhile has been marketed and sold through auction in the spot markets.

(2) Competition

Thailand's E&P industry is oligopolistic due to high demand compared to domestic supplies as well as the business' relatively high investment and advanced technology required. So, the sales contracts, especially GSAs, are predominantly long-term contracts coupled with Take-or-Pay clauses in order to mitigate investment risk to attract new investment.

As a part of the Thai government policy to liberalize the natural gas market, Energy Regulatory Commission (ERC) approved the quota to import LNG 3.02 million tons in 2023 for new Shippers and PTT, on top of current long-term contracts in order to support country stability in case domestic gas fields produce less than expected. However, only EGAT imported LNG at 1.2 million tons. Therefore, to ensure sufficient gas supplies to gas-fired power plants, the Government assigned PTT to import LNG to fulfill the power plant demand. The additional quota for LNG imports will not affect PTTEP's gas sales because this quota allows only LNG import for additional volume over the committed gas sales in current GSAs, and current GSAs with PTT also have Take-or-Pay obligation as mentioned above.

Regarding the approximate domestic production in November 2023, PTTEP's petroleum production accounted for 69 percent of the total domestic production in 2023, making the Company the leader among the domestic producers.



Source: Department of Mineral Fuels, Ministry of Energy (as of November 2023)

1.2.10 Production

(1) Exploration and Production Stages and Technology

Petroleum exploration and production can generally be divided into 4 major stages as follows:

1) Exploration stage: This is the first step to identify the areas with reservoir potential. The main activities conducted in this stage include:

- Primary geological and geophysical surveys
- Seismic acquisition, processing, and interpretation
- Exploration well drilling and testing

2) Appraisal/Delineation stage: This stage mainly involves additional study to increase the certainty of estimated size and properties of the reservoirs. The main activities conducted in this stage include:

- Detailed study of petroleum geology and additional seismic survey (if any)
- Reservoir formation evaluation and conceptual development design
- Appraisal/Delineation well drilling and testing

3) Development stage: This is the last stage prior to the production. The main activities conducted in this stage include:

- Field development plan design and optimization
- Production facilities design, construction, and installation
- Development of well drilling and completion

4) Production stage: This is the stage where petroleum and associated products flow through the pressure-controlled equipment (wellhead) and processing facilities, including measuring equipment, to obtain the production rates of all productions. The main activities conducted during this stage include:

- Monitoring of production rate, proportion between produced gas, crude oil or condensate, and water, as well as pressure decline rate
- Forecasting of the future reservoir performance
- Well intervention work-over and facilities maintenance

PTTEP is well equipped in terms of manpower, technology, and equipment to operate the business efficiently according to the Company's target.

(2) Petroleum Reserves

Petroleum reserves can be divided into 2 categories, namely Proved Reserves and Unproved Reserves, according to the level of certainty.

1) Proved Reserves are those quantities of petroleum which, by analysis of geological and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reservoirs and under current economic conditions, operating methods, and government regulations.

   Practically, Proved Reserves mean the petroleum in reservoirs that can be commercially produced based on supporting data gathered during the well testing process. In some cases, reserves may be classified as Proved Reserves essentially when the results from well logging and/or analyzing of the core and fluid samples can prove that the reservoirs and petroleum in the reservoirs are similar or comparable to those of the neighboring areas which have already been commercially produced or with the potential to be produced according to their well testing results. In addition, Proved Reserves must be able to be produced by using the existing production equipment or with the production equipment that has a firmed plan to install in the future.

2) Unproved Reserves are defined based on geoscience and/or engineering data similar to that used in the estimation of Proved Reserves but with technical or other uncertainties which preclude such reserves from being categorized as Proved. Unproved Reserves can be further categorized into Probable Reserves and Possible Reserves as follows:

   - Probable Reserves are those additional quantities of petroleum obtained from an analysis of geoscience and/or engineering data similar to that used in the estimation of Proved Reserves but with less production possibility.
   - Possible Reserves are those additional quantities of petroleum obtained from an analysis of geoscience and/or engineering data similar to that used in the estimation of Probable Reserves but with less production possibility than both Proved Reserves and Probable Reserves.

The Company's Proved Reserves are inspected and reviewed annually by our earth scientists and reservoir engineers to ensure the industry's rigorous professional standards.

Proved Reserves are reported on a gross basis which includes the Company's net working interest and related host country's interest. As of December 31, 2023, the total amount of Proved Reserves of PTTEP Group's projects[1] was 353 million stock-tank barrels (MMSTB) of crude oil and condensate[2] and 6,620 billion standard cubic feet (BSCF) of natural gas or 1,083 million barrels of oil equivalent (MMBOE). The total amount of Proved Reserves in terms of oil equivalent was therefore 1,436 MMBOE. Details of the Company's Proved Reserves are shown in the following table.

Remarks:
1 Include APICO Joint Venture project
2 Include Natural Gas Liquids (NGL)

PTT Exploration and Production Public Company Limited Crude, Condensate and Natural Gas Proved Reserves[1] As of December 31, 2023									
	Crude and Condensate[2] (Million Barrels)			Natural Gas (Billion Cubic Feet)			Barrel of Oil Equivalent (Million Barrels)		
	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total
The Company's share of reserves of consolidated companies									
Proved Reserves as of December 31, 2022	133	232	365	3,491	2,981	6,472	704	730	1,434
1) Revision of previous estimates	32	1	33	617	(1)	616	123	1	124
2) Improved recovery	3	0	3	2	-	2	3	0	3
3) Extensions and discoveries	10	3	13	273	278	551	55	46	101
4) Purchases/Sales of petroleum in place	-	(1)	(1)	-	-	-	-	(1)	(1)
5) Production	(35)	(25)	(60)	(686)	(379)	(1,065)	(146)	(86)	(232)
Proved Reserves as of December 31, 2023	143	210	353	3,697	2,879	6,576	739	690	1,429
The Company's share of reserves of equity companies									
Proved Reserves as of December 31, 2022	0	-	0	51	-	51	8	-	8
1) Revision of previous estimates	(0)	-	(0)	1	-	1	0	-	0
2) Improved recovery	-	-	-	-	-	-	-	-	-
3) Extensions and discoveries	-	-	-	-	-	-	-	-	-
4) Purchases/Sales of petroleum in place	-	-	-	-	-	-	-	-	-
5) Production	(0)	-	(0)	(8)	-	(8)	(1)	-	(1)
Proved Reserves as of December 31, 2023	0	-	0	44	-	44	7	-	7
Total Proved Reserves as of December 31, 2023	143	210	353	3,741	2,879	6,620	746	690	1,436

Remarks:

[1] Proved Reserves are reported on a gross basis which includes the Company's net working interest and the related host country's interest.

[2] Includes Natural Gas Liquids (NGL).

Furthermore, in order to improve efficiency, check and balance of the Reserves estimation, reporting and disclosure, the Company maintains a Reserves Committee which has the following roles and responsibilities:

- Review and endorse the Company's Annual Reserves
- Review and approve Major Changes of Reserves, and Reserves for Newly-Acquired Project
- Ensure that all activities that related to reserves estimation and disclosure of reserves information conform to regulatory and legal requirements as well as to corporate and international standards
- Approve Annual Reserves Audit Plan, appoint Reserves Auditor, as well as approve Reserves Audit Report to ensure compliance with the Company's framework and continual process improvement.

(3) Petroleum Production

In 2023, the total production of PTTEP Group[1] was 233 MMBOE, consisting of 60 MMSTB of crude oil and condensate[2] and 1,073 BSCF (173 MMBOE) of natural gas. This was equivalent to the average production rate of 638,319 barrels of oil equivalent per day (BOED) which was approximately 53,075 BOED or 9 percent increase from the previous year. The increase in production mainly comes from G1/61 Project production ramp-up to 400 MMSCFD since June 28, 2023. In addition, Block 16 and 17 of Bongkot Concession expired on March 7, 2023 and has become G2/61 Production Sharing Contract (PSC) since March 8, 2023.

1.2.11 PTTEP and Our Subsidiaries' Assets

(1) Property, Plant, and Equipment

Oil and Gas Properties

PTTEP and our subsidiaries' properties are mainly jointly controlled oil and gas properties in each project. These properties comprise land, buildings, construction, equipment and facilities, transportation pipeline, capitalized exploratory and production drilling costs, decommissioning costs, which are estimated by PTTEP Group's engineers and management's judgment, and acquisition costs of petroleum rights or acquisition costs of the portion of properties.

As of December 31, 2023, PTTEP and our subsidiaries' oil and gas properties are represented as share of the investments in individual assets for each project. The details of share of the investments in the project are disclosed in Part 3 Financial Report in Notes to the Consolidated and Separate Financial Statements No. 17 Investments in subsidiaries, associates, joint ventures, and joint operations.

Remarks:
1 Include APICO Joint Venture project
2 Include Natural Gas Liquids (NGL)

As of December 31, 2023, details of properties' net book value are as follows:

Unit: Million US Dollar

Details of properties	Historical cost	Accumulated depreciation	Allowance for impairment of assets	Net book value
Oil and Gas Properties	30,966	(21,582)	(279)	9,105
Exploration and Evaluation Assets	2,756	-	-	2,756
Right-of-use Assets	1,338	(499)	-	839
Goodwill	1,938	-	(585)	1,353
Pipeline and Others	1,351	(647)	-	704
Assets under Construction	3,190	-	-	3,190
Total	41,539	(22,728)	(864)	17,947

(2) Investments

Details of PTTEP's subsidiaries, associates, joint ventures, and joint operations are disclosed in Part 3 Financial Report in Notes to the Consolidated and Separate Financial Statements No. 17 Investments in subsidiaries, associates, joint ventures, and joint operations.

(3) Net Book Value

As of December 31, 2023, PTTEP's net book value amounted to USD 14,594 million (equivalent to THB 499,443 million) or USD 3.68 per share (equivalent to THB 125.80 per share).

1.2.12 Backlogs

- None -

1.3 Shareholding Structure of PTTEP Group

1.3.1 Shareholding Structure of PTTEP Group

(1) Operational Policy of PTTEP Group

PTTEP has continuously expanded our E&P business, including in related businesses and Non-E&P, domestically and internationally. The establishment of subsidiaries and/or associated companies in various regions is necessary for investing, improving our operational efficiency, competing with other international oil companies, operational flexibility, and adjusting to global economic changes. Several factors, such as laws and regulations, financial structures, tax regimes, business and investment conditions, and risk management need to be taken into consideration in any decision to set up a subsidiary or an associated company.

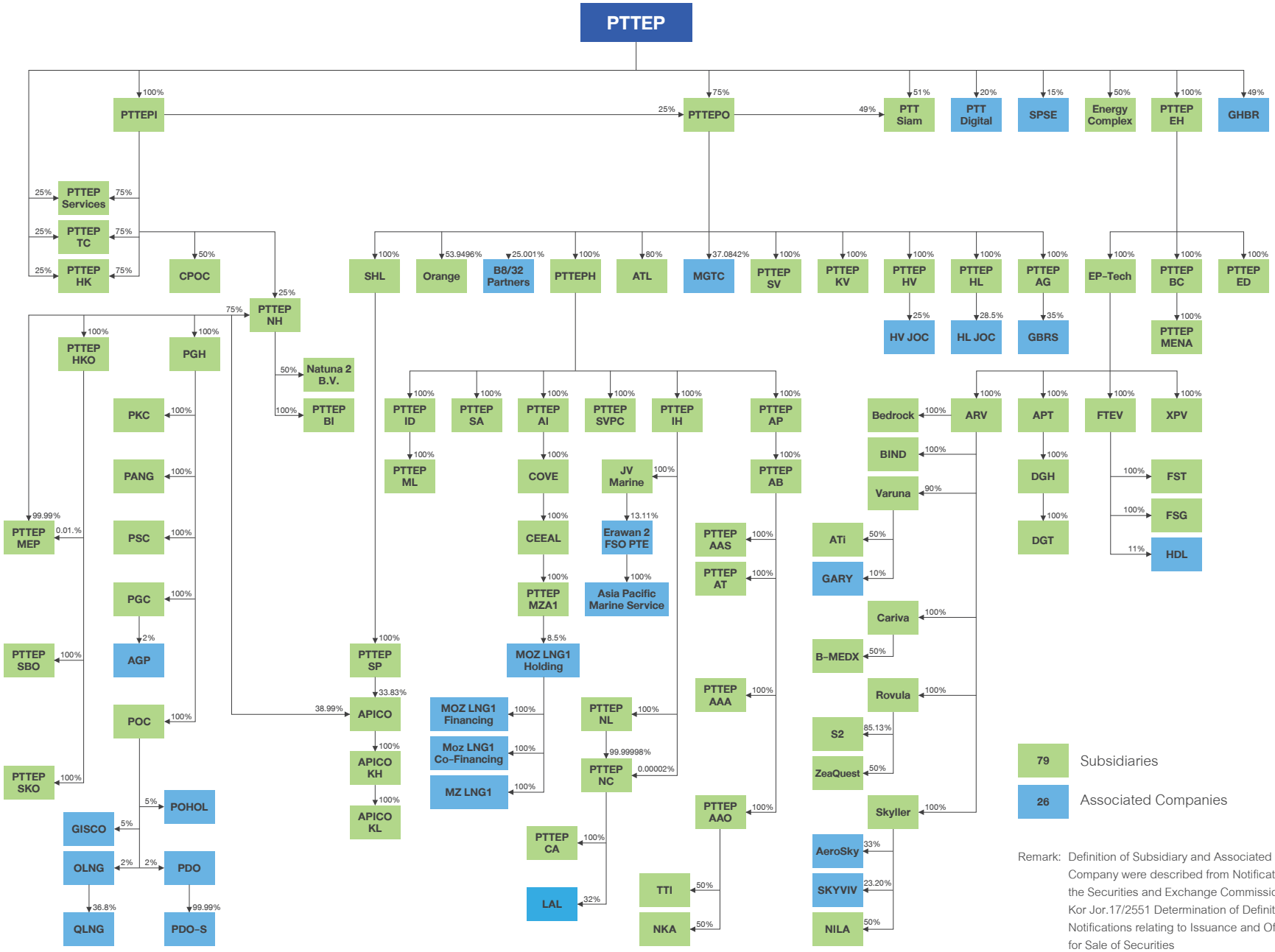
It is our policy to manage PTTEP's subsidiaries in line with PTTEP's business direction and strategy. We designate PTTEP executives and staff to second into key positions of PTTEP's subsidiaries. The strategic direction and financial investment of PTTEP's subsidiaries are overseen by the Company. The Board of Directors of the subsidiaries, especially the Non-E&P business, e.g. ARV, possess the authority to make decisions on business management with the aim of achieving the set targets and strategy. As for the associated companies, we nominate PTTEP representatives to serve as shareholders and/or members of the Board of Directors in accordance with the terms of investment, in order to take part in the decision-making of the overall business strategy and policy of these companies. To manage both the subsidiaries and associated companies, we adhere to the Good Corporate Governance and Business Ethics of PTTEP Group, in order to ensure effectiveness, transparency, fairness, and the attainment of our business goals.

With respect to the selection of directors of the Company's subsidiaries and associated companies, we designate PTTEP executives responsible for projects under each relevant subsidiary and associated company as directors of these entities to ensure that they are managed in line with the Company's business direction and strategy. We may also appoint a local director, if required by the domestic laws and regulations or investment conditions. The subsidiaries and associated companies meanwhile are obligated to report their performance to the Company on a quarterly basis in order to ensure their performance and effectiveness.

PTTEP supervises its subsidiaries and associated companies through the management of PTTEP Group companies. We establish adequate and appropriate monitoring and assessing systems, which include risk management, internal audit and control, compliance with rules and regulations, compliance with good corporate governance and business ethics, and we regularly report the performance to the Corporate Governance and Sustainability Committee. We are also aware of the significance of information disclosure in accordance with the principles of good corporate governance, details as disclosed in "Internal Controls and Connected Transactions" section, "Sufficiency and Suitability of the Internal Control System" topic.

(2) Shareholding Structure of PTTEP Group

As of December 31, 2023, PTTEP invested in 105 legal entities, comprising 79 subsidiaries and 26 associated companies. PTTEP Group Shareholding Structure is illustrated below:



Remark: Definition of Subsidiary and Associated Company were described from Notification of the Securities and Exchange Commission Kor Jor.17/2551 Determination of Definitions in Notifications relating to Issuance and Offer for Sale of Securities

(3) Information of PTTEP

Company Name	PTT Exploration and Production Public Company Limited (PTTEP)
Headquarters Address	555/1 Energy Complex Building A, Floors 19-36, Vibhavadi Rangsit Road, Chatuchak, Bangkok 10900, Thailand
Type of Business	Exploration and production of petroleum and investments in related businesses
Registration Number	0107535000206
Telephone	+66 2537 4000
Facsimile	+66 2537 4444
Website	www.pttep.com
Email	Independent Director: IndependentDirector@pttep.com Investor Relations: IR@pttep.com Company Secretary: CorporateSecretary@pttep.com
Registered Capital	3,969,985,400 ordinary shares with THB 1 per share (THB 3,969,985,400)
Paid-Up Capital	3,969,985,400 ordinary shares with THB 1 per share (THB 3,969,985,400) as of December 31, 2023

(4) Subsidiaries and Associated Companies Information

- Subsidiaries Information[1]

As of December 31, 2023, there were 79 subsidiaries that shared the same contact address, telephone, and facsimile numbers as PTTEP as in 1.3 (2). Details of the directors designated by PTTEP Group for each subsidiary are disclosed in Attachment 2 as follows:

No.	Abbreviation	Company Name	Number of Shares Sold		Total Direct/ Indirect Holding	
E&P						
1	APICO	APICO LLC	338,278 389,937	Ordinary Share	PTTEP SP PTTEP HK	33.83% 38.99%
2	APICO KH	APICO Khorat (Holdings) LLC	-	-	APICO	100%
3	APICO KL	APICO (Khorat) Limited	5,885,168	Ordinary Share	APICO KH	100%
4	CEEAL	Cove Energy East Africa Limited	105,000	Ordinary Share	COVE	100%
5	COVE	Cove Energy Limited	573,961,944	Ordinary Share	PTTEP AI	100%
6	CPOC	Carigali-PTTEPI Operating Company Sdn Bhd.	350,000	Ordinary Share	PTTEPI	50%
7	EP-Tech	EP-Tech Ventures Holding Company Limited	42,579,630	Ordinary Share	PTTEP EH	100%
8	JV Marine	JV Marine Limited	50,000	Ordinary Share	PTTEP IH	100%
9	Natuna	Natuna 2 B.V.	90,000	Ordinary Share	PTTEP NH	50%
10	Orange	Orange Energy Limited	1,000,000	Ordinary Share	PTTEPPO	53.9496%
11	PANG	PTTEP (Angola) Corporation	50,000	Ordinary Share	PGH	100%
12	PGC	PTTEP Gas Corporation	2,000,000	Ordinary Share	PGH	100%
13	PGH	PTTEP Group Holding B.V.	100,000	Ordinary Share	PTTEP HK	100%
14	PKC	PTTEP (Kazakhstan) Corporation	500	Ordinary Share	PGH	100%
15	POC	PTTEP Oman E&P Corporation	2,500	Ordinary Share	PGH	100%
16	PSC	Partex Services Corporation	3,000	Ordinary Share	PGH	100%
17	PTTEP AAA	PTTEP Australasia (Ashmore Cartier) Pty Ltd	1,700,000	Ordinary Share	PTTEP AB	100%

Remark:

[1] Notification of the Securities and Exchange Commission No. Kor Jor. 17/2551 Re: Determination of Definitions in Notifications relating to Issuance and Offer for Sale of Securities

No.	Abbreviation	Company Name	Number of Shares Sold		Total Direct/ Indirect Holding	
18	PTTEP AAO	PTTEP Australasia (Operations) Pty Ltd	106,686,517	Ordinary Share	PTTEP AB	100%
19	PTTEP AAS	PTTEP Australasia (Staff) Pty Ltd	10	Ordinary Share	PTTEP AB	100%
20	PTTEP AB	PTTEP Australia Browse Basin Pty Ltd	50,000	Ordinary Share	PTTEP AP	100%
21	PTTEP AG	PTTEP Algeria Company Limited	50,000	Ordinary Share	PTTEPO	100%
22	PTTEP AI	PTTEP Africa Investment Limited	50,000	Ordinary Share	PTTEPH	100%
23	PTTEP AP	PTTEP Australia Perth Pty Ltd	50,000	Ordinary Share	PTTEPH	100%
24	PTTEP AT	PTTEP Australia Timor Sea Pty Ltd	50	Ordinary Share	PTTEP AB	100%
25	PTTEP BI	PTTEP Brazil Investment B.V.	50,000	Ordinary Share	PTTEP NH	100%
26	PTTEP CA	PTTEP Canada Limited	3,812,732,290	Ordinary Share	PTTEP NC	100%
27	PTTEP ED	PTTEP Energy Development Company Limited	421,019,233	Ordinary Share	PTTEP EH	100%
28	PTTEP EH	PTTEP Energy Holding (Thailand) Company Limited	703,963,215	Ordinary Share	PTTEP	100%
29	PTTEP HK	PTTEP HK Holding Limited	10,000	Ordinary Share	PTTEP PTTEPI	25% 75%
30	PTTEP HKO	PTTEP HK Offshore Limited	10,000	Ordinary Share	PTTEP HK	100%
31	PTTEP HL	PTTEP Hoang-Long Company Limited	50,000	Ordinary Share	PTTEPO	100%
32	PTTEP HV	PTTEP Hoan-Vu Company Limited	50,000	Ordinary Share	PTTEPO	100%
33	PTTEP ID	PTTEP Indonesia Company Limited	50,000	Ordinary Share	PTTEPH	100%
34	PTTEP IH	PTTEP International Holding Company Limited	50,000	Ordinary Share	PTTEPH	100%
35	PTTEP KV	PTTEP Kim Long Vietnam Company Limited	50,000	Ordinary Share	PTTEPO	100%
36	PTTEP MENA	PTTEP MENA Limited	500	Ordinary Share	PTTEP BC	100%
37	PTTEP MEP	PTTEP Mexico E&P Limited, S. de R.L. de C.V.	3,000	Ordinary Share	PTTEP HK PTTEP HKO	99.99% 0.01%
38	PTTEP ML	PTTEP Malunda Limited	50,000	Ordinary Share	PTTEP ID	100%
39	PTTEP MZA1	PTTEP Mozambique Area 1 Limited	105,000	Ordinary Share	CEEAL	100%

No.	Abbreviation	Company Name	Number of Shares Sold	Total Direct/ Indirect Holding
40	PTTEP NC	PTTEP Netherlands Coöperatie U.A.	- -	PTTEP IH 0.00002% PTTEP NL 99.99998%
41	PTTEP NH	PTTEP Netherlands Holding Coöperatie U.A.	- -	PTTEP HK 75% PTTEPI 25%
42	PTTEP NL	PTTEP Netherland Holding Limited	50,000 Ordinary Share	PTTEP IH 100%
43	PTTEP SA	PTTEP South Asia Limited	50,000 Ordinary Share	PTTEPH 100%
44	PTTEP SBO	PTTEP Sabah Oil Limited	250,000 Ordinary Share	PTTEP HKO 100%
45	PTTEP SKO	PTTEP Sarawak Oil Limited	250,000 Ordinary Share	PTTEP HKO 100%
46	PTTEP SP	PTTEP SP Limited	61,279,587 Ordinary Share	SHL 100%
47	PTTEP SV	PTTEP Southwest Vietnam Company Limited	50,000 Ordinary Share	PTTEPO 100%
48	PTTEPH	PTTEP Holding Company Limited	50,000 Ordinary Share	PTTEPO 100%
49	PTTEPI	PTTEP International Limited	2,000,000,000 Ordinary Share	PTTEP 100%
50	PTTEPO	PTTEP Offshore Investment Company Limited	6,667 Ordinary Share	PTTEP 75% PTTEPI 25%
51	PTTEP Siam	PTTEP Siam Limited	1,000,000 Ordinary Share	PTTEP 51% PTTEPO 49%
52	SHL	Sinphuhorm Holdings Limited	100 Ordinary Share	PTTEPO 100%
E&P Related				
53	APT	Asia Power and Transportation SG Holding PTE. LTD. (investments in power and gas pipeline projects for overseas projects)	5,850,000 Ordinary Share	EP-Tech 100%
54	ATL	Andaman Transportation Limited (investments in gas pipeline projects for overseas projects)	62,500 Ordinary Share	PTTEPO 80%
55	DGH	Delta Gas Transportation SG Holding PTE. LTD. (investments in gas pipeline projects for overseas projects)	5,600,000 Ordinary Share	APT 100%

No.	Abbreviation	Company Name	Number of Shares Sold	Total Direct/ Indirect Holding
56	DGT	Delta Gas Transportation Limited (investments in gas pipeline projects for overseas projects)	50,000 Ordinary Share	DGH 100%
57	PTTEP BC	PTTEP Business Center Company Limited (business center for PTTEP and subsidiaries)	2,249,178,269 Ordinary Share	PTTEP EH 100%
58	PTTEP Services	PTTEP Services Limited (personnel services support)	1,000,000 Ordinary Share	PTTEP 25% PTTEPI 75%
59	PTTEP SVPC	PTTEP Southwest Vietnam Pipeline Company Limited (investments in gas pipeline projects for overseas projects)	50,000 Ordinary Share	PTTEPH 100%
60	PTTEP TC	PTTEP Treasury Center Company Limited (treasury center for PTTEP and subsidiaries)	10,000,000 Ordinary Share	PTTEP 25% PTTEPI 75%
Other Businesses				
61	ARV	AI and Robotics Ventures Company Limited (research and development and providing service for AI and robotics)	35,006,250 Ordinary Share	EP-Tech 100%
62	ATi	ATI Technologies Company Limited (development and provision of technologies for the agricultural sector)	4,000,000 Ordinary Share	Varuna 50%
63	B-MED X	B-MED X Company Limited (services for health care digital platforms)	200,000 Ordinary Share	Cariva 50%
64	Bedrock	Bedrock Analytics Company Limited (development and provision of a platform and spatial data analysis with AI and machine learning technology under the name of the location intelligence platform)	28,000,000 Ordinary Share	ARV 100%

No.	Abbreviation	Company Name	Number of Shares Sold		Total Direct/ Indirect Holding	
65	BIND	Bind Systems Company Limited (development of digital identity systems)	500,000	Ordinary Share	ARV	100%
66	Cariva	Cariva (Thailand) Company Limited (development and provision of AI and robotic technologies for personal health, safety and exercise)	19,352,560	Ordinary Share	ARV	100%
67	Energy Complex	Energy Complex Company Limited (property leasing)	180,000,000	Ordinary Share	PTTEP	50%
68	FSG	FutureTech SG Pte. Ltd. (investment in renewable energy business and various forms of power)	50,000	Ordinary Share	FTEV	100%
69	FST	FutureTech Solar (Thailand) Company Limited (renewable energy business and electric power)	1,419,090	Ordinary Share	FTEV	100%
70	FTEV	FutureTech Energy Ventures Company Limited (renewable energy business and various forms of power)	1,529,470	Ordinary Share	EP-Tech	100%
71	NKA	North Kimberley Airport Pty Ltd (air base operations)	600	Ordinary Share	PTTEP AAO	50%
72	NILA	NILA Solutions Company Limited (development and provision of drone services, AI and robotic technologies for air logistics, explore and collect data about buildings)	200,000	Ordinary Share	Skyller	50%
73	Rovula	Rovula (Thailand) Company Limited (development and provision of AI and robotic technologies for subsea engineering)	122,280,490	Ordinary Share	ARV	100%

No.	Abbreviation	Company Name	Number of Shares Sold		Total Direct/ Indirect Holding	
74	S2	S2 Robotics Company Limited (development and provision of robotics and artificial intelligence technologies for inspecting and repairing underwater oil and natural gas pipelines)	1,439,997	Ordinary Share	Rovula	85.13%
75	Skyller	Skyller Solutions Company Limited (development and provision of drone services, AI and robotic technologies for air logistics)	36,412,270	Ordinary Share	ARV	100%
76	TTI	Troughton Island Pty Ltd (air base operations)	100	Ordinary Share	PTTEP AAO	50%
77	Varuna	Varuna (Thailand) Company Limited (development and provision of drone services, AI and robotic technologies for agriculture and forestry)	35,436,151	Ordinary Share	ARV	90%
78	XPV	Xplor Ventures Company Limited (venture capital in technologies and innovation business or mutual fund in energy and technologies business or digital asset)	4,064,835	Ordinary Share	EP-Tech	100%
79	ZeaQuest	ZeaQuest Company Limited (development and provision of AI and robotic technologies for subsea engineering)	1,550,000	Ordinary Share	Rovula	50%

- Associated Companies Information[1]

As of December 31, 2023, PTTEP had 26 associated companies as follows:

No.	Abbreviation	Company Name	Number of Shares Sold		Total Direct/ Indirect Holding	
1	AeroSky	AeroSky Solutions Co., Ltd. (drone solutions for infrastructure and equipment inspection)	300,000	Ordinary Share	Skyller	33%
2	AGP	Abu Dhabi Gas Industries Limited (gas processing facility)	8,000	Ordinary Share	PGC	2%
3	Asia Pacific Marine Services	Asia Pacific Marine Services (EF) B.V. (FSO vessel rental service)	18,000	Ordinary Share	Erawan 2 FSO PTE	100%
4	B8/32 Partners	B8/32 Partners Limited (petroleum exploration and production)	110,000	Ordinary Share	PTTEPO	25.001%
5	Erawan 2 FSO PTE	Erawan 2 FSO PTE. Ltd. (FSO vessel rental service)	100	Ordinary Share	JV Marine	13.11%
6	GARY	Green Aranya Company Limited (trading carbon credits to support environmental sustainability)	33,335	Ordinary Share	Varuna	10%
7	GBRS	Groupement Bir Seba (petroleum exploration and production)	-[2]	-	PTTEP AG	35%
8	GHBR	Groupement Hassi Bir Rekaiz (petroleum exploration and production)	-[3]	-	PTTEP	49%
9	GISCO	Gas Investments and Services Company Limited (financial investment and petroleum technical service in overseas project)	12,000	Ordinary Share	POC	5%

Remarks:

[1] Notification of the Securities and Exchange Commission No. Kor Jor. 17/2551 Re: Determination of Definitions in Notifications relating to Issuance and Offer for Sale of Securities

[2] No share was issued. Percentage of shareholding is subject to participation interest in the concession.

[3] No share was issued. Percentage of shareholding is subject to participation interest in the concession.

No.	Abbreviation	Company Name	Number of Shares Sold		Total Direct/ Indirect Holding	
10	HDL	Hydrogen Duqm LLC (exclusive development and production rights of green hydrogen project)	1,500,000	Ordinary Share	FTEV	11%
11	HL JOC	Hoang Long Joint Operating Company (petroleum exploration and production)	-[4]	-	PTTEP HL	28.5%
12	HV JOC	Hoan-Vu Joint Operating Company (petroleum exploration and production)	-[5]	-	PTTEP HV	25%
13	LAL	Leismer Aerodrome Limited (air base operations)	200	Ordinary Share	PTTEP CA	32%
14	MGTC	Moattama Gas Transportation Company Limited (gas pipeline in overseas project)	1,000,000	Ordinary Share	PTTEPO	37.0842%
15	Moz LNG1 Co-Financing	MOZ LNG1 Co-Financing Company, LDA (financial investment in overseas project)	1,000,000	Ordinary Share	MOZ LNG1 Holding	100%
16	MOZ LNG1 Financing	MOZ LNG1 Financing Company Ltd. (financial investment in overseas project)	140,000,000	Ordinary Share	MOZ LNG1 Holding	100%
17	MOZ LNG1 Holding	MOZ LNG1 Holding Company Ltd. (petroleum exploration and production)	39,306,771	Ordinary Share	PTTEP MZA1	8.5%
18	MZ LNG1	Mozambique LNG 1 Company Pte. Ltd. (petroleum exploration and production)	2,500	Ordinary Share	MOZ LNG1 Holding	100%
19	OLNG	Oman LNG LLC (LNG liquefaction plant)	1,209,877	Ordinary Share	POC	2%
20	PDO	Petroleum Development Oman LLC (petroleum exploration and production)	1,720	Ordinary Share	POC	2%

Remarks:

[4] No share was issued. Percentage of shareholding is subject to participation interest in the concession.

[5] No share was issued. Percentage of shareholding is subject to participation interest in the concession.

No.	Abbreviation	Company Name	Number of Shares Sold		Total Direct/ Indirect Holding	
21	PDO-S	Petroleum Development Oman Services LLC (petroleum technical service)	500,000	Ordinary Share	PDO	99.99%
22	POHOL	Private Oil Holdings Oman Limited (holding of participating interests in oil and gas)	649,152	Ordinary Share	POC	5%
23	PTT Digital	PTT Digital Solutions Company Limited (information technology and communication services)	15,000,000	Ordinary Share	PTTEP	20%
24	QLNG	Qalhat Liquefied Natural Gas SAOC (LNG liquefaction plant)	1,795,000	Ordinary Share	OLNG	36.8%
25	SKYVIV	SkyVIV Company Limited (distribution and service for engineering and integrated agriculture drone)	403,648	Ordinary Share	Skyller	23.20%
26	SPSE	Sarn Palung Social Enterprise Company Limited (social enterprise)	1,000,000	Ordinary Share	PTTEP	15%

1.3.2 Parties with potential conflicts

- None -

1.3.3 Relationship with the Major Shareholder

The Company's petroleum exploration and production business is part of the business group of PTT Public Company Limited (PTT), our major shareholder, the national energy company which engages in fully integrated petroleum and petrochemical businesses by strategically investing directly and indirectly through its group of companies, both in the upstream and downstream businesses.

Currently, PTT holds (both directly and indirectly) approximately 65.29 percent of PTTEP's registered and paid-up capital with PTTEP's petroleum exploration and production business, effectively making PTT Group the only full-scale natural gas business operator in Thailand. As the major buyer of the Company's petroleum products, PTT, in turn, refines and processes the products and supplies them as energy and raw materials for the power, petrochemical, transportation sectors as well as other industries and households.

In 2023, PTTEP supplied crude oil, natural gas, LPG, and condensate to PTT. Conditions and price settings of all transactions between PTTEP and PTT follow the normal business practices at the arm's length basis conditions for businesses conducted with external partners. Details of connected transactions between PTTEP and PTT are disclosed under the "Connected Transactions" topic.

1.3.4 Shareholders

(1) Major Shareholders*

As of February 20, 2024, top 10 shareholders of PTTEP were as follows:

Rank	List of Major Shareholders	Number of Shares	% of Total
1	PTT PUBLIC COMPANY LIMITED[1]	2,532,340,489	63.79
2	THAI NVDR COMPANY LIMITED	313,789,303	7.90
3	STATE STREET EUROPE LIMITED	108,674,008	2.74
4	SOUTH EAST ASIA UK (TYPE C) NOMINEES LIMITED	71,028,498	1.79
5	SIAM MANAGEMENT HOLDING COMPANY LIMITED[2]	59,520,000	1.50
6	BNY MELLON NOMINEES LIMITED	36,215,562	0.91
7	CITIBANK NOMINEES SINGAPORE PTE LTD-A/C GIC C	35,184,634	0.89
8	SOCIAL SECURITY OFFICE	29,406,877	0.74
9	STATE STREET BANK AND TRUST COMPANY	18,688,040	0.47
10	SOUTH EAST ASIA UK (TYPE A) NOMINEES LIMITED	11,996,572	0.30
	Total number of shares held by major shareholders	3,216,843,983	81.03
	Total fully-paid capital as of February 20, 2024	3,969,985,400	100

Remarks:

* Updated information can be accessed through PTTEP website. Click here for more information

1 The Ministry of Finance, Thailand, is the major shareholder of PTT Public Company Limited (PTT).

2 A wholly-owned subsidiary of PTT

(2) NVDR Holders**

Rank	NVDR holders, as of February 20, 2024 (Top 3)	Number of NVDR issues	% of total outstanding shares
1	STATE STREET EUROPE LIMITED	67,748,270	1.71
2	STATE STREET BANK AND TRUST COMPANY	36,331,628	0.92
3	SOUTH EAST ASIA UK (TYPE C) NOMINEES LIMITED	21,760,182	0.55
	Total shares	125,840,000	3.18

Remark:

** Since January 18, 2010, Thai NVDR Co., Ltd. has changed its rule to require a disclosure of names of NVDR holders having over 0.50% of paid-up capital of the underlying securities.

Updated information can be accessed through PTTEP website. Click here for more information

(3) Major Shareholder with Significant Influence over PTTEP's Policies or Operations

PTT, a major shareholder of PTTEP, takes part in determining PTTEP's policy and operations under the Board's approval. As of December 31, 2023, 3 out of the Company's 13 directors were either directors or executives from PTT.

(4) The Company Enters into Shareholders' Agreement with Effect to Security Offering and Issuance or Management Power of the Company

- None -

1.4 Registered and Paid-up Capital

As of December 31, 2023, PTTEP's capital structure consisted of USD 3,654 million in interest-bearing debt and USD 14,594 million in shareholders' equity, amounting to debt to equity ratio of 0.25 Details of the capital structure are as follows:

1.4.1 Ordinary Shares

As of December 31, 2023, PTTEP's registered and paid-up capital was THB 3,969,985,400, consisting of 3,969,985,400 ordinary shares at a par value of THB 1 per share.

1.4.2 Others Shares with Different Terms or Rights from Ordinary Shares

- None -

1.4.3 Number of Shares and the Effects of NVDR Issuance on Shareholders' Voting Rights

An NVDR or Non-Voting Depository Receipt is a trading instrument issued by the Thai NVDR Company Limited, a wholly-owned subsidiary of the Stock Exchange of Thailand (SET). NVDRs are treated as listed securities (Automatic Listing) on the SET. The objective of NVDRs is to promote trading activities in the Thai stock market by removing obstacles such as foreign investment limits and other impediments faced by international institutional investors investing in listed securities on the SET. NVDR investors are entitled to receive all financial benefits, such as dividends, right issues, and warrants, as if they invest in ordinary shares. The major difference between investing in NVDRs and ordinary shares is the lack of voting rights of the former. NVDR holders generally are not allowed to participate and vote in shareholders' meetings except only in the case where the company wishes to delist itself from the SET. In addition, although NVDRs are designed mainly to ease foreign investment barriers; the SET does not prohibit Thai investors from investing in the instrument. Details of the total PTTEP shares held by NVDRs are disclosed in the "Shareholders" topic.

1.5 Issuance of Other Securities

1.5.1 Convertible Securities

- None -

1.5.2 Debt Securities

Debentures

PTTEP has investment-grade credit ratings of Baa1, BBB+, and BBB+ from reputable international credit-rating agencies, namely, Moody's Investors Service (Moody's), Standard & Poor's Ratings Services (Standard & Poor's), and Fitch Ratings (Fitch) respectively. In addition, the Company has also been given a rating of AAA, the highest credit rating, by TRIS Rating Co., Ltd. (TRIS) which is a credit-rating agency in Thailand.

In May 2023, PTTEP Treasury Center Company Limited (PTTEP TC), a wholly-owned subsidiary of PTTEP Group issued 3-year senior guaranteed debentures with a bondholders' representative to institutional investors for THB 1,500 million, carrying the coupon rate of 2.51 percent per annum and is fully guaranteed by PTTEP.

In June 2023, PTTEP exercised liability management of US$ denominated debentures which consisted of a transfer of all outstanding Senior Debentures due in 2042 (2042 Notes) issued by PTTEP Canada International Finance Limited (PTTEP CIF) to PTTEP TC, and issued an offer to partially repurchase USD 31,894,000 for the 2042 Notes and USD 50,000,000 for the Senior Debentures due in 2059. After the liability management exercise, the remaining outstanding principal amount of each Note is USD 458,106,000 and USD 600,000,000, respectively.

As of December 31, 2023, PTTEP had the following outstanding debentures:

1) Details of THB debentures (total outstanding amount: THB 30,900 million)

Debt Security	Issued Date	Maturity Date	Tenor	Outstanding (Unit: THB Million)	Rate per Annum	Credit Rating[1]
						TRIS
THB senior debentures	June 6, 2014	June 6, 2029	15 years	11,400[2]	Fixed 4.82%, coupon payment: semi annually	AAA
	November 5, 2021	November 5, 2026	5 years	6,000[3]	A step-up fixed interest rate of 2.00% - 2.75% per annum, averaging to 2.25% per annum. coupon payment: semi-annually	AAA
	April 5, 2022	April 5, 2027	5 years	5,000[4]	Fixed 2.09%, coupon payment: semi-annually	AAA
	April 5, 2022	April 5, 2029	7 years	1,000[5]	Fixed 2.69%, coupon payment: semi-annually	AAA
	April 5, 2022	April 5, 2032	10 years	6,000[6]	Fixed 3.05%, coupon payment: semi-annually	AAA
	May 10, 2023	May 10, 2026	3 years	1,500	Fixed 2.51%, coupon payment: semi-annually	AAA

Remarks:

1 The latest credit ratings were issued by TRIS on March 21, 2023 for debentures issued in 2014 and 2021 by PTTEP and April 21, 2023 for debentures issued in 2022 and 2023 by PTTEP TC.

2 Issued by PTTEP; and in 2014, PTTEP entered into a CCS to swap THB 11,400 million for USD 349.05 million with an interest rate of 4.99% per annum.

3 Issued by PTTEP; and in 2021, PTTEP entered into a CCS to swap THB 6,000 million for USD 181.82 million with an interest rate of 2.54% per annum.

4 Issued by PTTEP TC, and fully guaranteed by PTTEP; and in 2022 PTTEP TC entered into a CCS to swap THB 5,000 million for USD 148.15 million with an interest rate of 2.88%-3.26% per annum.

5 Issued by PTTEP TC, and fully guaranteed by PTTEP; and in 2022 PTTEP TC entered into a CCS to swap THB 1,000 million for USD 29.76 million with an interest rate of 3.68% per annum.

6 Issued by PTTEP TC, and fully guaranteed by PTTEP; and in 2022 PTTEP TC entered into a CCS to swap THB 5,720 million for USD 170.75 million with an interest rate of 4.05%-4.16% per annum.

2) Details of USD debentures (total outstanding amount: USD 1,908 million)

Debt Security	Issued Date	Maturity Date	Tenor	Outstanding (Unit: USD Million)	Rate per Annum	Credit Rating[1]		
						Moody's	Standard & Poor's	Fitch
USD debentures, unsecured, senior	June 12, 2012	June 12, 2042	30 years	458[2]	Fixed 6.350%, coupon payment: semi-annually	Baa1	BBB+	BBB+
	December 6, 2019	December 6, 2059	40 years	600[3]	Fixed 3.903%, coupon payment: semi-annually	Baa1	NA	BBB+
	January 15, 2020	January 15, 2030	10 years	350[4]	Fixed 2.993%, coupon payment: semi-annually	Baa1	NA	BBB+
	June 10, 2020	June 10, 2027	7 years	500[4]	Fixed 2.587%, coupon payment: semi-annually	Baa1	NA	BBB+

Remarks:

1 The latest credit ratings were issued by Moody's on October 26, 2023, Standard & Poor's on June 25, 2023 and Fitch on May 31, 2023.

2 Issued by PTTEP CIF, and fully guaranteed by PTTEP; repurchased in the amount of USD 10 million and 32 million in 2013 and 2023. As a result, the outstanding principal amount has been decreased from USD 500 million to USD 458 million. Moreover, it has been novated from PTTEP CIF to PTTEP TC in June 2023.

3 Issued by PTTEP TC, and fully guaranteed by PTTEP; repurchased in the amount of USD 50 million in 2023. As a result, the outstanding principal amount has been decreased from USD 650 million to USD 600 million.

4 Issued by PTTEP TC, and fully guaranteed by PTTEP.

1.6 Dividend Payment Policy

Under normal circumstances, according to the Company's policy, PTTEP's Board of Directors generally recommends to the shareholders an annual dividend payment of not less than 30 percent of the net income after tax. The Board of Directors, as appropriate, may also resolve to pay interim dividends and subsequently inform the shareholders accordingly in the next shareholders' meeting. For the Company's subsidiaries, the dividend policy is subject to cash flow, future investment plans, and other factors necessary for the continuity of their operations and must be in compliance with related laws and regulations.

5-year dividend payment history of PTTEP is as follows:

Year	2019	2020	2021	2022	2023
Earnings per Share (THB)	11.72	5.65	9.70	17.94	18.89
Dividend per Share (THB)	6.00	4.25	5.00	9.25	9.50
Dividend Payout Ratio	49%	77%	50%	53%	49%

2. Risk Management

PTTEP attaches great importance to Risk Management which is part of the Company's main components of Governance, Risk Management, and Compliance (GRC) under the Sustainability Framework to ensure the achievement of our vision, mission, strategy, and business objectives as well as to respond appropriately to stakeholders' expectations. The main aim is to promote sustainable growth and create short-term and long-term value for stakeholders. Therefore, risk management framework and policy have been established to ensure that the Company adopts good risk governance and risk management policy that all members of the management and employees must adhere to.

2.1 Risk Management Policy and Plan

Risk Governance

The Board approves a Risk Governance Framework which determines the oversight responsibilities and authorities on risk management, demonstrating strong coordination, collaboration, and communication in managing risks effectively at the Board, the management, and business unit levels. In addition, the Board also approves a Risk Appetite Statement to be used as a framework for PTTEP to effectively execute business operations and seek business opportunities within acceptable risks.

In addition, the Board appoints and delegates risk oversight authorities to a Risk Management Committee. The Risk Management Committee approves the Enterprise Risk Management Policy and Framework as well as the Risk Metrics and Limits to determine the boundaries for PTTEP business activities and manage its risks within the organization's risk appetite. The risk management unit has been established to implement the Enterprise Risk Management Policy and Framework company-wide and foster risk awareness and culture among PTTEP personnel in all business units to achieve effective risk management. Key risks, especially corporate risks and emerging risks shall be periodically reported to the management, the Management Committee, the Risk Management Committee, and the Board of Directors promptly to ensure that key risks are well managed and to prevent the rise of negative surprises, reduce potential losses, and minimize recurrence risks in a timely manner.

PTTEP established a Risk Management Structure in accordance with the Three Lines Model provided by the Institute of Internal Auditors (IIA) that promotes strong risk governance and effective risk management. The First Line Roles involve all business units with the duty to operate business activities while managing risks (Risk Owner) at the same time. The risk owners work in conjunction with the Second Line Roles, which involve risk management units and other units that perform supporting functions (Subject Matter Experts or SMEs), e.g. Governance, Compliance, Internal Control, and Subsidiary Management Department, Safety, Security, Health and Environment (SSHE) unit. They provide advice and assistance on risk management. Lastly, the internal audit unit, being the Third Line Roles, performs an independent audit to ensure risk management is implemented effectively and efficiently while also providing recommendations for continuous improvement in order to maintain that all significant risk factors will be identified and dealt with in a timely manner.

Risk Management Policy and Plan

The Risk Management Committee approves Enterprise Risk Management Policy and Framework which emphasize proactive risk management practices and strong risk management culture. They provide a systematic risk management process that is aligned with the international standard ISO 31000:2018. In addition, the risk management frameworks of the Committee of Sponsoring Organizations of the Treadway Commission (COSO), Enterprise Risk Management – Integrating with Strategy and Performance (COSO ERM 2017), and COSO Enterprise Risk Management – Applying Enterprise Risk

Management to Environmental, Social and Governance-related Risks (COSO ESG 2018), have been applied to enhance the integration of enterprise risk management, strategic planning, and ESG-related risk management. The committees, the management, and employees at all levels have the responsibility to manage risks and promote comprehensive risk management to contractors, suppliers, and business partners to ensure the achievement of our vision, mission, strategy, and business objectives.

In accordance with the Enterprise Risk Management Policy and Framework, the risk management unit is responsible for overseeing overall risk management and providing support on the company-wide risk management both at the corporate level and operational level. Risk management strategy and plans have been formulated, with an aim to integrate risk management into business activities and decision-making processes covering core business activities in PTTEP, such as strategic planning management, investment and divestment decision-making, capital project management, operations, and business process management including business continuity management and ESG management. In addition, the necessary resources for risk management are allocated in proportion to the level of risk and cost-benefit consideration. At the same time, the progress of risk mitigation plans is monitored together with the key risk indicators (KRIs) as an early warning tool in order to set up additional mitigation measures in a timely manner. Furthermore, the risk management unit shall escalate key risks with high impact on the corporate level and consolidate with emerging risks to formulate a Corporate Risk Profile (CRP) in order to report to the management, the Management Committee, and the Risk Management Committee on a regular basis with prompt alert to the related committees should there be any significant changes in a timely manner.

In addition, PTTEP places importance on applying technology to increase the efficiency of risk management, for example, the web-based Risk Register System (RR System) enables risk owners to identify and analyze risks and enhance risk information communication throughout the organization. It also helps the Company to easily consolidate and escalate key risks to corporate risks and allows all relevant parties to monitor risk management anywhere and anytime conveniently. Throughout the past years, PTTEP has been able to manage key risks effectively with no surprise problems due to non-registered risks. Moreover, PTTEP continues to strive for more efficient and faster risk management by developing RIBOT which is an automated chatbot to enhance risk identification more comprehensively. This system can help search for risk information from existing databases for use as references for risk analysis and management.

PTTEP has developed a Business Continuity Management System (BCMS) which is part of the enterprise risk management. A business continuity framework has been issued in accordance with the international standard for business continuity management ISO 22301:2019 to build the organization's capability to be resilient and to develop a Business Continuity Plan (BCP) to prepare the Company to operate under emergency or crisis situations. The Business Continuity Plan (BCP) is regularly reviewed and exercised to ensure relevance and that those involved are able to apply the plan in an accurate and timely manner. In 2023, PTTEP enhanced its BCMS to be more centralized by establishing PTTEP ONE BCMS, by consolidating standards that have been certified by the British Standards Institution (BSI) which constitutes an international standard for business continuity management. Five ISO 22301 Certifications are those for PTTEP Headquarters, Petroleum Development Support Base (Songkhla Branch), Zawtika Production Operations and Business Support (Myanmar), S1 Project and the Malaysia Asset. They were combined into ONE Certification. This initiative enhances efficiency in the coordination of management, planning, and operations, ensuring alignment and cohesive direction. It also strengthens interconnections among business units that require support during crises.

In 2023, the Risk Management Department hired highly experienced risk professionals consulting company to assess the Enterprise Risk Management Maturity of

PTTEP with a view of reviewing the risk management framework against international standards and peers in order to utilize the assessment results to improve PTTEP's risk management to be more efficient.

Risk Culture

As PTTEP focuses on building a strong risk culture to strengthen risk management in the organization and ensure its sustainability, risk awareness is fostered among all PTTEP personnel together with competency development via training courses and various activities. The management at all levels are committed to serving as leaders and role models, as well as promoting the implementation of risk management as a corporate culture. In addition, the management also supports employees on regular reviews and improvement of risk management by applying lessons learned and knowledge management for continual development of efficient and effective risk management. The risk coordinators are assigned to each business unit and project both in domestic and international areas to work in coordination between risk owners and risk management units to drive the implementation of risk assessment and management throughout the organization.

In 2023, PTTEP continued its communication campaigns to build an understanding of risk management and business continuity management for all employees in the organization throughout the year through training courses, workshops both in domestic and international operating areas, and various online media channels, such as the series of the podcast "Low-Risk High Return", poster and E-Learning, etc., together with live broadcast channels to share important information on issues ranging from natural disasters like earthquakes to area and country-specific issues such as the background of the Palestine-Israeli war, and Mozambique from past to present, etc., to increase employees' awareness of the up-to-date important global issues that may be the cause of risks to the Company and themselves.

2.2 Risk Factors for Business Operations

Changing internal and external factors can have an impact on the Company's businesses such as unrest situations in various countries, including the Republic of the Union of Myanmar (Myanmar) and the Republic of Mozambique (Mozambique), oil price volatility, exchange rate, and interest rate volatilities, increasing cybersecurity threats, global warming, climate change, and natural disasters which have occurred more frequently and more severely, propelling the transition towards low carbon future and net zero greenhouse gas emissions, and disruptive technologies. PTTEP is therefore committed to managing all aspects of risks, namely strategic risks, operational risks, and emerging risks.

2.2.1 Current and Emerging Risks Facing Businesses of PTTEP and PTTEP Group

(1) Strategic & Portfolio Risks

1) New Investment Risks

PTTEP drives and increases the value of E&P business to maintain the reserves-to-production ratio by seeking new business opportunities with world-class strategic partners. The Company's core areas consist of Southeast Asia and the Middle East where the Company has a full range of expertise, coupled with being the regions that have acceptable geopolitical risks and relatively low costs of development and production. PTTEP has established a risk management process to assess each investment in various aspects, ranging from petroleum potential, size and project characteristics, acquisition procedures, additional reserves, operator's capability and performance, the attractiveness of the fiscal regime, geographical conditions, related laws and regulations, political stability, issues concerning international relations, and economic and financial stability. Moreover, the Company also seeks advice from consultants who have expertise in the invested country. Risk management measures are determined in

advance for the selection of projects and integration of risks into a return-on-investment analysis or a sales and purchase agreement/joint venture agreement.

In addition to E&P, PTTEP diversifies investment opportunities into environmentally friendly energy businesses that adopt new technology and processes with concerns on the environment, society, and corporate governance (ESG) for stable and sustainable growth. Examples include business opportunities in lower carbon energy, hydrogen, and Carbon Capture Utilization and Storage (CCUS) to support a low carbon future. The Company has drawn up plans to mitigate those risks which may potentially affect our operations and investment growth, such as adopting strict due diligence within the Company's investment risk limit, monitoring, and analyzing situational changes for strategy review and adjustment in a timely manner, considering regulatory requirements and economic feasibility as well as counterparty risks in order to develop clear mitigation plans in advance to reduce impact and likelihood of risks.

Investment in new projects, including farm-in and farm-out joint ventures, mergers and acquisitions, as well as withdrawal or divestment from any given project, must be intensively screened by the Investment Committee and the Management Committee. Their responsibilities are to assess and ensure that each project adheres to the Company's investment direction and strategy, before proposing it to the Risk Management Committee prior to the final approval of the Board of Directors.

2) Organizational Capability Risks

Organizational capabilities such as human resources, business processes, and technology and innovation readiness are key factors in the achievement of the Company's targets and are also considered as key components in determining capabilities and are an important mechanism that helps drive business growth for the Company. Potential risks may arise from a lack of expertise and knowledge, a lack of effectiveness and efficiency of business processes, and disruptive technology risks. In this regard, PTTEP has accelerated efforts to enhance our knowledge management, business processes, human resource capabilities, and technology to support the Company's operations and business expansions to reap benefits from new opportunities. Some of the actions that have been taken by PTTEP are as follows:

- Knowledge management is the Company's strategic tool to create, share, and apply the valued knowledge to our operations, supporting innovation and the Company's sustainable growth and improving our staff competency to prepare for energy transition and achieve Net Zero Greenhouse Gas Emissions by 2050. Knowledge Management Roadmap and Plan have been developed to support PTTEP to become an Innovative and High-Performance Learning Organization. The Company plans and executes knowledge-sharing activities among our staff, stakeholders, and external experts. The Company has benchmarked with the American Productivity & Quality Center (APQC) and Global Most Innovative Knowledge Enterprise (MIKE) Award (Global MIKE Award) to compare and learn with organizations that are known for international best practices in Knowledge Management. In addition, the research and development of new technologies and innovations are carried out, the Capability and Technology Development Roadmap has been developed, and the technology foresight has been studied to support the Company's growth strategy and to prepare for energy transition. Moreover, technology research and development process has been continually improved to enhance efficiency and reduce risks in technological development projects.

- The Company has undertaken measures on digital transformation which enhances capabilities through cutting-edge technologies such as Generative AI, Machine Learning, and the Internet of Things (IoT). PTTEP also improves work processes, leverages efficient enterprise digital ecosystem, and collaborates with global digital leading companies. These efforts aim to enhance accuracy, speed, and success in

the exploration and production of petroleum while developing efficient and sustainable business operations. Moreover, PTTEP has developed an information technology system to become an IT Global Platform, while maintaining system stability and control of confidential information, such as the use of cloud platforms. The Company also develops staff competency to align with our strategy and plans, e.g. arranging in-house training called Digital Academy training for staff to improve staff understanding for adaptation to agile work process and establishing DCOE (Digital Center of Excellence) to be the center for the development of technology capability for our staff, such as data scientists and data engineers.

- In the aspect of "Organization and New Normal Transformation", the Company remains committed to adjusting management processes to become more efficient and resilient. There is a focus on enhancing employees' capabilities to adapt to digital transformation processes and fostering a collaborative working mindset. Additionally, the Company aims to cultivate a suitable organizational culture to ensure that PTTEP is an adaptable organization capable of all changing circumstances.

Regarding organizational structure and work processes, PTTEP has reviewed and improved its organizational structure, operating model, and work processes periodically according to standards and good internal control principles, to be in line with PTTEP's strategic plans and policies in increasing the efficiency of the organization's operations and be able to support sustainable business growth in both E&P and Beyond E&P Business, including being able to efficiently manage the Company's resources. These include the development of a new Delegation of Authority and Signatures (DAS) concept to increase organizational agility while maintaining sufficient control, gathering and analyzing PTTEP processes to improve the efficiency of the End-to-End Process, and effectively managing the workforce by enhancing people skills in the form of multi-skills. Lastly, PTTEP also adopts digital technology in work processes to maximize work effectiveness in the organization.

In terms of human resources, to prepare for our investments in our core business and new business opportunities as well as smooth operations both domestic and overseas, the Company has initiated Human Resource Development plans to recruit qualified staff members to support targeted operations. The plans focus on developing staff capabilities and leadership skills through the Blended Learning approach, combining various learning methods, including the Online Learning approach, which supports unlimited self-learning. The Company also leverages digital technologies to help save time and increase work effectiveness. Recruiting external personnel for key positions where internal human resource development cannot keep up as well as retaining employees to continue working for the Company are part of the key measures. PTTEP conducts the Employee Engagement Survey every 2 years. The recent results in 2022 indicated that the staff engagement is higher than the market average of companies in Thailand, Thailand's Oil, Gas, Exploration, and Production companies, APAC's Oil, Gas, and Consumable Fuels companies, and Fortune 500 companies. In 2023, PTTEP has continued to implement the Employee Engagement improvement plan for the years 2023-2024 by reassessing employee engagement in 2024. To support the realization of PTTEP's vision, mission, and strategies, PTTEP has also instilled our values and culture cultivation (Core Values: *EP* SPIRIT) in Thailand and all affiliated companies overseas. PTTEP is proceeding to further promote desirable *EP* SPIRIT behaviors for executives and employees through various activities and communications to ensure that all staff understand *EP* SPIRIT. Furthermore, PTTEP has revisited *EP* SPIRIT to support our investments in core businesses and new business opportunities by encouraging employees to exhibit *EP* SPIRIT expected behaviors, so they can work with the same standard of expected behaviors which are fundamental for the development and growth of the Company with sustainable goals.

(2) Financial & Market Risks

1) Financial Risks

PTTEP determines an effective financial risk management policy under an acceptable financial risk limit approved and regularly reviewed by the Risk Management Committee. The financial risk limit is also taken into account when considering funding sources and liquidity management to ensure a robust capital structure and healthy finance to cope with the current market environment and to support the Company's investment plans and execution in both the short and long terms.

Major financial risks consist of counterparty risks and liquidity risks. For counterparty risk, it is PTTEP Group's policy that we conduct business transactions only with good and reputable counterparties. The financial stability and credibility of each counterparty must be analyzed and reviewed regularly. Currently, the majority of PTTEP Group's products are sold to PTT Public Company Limited (PTT). For liquidity risks arising from the inability to maintain adequate working capital necessary for the operations, PTTEP Group has the policy to manage such risks by preparing appropriate cash flow forecasts and maintaining both committed and uncommitted credit facilities with financial institutions to support its working capital requirements.

2) Marketing and Distribution Risks

The Company's revenue mainly comes from domestic gas sales for which PTT is the major customer. PTTEP has entered long-term gas sales agreements (GSAs) with PTT with the terms lasting 15-30 years. If later on, a project has potential reserves beyond the volume specified in its GSA, PTTEP will analyze and negotiate the GSA for this additional volume, either for additional gas sales or period extension. Moreover, to mitigate market risks that can result in refusals from buyers to purchase contracted volumes of natural gas, GSAs stipulate obligations for the buyers and the sellers to commit to the annual minimum volumes. Buyers must pay for the committed volumes of gas, whether or not the full amount is taken (Take-or-Pay).

Since 2022, the National Energy Policy Council (NEPC) approved the quota for PTT to import liquefied natural gas (LNG) to feed its existing natural gas power plants. This quota will not affect PTTEP's gas sales because it allows only LNG import for additional volume over the committed gas sales in current GSAs, and the current GSAs with PTT also include Take-or-Pay obligation as mentioned above. Moreover, PTTEP closely monitors the economic outlook and Thailand's energy demand by coordinating with PTT and related government agencies to collectively outline an optimized supply plan as well as prepare project development plans to ensure that the development master plan is able to optimize reserves and resources of existing assets to be in line with the country's energy demand that might change according to economic conditions, both in the short and long terms. In 2023, NEPC approved the quota for new Shippers to import LNG of 3.02 million tonnes. However, as of mid-November 2023, there was only the Electricity Generating Authority of Thailand (EGAT) using the quota to the amount of 1.2 million tonnes.

3) Risks from Major Client Dependency

The petroleum exploration and production business requires substantial investments for exploration, drilling, production facilities, and platform construction before receiving revenue from selling petroleum products and earning the required return. Therefore, executing long-term sales contracts with clients that are in need and possess long-term financial stability ensures confidence that revenues will be gained throughout the contracts. Natural gas faces limitations in terms of transportation and marketing compared to crude oil. There are only a few number of potential buyers who are qualified for long-term sales contracts. Most of them are national oil companies or companies that have gas separation plants

or gas supply chain businesses with stable financial status and the ability to add value to natural gas in the long term. For crude oil and liquefied petroleum gas (LPG) which do not have a constraint in transportation or product quality, PTTEP conducts a competitive bidding process for short-term contracts. There are various bidders from overseas including trading companies and regional refineries. The bidding prices are usually referenced to major crude oil prices in the global market.

For Thailand, PTTEP's major and most important client is PTT who purchases most of PTTEP's petroleum products from domestic projects not only natural gas but also crude oil and condensate. Revenue from PTT is considered a key income for PTTEP. Currently, PTT is the sole buyer who buys natural gas from all producers in the Gulf of Thailand where the gas will be transported through subsea pipelines to gas separation plants before delivery to PTT's customers. To ensure that the return is justified to both seller and buyer and also worth the investment which could cover risks that might happen during the project life, the gas prices shall require approval by the Petroleum Committee with consent from the Energy Minister according to the Petroleum Act, to ensure reasonable benefits for all stakeholders – government, investors, and people.

Considering the overall demand and supply of natural gas in Thailand, it is found that the country's demand has a tendency to grow, in contrast with domestic production which has started to decrease continuously. Therefore, having PTT as the major client is considered a low risk in client dependency. Moreover, PTTEP has other international customers and also follows our strategy to expand investment in other countries, especially in Southeast Asia and the Middle East regions, for enhancing petroleum production and sales including enlarging our client base.

4) Petroleum and Oil Price Risks

PTTEP product prices depend on the world's crude oil prices, which are subject to multiple factors beyond control. On the demand side, the world economic outlook and central banks' measures to tackle high inflation with high interest rates as well as the banking crisis in the U.S. and Europe in early 2023 directly affect world oil demand. On the supply side, risks come from production growth in the U.S., as well as OPEC+'s production cut policy. In addition, there are many emerging risk factors impacting prices especially geopolitical crises this year, such as the Russia-Ukraine war and the Israel-Hamas war, which could expand into a wider conflict and affect crude oil supply. Additionally, extreme weather, Strategic Petroleum Reserve (SPR) drawdown policy, geopolitical risks in big oil producers or consumers, and emerging infectious diseases, etc. are also factors that could affect the supply side.

Fluctuations in the world's crude oil prices shall immediately affect the prices of PTTEP Group's crude oil and condensate. Yet, while natural gas prices tend to follow oil prices, most of PTTEP Group's contractual natural gas prices are adjusted every 3, 6, or 12 months, depending on the gas sales agreement of each project. As a result, natural gas prices are more stable than those of crude oil and condensate.

To reduce impacts from oil price volatility, PTTEP Group closely monitors oil prices and implements an oil price hedging program to minimize negative impacts on the Company's cash flow and operating performance.

5) Exchange Rate Risks

PTTEP Group adopts US Dollar (USD) as its functional currency in accordance with the Thai Financial Reporting Standards (TFRS) since prices of PTTEP Group's major petroleum products, such as crude oil and natural gas, are mostly referenced in USD. PTTEP Group's cash flows are,

however, still exposed to USD/THB rate movement due to the fact that the settlement currency of major cash inflow of USD-linked revenues from Thai trade customers is THB, while the Company's main cash outflows for investments and operating expenditures are mostly in USD. The currency mismatch and discrepancies between payables' and receivables' settlement periods as well as the USD/THB volatility inevitably impose foreign exchange risks on our cash flows. Under this circumstance, PTTEP Group has minimized the foreign exchange risks by matching revenue and expense cash flows in THB (Natural Hedge) and employing applicable financial derivative instruments, such as forward and option contracts, to hedge the foreign-exchange exposure concerning exchange rates in the sales agreements.

With USD as the functional currency, PTTEP Group is also exposed to the foreign-exchange translation risk arising from the translation of non-USD assets and liabilities at the end of every accounting period. To minimize such translation risk, PTTEP Group has consistently put in great efforts to maintain a proper balance between our non-USD assets and liabilities, mainly in THB. The Company has also entered into Cross-Currency Swaps on non-USD-denominated obligations by converting interest and principal payments to USD to reduce the impacts of exchange rate volatility.

6) Interest Rate Risks

PTTEP Group is exposed to interest rate risk, given that its operations are in a dynamic financial market where interest rates are influenced by central banks of the world's major economies such as the Federal Reserve of the United States. The risk affects future cash flows and fair values of the financial instruments employed. PTTEP Group eliminates and minimizes the risk by maintaining an appropriate debt portfolio optimization or ratio of fixed-rate liabilities and floating-rate liabilities and using financial derivatives. Interest rate risk management is conducted on the basis of necessities and appropriateness while taking into account relevant costs, market conditions, and the Company's risk appetite.

(3) Political and Legal/Regulatory Risks

1) Political Risks in Investment Countries

PTTEP is focusing on expanding investments in target areas of strategic importance to support long-term growth and awareness of geopolitical risks that may be relevant in these target areas. In determining the expansion strategy, PTTEP considers not only the acceptable levels of political, economic, legal, and regulatory risks but also closely monitors information, news, and intelligence related to these countries and prepares monthly reports on the situation and geopolitical risks.

In the past year, PTTEP has continued to analyze, assess, and monitor risks arising from the diverse political landscapes of the target regions, both in terms of political stability and state security as well as the overall economic, laws and regulations, security, and creditability outlook. Specific regions identified as having political risks include countries in the Middle East region. In 2023, there was a significant event that occurred outside of the countries in which PTTEP invests. On October 7, 2023, the Hamas group attacked Israel, prompting Israel to launch a severe retaliatory war against Hamas. From the monitoring of the situation and the assessment of the impact, no damage and direct or indirect impact was found on PTTEP's projects. However, the Company has a business continuity management plan in place for all its projects to deal with any potential incidents. This ensures that operations in all projects can continue uninterrupted.

Regarding the People's Democratic Republic of Algeria (Algeria), which previously faced internal political risk due to dissatisfaction with government welfare policies, the current situation has improved. Recent assessment indicates that its political risk level has decreased below the previous level. In addition, PTTEP projects in Algeria have not been directly impacted by previous issues.

In Myanmar, PTTEP continues to closely monitor the situation, analyzing and assessing risks, and coordinating with relevant agencies to evaluate the situation, risk factors, and significant changes. This proactive approach allows the Company to adjust or supplement risk management plans and review the business continuity management plan to cover any new situations that may arise. This ensures that PTTEP can maintain confidence in the continued operation of the project.

Additionally, in response to the instability in Mozambique, coordination efforts with Mozambicans and member countries of the Southern African Development Community (SADC) have helped resolve the instability issues, returning the situation in the province where PTTEP's project is located to normalcy. The project operator has assessed readiness to resume work after a temporary halt due to the area's instability. Decisions on operational resumption are expected soon.

For other target countries, the Company continues to follow the investment and project management process consistently. PTTEP evaluates geopolitical risks and the risk landscape of each country whenever significant events occur. This information is crucial for preparing efficient and effective response plans in case of various potential events.

Furthermore, the Company maintains close coordination with the Ministry of Foreign Affairs and Thai embassies in countries where it invests or plans to invest, promoting good relations and ensuring government support as well as aligning the Company's operations with the policies of the respective country.

2) Compliance Risk

Generally, these risks may arise from a variety of factors, such as the complexity of specific laws, the enactment of new laws, and changes made to existing laws and regulations. These can potentially lead to misinterpretation of laws and non-compliance with applicable laws which may then lead to pecuniary forms of punishment and operational difficulties such as fines, potential revocation, suspension of licenses, and possible damage to PTTEP Group's reputation and image. To minimize these risks, the Governance, Compliance, Internal Control, and Subsidiary Management Department is responsible for assuring that all business units of PTTEP Group strictly comply with their relevant laws, thereby building confidence among the Company's shareholders, Board of Directors, the management, and employees that we are in full compliance with the laws relating to our business operations. As such, this department closely and regularly monitors the Cabinet's resolutions, bills, and relevant applicable laws that may affect PTTEP's operations. Details are disclosed in the "Corporate Governance" section, under the sub-topic of "Laws".

In addition, PTTEP has continued to focus on anti-corruption risks. As such, we have in place the relevant monitoring programs. Details are disclosed in the "Corporate Governance" section, under the sub-topic of "Anti-Corruption".

(4) Operational Risks

1) Exploration Risks

Exploring new petroleum sources is essential to the E&P business. In addition to finding petroleum reserves to replace those already produced, E&P business is also looking for new reserves to generate revenue growth for PTTEP according to its corporate strategy. This is to support the growth of petroleum production according to the corporate goals in the future.

The objective of exploration is to search for sizable petroleum resources that can be commercialized. The risks associated with exploration activities are geological risks and resources volume uncertainty.

Managing key exploration risks thus depends on the evaluation of exploration areas with good chances of finding sizable petroleum resources that allow for commercial development and production within an appropriate timeline and cost. Key factors that affect investment decisions on petroleum exploration include the chance of success, resources estimation, exploration and production period, planned expenditures, including development, operating, and decommissioning costs, and terms of contracts. Various activities are normally performed to understand and mitigate risks in exploration, i.e. geological studies, seismic acquisition and processing, and appraisal and development wells.

PTTEP establishes clear processes and criteria in project evaluation at each stage of E&P life cycle, starting from potential petroleum basin evaluation and selection, in-depth subsurface studies of targeted blocks, and above-ground investment risks. The Geosciences, Subsurface, and Exploration Group of PTTEP is tasked with formulating the exploration strategy and managing the exploration portfolio, allocating and prioritizing the exploration budget to high-potential opportunities. This process is reviewed and revised annually to ensure that exploration strategies are updated and aligned with the corporate targets.

In addition, the Company also stipulates that exploration studies need to be reviewed by the Technical Assurance Committee to ensure that all key technical aspects and uncertainties are covered. The assessment must also be in line with PTTEP's standards as well as PTTEP's guidelines to ensure investment decisions with confidence and that the results of the exploration are in accordance with PTTEP's goals.

To align with the Company's strategy, PTTEP has a policy to diversify exploration investment by determining investment proportions and spreading out our investment in many areas around the world, sharing risks and rewards with strategic partners who have exploration expertise to increase the Company's exploration success.

2) Project Development Risks

PTTEP applies skills and expertise in project planning and management to develop commercially viable resources to be able to carry out construction and commencement of production within the schedule and optimum budget. However, the construction and development projects are under various constraints which can affect the performance of development projects such as reservoir performance, commercial negotiation with partners and government, political issues in both domestic and foreign factors, the situation of war and fluctuations in oil prices, contractor and service providers performance, cost overruns, and unforeseen technical difficulties. In addition to consistently implementing value assurance systems in project management to enhance the Company's capability to manage those factors with preventive measures and risk assessment, PTTEP has placed great importance on continuously improving the abilities and personnel competency to achieve milestones so that they are able to carry out various projects in the most efficient ways. Details are as follows:

Project management: To achieve project completion and optimal investment, the Company focuses on the stipulation of policy and value assurance measures in critical stages of projects, including project organization, project planning and proper engineering system designs, management of procurement contracts and other contracts, and construction monitoring.

Personnel and process: The Company focuses on the development of human resources on skills and capability in project planning and management for both operating and non-operating projects, including the recruitment process which aims to acquire knowledgeable and experienced personnel in the competitive employment market. Information and experience from previous projects are gathered and formulated as an in-house database to improve the accuracy of the evaluation process for the new development project. Ultimately, the overall evaluation process of all new projects will be carried out under the Company's Project Realization Process (PREP) to ensure the success of projects in all aspects, including safety, quality, timely manner, and optimal budget.

Commercial contracts: To ensure efficiency in minimizing the risks associated with non-compliance in contracts and disputes, while working with contractors, the Company focuses on contract definitions of terms and conditions and contract administration. These risks can, however, be managed by negotiations based on comprehensive competency, knowledge, and concerted efforts from various departments, such as those related to construction, engineering, procurement, finance, accounting, and legal aspects. Prudent contract management also lessens the risks and helps mitigate possible damage that could result from delays, potentially causing adverse effects on a given project and the Company's performance at large.

3) Production Risks

In every production process, PTTEP has to face various potential risks, starting from the construction of the production platform and production well drilling through the production process until the point of sale. These risks include the risk of higher production platform and well drilling prices, well potential, ability to maintain gas production as per PSC (Production Sharing Contract) commitment, and decommissioning liability for transferred assets. All of which can directly impact the corporate goals, production, and sales targets.

Mitigation of production risks focuses on areas of process planning and platform design, production control systems, and preventive maintenance. Operational Excellence Management System – Reliability & Asset Integrity (RAI), which is a part of the Operational Excellence Project, has been adopted and continuously improved to ensure the highest standards of production in terms of integrity and safety. The RAI has been designed specifically to minimize production losses due to worn-out equipment and to improve equipment efficiency through preventive maintenance and inspection, to achieve zero unplanned shutdowns.

In terms of increasing the ability to produce petroleum to meet the target, the Company has managed the number of drilling rigs appropriately, especially during the period of increasing production capacity or expanding the project area for additional drilling to maintain the targeted petroleum production levels. In terms of management of onshore production areas, the scope of the area has been reviewed with relevant government agencies. Measures have been put in place to restore finished production areas to their original condition, including having protection laws in some areas to enable continuous petroleum production. In addition, PTTEP has a Crisis Management Plan, as well as a Business Continuity Plan (BCP) with a risk assessment to mitigate the impacts along with coordinating with all sectors, including government agencies and customers and stakeholders regularly in the event of an abnormal situation. Announcements have been made to temporarily stop operations due to force majeure in some projects to ensure the safety of employees and contractors. Moreover, the Company has established a special working group to study the project impact and determine the direction of further work.

4) Safety, Security, Health and Environmental Risks

PTTEP has continued to analyze Safety, Security, Health and Environment (SSHE) risks regularly to reduce the likelihood and impacts of unexpected events. The analysis comprises the identification of internal and external factors to prevent Major Accident Events (MAEs), as well as to reduce the risks that would affect PTTEP Group's employees, stakeholders, assets, environment, and company reputation to become a Zero Incident Organization as per PTTEP's SSHE Vision and Mission.

PTTEP has managed SSHE risks through the Company's SSHE Management System (SSHE MS) by stipulating SSHE policies, standards, guidelines, and procedures for employees and contractors to perform their operations efficiently and to comply with applicable legal requirements of the countries where PTTEP operates. In addition, PTTEP has been fostering SSHE awareness and SSHE culture by encouraging and promoting various SSHE campaigns and activities, such as the Human Factor Clinic aiming at preventing work-related errors from human factors, the Critical Barrier Management to prevent MAEs from Loss of Primary Containment (LOPC), the SSHE Culture Survey, the Spill Responses Readiness and Enhancement through spill capability assessment and collaboration with both national and international emergency response units, and the annual emergency exercise, etc. Furthermore, there are constant internal and external process verification and risk re-assessments at worksites to ensure that the SSHE risks are at the level of As Low As Reasonably Practicable (ALARP).

PTTEP has monitored SSHE Risk Management at various levels through the Company's Risk Management Committee with a variety of key risk indicators and trackers, for example, Lost Time Injury Frequency (LTIF), Total Recordable Injury Rate (TRIR), audit findings and close-out status, natural disasters, security status, pandemic, and health infection in high-risk countries, to ensure that all situations are being monitored to determine suitable mitigation, corrective and preventive actions, and business continuity plans towards achieving even higher social and business sustainability holistically.



5) Social and Community Risks

In operating businesses both domestically and internationally, PTTEP adheres to social and community responsibilities including human rights according to human rights principles in line with laws, regulations, and international standards, and always considers that all employees must be treated equally and have their rights to express opinions and there is a channel for employees to complain if they are wrongfully treated. The Company takes into account risks and impacts in every operating area. With this, PTTEP thus emphasizes social development, local environment and living standard improvement, natural resources, and environment conservation, as well as value creation for our stakeholders. These are in line with PTTEP's policy on community relations and social responsibilities. Communities and stakeholders will then trust, accept, and support the operations, fulfilling the aim of the Company to grow together with communities and society in a sustainable manner.

All stakeholders, including government agencies, are regularly engaged and communicated. PTTEP has devised a long-term social strategy for society. It is divided into two levels; the macro-level strategy which focuses on the restoration of marine abundance and promoting activities that reduce marine debris; and the micro-level strategy which focuses on the promotion and development of social development projects in PTTEP operating areas, which is in line with the United Nations Sustainable Development Goals (UN SDGs). In addition, PTTEP has developed the Issue and Stakeholder Management System (ISMS) to assess social impact and issues that may be a cause of concern for the community. Community relations officers of each operating asset shall revise and update the ISMS Report through its online system annually in order to deliver the information for monitoring and selecting suitable and appropriate social development projects for each operating area.

In dealing with complaints, PTTEP has a standard approach and regular monitoring set by Grievance Handling Guidelines. The benefits from PTTEP social development projects delivered to stakeholders are evaluated and the stakeholder perception and commitment survey is conducted to provide great value to the Company to make the social development projects best serve the needs of stakeholders.

PTTEP prioritizes the management of potential salient human rights issues from its direct operations covering areas of workplace; safety, security, health, and environment; supply chain; and community and vulnerable groups. The Company strictly conducts a human rights risk assessment and review on an annual basis, covering 100 percent of our operating assets and joint ventures, then integrates the salient issues as part of enterprise risk assessment. In 2023, PTTEP revised our human rights risk assessment methodology in terms of severity and likelihood, aiming to enhance its relevance to human rights issues. This year, the identified human rights salient issues are: (1) workplace safety for both employees and contractors and (2) environmental impacts from PTTEP operations. For more details about human rights management system and risk assessment, please visit PTTEP website, "Sustainability" topic, "Human Rights" sub-topic. Click here for more information



6) Cybersecurity Risks

Cyber threats occur and spread across multiple business sectors through various channels, which can potentially lead to business disruption. PTTEP recognizes the importance of safeguarding against cyber threats and includes the risk of digital security threats in the Company's Corporate Risk Profile to closely monitor the development as well as to implement necessary measures. These measures include raising cybersecurity awareness, phishing simulation for the Company's staff, establishing a Cyber Security Operations Center (CSOC) responsible for monitoring cybersecurity incidents, Security Information and Event Management (SIEM) responsible for collecting and providing real-time analysis of security alerts, conducting Cyber Security Response Drills, regularly performing data backup, and reviewing the Disaster Recovery Plan. The results are subsequently reported to the Risk Management Committee and the Board of Directors respectively to ensure prompt responses to disruptive and emergency situations. In 2023, PTTEP implemented CSOC – Tier 2 for both Information Technology (IT) and Operational Technology (OT) provided by Mandiant, a global cybersecurity consulting company. Furthermore, a proactive cyber defense activity, Threat Hunting, has been implemented to monitor cybersecurity situation of all company data and systems both IT and OT. This is to reduce the chance of occurrence and damage that may be caused by cyber threats by more than 80 percent.

PTTEP currently refers to the National Institute of Standards and Technology (NIST) as a standard framework for managing cybersecurity. Risk assessment has been carried out based on the ISO 27001:2013 standard for the electronic mail system and data center facility since 2014 and has a risk assessment plan based on the ISO 27001:2013 standard for every system. PTTEP is confident of the readiness to participate in the test and report significant cyber threats to government agencies as required by law.

To reduce cybersecurity risks, PTTEP has implemented Multi-Factor Authentication (MFA) to enhance the identity verification of the staff other than conventional usernames and passwords to support the Company's data and system access from anywhere and anytime as per PTTEP's direction of New Way of Working to promote Work-Life Balance of its employees. Furthermore, PTTEP has also implemented Data Classification and Labeling with Microsoft Azure Information Protection (AIP) to support permission and sharing management of document confidentiality.

PTTEP has also invested in technology and used services from PTT Digital to prevent and respond to continuously more dangerous cybersecurity risks. PTTEP established a Cyber Security Operations Center (CSOC) that completely connected the Security Information and Event Management (SIEM) with the Network Firewalls across all petroleum development bases to ensure cybersecurity protection in the Company's operations. In 2023, PTTEP received from the British Standards Institution (BSI) an ISO/IEC 27001:2022 certificate for the Company's management of information security relating to its data centers and supporting facilities. This certification underlines PTTEP's commitment to the security of information of its stakeholders.

(5) Emerging Risks

Changes in the environment, technology, laws, and regulations, as well as in the global energy crisis affect business operations. PTTEP, therefore, keeps monitoring situations and assessing emerging risks that may affect the Company's business operations in the future and then reports them to relevant executives and committees to follow up and update risk mitigation plans to be consistent with the changing context that may affect our three key operational strategies: Drive Value, Decarbonize, and Diversify, and be able to strengthen the petroleum exploration and production business while expanding into new forms of energy and maintaining sustainable growth. The above efforts play a key role in responding to emerging risks promptly, increasing competitiveness and business opportunities, and achieving an Energy Trilemma, consisting of energy security, affordability, as well as environmental and social responsibility. Currently, PTTEP has identified and monitored 2 emerging risks as follows:

1) Risk from Changes in Laws, Regulations, and International Standards Related to Climate Change

Climate change continues to be an issue of global importance, as evidenced by the Conference of States Parties to the United Nations Framework Convention on Climate Change (UNFCCC) where every sector contributes to driving efforts to achieve the goal of keeping the global average temperature at a level not to exceed 1.5-2.0 degrees Celsius. Conference of the Parties (COP) is held annually to follow up and seek mutual agreement on climate action. Thailand has announced its intention to upgrade its climate solutions to achieve carbon neutrality by 2030 and the target of Net Zero Greenhouse Gas Emissions by 2065. The energy sector is one of the key businesses that play an important role in driving the country towards this goal. PTTEP has refined its business strategy in response to the country's target. Moreover, the investors and financial institutions have also taken into consideration the climate change factors and relevant risk management as one of the key factors for investment/lending decision, especially to petroleum exploration and production business, which has high impact to the environment.

PTTEP realizes the risks arising from applicable government policies and regulations to control GHG emissions that may affect PTTEP business operations under the announcement of the intention of Thailand's net zero GHG emissions target, including in other countries where PTTEP has business operations such as the Climate Change Act, the National Greenhouse Gas Inventories, the carbon tax mechanism, which includes the introduction of a carbon tax as a tool to set up trade barriers through Carbon Border Adjustment Mechanism (CBAM). In addition, PTTEP considers risks arising from standards or operational manuals defined by international standards

institute to achieve net zero greenhouse gas emissions related to the energy sector business such as ISO and Science Based Targets initiative (SBTi). These could affect the enforcement of greenhouse gas emission reductions between the year and the target year 2050 and also offset greenhouse gas emissions with specific types of carbon credits, all of which may affect the Company's operations.

Mitigation plan: PTTEP focuses on operating responsibly and following rules and standards related to international guidelines. Guidelines for managing such risks are as follows.

- Establish governance structure and management of decarbonization operations, as well as formulate policies and targets and clear Key Performance Indicators (KPIs), applicable to all levels from the Board of the Directors (BOD) to the operational staff in an effort to achieve short-term, medium-term, and long-term goals.

- Participate in public hearings on policies or government regulations, including policy studies or governing laws both in Thailand and international laws that PTTEP has a business operation. The Company also monitors the progress of the promulgation of net zero greenhouse gas emissions standards or manuals from international standards institutes to serve as a starting point for improving PTTEP's strategy.

- Participate in various cooperation networks such as International Petroleum Industry Environmental Conservation Association (IPIECA), International Association of Oil & Gas Producers (IOGP), United Nations Global Compact (UNGC), Global Compact Network Thailand (GCNT), Thailand Business Council for Sustainable Development (TBCSD), Thailand Responsible Business Network (TRBN), and ESG Network by Thai Listed Companies Association in order to have additional channels to monitor changes and be a voice for the oil and gas industry in the private sector to influence policies and instill changes.

- Establish guidelines for the assessment of impacts of greenhouse gas emissions for GHG Criteria for Investment Decision Guidelines, including Internal Carbon Price that is used to consider new investment projects. This is a tool to help assess the economic impact of new projects in relation to the Company's greenhouse gas emissions targets.

- Apply knowledge and expertise in geoscience and engineering from the petroleum exploration and production business to further develop Carbon Capture and Storage (CCS) technology to reduce greenhouse gas emissions from operations. PTTEP is the first in Thailand to do this. CCS is an important technology that separates carbon dioxide from the production process and compresses it back into suitable underground rock layers for permanent storage. It is expected that CCS technology can be commenced at the Arthit Gas Field in 2027 and is expected to reduce carbon dioxide emissions by approximately 700,000-1,000,000 tonnes per year. In addition, it can be expanded into a new business of providing CCS Hub Model services to help drive the organization and Thailand to achieve the net zero greenhouse gas emissions goal in a tangible manner.

- Set offsetting strategy for net zero greenhouse gas emissions by obtaining long-term carbon credits. This is to ensure that the Company can achieve its net zero greenhouse gas emissions target. It focuses on generating carbon credits from the Nature-Based Solution projects and the Carbon Removal Type projects, specifying that the amount of carbon credits to be used to compensate for greenhouse gas emissions must not exceed 10 percent of the greenhouse gas amount of the (Business as usual: BAU) and discloses the Company's greenhouse gas inventory transparently and accurately in accordance with international standards.

2) Risks from Rapid Changes of Low-Carbon Technologies and Global Needs for Renewable Energy to Replace Fossil Fuels

According to the current forecast of the world's energy supply, there is a tendency to respond to the energy transition towards low carbon by reducing the use of fossil fuel energy sources and transforming into renewable energy or new forms of energy that are cleaner and more environmentally and socially friendly. During the energy transition, it is predicted that Peak Gas Demand will be in the year 2040.

PTTEP has considered the risks of an energy transition and is committed to finding cleaner natural gas resources to ensure continuity in maintaining energy security, taking into account the cost of electricity generation in Thailand. However, in recent years, natural gas production in the Gulf of Thailand has not been enough to meet the country's demand. As a result, liquefied natural gas (LNG) had to be imported as a substitute. As imported LNG is more expensive than natural gas obtained from the production in the Gulf of Thailand and the production of countries operating in Thailand and Myanmar, Thailand, therefore, has higher costs of electricity generation. In addition, PTTEP also considers the risks and opportunities of having technology or innovation of clean energy sources in the future to replace the use of oil and natural gas energy sources that are the core business at present. PTTEP also responds to the growth of new businesses in the organization.

Mitigation plan: PTTEP monitors and analyzes future energy demand trends according to the Energy Transition Megatrend. It has been found that natural gas and petroleum products of PTTEP are also in line with the trend in energy demand to create energy security prior to the Low Carbon Transition with renewable or clean energy in the future. Outcomes from such efforts are to be used in the formulation of strategies and business plans. There are guidelines for managing such risks as follows:

- Formulate strategies to increase the target proportion of natural gas production from current projects and projects that are undergoing exploration and development in the next phase because natural gas energy is considered a cleaner alternative energy than other fossil fuels, reasonable energy investment costs, availability of utilities, and stable prices during normal circumstances which are suitable as an energy source during the energy transition while waiting for the availability of technology and innovation to have reasonable costs for new clean energy sources in the future. Such strategies are to minimize greenhouse gas emissions and meet the targets along the way to reduce greenhouse gas emissions intensity by 30 percent and 50 percent by 2030 and 2040, respectively. In addition, the Company has invested in new projects in petroleum exploration and production through Mergers and Acquisitions. The Company has adopted GHG Criteria for Investment Decision Guideline to maintain the overall greenhouse gas emissions trend in the direction of the Company's action plans to achieve interim and net zero greenhouse gas emissions targets.

- Contrive strategies that align with the energy transition to seek investment opportunities in new environmentally friendly energy businesses with new technologies and processes. PTTEP's target is to invest in new businesses to support the energy transition at least 10 percent of PTTEP's total investment budget in 2023-2030 to prepare for the transformation of the investment portfolio towards Decarbonization Solutions & New Energy Transition. The Company established Xplor Ventures Company Limited (XPV) to seek investment opportunities in new technologies. It is to build on the technology of petroleum exploration and production business. Additionally, PTTEP aims to scale up the AI and Robotics Ventures Company Limited (ARV) in 6 core sectors: subsea inspection, repair, and maintenance; integrated asset inspection and management service to various industries, carbon credit exchange platform, smart farming and smart forestry solutions, health data network, City Digital data platform (CDDP), and financial product data platform. Moreover, PTTEP has established FutureTech Energy Ventures Company Limited (FTEV) which seeks opportunities and operates businesses related to clean and new forms of energy, such as solar power and hydrogen energy. PTTEP also considers investment opportunities in businesses other than petroleum exploration and production in response to changing demand trends in the context of the world that should become a low-carbon society. This will enhance PTTEP's competitiveness and business value sustainably.

- Monitor the expectations of stakeholders, especially government agencies in overseeing national policies. The Company also monitors global trends in the Energy Transition to adjust business strategies and plans in a timely manner and in accordance with countries where the Company has invested.

2.2.2 Risk of Investors in the Company's Securities

Risk from the Major Shareholder's Management

As of February 20, 2024, PTT Public Company Limited or PTT is the major shareholder of the Company with 65.29 percent of shareholding (both direct and indirect) in the paid-up capital. PTT is therefore able to control most of the resolutions of the Shareholders' Meeting, including the Director's appointment and approval on other matters that require a majority vote from the Shareholders' Meeting. However, this is not applicable for matters related to laws or the Articles of Association of the Company, which require 3 out of 4 votes of the Shareholders' Meeting.

However, PTTEP values compliance with the Securities and Exchange Commission (SEC) and the Stock Exchange of Thailand (SET) rules and criteria while taking seriously the perennial stewardship of minor shareholders' rights. The Company has also set a clear organizational structure to manage its business. There are 10 independent directors from a total of 15 directors who provide opinions and beneficial recommendations with prudence and independence. The Company has also appointed members of the Audit Committee consisting of four independent directors, who have no interest in the Company in order to monitor and review the Company's operations and protect the interests of minority shareholders, resulting in appropriate checks and balances and verifiable systems to achieve business transparency and good corporate governance.

2.2.3 Risks Facing Investing in Foreign Securities (If the Issuer is a Foreign Company)

- None -

3. Management Discussion and Analysis of Operating Results

3.1 Overall Performance of PTTEP

Table of Key Financial Results

(Unit: MMUSD)	2023	2022	Inc. (Dec.) YTD
Total revenue	9,057	9,660	(603)
Sales revenue*	8,511	9,270	(759)
EBITDA**	6,433	7,103	(670)
Profit (Loss) for the period	2,208	1,999	209
Basic earnings (Loss) per share (Unit: US Dollar)	0.54	0.51	0.03
Profit (Loss) from normal operation	2,322	2,647	(325)
Profit (Loss) from non-recurring items	(114)	(648)	534

* Included deemed income for the tax payment by Oman government but excluded from the calculation of the average sales volume and selling price.
** Excluded gain from disposal of participating interests of AC/RL7 (Cash-Maple) Project, write-off assets of AC/RL12 (Oliver) Project, expense related to Montara incident Class Action settlement and impairment loss on assets and goodwill which were recognized during the period.

Overall Operating Results

Comparisons between 2023 numbers and those of 2022

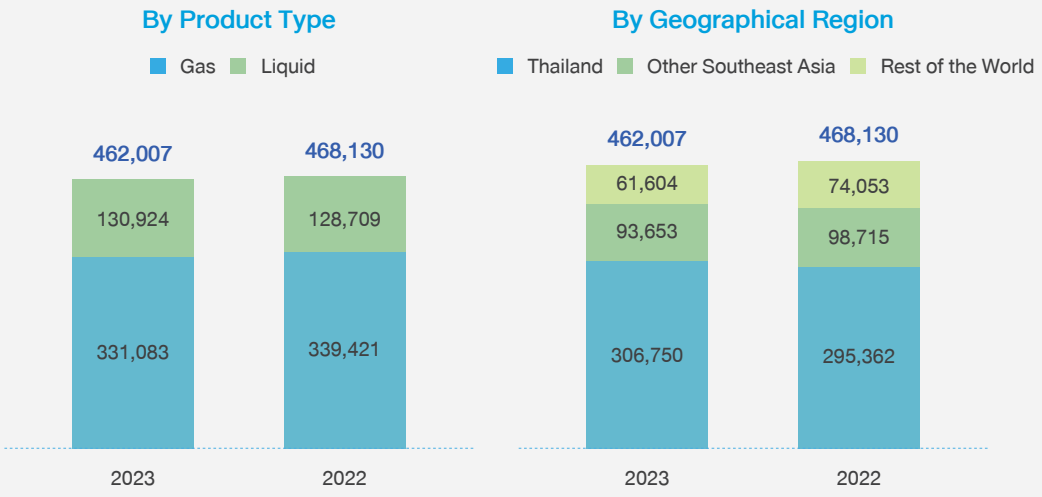
In 2023, PTTEP and its subsidiaries had a net profit of USD 2,208 million. An increase of USD 209 million or 10 percent from a net profit of USD 1,999 million in 2022, despite lower revenue from sales, was primarily due to a lower loss from oil price hedging instruments and impairment loss on assets, coupled with gain from disposal of participating interests of AC/RL7 (Cash-Maple) Project in 2023. The net profit of USD 2,208 million in 2023 can be elaborated further as follows.

The profit from normal operations in 2023 was USD 2,322 million. A decrease of USD 325 million, compared with a profit of USD 2,647 million in 2022, was primarily due to a decrease in revenue from sales of USD 759 million from lower average selling price and average sales volume. Moreover, operating expenses increased by USD 115 million, primarily from non-cash accounting transactions at the end of the concession of Bongkot Project in Q1/2023, as well as higher sales volume from G1/61 Project and G2/61 Project. However, royalties decreased by USD 238 million mainly from a higher portion of sales revenue from projects under production sharing contracts in Thailand and lower sales revenue from projects in Malaysia. Income taxes decreased by USD 224 million mainly from projects in Thailand and the Sultanate of Oman (Oman) due to lower profits. In addition, interest income increased by USD 108 million from higher outstanding cash balance and interest rates.

Loss from non-operating items in 2023 was USD 114 million. A decrease of USD 534 million, compared with a loss of USD 648 million in 2022, was primarily from a lower loss from oil price hedging instruments of USD 182 million due to less upward trend of oil price compared to the previous year, along with a change of execution strategies (2023, loss USD 4 million and 2022, loss USD 186 million). In addition, impairment loss on assets decreased by USD 180 million as PTTEP recognized loss on Mozambique Area 1 Project amounting to USD 120 million [2022, recognized loss on Mozambique Area 1 Project, Block 17/06 Project (Angola) and PTTEP BL]. The gain in foreign exchange rate, net of the loss on foreign exchange forward contracts, amounted to a loss of USD 5 million, reflecting a lower loss of USD 87 million when compared to the previous year. Nevertheless, Australia Asset reported a gain from the disposal of participating interests of AC/RL7 (Cash-Maple) Project USD 73 million, offset with write-off assets of AC/RL12 (Oliver) Project USD 50 million. Meanwhile in 2022, PTTEP acknowledged the expense related to Montara incident Class Action settlement amounting to USD 129 million, offsetting with other income from an adjustment of contingent liabilities of Oman Block 61 Project amounting to USD 71 million while there were no such transactions in 2023.

Average Sales Volume and Selling Price

Unit: Barrels of Oil Equivalent per Day



Average selling price and Dubai crude oil price (Unit: USD)	2023	2022	Inc. (Dec.) YTD
Average selling price (/BOE)	48.21	53.39	(5.18)
Liquid price (/BOE)	79.09	94.89	(15.80)
Gas price (/MMBTU)	6.00	6.27	(0.27)
Average Dubai crude oil price (/BBL)	82.09	96.38	(14.29)

Remark: The average sales volume and selling price excluded deemed income for tax payment by Oman Government.

Comparisons between 2023 numbers and those of 2022

In 2023, the average sales volume of PTTEP decreased to 462,007 barrels of oil equivalent per day (BOED) or 1 percent when compared with 468,130 BOED in 2022, primarily from Oman Block 61 Project due to lower contractor entitlement and planned shutdown, along with Bongkot Project end of concession in March 2023. However, it was offset by G1/61 Project and G2/61 Project (Bongkot Project) due to full-year recognition of sales volume, also G1/61 Project has successfully ramped up the natural gas production as planned since the end of June 2023. Additionally, the average selling price decreased by 10 percent to 48.21 USD/BOE (2022: 53.39 USD/BOE).

Operating Results by Segments

Net Profit (Loss) (Unit: MMUSD)	2023	2022	Inc. (Dec.) YTD
Exploration and Production	2,513	2,489	24
Thailand	1,608	1,843	(235)
Other Southeast Asia	669	783	(114)
Middle East	223	292	(69)
Australia	22	(164)	186
America	(8)	(110)	102
Africa	(6)	(167)	161
Others	5	12	(7)
Head Office and Others	(305)	(490)	185
Total	**2,208**	**1,999**	**209**

Comparisons between 2023 numbers and those of 2022

In 2023, PTTEP reported a net profit of USD 2,208 million. An increase of USD 209 million from a net profit of USD 1,999 million in 2022, was primarily due to a lower net loss of USD 185 million from Head Office and Others segment, as well as a higher net profit of USD 24 million from Exploration and Production segment.

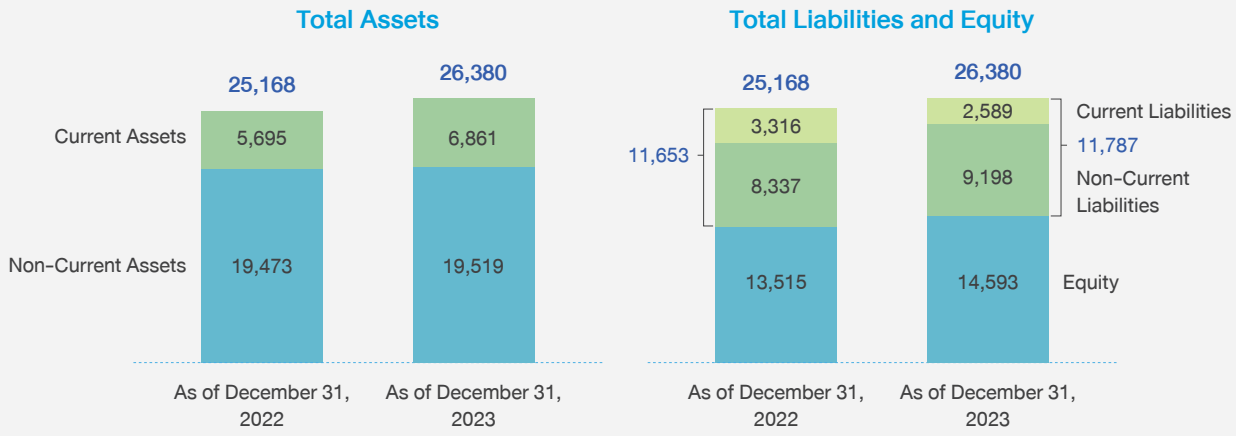
The Head Office and Others segment reported a net loss of USD 305 million in 2023. A decrease of USD 185 million from a net loss of USD 490 million in 2022, was primarily from lower loss on oil price hedging instruments due to less upward trend of oil price compared to the previous year.

The Exploration and Production segment reported a net profit of USD 2,513 million in 2023. An increase of USD 24 million from a net profit of USD 2,489 million in 2022, was primarily from Australia segment with an increase of USD 186 million arising from a gain on disposal of participating interests of AC/RL7 (Cash-Maple) Project, offset with write-off assets of AC/RL12 (Oliver) Project while the expense related to Montara incident Class Action settlement was recognized in

2022. Africa segment reported a net loss decrease of USD 161 million, primarily from an increase in revenue from sales since Algeria Hassi Bir Rekaiz Project started its first crude oil sales in October 2022, as well as a lower impairment loss on Mozambique Area 1 Project and Block 17/06 Project. America segment reported a net loss decrease of USD 102 million, primarily from impairment loss on PTTEP BL in 2022 while no such transaction in 2023. However, Thailand segment reported a net profit decrease of USD 235 million, primarily from a decrease in revenue from sales from the lower average selling price, offset with higher sales volume from G1/61 Project and G2/61 Project. Meanwhile, operating expenses increased from non-cash accounting transactions at the end of concession of Bongkot Project. Other Southeast Asia segment reported a net profit decrease of USD 114 million, primarily from a decrease in revenue from sales from Malaysia Project. Middle East segment reported a net profit decrease of USD 69 million, primarily from other income decreased from the adjustment of contingent liabilities of Oman Block 61 Project in 2022 while no such transaction in 2023.

Financial Position

Unit: USD Million



(1) Assets

As at December 31, 2023, PTTEP and its subsidiaries had total assets of USD 26,380 million. An increase of USD 1,212 million from total assets as at December 31, 2022 of USD 25,168 million was primarily due to;

1.1) Current assets, which were mainly cash and cash equivalents, trade and other receivables, and inventories, increased by USD 1,166 million, primarily from higher trade and other receivables of USD 599 million, together with cash and cash equivalents increased by USD 480 million and short-term investments increased by USD 200 million. However, it was offset by other current assets which decreased by USD 169 million, mainly from the prepayment in relation to the provision for decommissioning costs was derecognized in accordance with the Asset Transfer Agreement at the end of concession of Bongkot Project.

1.2) Non-current assets, which were mainly exploration and production assets in joint venture projects being recognized as part of the property, plant and equipment, right-of-use assets, goodwill, and exploration and evaluation assets, increased by USD 46 million, primarily from property, plant and equipment, net of depreciation. Another increase of USD 984 million was mainly from G1/61 Project, G2/61 Project, Zawtika Project, and S1 Project. However, deferred tax assets decreased by USD 395 million and goodwill decreased by USD 195 million, primarily from the non-cash accounting adjustments at the end of concession of Bongkot Project and impairment loss on Mozambique Area 1. In addition, exploration and evaluation assets decreased by USD 316 million mainly from PTTEP Australasia Project.

(2) Liabilities

As at December 31, 2023, PTTEP and its subsidiaries had total liabilities of USD 11,787 million. An increase of USD 134 million from total liabilities as at December 31, 2022 of USD 11,653 million was primarily due to:

2.1) Current liabilities, which primarily comprised trade and other payables and income tax payable, decreased by USD 727 million, primarily from short-term provisions decreased by USD 385 million, mainly from provision for decommissioning costs at the end of concession of Bongkot Project and provision for the Class Action settlement from Montara incident. In addition, income tax payable decreased by USD 305 million primarily from a higher portion of sales revenue from projects under production sharing contracts in Thailand after the end of concession of Bongkot Project.

2.2) Non-current liabilities, which were mainly debentures, deferred tax liabilities, and provision for decommissioning costs, increased by USD 861 million, primarily due to higher provision for decommissioning costs of USD 1,052 million, mainly from G1/61 Project and G2/61 Project while lease liabilities decreased by USD 134 million.

(3) Equity

As at December 31, 2023, PTTEP and its subsidiaries had equity of USD 14,593 million, an increase of USD 1,078 million from equity as of December 31, 2022 of USD 13,515 million. This was primarily due to the net profit for the year 2023, offset with dividend payments in April and August 2023. The equity included a non-controlling interest of USD 3 million from an issuance of authorized share capital of subsidiary companies under AI and Robotics Ventures Company Limited (ARV) to the external investors.

Cash Flows

Unit: USD Million

Cash and cash equivalents as at 31 December 2022		3,539
Source of Funds		4,372
- Net cash received from operating activities		208
(including adjustment for the impact of exchange rate changes)		44
- Net cash received from disposal of participating interests		13
- Net cash received from debenture issuance		
- Net cash received from other investing activities		
	Total	4,637
Use of Funds		(2,392)
- Net cash used in capital expenditures		(1,099)
- Payments for dividend		(395)
- Payments for lease liabilities, interests and other financing activities		(200)
- Net cash used in short-term investments		(71)
- Payment for debenture repurchase		
	Total	(4,157)
Net increase in cash and cash equivalents		480
Cash and cash equivalents as at 31 December 2023		4,019

As at December 31, 2023, PTTEP and its subsidiaries had cash and cash equivalents of USD 4,019 million, an increase of USD 480 million when compared with December 31, 2022 at USD 3,539 million.

The source of funds with an amount of USD 4,637 million, was mainly net cash received from operating activities of USD 4,372 million as a result of the positive net cash flow from revenue from sales, offset with cash paid for expenses and income taxes, together with net cash received from disposal of participating interests of AC/RL7 (Cash-Maple) Project of USD 200 million and Block 17/06 Project (Angola) of USD 8 million. In addition, there was net cash received from the issuance of senior guaranteed debentures of 1,500 MMTHB (equivalent to USD 44 million).

Uses of funds with an amount of USD 4,157 million, was mainly net cash used in additional capital expenditures in exploration and production assets of USD 2,392 million, mainly from G1/61 Project, G2/61 Project, Zawtika Project, and S1 Project, together with cash paid for dividends of USD 1,099 million for the performance of the second half of 2022 and the performance of the first half of 2023. Moreover, there were payments for lease liabilities and interests during 2023, as well as net cash used in short-term investments and the repurchase of unsubordinated debentures from PTTEP Canada International Finance Limited and PTTEP Treasury Center Company Limited.



3.2 Factors That May Impact Future Operations

Operational Highlights

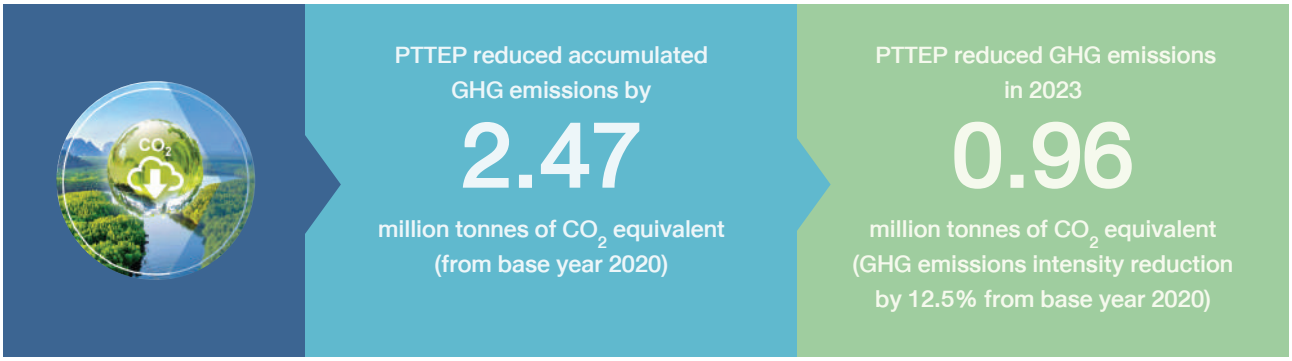
(1) Drive Value

At the end of 2023, PTTEP has over 50 projects with domestic and international operations in 12 countries. The following are key project highlights. The key project highlights are disclosed in the “Structure and Business Operations” section, “Products and Services” topic, “Principal Projects in Operation” sub-topic.

In 2023, PTTEP has made significant progress in its E&P operations. Firstly, G1/61 Project successfully increased production to 400 MMSCFD in late June 2023. To achieve a production level of 800 MMSCFD by April 2024, additional production wells drilling, and the installation of wellhead platforms have been carried out. Secondly, G2/61 Project, which is the remaining of Bongkot project, completed its transition to the Production Sharing Contract (PSC) regime in March 2023, maintaining an average production of 825 MMSCFD. PTTEP was also awarded exploration and production rights and signed PSCs for G1/65 and G3/65 exploration blocks in the Gulf of Thailand, where the subsurface studies are currently in progress for further exploration well drilling in 2024-2025. On the overseas projects, Algeria Hassi Bir Rekaiz has successfully increased its average crude oil production from 13,000 BPD to 17,000 BPD since August 2023. Additionally, new oil and gas discoveries have been made in three fields from exploration wells in Malaysia SK405B and Malaysia SK438 Projects, and the exploration Block SK325, opened for bidding in the Malaysia Bid Round 2022, was awarded to PTTEP.

(2) Decarbonize

For our decarbonization efforts, we have made progress as follows:



The reduction was through exploration and production portfolio and appropriate well management. In addition, PTTEP has efforts to drive the reduction of greenhouse gas emissions through various initiatives in 2023 as follows:

CCS Carbon Capture and Storage	The Front-End Engineering Design (FEED) for the CCS project at Arthit was completed. The Final Investment Decision (FID) of Arthit's CCS is expected to be in 2024 and The first injection is going to start the operation in 2027. Total CCS capacity is expected to be approximately 700,000-1,000,000 tonnes of CO_2 equivalent or $MTCO_2$ annually.
OGMP 2.0 The Oil & Gas Methane Partnership 2.0 for the Oil & Gas Sector	PTTEP signed an MOU to participate in the Oil & Gas Methane Partnership 2.0 (OGMP 2.0) under the United Nations Environment Programme (UNEP) in October 2023. The project aims to reduce methane emissions, enhance the accuracy and transparency of emission measurements and improve methane emissions reporting.
OGDC Oil & Gas Decarbonization Commitment	PTTEP has declared its commitment to the Oil & Gas Decarbonization Charter (OGDC) along with other oil and gas organizations around the world. The three pivotal objectives of this commitment include achieving net zero operations by 2050, near-zero upstream methane emissions by 2030, and zero routine flaring by 2030 (according to World Bank's "Zero Routine Flaring by 2030"). This commitment is part of COP28 obligations.



Moreover, PTTEP has joined forces in combatting climate change at COP28, which took place from November 30 to December 12, 2023. This includes its participation in the Business & Philanthropy Climate Forum alongside 500 leaders from several business sectors, environmental and social organizations worldwide. The aim was to exchange opinions and explore opportunities for tangible climate action. Additionally, PTTEP demonstrated its climate initiatives at the Thailand Pavilion, organized by the Department of Climate Change and Environment, aligned with the Company's EP Net Zero 2050 concept to achieve Net Zero Greenhouse Gas Emissions by 2050. These initiatives include Carbon Capture and Storage (CCS), methane management, Smart Forest Solution for green area management and the development of a carbon credit marketplace. PTTEP executives also shared their visions and perspectives at the side event of the Thailand Pavilion, expressing ambitions to achieve net zero emissions. This involves highlighting Carbon Capture, Utilization and Storage (CCUS), as a significant approach against global warming, harnessing renewable energy in its operations, developing new forms of future energy such as hydrogen, acknowledging the conservation and restoration of biodiversity as a nature-based solution in tackling global warming and undertaking other activities to mitigate greenhouse gas emissions.

PTTEP has foreseen an opportunity to support greenhouse gas offsetting through initiatives to absorb greenhouse gas from the atmosphere. The progress of the projects in 2023 is as follows:

Mangrove Forestation	PTTEP has achieved to plant and maintain mangrove forest covering 4,007 rai of land and is in the process of gathering information for registration under the Thailand Voluntary Emission Reduction Program (T-VER) with the Thailand Greenhouse Gas Management Organization (Public Organization) or TGO. Furthermore, PTTEP has consistently maintained the previously initiated mangrove forestation from 2021, covering 1,000 rai of land.
Land Forestation	PTTEP has conserved and restored on 20,000 rai of community forests for carbon credits in collaboration with the Mae Fah Luang Foundation under Royal Patronage. The Company is also preparing to acquire an additional forestation area, covering over 21,000 rai of land. This includes 6,730 rai of land under the National Park, Wildlife and Plant Conservation Department and 14,345 rai of land under the Royal Forest Department. Recently, PTTEP has completed to plant and maintain land forest under the Department of National Parks, Wildlife, and Plant Conservation, covering 5,530 rai of land. The detailed information has been prepared for registration under the T-VER with Thailand Greenhouse Gas Management Organization (Public Organization).
Regulations for the T-VER and Premium T-VER Methodologies for peatland conservation and restoration	PTTEP, in collaboration with Pid Thong Lang Phra of the Royal Initiative Discovery Foundation and Kasetsart University, submitted the Standard T-VER and Premium T-VER methodologies for peatland conservation and restoration to TGO. The methodologies were officially approved and now available for further application on the TGO website. Currently, preparation of information for the pilot project on peatland conservation and restoration in Bacho District, Narathiwat Province covering 5,500 rai of land is underway.



(3) Diversify

On the new business for energy transition, in 2023, PTTEP, in collaboration with South Korean and French partners, was awarded Block Z1-02 and was granted exclusive rights for the business development and production of a fully integrated Green Hydrogen Project in Oman. Moreover, PTTEP entered into a Share Purchase Agreement (SPA) for a 50-percent share capital in TotalEnergies Renewables Seagreen Holdco Limited (TERSH), which holds 51 percent of the Seagreen Offshore Wind Farm in Scotland. The completion of this transaction is subject to customary conditions outlined in the SPA, including governmental and regulatory approvals. After the deal completion, PTTEP will hold a 25.5 percent indirect investment in the project.

Besides, VARUNA, a subsidiary company under AI and Robotics Ventures Company Limited (ARV), initiated a Carbon Farming pilot project through "KANNA" application, which offers comprehensive analysis, planning, and advice on farming activities to reduce greenhouse gas emissions and promote sustainable agriculture. Additionally, S2 Robotics Company Limited, a joint venture between ROVULA and Kongsberg Ferrotech from Norway, commercially introduced NAUTILUS, a subsea pipeline repair robot, for pipeline maintenance for commercial purposes in the Gulf of Thailand. This innovation enhances efficiency, mitigates risks, and minimizes environmental impacts.

Business Outlook

(1) Energy Outlook

The breakout of geopolitical tension across the globe and increasing impact from global warming cause global energy shortage and lead to the significantly higher price of energy. According to the inflation and global economic slowdown, balancing between Energy Security and investment in renewable energy will be predominant objective and goal of several countries to achieve energy transition and Net Zero commitment.

In the Southeast Asia (SEA) region, S&P Global Commodity Insights reports the growth of natural gas demand. As a transition fuel, natural gas will replace coal commonly used for power generation in the region during the period of growing renewables supply. As a result, the gradual energy transition in this region including Thailand will align with the following strategic frameworks. In the near term (Current-2030), the key focus will be on the coal-to-gas switching since gas has relatively lower carbon dioxide emissions, the use of renewable fuels for power generation, biofuels in transportation sector as well as energy efficiency improvement and recycling/material substitution. In addition, Carbon Capture, Utilization and Storage (CCUS) projects to reduce carbon dioxide emissions have also commenced. In the medium to long term (after 2030), it will be a transition to the low carbon fuels which are the result of innovations and renewable energy technology. CCUS and hydrogen technologies will play an important role in all business sectors, e.g. industries, power generation, transportation, etc.

(2) Oil Price Outlook

On the demand side, it is expected that in 2024, there will be an average increase in demand for crude oil by 1-1.2 MMBPD, driven by economic growth of developing countries in Southeast Asia, China, and India, leading to continued import of crude oil in high amount. However, economic growth in developed countries, such as the U.S., Europe, and the United Kingdom, is likely to slow down due to the high policy interest rates, affecting economic growth. This may also raise concerns that an economic recession is looming, putting pressure on crude oil demand forecasts. Nevertheless, analysts predict that interest rates are currently at their peak and anticipate a reduction in 2024.

On the supply side, it is forecasted that in 2024 there will be an average increase in crude oil production of 1-1.2 MMBPD from non-OPEC+ members, such as the U.S., Canada, Brazil, Norway, and Guyana, which are likely to gradually increase their outputs. This forecasted increase is in spite of the OPEC+ members agreeing to collectively reduce production by more than 1.7 MMBPD for Q1/2024. Of this, Saudi Arabia will reduce its production by 1 MMBPD, Russia will do so by 0.3 MMBPD and other member countries will also reduce their production by 0.4 MMBPD. It is assessed that geopolitical conflicts between Russia- Ukraine, and Israel-Hamas, are currently limited in scope and do not impact the supply from crude oil-producing countries.

PTTEP expects that in 2024, the price of Dubai crude oil in the first half of the year is likely to remain stable at 70-80 USD/barrel due to economic concerns in Western countries, where interest rates remain high, and the production of crude oil from non-OPEC+ members is expected to continue increasing after the voluntary oil output cuts for Q1/2024. In the third and fourth quarters of 2024, the price of Dubai crude price is forecasted to increase to 75-85 USD/barrel mainly from seasonal demand. However, there are factors to be closely monitored, including global economic growth, OPEC+ policies and their members' compliance, and geopolitical tensions that may impact the global oil supply.

(3) LNG Market Outlook

For the year 2024, the Liquefied Natural Gas (LNG) market is expected to achieve more balance of supply and demand. The total production capacity from existing and new LNG projects will increase by 14 MTPA from 2023, to a total volume of 422 MTPA (approximately 4 percent growth), with additional supply mainly from the U.S. and Indonesia, while demand of LNG is expected to be around 430 MTPA (Source: FGE as of January 2024).

Following the outcome of the 28th UN Climate Change Conference of the Parties (COP28) in 2023, many countries are on track to achieve Net Zero greenhouse gas emissions by 2050, while maintaining energy security is still the top priority in their energy policies. Accordingly, the global LNG demand will continue to increase. Moreover, declines in domestic gas production in many countries will lead to more demand of LNG import. However, a mild winter and high inventory levels in the European and Northeast Asian regions will cause a slowdown in demand. Factors to watch in the near term include China's recovery and tension in the Middle East. The average 2024 Asian Spot LNG price is expected to be around 10-14 USD/MMBTU (Source: Wood Mackenzie as of December 2023, Platts as of November 2023, and FGE as of January 2024).

(4) Environmental, Social, and Governance (ESG)

PTTEP is committed to conducting our business with responsibility, reflecting the Company's aspirations and Sustainability Framework. This commitment also aims to prepare the organization for the challenges that may arise from our journey to embrace the energy transition, with the ambition to achieve Net Zero Greenhouse Gas Emissions by 2050. PTTEP recognizes the importance of building sustainability including fostering strong business performance on a robust business foundation. The goal is to create long-term value for all stakeholders while contributing to the well-being of society as a whole (From We to World), aligned with our vision to become the "Energy Partner of Choice". PTTEP Sustainability Framework comprises: (1) High Performance Organization (HPO) (2) Governance, Risk Management, and Compliance (GRC)

and (3) Sustainable Value Creation (SVC). In addition, PTTEP has extended our scope of implementation and its long-term targets to support the United Nations Sustainable Development Goals (UN SDGs), focusing on 3, 7, 8, 9, 12, 13, 14, 15 and 16, aligned with PTTEP materiality issues. The Company also prioritizes our business operations to ensure sustainability covering Environmental, Social and Governance (ESG) dimensions.

PTTEP assessed and reviewed materiality issues on sustainability encompassing Environmental, Social and Governance (ESG) issues based on Double Materiality approach, considering the significance of issues in terms of impact on PTTEP and impact on environment, society (including impacts on human rights) as well as governance and economy. The assessment process follows the Global Reporting Initiative Standards: GRI Standards (2021) and AA1000 AccountAbility Principles: AA1000APS (2018). The materiality issues reflected the perspectives of key stakeholders (both internal and external) including national and international sustainability trends. In 2024, PTTEP's materiality issues comprise 13 issues as follows: (1) Energy Transition and Business Model Resilience (2) Climate Change and Net Zero (3) Technology Development, Innovation and Digitalization (4) Safety, Security and Occupational Health (5) Governance, Risk Management and Compliance (6) Human Resource Management (7) Human Rights (8) Environmental Management and Operational Eco-efficiency (9) Contribution to Communities and Society (10) Biodiversity and Ecosystem Services Management (11) IT Security, Cybersecurity and System Availability (12) Supply Chain Management (13) Stakeholder Management. The materiality assessment results served as part of the crucial inputs for shaping and improving corporate strategies. These results were also integrated into the Enterprise Risk Management process, empowering PTTEP to proactively address any risks related to the Company's sustainability materiality issues. PTTEP has an overview of sustainability management as mentioned above, in the "Strategies as well as Business Management and Company Activity" topic.

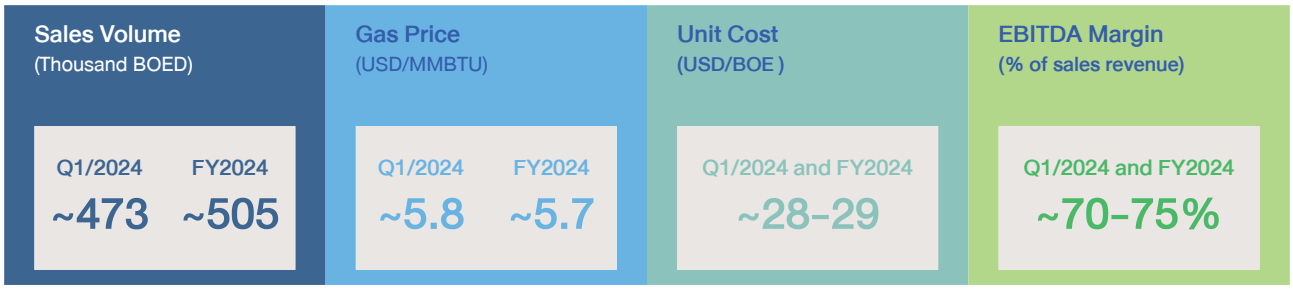
(5) Thai Economy and Foreign Exchange Outlook

With reference to information from the Bank of Thailand (as of November 2023), the Thai economy is expected to expand at 3.8 percent (including Digital Wallet campaign) in 2024, supported by stronger domestic economy resulted from recovery in tourism, export and private consumption sector. However, slower-than-expected global economic growth remains a key downside risk to Thailand's economic condition. In terms of monetary policy, the Bank of Thailand opined that the current policy interest rate is appropriate for supporting long-term sustainable growth. Nevertheless, the financial market expects that the Bank of Thailand may ease the policy rate this year depending on economic risk factors as well as direction of the U.S. monetary policy.

In 2024, the Thai Baht (THB) is expected to appreciate against US Dollars due to economic recovery, particularly from the tourism sector following global economic recovery. THB may also be supported by the U.S. Federal Reserve's monetary policy which has signaled an interest rate cut in 2024 following lower inflation rate. However, it is expected that THB will experience a certain degree of volatility due to several uncertainties such as the Digital Wallet campaign of the Thai government, the U.S. election in late 2024, the potential of slower-than-expected global growth, and ongoing Russia-Ukraine conflict and Israel-Hamas war.

6) PTTEP's performance outlook for the first quarter and the year 2024

PTTEP's performance depends on three major factors including sales volumes, gas price and unit cost. PTTEP has monitored and adjusted the performance outlook for the year 2024 to align with shifts in operational strategy and economic situation. The performance outlook is as follows.



Remarks: 1. The sales volume includes the sales volume from ADNOC Gas Processing (AGP).
2. The assumption is based on average Dubai price in 2024 of 70-75 USD/Barrel
3. Including increased sales volume from G1/61 Project sole investment
4. EBITDA margin: A percentage of Earnings before interest, taxes, depreciation, and amortization to the Sales Revenues and Revenue from pipeline transportation

Sales Volume:

The average sales volumes for the first quarter and full year of 2024 are expected to be approximately 473,000 and 505,000 barrels of oil equivalent per day, respectively. These signify an increase when compared to the previous year, mainly as a result of the production ramp-up of G1/61 Project as planned to 800 MMSCFD.

Sales Price:

- PTTEP's liquid prices will fluctuate according to global crude prices.

- PTTEP's gas price formulas are partially linked to oil prices with reference to average historical prices ranging from the past 6-24 months. The average gas price for the Q1/2024 and full year 2024 is estimated at approximately 5.8 and 5.7 USD/MMBTU, respectively, lower than the previous year. This reflects higher sales volume contribution from the G1/61 Project under Petroleum Sharing Contracts, in which the gas price is lower, compared to the previous concession regime. Additionally, the lagged time adjustment following global oil price also affects the gas price.

- The Company has entered into oil price hedging contracts to be settled in 2024, where the outstanding volume as at the end of 2023 was 3.6 million barrels. The Company has consistently monitored crude oil price movements and has the flexibility to adjust its hedging plan as appropriate.

Unit Cost:

For Q1/2024 and full year 2024, PTTEP expects to be able to maintain unit cost in the range of 28-29 USD/BOE, slightly higher than the reported unit cost of 2023. This increase is primarily attributed to higher depreciation and higher operating expense per unit resulting from the production ramp-up of G1/61 Project. Additionally, there is a rise in oil field service costs due to increased drilling rig demand in E&P business sectors.

3.3 Significant Financial Information

The financial statements of PTT Exploration and Production Public Company Limited and subsidiaries have been prepared in accordance with Thai Financial Reporting Standards (TFRS) as well as the financial reporting requirements of the Securities and Exchange Commission under the Securities and Exchange Act. For more details, please see in "Financial Report."

Statement of Financial Position

PTT EXPLORATION AND PRODUCTION PUBLIC COMPANY LIMITED AND SUBSIDIARIES
STATEMENT OF FINANCIAL POSITION

	As at December 31, 2021		As at December 31, 2022		As at December 31, 2023	
	Thousand (USD)	%	Thousand (USD)	%	Thousand (USD)	%
Assets						
Current assets						
Cash and cash equivalents	2,559,189	10.9	3,539,220	14.1	4,018,959	15.2
Short-term investments	-	-	-	-	200,000	0.80
Trade and other receivables	1,000,303	4.3	1,219,995	4.8	1,818,678	6.9
Short-term loans to a related party	-	-	1,317	0.0	7,545	0.0
Inventories	420,969	1.8	553,046	2.2	611,110	2.3
Current tax assets	59,366	0.2	53,878	0.2	54,152	0.2
Derivative assets	16,427	0.1	16,254	0.1	19,265	0.1
Other current financial assets	-	-	667	0.0	-	-
Other current assets	120,414	0.5	300,171	1.2	131,135	0.5
Assets held-for-sale	-	-	10,730.00	0.0	-	-
Total current assets	4,176,668	17.8	5,695,278	22.6	6,860,844	26.0
Non-current assets						
Investments in associates	220,880	1.0	115,345	0.5	134,141	0.5
Investments in joint ventures	210,235	0.9	162,230	0.6	151,276	0.6
Long-term loans to related parties	41,500	0.2	434	0.0	438	0.0
Property, plant and equipment	11,379,664	48.5	11,880,375	47.2	12,864,663	48.8
Right-of-use assets	519,711	2.2	974,706	3.9	838,921	3.2
Goodwill	1,740,803	7.4	1,548,622	6.1	1,353,200	5.1
Intangible assets	135,719	0.6	132,703	0.5	134,327	0.5
Exploration and evaluation assets	3,121,294	13.3	3,071,577	12.2	2,756,341	10.5
Deferred tax assets	1,317,826	5.6	929,484	3.7	533,957	2.0
Rights to receive reimbursement from decommissioning funds	290,546	1.2	317,176	1.3	348,655	1.3
Derivative assets	825	0.0	26,521	0.1	10,837	0.0
Other non-current financial assets	109,824	0.5	139,655	0.6	162,860	0.6
Other non-current assets	179,692	0.8	173,848	0.7	229,877	0.9
Total non-current assets	19,268,519	82.2	19,472,676	77.4	19,519,493	74.0
Total assets	23,445,187	100.0	25,167,954	100.0	26,380,337	100.0

PTT EXPLORATION AND PRODUCTION PUBLIC COMPANY LIMITED AND SUBSIDIARIES

STATEMENT OF FINANCIAL POSITION (cont'd)

	As at December 31, 2021		As at December 31, 2022		As at December 31, 2023	
	Thousand (USD)	%	Thousand (USD)	%	Thousand (USD)	%
Liabilities and equity						
Current liabilities						
Trade and other payables	1,096,946	4.7	1,531,737	6.1	1,443,807	5.5
Current portion of long-term liabilities	633,346	2.7	303,193	1.2	280,860	1.1
Income tax payable	782,837	3.3	800,166	3.2	494,710	1.9
Short-term provisions	381,144	1.6	488,591	1.9	104,015	0.4
Derivative liabilities	49,209	0.2	53,027	0.2	42,320	0.1
Other current liabilities	183,466	0.8	137,787	0.6	222,889	0.8
Liabilities held-for-sale	-	-	1,704.00	0.0	-	-
Total current liabilities	**3,126,948**	**13.3**	**3,316,205**	**13.2**	**2,588,601**	**9.8**
Non-current liabilities						
Debentures	2,475,802	10.6	2,809,260	11.2	2,785,242	10.6
Long-term loans	596,057	2.5	-	-	-	-
Lease liabilities	388,510	1.7	720,569	2.9	587,524	2.2
Deferred tax liabilities	1,504,258	6.4	1,575,376	6.2	1,526,388	5.8
Provision for employee benefits	205,381	0.9	190,800	0.7	206,726	0.8
Provision for decommissioning costs	2,458,593	10.5	2,799,503	11.1	3,851,781	14.6
Provision for remuneration for production bonus and the renewal of petroleum production	120,727	0.5	193,533	0.8	158,997	0.6
Derivative liabilities	8,413	0.0	-	-	802	0.0
Other non-current liabilities	132,279	0.6	47,417	0.2	80,607	0.3
Total non-current liabilities	**7,890,020**	**33.7**	**8,336,458**	**33.1**	**9,198,067**	**34.9**
Total liabilities	**11,016,968**	**47.0**	**11,652,663**	**46.3**	**11,786,668**	**44.7**
Equity						
Share capital						
Issued and paid-up share capital	150,684	0.6	150,684	0.6	150,684	0.6
Share premium	3,439,037	14.7	3,439,037	13.7	3,439,037	13.0
Subordinated capital debentures	156,570	0.7	-	-	-	-
Retained earnings						
Appropriated						
Legal reserve	15,048	0.1	15,048	0.0	15,048	0.1
Reserve for expansion	431,231	1.8	431,231	1.7	431,231	1.6
Unappropriated	8,306,161	35.4	9,481,343	37.7	10,531,354	39.9
Other components of equity	(70,512)	(0.3)	(2,052)	(0.0)	22,917	0.1
Equity attributable to owners of the parent	12,428,219	53.0	13,515,291	53.7	14,590,271	55.3
Non-controlling interests	-	-	-	-	3,398	0.0
Total equity	**12,428,219**	**53.0**	**13,515,291**	**53.7**	**14,593,669**	**55.3**
Total liabilities and equity	**23,445,187**	**100.0**	**25,167,954**	**100.0**	**26,380,337**	**100.0**
Book value per share (USD)	3.13		3.40		3.68	
Issued and fully paid-up capital at the end of year (thousand share)	3,969,985		3,969,985		3,969,985	

Statement of Income

PTT EXPLORATION AND PRODUCTION PUBLIC COMPANY LIMITED AND SUBSIDIARIES
STATEMENT OF INCOME
FOR THE YEARS ENDED DECEMBER 31,

	2021		2022		2023	
	Thousand (USD)	%	Thousand (USD)	%	Thousand (USD)	%
Revenues						
Revenue from sales	6,730,860	92.0	9,270,564	96.0	8,511,079	94.0
Revenue from pipeline transportation	93,147	1.3	150,923	1.6	128,067	1.4
Other income						
Gain on foreign exchange rates	-	-	-	-	48,129	0.5
Gain from a bargain purchase	341,874	4.7	-	-	-	-
Gain on disposal of participating interests	-	-	-	-	73,239	0.8
Interest income	16,750	0.2	44,031	0.4	152,274	1.7
Other income	131,594	1.8	195,134	2.0	144,545	1.6
Total Revenues	**7,314,225**	**100.0**	**9,660,652**	**100.0**	**9,057,333**	**100.0**
Expenses						
Operating expenses	861,495	11.8	1,110,010	11.5	1,224,841	13.5
Exploration expenses	226,252	3.1	71,683	0.7	94,044	1.0
Administrative expenses	355,039	4.9	578,363	6.0	486,938	5.4
Petroleum royalties	530,215	7.2	687,723	7.1	450,155	5.0
Depreciation, depletion and amortisation	2,202,064	30.1	2,363,135	24.5	2,334,711	25.8
Loss on foreign exchange rates	37,592	0.5	91,064	1.0	-	-
Loss on remeasuring of financial instruments	234,290	3.2	184,486	1.9	55,588	0.6
Impairment loss on assets and goodwill	183,000	2.5	300,080	3.1	120,000	1.3
Finance costs	202,226	2.8	233,583	2.4	294,457	3.3
Total Expenses	**4,832,173**	**66.1**	**5,620,127**	**58.2**	**5,060,734**	**55.9**
Share of profit of associates and joint ventures	15,174	0.2	19,556	0.2	42,556	0.5
Profit before income taxes	**2,497,226**	**34.1**	**4,060,081**	**42.0**	**4,039,155**	**44.6**
Income taxes	(1,286,688)	(17.6)	(2,061,501)	(21.3)	(1,831,388)	(20.2)
Profit for the year	**1,210,538**	**16.5**	**1,998,580**	**20.7**	**2,207,767**	**24.4**
Total comprehensive income (expense) attributable to:						
Owners of the parent	1,210,538	16.6	1,998,580	20.7	2,207,826	24.4
Non-controlling interests	-	-	-	-	(59)	0.0
Total	**1,210,538**	**16.6**	**1,998,580**	**20.7**	**2,207,767**	**24.4**
Basic earnings per share (USD)	**0.30**		**0.51**		**0.54**	

Statement of Cash Flows

PTT EXPLORATION AND PRODUCTION PUBLIC COMPANY LIMITED AND SUBSIDIARIES
STATEMENT OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31,

	2021	2022	2023
	Thousand (USD)	Thousand (USD)	Thousand (USD)
Cash flows from operating activities			
Profit before income taxes	2,497,226	4,060,081	4,039,155
Adjustments for:			
Share of profit of associates and joint ventures	(15,174)	(19,556)	(42,556)
Depreciation, depletion and amortisation	2,202,064	2,363,135	2,334,711
Impairment loss on assets and goodwill	183,000	300,080	120,000
Reversal for decrease in value of inventories to net realisable value	(882)	-	-
Write-off of exploration expenses	214,928	32,634	66,233
Other amortised expenses	10,976	12,426	9,299
Write-off of assets	2,256	17,704	72,783
Income recognised from deferred income	(3,104)	(7,333)	(233)
(Gain) loss on remeasuring financial instruments	(15,718)	95,993	(14,871)
(Gain) loss on foreign exchange rates	9,132	8,142	(2,932)
Interest income	(16,750)	(44,031)	(152,274)
Gain from a bargain purchase	(341,874)	-	-
Finance costs	194,502	223,287	287,957
Other income	(81,276)	(73,041)	(80,901)
Other expenses	19,176	147,840	16,351
	4,858,482	7,117,361	6,652,722
Changes in working capital	(1,430,174)	(2,430,129)	(2,290,813)
Net cash flows provided by operating activities	**3,428,308**	**4,687,232**	**4,361,909**
Cash flows from investing activities			
Cash paid for short-term investments	-	-	(400,389)
Cash received from short-term investments	100,000	-	200,390
Cash paid for investment in other financial assets	-	-	(2,818)
Cash received from short-term loans to a related party	-	-	3,000
Increase in short-term loans to related party	-	(1,250)	(9,093)
Cash received from long-term loans to a related party	33,170	41,500	-
Cash paid for long-term loans	-	(15,458)	(15,222)
Dividend received from related parties	40,746	60,979	52,820
Net cash paid for business acquisition	(2,299,492)	-	-
Net cash received from disposal of assets	11,968	-	-
Net cash received from disposal of participating interests	-	-	208,284
Cash paid for contingent considerations from business acquisition	(54,670)	(955)	(717)
Cash received from disposal of investment in an associate	-	128,841	-
Cash paid for investment in associate and joint ventures	(15,506)	(17,642)	(16,323)
Cash received from lease receivables	374	234	50
Interest received from short-term investments	1,850	-	959
Interest received from loans to related parties	1,010	772	243
Increase in property, plant and equipment	(1,512,174)	(1,765,221)	(2,206,914)
Increase in intangible assets	(29,067)	(31,077)	(26,414)
Increase in exploration and evaluation assets	(131,574)	(95,357)	(158,560)
Net cash flows used in investing activities	**(3,853,365)**	**(1,694,634)**	**(2,370,704)**

PTT EXPLORATION AND PRODUCTION PUBLIC COMPANY LIMITED AND SUBSIDIARIES
STATEMENT OF CASH FLOWS (cont'd)
FOR THE YEARS ENDED DECEMBER 31,

	2021	2022	2023
	Thousand (USD)	Thousand (USD)	Thousand (USD)
Cash flows from financing activities			
Cash received from short-term loans	200,000	-	-
Cash paid for repayment of short-term loans	(200,000)	-	-
Cash paid for repayment of debentures and long-term loans	-	(1,025,126)	(71,460)
Cash received from issuance of debentures	179,960	358,644	44,550
Cash paid for finance cost from issuance of debentures	(270)	(563)	(1,058)
Cash paid for lease liabilities	(128,482)	(177,008)	(261,489)
Interest paid	(133,914)	(144,365)	(136,604)
Cash paid for redemption of subordinated capital debentures	-	(142,590)	-
Interest paid for subordinated capital debentures	(9,138)	(4,256)	-
Net cash received (paid) from financial derivative contracts	1,826	(44,924)	-
Cash received from issuance of subsidiaries' share capital	-	-	3,496
Dividends paid	(605,341)	(819,492)	(1,098,772)
Net cash flows used in financing activities	**(695,359)**	**(1,999,680)**	**(1,521,337)**
Net increase (decrease) in cash and cash equivalents	(1,120,416)	992,918	469,868
Cash and cash equivalents at the beginning of the year	**3,704,003**	**2,559,189**	**3,539,220**
	2,583,587	3,552,107	4,009,088
Adjustment for the impact of exchange rate changes	(24,398)	(12,887)	9,871
Cash and cash equivalents at the end of the year	**2,559,189**	**3,539,220**	**4,018,959**

Significant Financial Ratio Summary Table

		2021	2022	2023
Liquidity ratio				
Current Ratio	Times	1.34	1.72	2.65
Quick Ratio	Times	1.07	1.37	2.06
Cash Flow from Operations to Current Liabilities Ratio	Times	1.37	1.45	1.48
Account Receivable Turnover	Times	9.97	10.51	8.15
Account Payable Turnover	Times	5.89	6.51	6.35
Collection Period *	Days	37	35	45
Day Payable *	Days	62	56	57
Profitability Ratio				
Net Profit Margin	%	16.55	20.69	24.38
Return on Equity	%	9.99	15.41	15.71
Efficiency Ratio				
Return on Assets	%	5.27	8.22	8.57
Return on Fixed Assets	%	23.95	27.95	27.82
Assets Turnover	Times	0.32	0.40	0.35
Financial Policy Ratio				
Debt to Equity Ratio	Times	0.33	0.28	0.25
Net Debt to Equity Ratio	Times	0.12	0.02	(0.04)
Times Interest Earned	Times	24.71	30.41	21.85
Dividend Ratio	%	50	53	49
Data per Share				
Book Value per Share	USD	3.13	3.40	3.68
Net Profit per Share	USD	0.30	0.51	0.54
Dividend per Share	THB	5.00	9.25	9.50
Growth Rate				
Total Asset	%	4.23	7.35	4.82
Total Liabilities	%	3.02	5.77	1.15
Sales	%	32.88	38.06	(8.30)
Net Profit	%	68.24	65.10	10.47

* Collection Period and Day Payable are in range of credit term of PTTEP Group

Part 2

Corporate Governance

In parallel with PTTEP's commitment to driving and enhancing the value of our core E&P business for energy security, and delivering long-term value to society, communities, and the environment, we uphold the highest standards of governance, risk management and compliance. This encompasses the elements of good corporate governance, transparency, business ethics, appropriate internal controls and strict adherence to relevant laws and regulations. These elements serve as a crucial foundation, enabling the organization to proactively prepare for a sustainable evolution in response to the changes and challenges that we must meet.



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4. Corporate Governance

4.1 Corporate Governance Policy

PTTEP's Board of Directors (Board) emphasizes that PTTEP's and its subsidiaries' (PTTEP Group) operations comply with the Good Corporate Governance and Business Ethics of PTTEP Group (CG&BE) in order to grow sustainably and enhance the confidence of all of our shareholders and other stakeholders. To demonstrate our commitment to strike the right balance which takes into account social and environmental aspects in our operations, PTTEP has adopted an approach to achieve Net Zero Greenhouse Gas Emissions target through the "EP Net Zero 2050" concept. Furthermore, the Board has assigned the Corporate Governance and Sustainability Committee (CGS Committee) to oversee and assure that the Company's operations are in line with the CG&BE Principles and that good corporate governance is always maintained at the level of international standards. The CGS Committee also regularly monitors and assesses the implementation of CG&BE and ensures its integration into everyone's work.

In 2023, the Board of Directors had a particular focus on the development plan and targets of Sustainability Framework and made a commitment to conduct the business with transparency and effectiveness by adhering to good corporate governance principles, maintaining robust risk management and internal control system as well as strictly conforming to applicable laws and regulations (Governance, Risk Management and Compliance – GRC). The latter forms the key component of the Framework in order to respond to current situations, global trends, and technology development and be



ready for future challenges. Examples of GRC operations include the revision of PTTEP Group's CG&BE to ensure that the standards of the Company's operations are in line with the changing social norms; the development of Anti-Fraud and Corruption Policy to define guidelines and practices of anti-fraud and corruption; the development of GRC One Digital System to assist the management in obtaining immediate GRC information to support more efficient decision making. With our commitment to the ongoing development of good corporate governance, the Company earned various recognitions for our good corporate governance, domestically and internationally. Details are disclosed in the "Awards and Success" topic.

The Board has reviewed the implementation of the Corporate Governance Code 2017 (CG Code), which was established by the Securities and Exchange Commission through means that are suitable to the Company's business. The Board assigned the Corporate Governance and Sustainability Committee to ensure CG Code compliance and its appropriate implementation, so as to maximize value in regard to the Company's future and sustainable growth. PTTEP has continued to develop and apply the CG Code principles together with internationally recognized best practices as follows:

4.1.1 Policy on Treatment of the Board

The details are disclosed in "Governance Structure and Key Data on the Board of Directors, Sub-Committees, Management, Employees and Others" and "Corporate Governance Milestones" sections.

4.1.2 Policy on Treatment of Shareholders and Stakeholders

The Board has approved PTTEP's mission which puts an emphasis on the rights and value creation for all stakeholders. The Company's mission is to operate globally to provide a reliable energy supply and sustainable value to all stakeholders. In practice, the Company upholds the rights of all stakeholders, including but not limited to, shareholders, customers, employees, governments, joint venture partners, communities, suppliers, creditors, and competitors. PTTEP is also concerned about issues related to the environment, custom and tradition, and human rights. The importance of the Company's stakeholders is clearly written in PTTEP Group's CG&BE in which practical guidelines with respect to business ethics are established with an effort to balance duties and responsibilities between the Company and our stakeholders. Moreover, the Company has developed Stakeholder Management strategies with the key objectives to leverage stakeholder's engagement level and support the Company in achieving our business goals. Details of the CG&BE, contact details, whistleblowing channels, and stakeholder management strategies are disclosed on the Company's website. Details of the Company's policy on the treatment of stakeholders are as follows:

(1) Shareholders

PTTEP recognizes and values the importance of the shareholders' rights and the practice of equal treatment. Hence, we have stipulated principles in the Company's Good Corporate Governance to ensure that our shareholders' basic rights are protected and honored. These include the right to trade and transfer shares, declaration of share ownership, and the right to attend shareholders' meetings in person or through their proxies alongside the right to participate in and vote on significant issues presented by the Board at the Company's shareholder meetings, such as the election of new members of the Board to replace those due to retire by rotation, determination of the Board's remuneration of any kinds, appointment and approval of external auditors and the auditor's fees, approval of connected transactions, acquisition or disposition of material assets as required by the laws, and other issues which are of significance to the Company. The shareholders are also entitled to receive profit sharing in the form of dividends as well as to obtain equal and adequate information from the Company in a timely manner. The Company has only one class of ordinary shares in which one share allows its owner to have one vote. Our efforts to ensure and enhance the shareholders' rights also include the following:



1.1) Annual General Meeting of Shareholders

PTTEP respected and promoted shareholders' rights in its Annual General Meeting of Shareholders (hereafter referred to as AGM or the Meeting) in 2023, through the following actions:

Before the Meeting

1) Shareholders were invited to propose agenda items and nominate qualified candidates for the election of PTTEP directors prior to the AGM from September 1, 2022, until November 30, 2022. The criteria were announced publicly through the Stock Exchange of Thailand (SET) and the Company's websites. The shareholders' proposals were considered based on the Company's established criteria to ensure that the proposed agenda items were relevant and truly beneficial to the business of PTTEP Group. The Nominating and Remuneration Committee was responsible for screening and short-listing the nominated candidates for the Board's Consideration. Thereafter, the Board informed the shareholders of the resolution together with the rationale for each of the proposals at the AGM. In 2023, no such agenda items or any director candidates were proposed by the shareholders.

2) PTTEP announced the date for the 2023 AGM approximately two months prior to the date of the Meeting as soon as the Board resolved on January 30, 2023 and approved the date for the AGM on Monday, April 3, 2023 and the date of February 15, 2023, on which the Shareholders would have the right to attend the Meeting as well as to receive dividends, through the SET and the Company's website.

3) The AGM invitation letter and supplementary documents, in both Thai and English, were published on the Company's website on March 3, 2023, which was 31 days prior to the Meeting. The invitation letter had the necessary details of each agenda item, clearly

stating the types of agenda items whether they were for acknowledgment or approval. The Board's opinions on each agenda item were clearly stated along with other rules and regulations related to the Meeting. The details of procedures and documents required for attending the Meeting (E-Meeting), a proxy form (to preserve their rights to attend the E-Meeting) as stipulated by the Ministry of Commerce, were enclosed in the invitation letter along with the list of required documents. The AGM invitation letter and supplementary documents were distributed to the Shareholders by postal service more than 21 days prior to the Meeting.

4) PTTEP provided the names of three independent directors in the proxy form to provide the shareholders an option to appoint one of them as their proxy. The Company also informed the shareholders about the stake of the independent directors on each of the agenda items, for instance, to elect new directors replacing those due to retirement by rotation, an independent director whose term was completed but re-nominated for another term would be considered as having vested interests (but not be considered as having a special interest) or on the agenda item to approve the remuneration of the Board. The directors who would be considered as having a special interest were excluded from the voting regardless of their shareholding status. The Company also recommended that shareholders use proxy forms, through which they could specify their votes on each agenda item.

5) The Company also invited the Shareholders to submit questions related to the agenda items of the Meeting or other information relevant to the Company prior to the Meeting. This action helped to make the Meeting more efficient and beneficial to the Shareholders. Such questions were consolidated and answered at the AGM as well as recorded in the Minutes of the Meeting.

At the Meeting

1) The Meeting was held on Monday, April 3, 2023, at 14:30 hrs. The Meeting was convened through electronic means (E-Meeting) according to the Emergency Decree on Electronic Meeting, B.E. 2563 (2020), the Notification of the Ministry of Digital Economy and Society Re: Standards for Maintaining Security of Meetings via Electronic Means, B.E. 2563 (2020) and other relevant laws and regulations. The Meeting date and time were determined having taken into account the shareholders' convenience. Details of procedures and documents required for attending the E-Meeting and proxy granting including contact channel for inquiries were introduced. The system for E-Request submission was available from March 20, 2023, at 8:30 hrs. until the end of the Meeting on the AGM date.

2) All 14 PTTEP directors attended the Meeting. The Company's Chairman of the Board presided over the Meeting, while the sub-committee chairmen, the Chief Executive Officer, senior executives from the Finance and Accounting Group, and other functional groups also participated in responding to and providing clarifications on the inquiries raised by shareholders. The external auditor, external legal advisors from TTT & Partner Ltd., attended the Meeting and took up the role as a median to ensure the Meeting was proceeded with transparency and in compliance with the Company's Articles of Association and related laws. They also acted as witnesses during the voting process. The Chairman of the Meeting ensured that the Meeting was carried out in accordance with the Company's Articles of Association and the agenda items as per sequence stated in the invitation letter, without adding any other agenda item. The Chairman efficiently allocated time to each agenda item and provided adequate time and opportunities for shareholders to share their views and make in-depth inquiries in regard to those subjects relating to the Meeting's agenda items and the Company's operations prior to vote casting and decision-making on resolutions.

3) Before the Meeting, PTTEP provided clear and useful information as stipulated in the Articles of Association of PTTEP such as the number and ratio of the shareholders who attended the Meeting both in person and by proxies, including the Meeting procedures, how to ask questions, or submit suggestions regarding the concerned agenda items, the voting process and vote counting in each agenda item through E-Voting. The detailed contact channel was also provided if shareholders or proxies faced problems or had any questions regarding the E-Meeting system during the Meeting. Each resolution was clearly reported and displayed in the Meeting as required by relevant laws and the Company's Articles of Association and independent legal inspectors were appointed to witness and inspect the vote counting procedure.

4) All information presented at the Meeting was available in both Thai and English, the E-Meeting in English version for foreign shareholders who attended the Meeting was also provided to ensure fairness and equality among all shareholders.

5) External independent legal advisors, acting as inspectors as well as witnesses, were engaged to oversee the meeting to ensure the meeting's transparency and that it was conducted lawfully and in accordance with the Articles of Association of PTTEP including but not limited to meeting procedures as informed by the Chairman of the Meeting. Such procedures include verifying the documents and the proxy examination process, ensuring a quorum as well as assuring the meeting that none of the shareholders with potential conflicts of interest would cast votes on such agenda items, and making sure that the voting procedures, vote counting, and auditing of the resolution and result of the vote counting were done correctly.

After the Meeting

1) PTTEP disclosed the Minutes of the Meeting together with the vote counting results for each agenda item to the SET and also on the Company's website immediately after the Meeting.

2) Minutes of the Meeting, in both Thai and English, were accurately and completely recorded. They covered explanations of the Meeting's voting and vote counting procedures, details of agenda items, questions and answers, explanations and opinions related to PTTEP's business operations, and the Meeting's agenda. The Company also kept in record the resolution on each agenda item, categorized them as agreed, disagreed, and abstained as well as the names and positions of the directors and executives who attended the Meeting. Furthermore, the final version of the Minutes of the Meeting was delivered to the Ministry of Commerce, the SET, and the Office of the Securities and Exchange Commission (SEC) within 14 days after the Meeting. Minutes of the Meeting were also delivered to the Company's shareholders for their reference and consideration, and for verifying that any shareholders who wished to make objections did so within the timeframe enforced by relevant laws. The approved Minutes, video, and audio clips of the Meeting were also published in both Thai and English on the Company's website. In 2023, the Company did not receive any objections or inquiries from the shareholders in regard to vote counting results and the Minutes of the Meeting.



1.2) Disclosure of Significant Material Information

PTTEP ensures that information is communicated to shareholders accurately and in a timely manner, not only for the information that is required by related regulations but also for other information that the Company considers necessary for the shareholders to have. These disclosures are publicized through various channels, such as the SET and the Company's websites, and other media including printed media.

Furthermore, the Company clearly discloses the shareholding structures in our subsidiaries and associated companies as well as with the controlling shareholder, namely PTT, to ensure shareholders that our organization's structure is transparent, verifiable, and does not comprise any form of cross or pyramidal shareholding structures.

1.3) Fostering Understanding of Business Operations and Long-Term Engagement with Shareholders

PTTEP continuously organizes various activities for the benefit of shareholders and society. The main objectives of such activities are, for shareholders and other persons interested in PTTEP, to enhance the knowledge and understanding of the exploration and production of petroleum business which is distinct from other businesses as well as participate in our CSR programs. In addition, we aim to foster a high level of confidence in investors to maintain long-term investment with PTTEP. In 2023, Shareholder Site Visits were organized at PTTEP Technology and Innovation Center (PTIC), Rayong Province, and S1 Project, Sirikit Oilfield, Kamphaeng Phet Province.

PTTEP also prepares and publishes a quarterly newsletter, Explorer's Journal, as an additional channel to communicate PTTEP's news. This includes the Company's performance, the progress of key projects, Technology, Corporate Social Responsibility (CSR) activities, corporate governance activities, and other useful information; for example, 2023 PTT Group CG Day Togetherverse: CG Power for Sustainability & Beyond, Technology for supporting Energy Transition and new business, how PTTEP take care of its shareholders, PTTEP Infrastructure to Support Technology Research and Development, PTTEP GRC Roadshow 2023, eDNA and the Study of Diversity of Petroleum Platform Lives in the Gulf of Thailand, Digital Innovation Key of PTTEP Good Corporate Governance & Business Ethics Enhancement, PTTEP's Methane Management and Robotics Technology for Operation Improvement in E&P Business, etc. There is also a fun game in the quarterly newsletter for shareholders to play and win special prizes. Explorer's Journal is publicized on the Company's website. Copies of the newsletter would be sent to shareholders while e-newsletter would be sent via emails as they registered.

1.4) Equal Treatment of Shareholders

PTTEP provides a direct communication channel to all our shareholders via our independent directors' email at IndependentDirector@pttep.com for various issues, such as activities of the directors, good corporate governance, and audit-related issues. In addition, shareholders can directly contact the Company Secretary at CorporateSecretary@pttep.com or Investor Relations Section at IR@pttep.com for additional information. The Company operates businesses with optimal efficiency, with a commitment to business ethics for sustainable growth of the organization, appropriate and consistent returns to the shareholders, and all stakeholders are properly and sustainably taken care of using modern and well-accepted management and monitoring tools.

1.5) Prevention of Insider Trading

PTTEP puts a great emphasis on supervising the use of our internal information by including this matter in PTTEP Good Corporate Governance and Business Ethics. In line with securities laws, policies relating to the use of internal information are regularly reviewed to preserve integrity and equality among all the Company's stakeholders. Key measures are as follows:

1) The Board of Directors has assigned the Governance, Compliance, Internal Control, and Subsidiary Management Department as the center for monitoring the insider trading prevention program and preparing a list of personnel who are in possession of material and/or internal information (Insider List) which includes directors, management, and relevant employees.

2) Directors, the management, and employees are regularly informed of PTTEP's regulations and policies with regard to insider trading prevention through various communication channels as well as through training to ensure understanding and compliance and to prevent misuse of information which may directly or indirectly be in conflict with his or her personal interests. Disciplinary actions are clearly specified, while supervisors, who act as the CG Leaders, are responsible for advising and encouraging their subordinates to follow. In 2023, there was no report of any misuse of internal information.

   PTTEP employees attended a training on Good Corporate Governance and Business Ethics (CG&BE) or CG&BE E-Learning which is a compulsory course and is held every two years. This course covers the topic of measures to prevent the use of insider trading. The latest course was arranged in 2022 with 100 percent of employees attending and completing the course.

3) Trading of PTTEP's securities during the blackout periods, such as when material information which may affect securities' prices is being disclosed, is prohibited. All the Company directors, members of the management holding positions of Senior Vice Presidents (SVPs) and above, Vice Presidents (VPs) of the Finance and Accounting Group (FNA) as well as other management and employees having material internal information will be informed of such blackout periods in order to abstain from trading of PTTEP's securities whether directly or indirectly. This prohibition also applies to their spouses and minor children. Violation of this prohibition is considered a disciplinary offense. Moreover, Governance, Compliance, Internal Control, and Subsidiary Management Department will send the Blackout Period Acknowledgement Form to the insiders once a year to acknowledge the blackout period measures.

   PTTEP also requires all the Company directors, members of the management holding positions of SVPs and above, VPs of FNA as well as their spouses and minor children to refrain from directly and indirectly trading securities of PTTEP at all times and if it is necessary to trade, they must inform the Governance, Compliance, Internal Control, and Subsidiary Management Department at least two days in advance.

4) The Company directors, members of the management holding positions of SVPs and above, and VPs of FNA must disclose complete information with regard to their securities possession as well as related trading activities to the Governance, Compliance, Internal Control, and Subsidiary Management Department in addition to the disclosing obligation to the SEC. These pieces of information will be disclosed to the Board on a monthly basis for CG&BE compliance monitoring purpose. Shareholding by the Company directors, members of the management holding positions of Senior Vice Presidents (SVPs) and above, Vice Presidents (VPs) of FNA is disclosed in the Annual Report (56-1 One Report) as required by the SEC.



(2) Employees

1) PTTEP complies with the UN principles by not employing illegal workforce and child labor in every area in which we operate. The following guidelines are stipulated in the Company's CG&BE:

   1.1) To understand and comply with all laws applicable to PTTEP Group's operations in the locations where we conduct our business.

   1.2) To understand the local customs, cultures, and traditions of the locality in which we operate.

   1.3) To respect the local traditions, cultures, and cultural differences, and not to behave in any way which contradicts them.

   1.4) Not to discriminate against any individual based on our personal relationship with that individual, his or her ethnicity, nationality, gender (including pregnancy and sexual preference), age, religion, personal views, disability, or any other conditions or characteristics which are not concerned with work.

   In 2023, PTTEP supported 19 persons with disabilities on The Occupational Income Promotion project under Section 35 of the Empowerment of Persons with Disabilities Act, B.E. 2550 (2007), through the Disabled Personnel Assistance Coordination Center to enable persons with disabilities or their caregivers to pursue career in their own hometowns. PTTEP made full payments directly to persons with disabilities within the period specified by law.

   PTTEP strictly complies with labor laws enforced by each and every country we operate in. In Thailand, a Welfare Committee was established, comprising 8 employer representatives and 22 employee representatives from Thailand and overseas work sites which represented 100 percent of total employees. The Welfare Committee meets every two months to discuss labor-related issues that cover compensation, welfare, human resource management, and labor rights. In 2023, the Welfare Committee convened 6 meetings where 9 issues were discussed covering compensation, welfare, benefits, and opportunities for career advancement.

2) PTTEP recruits, selects, and employs employees based on their qualifications, experience, and capability to work in the target positions. According to the Good Corporate Governance and Business Ethics of PTTEP Group, both internal and external candidates are treated fairly under the transparent recruitment process. In addition, our employees are given opportunities to develop and grow in their professional careers based on their potential as well as to join external activities under the Company's policy.

3) PTTEP sets up and regularly reviews compensation and benefits packages to ensure fairness for both the Company and employees according to our short-term and long-term business performance, pay positioning among leading energy companies in Thailand and the region, types of work, required skills and expertise, difficulties of work, responsibility and accountability of each position, and the individual employees' performance results in order to attract and retain competent and capable employees.

4) PTTEP provides and regularly reviews welfare and benefits packages to ensure fairness to both the Company and employees according to our ability to pay at present and in the long run, focusing on the welfare and benefits that help to enhance the quality of life of employees and their families. These are, for example, healthcare benefits for employees and their families which are comparable to those provided by the majority of other leading energy companies in Thailand and/or in the region. The Company regularly reviews welfare and benefits programs to suit the changing social, economic, and other obligatory conditions of the business. In addition, the Company also provides psychological and legal consultation services through our "Sabaijaidee" program to Thai employees, local employees in overseas work sites, their spouses, and children to help them guard against anxiety and stress arising from matters concerning their families, private life, work, relationship, offspring, and legal issues. The services are provided by psychologists and professionals from one of our consulting companies. In 2023, The Sabaijaidee Live project was organized on a monthly basis by inviting external speakers to provide professional knowledge and advice on mental health care and stress management and provide financial advisers on financial issues called "Money Clinic project" to support the well-being of employees and their families. We also issue monthly articles about mental health care for employees. Psychology and stress tests have additionally been added to the WeConnect system so employees can assess their stress at any time on their own.

   The Company establishes a provident fund program for our employees to ensure their financial security after resignation and retirement. The fund consists of contributions from both the Company and employees. The Company makes a monthly contribution at a rate of 15 percent of our employees' basic monthly salary, while employees contribute 2 to 15 percent of their basic monthly salary. Criteria and policy regarding this fund are subject to the Company's regulations. Effective from October 1, 2022, the Company has increased the flexibility in fund management by allowing employees to adjust their provident fund contribution rate 4 times per year, up from 2 times per year, in response to economic fluctuation. Currently, 99 percent of total eligible employees have joined the Provident Fund.

   In addition, to celebrate and commemorate the long-term commitment and loyalty of our employees, PTTEP establishes the Long Service Awards Program to provide recognition to staff members who have reached significant milestone years of service, which are 5, 10, 15, 20, 25, 30, 35, and 40 year employment anniversary with the Company. The purpose of the program is to strengthen our corporate employee engagement by recognizing and honoring the commitment and dedication of long-term employees, while promoting career aspiration within the Company as well.

5) PTTEP prioritizes human resource development to increase the organization's capability to drive the business performance as the Company always believes that human resources hold a key to our success. The Company provides opportunities for employees to develop and enhance their knowledge, skills, and experience through both short-term and long-term training and development programs. Apart from professional capability and necessary skills building, the Company also embeds the corporate core values (*EP* SPIRIT) to all employees in domestic and international assets, so they can perform the expected behavior together based on the same corporate culture to realize the Company's vision and mission. In 2023, PTTEP revisited its core values for expected behavior to align with new strategy for energy transition. The adjusted value is designed to support efficiency improvement for E&P business including readiness to shift to Beyond E&P. In addition,

our employees attended training and development programs at an average of 57 hours per person per year. Programs for technical skills and Safety Security, Health and Environmental (SSHE) were provided to employees. Such programs covered topics such as water management, oil spill response, and environmental management. In addition, the Company has extended the capability development areas to include digital literacy, managerial skills, and leadership skills such as outward mindset, self-leadership, blockchain, smart contract, and power platform.

6) PTTEP realizes the value and importance of regular consultation between the Company's employees and their supervisors or among employees to seek ways out to issues in the day-to-day operation as fast as possible and to maintain a good working relationship among them. Should any conflicts arise among employees or between employees and their supervisors, the concerned employee may file a complaint through one of the communication channels provided. The employees, including relevant witnesses, who comply with the provided measures and procedures and act in good faith shall be protected, without facing a penalty, termination, or any other negative consequences. PTTEP has introduced various channels for Grievance Handling issues, such as: (1) the Whistleblowing System, which, during 2023, we received a total of 31 cases and 11 of those considered valid complaints in accordance with the Reporting and Whistleblowing Regulation, B.E. 2566 (2023). Among these, 8 cases have been completed and 3 have remained under investigation. They are expected to be completed by Q1/2024; and (2) the Human Resource Management Policy Grievance Channel which, during 2023, we received 2 complaints. All were considered valid complaints which have been successfully completed. Moreover, PTTEP has included the result of each complaint case and related penalties (if any) in the Annual Report (56-1 One Report) and sustainability report. In addition, PTTEP communicates lessons learned from each completed case to employees without disclosing personal information in order to prevent recurrence. In this regard, PTTEP has a certain process to verify facts confidentially, involving only those concerned with a view to protecting employees and whistleblowers.

7) PTTEP conducts the Employee Engagement Survey every two years. The recent results in 2022 indicated that the staff engagement is higher than benchmarks including Thailand Market Average, Thailand's Oil, Gas, Exploration and Production companies, APAC's Oil, Gas, and Consumable Fuels companies, and Fortune 500 companies. In 2023, PTTEP has continued to implement the Employee Engagement improvement plan in 2023-2024. Furthermore, we plan to conduct the Employee Engagement Survey next year (2024).

(3) Clients

PTTEP is committed to our mission to be a producer and supplier of crude oil, natural gas, condensate, naphtha, and LPG at fair and competitive prices. The Company sells the products under short-term and long-term contracts as well as in the spot markets. The Company assesses clients' suitability by the following four criteria, namely economic return of the product prices, financial stability, safety standards, and compliance with local laws and regulations of each client. The Company treats all clients equally for the optimal benefit of all and is also committed to strictly complying with the contracts as well as maintaining clients' confidential information in compliance with Personal Data Protection Act, B.E. 2562 (2019) as disclosed under the "Policy and Statement of Personal Data Protection" topic. In addition, the Company holds regular meetings with our clients to exchange production plans and demand forecasts to ensure that we can produce and deliver products that meet the quality, quantity, and delivery time specified in the contracts. The Company also conducts satisfaction surveys with clients to improve our product and service quality.

(4) Governments

PTTEP conducts its business to explore and supply petroleum domestically and internationally. The company adheres to Good Corporate Governance and Business Ethics and strictly complies with the laws applicable to our operations in all locations where we operate whether in Thailand or overseas.

(5) Joint Venture Partners

Joint venture projects between PTTEP and the Company's domestic and foreign joint venture partners operate under mutual working agreements according to the international standards including corporate governance, in order to promote equal ethic standards between PTTEP and its joint venture partners. These agreements include details regarding the rights and duties of joint venture partners such as the right to become a member of a project's management committee. The committee is responsible for the issuance of guidelines on the procurement of products and services as well as for the development of strategic planning and annual budgeting with a clear scope and approach. The partners also have the right to audit annual financial and accounting records. At the same time, the Company also agrees with Joint Venture Partners on certain sets of appropriate and clear measures, for example, penalty imposed on partners for failures to honor an agreement. In addition, the Company focuses on the transparent distribution of information to joint venture partners and external parties.

(6) Communities and Societies

PTTEP Corporate Social Responsibility Policy emphasizes sustainable social development and stakeholder engagement at all levels. Social responsibility has been integrated into each business's decision-making and execution process. This Corporate Social Responsibility Policy is adopted in all PTTEP operations areas.

In this regard, PTTEP uses the Issue and Stakeholder Management System (ISMS) as a tool to analyze social risks and mitigate impact as well as to promote good relationships with communities in every operating area. ISMS workshop is organized for the executives and staff of all domestic and international assets on a regular basis. ISMS has been set as a responsibility of the relevant managers and Public Affairs staff to ensure effective implementation. Public Affairs staff revisit ISMS through ISMS Report Online System to update the information every year.

(7) Environment

PTTEP is committed to operating its business with a strong sense of responsibility and consideration for both society and the environment. Hence, we have included the commitment to environmental protection in our Safety, Security, Health, and Environment Policy (SSHE Policy). All employees, business partners, and contractors working for or on behalf of the Company must abide by the SSHE Policy.

PTTEP realizes that our activities can cause environmental impacts on the stakeholders. Therefore, the Company has sought to engage with relevant stakeholders to ensure that their concerns and recommendations are addressed. These concerns and recommendations have contributed to mitigation and monitoring measures in environmental impact assessment reports. Furthermore, PTTEP assigned community relations officers to foster good relationships with communities through regular engagement with local communities in case any environmental concerns or complaints are raised.

PTTEP transparently discloses information on environmental performance to the public in various channels. The disclosure is implemented in compliance with regulatory requirements, company requirements, and international practices.

(8) Vendors

According to the Procurement Regulation and the Good Corporate Governance and Business Ethics of PTTEP Group (CG&BE), vendors play an integral part in the sustainability of our business. The Company therefore established a policy which aims to treat our vendors as equal business partners. PTTEP's procurement system is based on fair competition and strict compliance with the laws and regulations as well as other legal obligations. It also takes into account the Safety, Security, Health, and Environment (SSHE). Vendors must establish and implement a safe working procedure in line with the Company's work safety standards. Their employees, meanwhile, are also required to uphold business ethics and respect human rights. Furthermore, in pursuing the Company's vision of being the Energy Partner of Choice, PTTEP has focused on long-term value creation and mutual benefits to foster good partnerships with all parties including vendors. PTTEP has published information related to Procurement and Contract on the Company's website at www.pttep.com > E-Service > Procurement and Contract. Click here for more information The key summary is as follows:

1) Vendor Registration and Pre-Qualification

PTTEP Group has established procurement processes in accurate, proper, efficient, and flexible manners, while conforming to international standards and taking risk management into account, on par with other leading companies. These are to ensure that goods and services are received in good and timely condition resulting in the utmost benefit for PTTEP Group. In this regard, the Company has established the procedure of Vendor Registration and Pre-Qualification as follows:

- PTTEP is deeply committed to free and fair business competition without trade barriers. Vendors can register their profiles through our website at www.pttep.com > E-Service > Procurement and Contract > New Vendor Registration. Click here for more information
- The pre-qualification committee, consisting of representatives from relevant units, was established to prequalify vendors by screening and evaluating them based on their product and service categories. The committee is authorized to perform its duties independently for fairness while ensuring that vendors possess the qualifications to deliver the products or provide the services needed by PTTEP. The evaluation process is comprised of 3 aspects: (1) Preliminary Technical, (2) Safety, Security, Health and Environment (SSHE), and (3) General (for example, company registration, code of conduct, etc.) and Financial Status.
- PTTEP has published Privacy Notice and Guidelines on the Protection of Personal Data for the Procurement Process of PTTEP Group on our website at www.pttep.com > E-Service > Procurement and Contract > Related Document. Click here for more information

2) Sourcing Strategy and Procurement Process

PTTEP develops Annual Procurement Plan (APP) in accordance with the Company's 5-year roadmap. As such, the Company is able to leverage sourcing strategy and set contractual periods as appropriate for market situation for both domestic and international assets. The APP shall be endorsed by an authorized person as per the Delegation of Authority and Signature (DAS) document. After the APP is endorsed, PTTEP will apply a sourcing strategy based on the scope of service, essential contract terms and conditions, vendors, market conditions, estimated contract value, duration, Category Management Process as well as risk management in order to efficiently proceed with the procurement plan.

Additionally, PTTEP continuously looks for sourcing opportunities from countries with lower production costs (low-cost countries) by searching for new potential bidders for categories which have limited sources of supply or those that aim to achieve further cost-saving targets.

The new potential bidders will be assessed for quality as per the Company's standards before being added to the approved vendor list.

For procurement process under the Production Sharing Contract (PSC), PTTEP is required to submit Annual Master Procurement Plan (AMPP) in order to obtain endorsement from the Department of Mineral Fuels (DMF) for procurement valued above THB 10 million prior to the sourcing process. For any procurement transactions that fall under DMF criteria for submitting Procurement Strategy, the Procurement Strategy Sheet shall be submitted for DMF's endorsement 30 days in advance of procurement process.

PTTEP focuses on strategic sourcing where the Company will conduct a bid clarification meeting with high-value contract bidders prior to the tendering process. In the process of vendor selection for high-value and high-risk procurement, the technical proposal will be evaluated first prior to consideration of the commercial proposal. Subsequently, the result of the bidding process will be submitted to the Procurement Committee (PC), joint venture partners (if any), and the Board (for high-value procurement) for endorsement prior to the stage of contract drafting with the selected vendor. Furthermore, PTTEP is required to inform the bid result to DMF, and in the event that the awarded contract value is 10 percent higher or lower than the Procurement Strategy, DMF's endorsement is required prior to awarding the contract. The Company only selects vendors with the required technical and SSHE qualifications, and which offer the lowest price or on the basis of the best interest of PTTEP Group.

Moreover, PTTEP has adopted a weighted technical and price score method together with Green Procurement criteria in the vendor selection process in order to align with the Company's sustainability policy.

3) Contract Management and Assessment

Contract Management and Supplier Relationship Management (SRM) constitute an important component for the petroleum exploration and production business. A contract holder coordinates between vendors and all relevant parties, to ensure that they fully understand and comply with PTTEP's work plan, contract objectives, SSHE standards, and risk mitigation plan, as well as critical key performance indicators (KPIs). The contract holder also needs to assess and follow up periodically on the performance to ensure that the vendors operate according to the contractual terms. At the end of the contract, the contract holder must also complete the Contract Closed-out Report to identify areas of improvement regarding the operations and long-term sustainable relationship with the vendor. PTTEP has improved and set standard supplier performance evaluation criteria to suit the characteristics of each category and set corrective action plans for those vendors who fail the evaluation. Evaluation results will also be used in vendor pre-qualification evaluation in the future.

Additionally, PTTEP has reviewed and revised Procurement & Contract Procedure and Procurement & Contract Training Toolkit to ensure clarity, conciseness, adaptability, and being up to date. PTTEP Delegation of Authority and Signature (PTTEP DAS) regarding procurement was also revised to be more prudent and align with the current operational conduct, so that the relevant units are able to use as a guideline properly. Moreover, the revised version was communicated through the Contract Holder Certification Program workshop and training, as well as other communication channels, to build understanding and awareness among contract holders and relevant persons.

4) Vendor Collaboration Initiatives

In 2023, PTTEP has continued to develop effective supply chain management and support vendor collaboration initiatives to maintain a good relationship with vendors. In this regard, the Supplier Relationship Management Plan is developed and implemented, for example, by organizing pre-bid meetings with vendors under critical work categories, communicating strategic direction and business opportunities to vendors for advance tender preparation, conducting offshore drilling contractor performance monthly meetings, and organizing annual meetings with major vendors. As a result of good collaboration with vendors, in 2023, PTTEP has successfully established 48 Master Service Agreements with vendors for the repetitive sourcing items and completed 40 Frame Agreements to reduce the procurement process and lead time while increasing procurement efficiency.

PTTEP also organized Supplier Day (The Symposium) 2023 under the theme "Collaboration Towards Sustainable Growth". The primary objective of the event was to effectively communicate PTTEP's procurement direction and plan for 2024, emphasizing a streamlined process. It introduced relevant procurement systems, facilitating discussions on common issues to ensure mutual understanding between PTTEP and suppliers operating in the material work categories. The overarching aim is to elevate efficiency, effectiveness, and transparency, fostering stable and sustainable growth for the Company and all stakeholders involved.

5) Local Content

To enhance the capability of domestic vendors to compete internationally, PTTEP supports the sourcing of local products and services. Not only does it promote domestic employment and income distribution, but it also reduces the outflow of capital to other countries. As a result of our commitment to building a long-term relationship with the communities where we operate, the Company has been entrusted by the respective communities with licenses to operate. Meanwhile, the Company also encourages our vendors to operate with care and responsibility wherever they are and to increase their local sourcing to save costs as well as to support the local communities. Local Content details are also disclosed in the "Building a Sustainable Tomorrow" section, "Just Transition" topic, "Advocating for Sustainable Supply Chain" sub-topic.

In addition, PTTEP also supports SME entrepreneurs and Made in Thailand products as per e-GP regulation, for instance, considering SMEs as the priority for sourcing opportunities, setting the scope of work to suit Made in Thailand products, setting conditions/vendor qualification and evaluation criteria to support SMEs and Made in Thailand products, and supporting Thai entrepreneurs or companies registered in Thailand, to name a few.

6) Vendor Sustainability Management

PTTEP is committed to operating our business to achieve sustainable growth and adhering to good corporate governance for the community, society, and environment. To effectively achieve these goals, the Company prioritizes the management and continuous improvement of its supply chain.

"PTTEP Vendor Sustainable Code of Conduct" was drafted with its contents and scope adhering to the relevant rules, regulations, and laws. The vendors are encouraged, in all of their activities, to be ethical, respect human rights, comply with the SSHE standard, and prioritize environmental management. Also, PTTEP has successfully applied green procurement criteria for 27 work categories and implemented technical bid evaluation in conjunction with commercial evaluation to award bidder. The successful bidder shall get at least a 30 percent score to pass PTTEP green procurement criteria. The performance data of green procurement is shown on our website at www.pttep.com > Sustainability > Governance for Sustainable Business > Supply Chain Management. Green Procurement details are also disclosed in the "Building a Sustainable Tomorrow" section, "Just Transition" topic, "Advocating for Sustainable Supply Chain" sub-topic.

7) Vendors' Environmental, Social, and Governance (ESG) Assessment

PTTEP Group conducts an assessment on suppliers' sustainability on ESG aspect (ESG on-site audit), to assess sustainability risks in 5 areas: (1) corporate policy, (2) business ethics, (3) society, (4) occupational health and safety, and (5) environment. The assessment was done through a certified third party to ensure that suppliers' ESG risks are audited and managed in line with the best practice. ESG assessment data is publicized on our website Click here for more information

(9) Creditors

PTTEP recognizes the importance of the Company's internal and external stakeholders including creditors. This is based on our policy of equitable treatment for all stakeholders and an integral part of the CG&BE.

Emphasis is placed on accurate, complete, timely, and transparent information disclosure to all stakeholders. Information disclosed by the Company consists of financial and non-financial information. Financial information particularly the financial statements is reviewed and audited by an independent auditor in compliance with the generally accepted accounting principles. The information is also endorsed by our Audit Committee as well asthe Board of Directors prior to public disclosure.

Regarding creditors, PTTEP's debenture issuance and all relevant processes are in compliance with the laws, policies, and regulations stipulated by the SEC as well as the policies, purposes, and resolutions set forth at the Company's shareholders' meeting. The Company agrees to fulfill the obligations stated in the terms and conditions of the debenture and loan agreements and to ensure that the information is accurately and adequately disclosed to all stakeholders. The Company also maintains all of the necessary measures to remedy incidents or other types of impairments that may arise as a result of non-compliance.

(10) Competitors

PTTEP treats our competitors with professionalism, equality, and transparency. The Company, in our greatest effort, tries to avoid all unethical manners and ill intentions to defame the reputation of our competitors through false, unfair statements, or acts. It is also committed to complying with laws and regulations of each area where we operate regarding trade competition. Details of the Trade Competition Policy are specified in the CG&BE.

(11) Customs and Traditions

PTTEP adheres to local customs and traditions. Orientation is provided, with inputs from leading consulting firms that provide insights into local life and customs, to the employees who receive international assignments to help them understand and be able to act correctly and appropriately. The Company also supports and provides the information through the intranet system to facilitate employees to access the information anywhere anytime. Moreover, the Company also supports and encourages employees to learn the local language to foster workplace relationships and create a more pleasant working environment.

(12) Human Rights

PTTEP has a concrete human rights policy that fully complies with the international standards and principles relating to our operations. We also uphold the 10 principles of the United Nations Global Compact (UNGC) in the areas of human rights, labor, environment, and anti-corruption. PTTEP, among over 850 companies from 80+ countries, has actively engaged in the Early Adopter Programme to test the new UNGC Communication on Progress platform for further improvement from 2022 to the present. In 2016, PTTEP, alongside 14 founding members of the Global Compact Network Thailand, spearheaded efforts to raise awareness within the Thai business sector about the importance of aligning business with sustainability under the UN Global Compact principles. PTTEP has maintained its membership to date.

For more details about human rights policy, management system and highlight performance in 2023, please visit the "Sustainable Transition" section, "Human Rights" sub-topic in the report, and PTTEP website, "Sustainability" topic, "Human Rights" sub-topic. Click here for more information

(13) Laws

PTTEP respects and complies with the law in every country where we operate. The Board determines the matters relating to the compliance with applicable laws, regulations, and policies under the Business Ethics of PTTEP Group. All personnel of the Company including directors, the management, and employees are required to understand as well as strictly abide by all the applicable laws relating to the Company's operations in all areas, ensuring that all PTTEP Group's operations are in full compliance and efficient.

PTTEP has a centralized compliance unit, namely the Governance, Compliance, Internal Control, and Subsidiary Management Department to oversee and monitor the compliance performance of PTTEP Group. The Department has a direct reporting line to the Senior Vice President of the Corporate Secretary and Assurance Division and the Chief Executive Officer, respectively.

In 2013, the Company announced the Compliance Policy to express our commitment to full legal compliance as well as to define the roles of all managers and employees in promoting compliance in all operations. The Compliance Program has also been developed to enhance awareness of the importance of compliance among employees. In addition, the Company also developed the Compliance Manual as a guidebook of reference in ensuring a consistent and effective approach to operating/working for all operations in line with the applicable laws, the Company's regulations, and contractual obligations, with the purpose to enhance employee awareness on both internal and external compliances.

4.1.3 Information Disclosure and Transparency

(1) Disclosure of Financial and Non-Financial Information

Information disclosure is a key aspect of good corporate governance. PTTEP attaches importance to the information disclosed to the Stock Exchange of Thailand (SET) as well as to the shareholders, and the information must be accurate, sufficient, timely, and equally available to all parties. The information is prepared according to the Company's Business Ethics Guidelines. The departments that are responsible for providing information and replying to external queries are the Investor Relations (IR) Section and the Communications Department.

The information disclosure consists of financial information and non-financial information. In 2023, financial information was disclosed through financial statements which were reviewed or audited by the external auditor to confirm that they were presented accurately, in all material respects, according to the Thai Financial Reporting Standards. The financial statements were subsequently approved by the Audit Committee and/or the Board prior to being disclosed to the public. The Board reported their responsibilities with respect to the financial statements in the Annual Report (56-1 One Report). In addition to the SET's requirements, the Company also released unaudited annual financial statements in advance to allow timely access to the financial information for the shareholders and investors. Unless stated otherwise, the information before and after the audit usually and generally does not contain any significant changes.

The Company also disclosed non-financial information, such as acquisition/disposal of assets, related party transactions, dividend payments, the management discussion and analysis, invitation letter for the shareholders' meetings, minutes of meetings, as well as other information which was important for investment decisions in compliance to the guideline of the SET's and the Securities and Exchange Commission (SEC)'s disclosure requirements for the listed companies. The Company also disclosed the annual corporate governance report in the Annual Report (56-1 One Report).

Information that PTTEP has disclosed to SET, the Company's shareholders, investors, and the general public is disseminated in both Thai and English on the Company's website which also features other up-to-date information considered to be of interest to the aforementioned parties. Key information available on the website comprises petroleum exploration and production projects, investment in new business for energy transition, quarterly analyst meeting presentations, webcasts, roadshow schedules and presentations, historical and latest stock performance, and news releases. The Company also reports our Safety, Security, Health and Environment (SSHE) performance in the Annual Report (56-1 One Report). In addition, the Company makes videos and infographics presenting financial information and operating results. They are available on our website for those who may be interested.

The Company also publishes a quarterly investor newsletter, Explorer's Journal, which includes information that may be beneficial to our shareholders and investors, such as quarterly performance highlights, project updates, good corporate governance practices, topics on sustainable development, and knowledge sharing on the fundamentals of the exploration and production business. The newsletter is prepared in Thai and English and is available for download on the Company's website. Additionally, it is accessible through electronic subscription and can be obtained in hard copy format. Moreover, the Company has also launched PTTEP Investor Relations Mobile Application and Chatbot, effectively serving as an additional communication channel between the Company and shareholders for news and updates.

In 2023, PTTEP disclosed a total of 44 articles through the SET portal and organized the following activities for the shareholders and analysts.

Activity	Frequency (Times)
• Roadshows/conferences	21
• Analyst meetings	4
• Opportunity Day and SET Digital Roadshow (arranged by the SET)	7
• Site Visits on PTTEP's operational sites	7
• PTT Group Expo Day, in collaboration with PTT and Flagship Companies	1
• Knowledge Sharing events for investors	1
• Company visits and conference calls	25





Due to the improvement of the COVID-19 situation, the activities in 2023 were arranged in the forms of virtual conferences or online meetings, or through telephone correspondences, and physical meetings both domestic and overseas.

The Company realized that disclosure of information, which is accurate, complete, timely, and transparent is a key to the CG&BE and is therefore committed to performing its best in this area.

(2) Investor Relations

The Investor Relations (IR) section is responsible for the communication of relevant information and news that reflects PTTEP's fair value to analysts, shareholders, and general investors according to the SET's and SEC's requirements to foster confidence within the analysts and investment community. IR is also entrusted with upholding the corporate image and perception among analysts and investors and advising IR related issues to the Company's Board of Director and executives.

PTTEP's IR can be contacted through the following channels:

1) Head of Investor Relations:
Arada Vichayavanit
Telephone: +66 2537 7641

2) Investor Relations Section:
Telephone: +66 2537 4217, +66 2537 4946 and +66 2537 5522
Fax: +66 2537 4444
Email: IR@pttep.com

4.1.4 Policy and Statement of Personal Data Protection

PTTEP recognizes the importance of personal data protection and governance of personal data in accordance with the Personal Data Protection Act, B.E. 2562 (2019) (PDPA) and associated secondary laws. The following actions have been taken to ensure full legal compliance:

1) Carry out PDPA Gaps Analysis and Recommendations to study and analyze legal requirements and internal processes in accordance with PDPA and communicate the recommendations to relevant parties for implementation, for example, privacy notice, personal data consent, and cookies consent, etc.

2) Establish a PDPA Implementation Plan and consult with relevant parties to put the plan into action, follow up on the implementation, and examine related documents.

3) Establish and announce the Personal Data Protection Policy on PTTEP's website to announce the Company's intention to protect personal data and explain how the Company treats personal data.

4) Provide Personal Data Protection Notice for External Parties to inform the owner of personal data and understand the purpose and method of collection, use, disclosure, and/or transfer of personal data abroad, including rights as the owner of personal data, etc. The information is published at the Personal Information Protection Center on the website of PTTEP.

5) Establish and announce the Personal Data Protection Standard for Employees to ensure that employees know how to treat their personal data and how to comply with the law.

6) Establish and announce the Personal Data Retention Guideline to provide appropriate guidance for personal data protection and management including retention period and destruction to be in accordance with Company's PDPA policy.

7) Communicate PDPA knowledge via email throughout the years 2021-2022 and provide regular training to educate employees. In the year 2023, E-Learning has been made available to help employees understand the rules and practices of collecting, using, or disclosing personal data, and the important duties of the processor of personal data.

4.1.5 IT Security Policies and Practices

Since 2019, the Board has delegated the Risk Management Committee to oversee the Company's cybersecurity strategy and review process.

Furthermore, in 2020, PTTEP appointed the Digital Steering Committee, with the Executive Vice President of the Operations Support Group (OPS) as its chairman, to take on the following responsibilities:

- Define PTTEP's digital directions, policies, and strategies.
- Review new digital technologies and innovative ideas in accordance with digital strategies.
- Define PTTEP Digital Master Plan and Roadmap to align with PTTEP and PTT Group's directions and business strategies.
- Provide advice and determine solutions related to digital operations and processes.
- Supervise and monitor digital risk management to ensure risks are within the risk appetite under the Enterprise Risk Management Framework.

Reporting to the Digital Steering Committee, the Vice President of the Information Management Department performs the role equivalent to that of the Chief Information Security Officer. He and his team are responsible for developing the direction, targets, strategy, policies, and standards for information technology security. Their tasks also include supervising the IT risk management as well as the IT security master plan and roadmap, with a view to keeping cyber risks in line with the Company's risk appetite. Indeed, cybersecurity risks have been incorporated into the corporate risk profile, which is closely overseen by the Digital Steering Committee, the Risk Management Committee, and the Board of Directors to ensure that PTTEP can respond promptly to any cyber threats. Furthermore, to strengthen PTTEP's response to cybersecurity incidents, the Company has already appointed the Chief Information Security Officer and established the Cybersecurity Incident Response Task Force in the first quarter of 2023.

PTTEP issued three policies related to information security/cybersecurity, namely Digital Security, Information Security Management System and Cybersecurity. All these policies were announced across the organization in keeping with good corporate governance and are available to all in the management and among employees through PTTEP Intranet. All employees have acknowledged these policies and received relevant training under the cybersecurity and IT security training program, which was carried out to foster their awareness and understanding of the relevant corporate policies and regulations, as well as Thailand's Computer Crime Act, B.E. 2550 (2007) and Personal Data Protection Act, B.E. 2562 (2019). All policies and training programs are reviewed regularly so that they remain relevant and in line with the current laws.

In 2023, all PTTEP staff were required to participate and pass a compulsory online Cybersecurity Awareness Training Course to ensure up-to-date awareness of current cybersecurity threats. PTTEP also sent phishing email messages to a randomly selected group of employees every week to test employees' awareness on cyber threats.

PTTEP also received a Certificate of Registration for Information Security Management System – ISO/IEC 27001:2022 for the scope: The information security management applied to PTTEP Data Center and Supporting Facility Governed by PTT Exploration and Production Public Company Limited. The Certificate was effective on September 2, 2023.

4.2 Governance Implementation at PTTEP

4.2.1 GRC Principles

PTTEP is aware of the importance of integrating Governance, Risk Management and Compliance (GRC) to warrant the effectiveness of the Company's operations and adherence to regulations, rules, policies, and ethics. This will establish confidence among directors, executives, all staff members, and stakeholders and propel the Company towards achieving corporate goals in a sustainable manner.

With the goal of becoming a GRC role model for Thai listed companies by 2030, the Company has adopted two essential GRC long-term strategies, namely Smart Assurance and Mindful GRC. The former aims to effectively and concisely integrate assurance processes, while the latter focuses on cultivating GRC in employees' mindset to be aware, accept, and implement GRC in their daily operations and key decision-making processes. PTTEP is also willing to extend and share the GRC practices to its business alliances and interested organizations. The collaboration among teams from Governance, Compliance, Internal Control, and Subsidiary Management Department and Risk Management Department has been established to drive GRC-promotion programs throughout the Company. Their approach is in accordance with the GRC Management System. Furthermore, the Company has also stipulated its governance structure to be in accordance with the Three Lines Model.

External independent experts are entrusted to regularly evaluate the Company's GRC performance. For instance, GRC Maturity Assessment and GRC Perception Survey with Stakeholders. Internal control assessment is also carried out, guided by the framework of the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The GRC performance is also audited by the Third line unit or the Internal Audit unit in accordance with risk levels at a particular period. In 2023, PTTEP found zero non-compliance incident with significant impacts on PTTEP's business.

PTTEP is committed to conducting its business with transparency and effectiveness by adhering to the good corporate governance principles, maintaining robust risk management and internal control system as well as strictly conforming to applicable laws and regulations. The key performance in this area in 2023 is as follows:

1) Conducted GRC Maturity Assessment to reflect GRC adaptation in PTTEP and Malaysia Asset in order to perform gap improvement and level up to the highest level of GRC Maturity Level in 2030.

2) Conducted PTTEP Enterprise Risk Management (ERM) Maturity Assessment, the result was favorably competitive compared to the benchmark. PTTEP also continually enhanced Risk Management System by leveling up Chatbot to provide solutions corresponding to queries regarding Risk Management System and preliminary used Chatbot as a tool to communicate to relevant staff on risks related issues.

3) Developed ONE BCMS to improve Business Continuity Management (BCM) management performance by centralized management and combined five ISO 22301 BCMS certificates into one certificate.

4) Continually developed GRC One Digital System by adding Business Continuity Management status reporting.

5) Continued to build GRC Culture through several communication campaigns for all employees in Thailand and overseas, i.e. Comprehending GRC knowledge from case studies via GRC roadshows and E-Learning to raise awareness and understanding on GRC principle and ensure the effectiveness of GRC implementation as well as application of GRC into the work of employees. Moreover, PTTEP promotes good practices on GRC in society, including through publishing articles in Explorer's Journal and on IOD website, and Facebook page: PTTEP Shareholders Society. PTTEP has also shared GRC practices to other Thai Listed Companies.

4.2.2 Corporate Governance Concerning Subsidiaries and Associated Companies

PTTEP supervises its subsidiaries and associated companies through the management of PTTEP Group companies. The Company has established adequate and appropriate monitoring and assessing systems which include risk management, internal audit and control, compliance with rules and regulations, compliance with good corporate governance, and business ethics. The Company regularly reports the performance to the Corporate Governance and Sustainability Committee. The Company is also aware of the significance of information disclosure in accordance with the principles of good corporate governance. Details as disclosed in the "Internal Control and Connected Transactions" section, under the "Sufficiency and Suitability of the Internal Control System" topic.

4.2.3 Monitoring of the Compliance with Corporate Governance Policies and Practices

(1) Conflicts of Interest Prevention Policy

PTTEP is committed to preventing all potential conflicts of interest to provide the Company's stakeholders' confidence that our business management is efficient, transparent, and in compliance with the Good Corporate Governance and Business Ethics of PTTEP Group under the following principles:

1) Directors, the management, and employees shall treat the interests of PTTEP Group as priority and shall not participate or be involved in any activities which may lead to any conflicts of interest.

2) Directors, the management, and employees shall conduct self-reviewing and disclose, at least on an annual basis, their transactions that have led to a conflict of interest with the Company.

3) Directors, the management, and employees who have a conflict of interest shall not participate in the consideration or voting on any matters in which they have vested interest. Such conflict of interest shall be completely disclosed to the Company.

4) Directors, the management, and employees shall strictly adhere to the laws and regulations as required by the Stock Exchange of Thailand (SET), particularly in relation to connected transactions.

The Company has established preventive measures for potential conflicts of interest as follows:

1) Directors, the management, employees, and related persons must avoid financial involvement or engagement in a relationship with outsiders which may result in PTTEP Group's loss of benefits, conflicts of interest, or operational inefficiency.

2) Directors, the management, and employees who may have a potential conflict of interest in bidding, selection process, and awarding of the transaction, must report to their supervisors and/or those participating in the given process through the conflicts of interest reporting system. They must also withdraw themselves from participating in such process or conflicted transactions of PTTEP.

3) Directors, the management, and employees shall report to the Company through the conflicts of interest reporting system regarding the information of persons having close relations and working within PTTEP Group and the companies in which PTTEP has invested. This is to prevent any potential conflict of interest.

4) Directors, the management, and employees must notify the Company immediately should there be any suspicion or uncertainty of what they or their related persons are involved in, or that their shares in the business with transactions with the Company, may lead to a conflict of interest.

5) Directors, the management, and employees shall attend the Good Corporate Governance and Business Ethics (CG&BE) training which were arranged in various forms and topics as determined by the Company, for example, induction for new directors, management and employees, E-Learning, and communication through email. Furthermore, PTTEP stipulates that CG&BE E-Learning is a compulsory course that is arranged every two years. The recent course was conducted in 2022 in which PTTEP employees participated with 100 percent completion.

6) Directors, the management, and employees must conduct self-review of their conflicts of interest on an annual basis. To review their conflicts of interest related to any matters in the procurement process, the management and employees who are directly involved in the procurement process must conduct self-review and disclose their transactions which may lead to a conflict of interest at least every six months. Such declaration will enable the supervisors to consider re-assignment of duty of particular members of the management and/or employees who are involved in a conflict of interest. In 2023, all employees conducted self-review and conflict of interest disclosure with 100 percent completion. The Company discloses the statistics of violations against conflicts of interest policy under the topic of Whistleblowing Reporting and Protection Procedures.

(2) Prevention of Insider Trading

Details are disclosed in the “Corporate Governance” section, under the “Prevention of Insider Trading” topic.

(3) Anti-Corruption

Importance

PTTEP Board of Directors attaches great importance on operating with transparency and fairness under corporate governance with zero tolerance on any form of corruption whether directly or indirectly. PTTEP has proper governance on all relevant functions pursuant to the Good Corporate Governance and Business Ethics of PTTEP Group or CG&BE which is PTTEP Group’s regulations binding all across the organization, from directors, the management, to all employees of PTTEP and its subsidiaries, who are required to sign a commitment form agreeing to observe and conform with such regulations. Also, our measures encourage those related to PTTEP Group, including suppliers and joint venture partners, to abide by the CG&BE and uphold similar best practices for anti-corruption on par with PTTEP’s standards.

PTTEP believes that efficient anti-corruption measures require a sound governance structure together with a clear management system, adequate, and proper risk management and internal controls, good monitoring for strict and ongoing compliance, independent audit, and explicit guidelines as stated in the CG&BE. It also requires all directors and the management to lead on good governance (CG Leader) by example. PTTEP Board of Directors assigned the Corporate Governance and Sustainability Committee to monitor the compliance of the CG&BE as well as the Anti-Corruption Policy. Corporate Governance and Shareholder Engagement Section, under the Corporate Governance, Compliance, Internal Control and Subsidiary Management Department, Corporate Secretary Division, is a central function to support and drive the compliance of the CG&BE and PTTEP Group’s anti-corruption measures. At least every quarter, updates are to be provided to the Corporate Governance and



Sustainability Committee and the Board of Directors. The CG&BE was prepared in writing based on internal control principles. They have been published and distributed to all relevant stakeholders in Thai, English, and Burmese. The full version of the CG&BE is available on the Company's website for further study by interested parties. Finally, the "Standard of Practices for Anti-Corruption" was rolled out for the management and employees to conduct themselves properly under various circumstances where corruption risks exist – this is considered another internal control measure of PTTEP.

In addition, to establish a good standard for transparent business execution and reduce the risk of conflict of interest, PTTEP Group constantly adheres to the No Gift Policy and explicitly announces the Policy to outsiders that PTTEP Group personnel will not accept gifts, entertainment, or any other benefits on any occasion. Integrity & Ethics has also been made as one of PTTEP's Corporate Values to be fostered across the organization.

Scope of PTTEP Group's Anti-Corruption Policy

PTTEP specifies that the CG&BE represents PTTEP Group's anti-corruption policy. Its contents embrace the principles, guidelines, and clear examples of all matters related to anti-corruption measures. These include governance structure stated under Corporate Governance: guidelines for political neutrality, use and protection of information and assets, conflicts of interest, procurement and contract, and anti-money laundering under Business Ethics. The CG&BE are applied on the directors, the management, and employees of PTTEP and its subsidiaries, as well as their business partners, all of whom have agreed in writing to comply with the CG&BE and encouraged joint venture partners to adopt suitable corporate governance and suitable business ethics. In addition, the Company established the Standard of Practices for Anti-Corruption, and in 2023, Anti-Fraud and Corruption Policy were established separately. The policy specifies principles and guidelines which require PTTEP personnel and any persons acting on behalf of, or for the benefit of PTTEP or PTTEP Group to strictly adhere to and comply with. For example, gift offering and acceptance, hospitality, sponsorship and donation, and conflicts of interest. These reflect PTTEP's intention in the fight against fraud and corruption in all forms.

PTTEP has defined corruption based on applicable rules and legislation, both domestic and international. It mainly focuses on intention: any action in the interests of PTTEP Group must not be accompanied by the intention to use one's or others' authority for wrongful gains, which is unlawful and/or against PTTEP Group's regulations. This also includes all corrupt practices undertaken as a giver or recipient, or through an agent. PTTEP recognizes that certain activities, including not-for-profit donations, sponsorship, facilitation payment, and revolving door, may be at high risk for corruption. Therefore, in defining "corruption," these activities are mentioned so that practitioners may exercise extra precaution. PTTEP also provides appropriate guidelines for employees when facing such situations in the Standard of Practices for Anti-Corruption to reduce corruption risks. In addition, PTTEP does not make donations to support political parties for election campaigns, both at the local and national levels, which is in line with the guideline and principle of political neutrality under our business ethics.

Measures and Principles for Implementation

Implementation of anti-corruption measures involves an internal control system, risk management, compliance oversight, audit, and promotion of corporate culture and ethics, each of which is under the responsibility of relevant functional units. Therefore, PTTEP defined the "Three Lines Model" of internal control and risk management as follows:

1) The First Line Roles are made up of various functional units responsible for overseeing their respective work while they apply proper risk management, internal control, and full compliance with all applicable laws

and regulations. The people in this First Line Roles are required to have knowledge and understanding of internal regulations and relevant laws related to their work. Moreover, they must improve their competencies and attend the necessary training to ensure that they are adequately knowledgeable and ready to perform duties in their respective jobs and efficiently confront various situations.

2) The Second Line Roles are made up of those units responsible for overall legislation, regulations, and policies adopted by the Company and for defining regulations and criteria as well as monitoring compliance, such as the units in charge of governance, risk management, internal control, and compliance (GRC). There is a proactive and explicit integration of management as stated in the Governance, Risk Management, and Compliance Management System Manual (GRC MS Manual) to enable goal achievement while having proper risk management according to applicable corporate regulations and code of ethics. At the same time, business processes are improved for efficiency and adequate internal control through reduced redundancy. The work scope contains the following nine key components: (1) leadership and commitment, (2) policies, objectives, and plans, (3) organization and resources, (4) GRC assessments, (5) controls and responses, (6) monitoring and assurance, (7) audit, (8) continual improvement, and (9) communication and culture.

3) The Third Line Roles are made up of audit functional unit and external auditors, responsible for independently auditing the overall performance of various management systems under the First and Second Line Roles.

PTTEP assigns the Internal Control Section to regularly conduct internal control assessments on potential fraud risks, which include risks of asset misappropriation, corruption, fraud, and fraudulent financial reporting, by allowing process owners to conduct control self-assessment of their operation process and by evaluating for the adequacy of internal control system at the corporate level in accordance with the Office of the Securities and Exchange Commission (SEC)'s regulations. The Company's Vice Presidents are required to conduct an annual self-assessment of internal control of each unit in accordance with COSO principles which covers potential fraud risk. The results of the assessment indicated that PTTEP has an adequate and appropriate level of internal control. In addition, PTTEP has continuously improved its internal control system to be more effective and efficient.

Continuous Communication, Knowledge Development, and Training

The Corporate Governance and Sustainability Committee has defined a clear plan for fostering the CG&BE of PTTEP Group and the Anti-Corruption Policy among every personnel across the organization through various ongoing activities encompassing target groups at all levels and of all age groups. Activities were designed to match target groups' interests and knowledge levels, and their implementation expanded to external stakeholders, including suppliers. Performance indicators of target groups inside and outside PTTEP were clearly defined to ensure proper policy implementation for the most concrete and tangible results. In 2023, key activities are as follows:

Measures for Internal Parties

1) Organized induction sessions for new directors, management, and employees regarding the governance, risk management, and compliance (GRC), providing them with basic knowledge and understanding for acknowledgment and compliance. In addition, the Company required all personnel to acknowledge CG&BE by signing a commitment form to demonstrate their intention that they shall perform their duties based on CG&BE, and the form was signed with 100 percent completion.

2) Organized GRC basic knowledge training courses (GRC 101) for staff who worked with the Company for 2-3 years. Contents covered corporate governance and business ethics, risk management, internal control, and compliance, with an emphasis on anti-corruption and relevant matters so that employees would have correct understanding and duly apply them to their work.

3) Arranged training courses relating to Good Corporate Governance and Business Ethics (CG&BE) for those at supervisor level onwards under the concept of "CG&BE Train the Trainer". The objectives were to build ethical leadership with an understanding of CG&BE, create role models, and enable supervisors to provide advice and promote their subordinates to have awareness of CG&BE and conduct their work ethically.

4) Arranged CG&BE Health Check Program in the form of workshop sessions for employees. The content provided in this session was tailored for each group of employees in order to review their understanding of the CG&BE of PTTEP Group. The participants were given case studies with the aim of building understanding and correctly implementing CG&BE in their operations. On this occasion, feedback and questions about CG&BE raised by employees through this session were also collected to mutually determine the appropriate practices. The final solutions would be part of the annual CG&BE revision.

5) Jointly organized PTT Group CG Day 2023, an annual activity where PTT Group's flagship companies take turn to host the event. The activity was arranged for all personnel of PTT Group and representatives of entities dealing with governance and anti-corruption, suppliers, and customers of PTT Group. Known this year as "PTT Group CG Day 2023: Good to Great – CG Empowering for the Future", the activity was held on October 17, 2023, as a hybrid event. This event clearly demonstrated the commitment among PTT Group companies in carrying out businesses with accurate and transparent manners, and free from all types of corruption.

6) Established communication on conflicts of interest, guidance on giving and acceptance of gifts, corporate tokens, representation, or other benefits which may be computed into a monetary value, and the complaint handling together with the provision on protection so that the management and employees may realize the importance of corruption prevention measures. Additionally, the Company provided communication to enhance the confidence of all individuals in filing complaints through the Company's defined channels with a good understanding of relevant procedures and protection. The number of complaints was disclosed annually as a summary along with punished cases. (Details are shown under the "Whistleblowing Reporting and Protection Procedures" topic) This is part of the campaign for all employees to take part in building a corporate culture with transparency and corruption-free practices.

7) Instituted other ongoing communications to educate across the organization such as issuing CEO Message regarding the No Gift Policy, publishing an article relating to implementing digital technology to support good governance, etc. In addition, the Company encouraged employees to participate in various anti-corruption activities, for example, promoting Anti-Corruption Day and International Anti-Corruption Day through multiple channels, such as communication signboards, emails, newsletters, etc.

Measures for External Parties

PTTEP has a clear intention to become a leading company in the realm of Corporate Governance (CG) demonstrating strong commitment and expanding good governance to external parties. This is evident in PTTEP having a written clear policy covering external stakeholders, for example, vendors, joint venture partners, and representatives of PTTEP Group. The Company also encourages these external stakeholders to conduct businesses ethically and not to be involved with corruption through the following activities:

1) Notifying all suppliers about the No Gift Policy and request for their cooperation not to give or offer gifts, souvenirs, or other benefits on any occasions to the directors, the management, and employees of PTTEP Group. PTTEP also communicated and invited all suppliers to engage in online training including post-test on anti-corrupt practices.

2) Announcing to external parties the No Gift Policy explicitly on PTTEP's website and installing communicating signboards in office premises near spots where visitors can clearly see, both in Thailand and other countries.

3) Advocating to society a culture of good governance and anti-corruption. In 2023, PTTEP took action and participated in various key activities. Details are shown under the "Collective Efforts with the Public to Counter Corruption" topic.

4) Establishing channels for external parties to inquire in case of questions or recommendations on good corporate governance and business ethics by sending an email message to Corporate Secretary and Assurance Division (CorporateSecretary@pttep.com)

Monitoring the Implementation of Anti-Corruption Measures

The Board of Directors has assigned the Corporate Governance and Sustainability Committee to monitor the implementation concerning anti-corruption measures, which is part of the CG&BE. The Company Secretary, as the Committee's Secretary, gathers data and reports to the Committee at least on a quarterly basis. Moreover, since the oversight of compliance with anti-corruption measures of PTTEP Group is jointly done by several functional units (the Second Line Roles and the Third Line Roles), reports are made to the applicable sub-committees, namely the Risk Management Committee and the Audit Committee. All implementation results are reported to the Board of Directors and summarized for the shareholders in the Annual Report (56-1 One Report).

Furthermore, the Corporate Governance and Sustainability Committee monitors the outcomes of the implementation of the CG&BE plan annually and assesses the gathered data against relevant KPIs to ensure goal achievement.

Audit

PTTEP designates the Internal Audit Division to perform fraud auditing tasks, which include corruption, and undertaking further examination when complaints are received. Currently, the Internal Audit Division has an Internal Audit Guideline – Fraud Audit that covers fraud risk assessment, prevention, detection, and investigation of fraud, as well as practical guidelines used in the investigation process for complaints of fraud.

PTTEP has implemented its Continuous Control Monitoring System to monitor and inspect any irregular transactions that occur in PTTEP's work processes. The system has been implemented on the Procure to Pay processes, and covers warehousing and inventory management, targeting the risk of non-compliance with regulations or work procedures

that may possibly lead to fraud and corruption. When an irregular transaction has been detected, the system will send a notice directly to the management, enabling them to investigate and promptly resolve the matter. Moreover, the Company has continuously implemented technology to prevent corruption, for instance, GRC One Digital System would enable management to receive GRC-related information timely and support their important decision-making and Robotic Process Automation (RPA) to reduce accounting errors.



Collective Efforts with the Public to Counter Corruption

PTTEP acknowledges the significance of our role as a listed company to build confidence of our shareholders and stakeholders that the Company's management is transparent, fair, and free from fraud and corruption. The Company as one of the State Enterprises has a responsibility to lead by example and to encourage society to adopt better anti-corruption standards. In 2023, the Company proactively took several measures and participated in several activities to counter corruption. For instance, the Company joined Thailand's National Anti-Corruption Day which was on September 6, 2023, at Bang Sue Grand Station, and joined International Anti-Corruption Day (Thailand) which was on December 8, 2023 (online event).

Thai Private Sector Collective Action Against Corruption (CAC) certified PTTEP as a member of Thailand's CAC consecutively for the third time. PTTEP has committed to consistently enhancing and strengthening corruption prevention in our operations. This certification reaffirms our commitment to transparent operation and trust-building among our stakeholders. Additionally, in 2023, PTTEP submitted the request for the recertification to be the CAC member for another term.

(4) Whistleblowing Reporting and Protection Procedures

PTTEP Board of Directors has established the Whistleblowing Regulation for PTTEP Group to ensure that the complaint-handling process is effective, transparent, fair, and conforms to international standards. This regulation is meant to provide appropriate and fair protection for whistleblowers and those cooperating with the Company in good faith. This mechanism gives an opportunity for both internal and external parties to report any suspicious misconduct or wrongdoing that might be in violation of laws, the Good Corporate Governance and Business Ethics (CG&BE), anti-fraud and corruption policies, and other related regulations, as committed by the Board, management, employees, or representatives of PTTEP Group.

PTTEP sets clear procedures and timeframe for the investigation of complaints as prescribed in the regulation to ensure the transparency and fairness of the complaint-handling process. Examples are as follows:

- The Corporate Governance Section, Corporate Secretary, and Assurance Division, as a case coordinator according to the Whistleblowing Regulation, and a subsidiary case coordinator, preliminary evaluates the information and adequacyof the evidence before forwarding the complaint to the Company's investigator within 7 working days.

- The investigators prescribed in the regulation must complete the investigation within 30 working days. If the period is extended due to necessity, the extension can be made only with the approval of the authorized person (not exceeding 7 working days at a time for non-complex cases and not exceeding 30 working days at a time for complex cases). The investigator shall not have vested interests in the complaint. Every complaint coming through the whistleblowing channels is summarized and reported to the Corporate Governance and Sustainability Committee and/or Audit Committee (as the case may be), and subsequently reported to the Company's Board of Directors.

The whistleblowing channels of PTTEP Group are as follows:

1) Sending complaint by post to PTTEP director, chairman of the audit committee, supervisor, or the Corporate Governance Section, Corporate Secretary and Assurance Division:
PTT Exploration and Production Plc.
555/1 Energy Complex Building A, 33rd Floor,
Vibhavadi Rangsit Road, Chatuchak, Bangkok 10900

2) Sending email to the supervisor or the Corporate Governance Section, Corporate Secretary and Assurance Division (CGhotline@pttep.com)

3) Reporting through the whistleblowing system, which is available on PTTEP's website (www.pttep.com). The system will assign an individual Report Number and PIN to the whistleblower to ensure security and prevent forbidden access by unauthorized personnel, as well as to allow the whistleblower to perform a follow-up on the progress of the reported complaint and make inquiries. This system serves as a necessary tool for preventing and monitoring the risks of fraud and corruption.

There is also a provision on the protection of whistleblowers and involved persons including the remedy for any person who is affected by the complaint in this regulation. Whistleblowers and those cooperating with the Company in good faith shall receive appropriate and fair protection from PTTEP Group, such as no change of job positions/titles, no threat or unfair treatment, etc. The complaint investigation shall be conducted on a confidential basis and not disclosed to irrelevant persons.

In 2023, PTTEP received a total of 33 complaints through the channels according to the Whistleblowing Regulation and Human Resources Management Policy. After reviewing on the clarity and adequacy of these complaints, 11 cases were accepted for further investigation. As of December 31, 2023, the investigation of eight cases was completed while three cases were still under investigation process (Completed in Quarter 1/2024). A summary of complaints is shown in the table below.

Topic	2021	2022	2023
Number of whistleblowing cases	20	13	33
Whistleblowers			
• External reporter	8	3	16
• Internal reporter	4	3	4
• Anonymous reporter	8	7	13
Number of accepted cases after considering evidence and witnesses	10	8	11
Number of wrongdoing cases	3	3	3
Type of wrongdoings			
• Health and safety	-	-	-
• Business integrity			
◉ Non-compliance with regulation	-	-	-
◉ Conflicts of Interest	-	-	2
◉ Corruption, Fraud, Bribery	-	-	-
◉ Use of asset and information	1	-	-
◉ Others	-	-	-
• Human Resources			
◉ Inappropriate manner	-	-	1
◉ Sexual harassment	2	3	-
◉ Non-sexual harassment	-	-	-
◉ Others	-	-	-
• Others	-	-	-
Consequences of wrongdoings			
• Verbal warning	-	-	1
• Written warning	3	2	2
• Suspension	-	-	-
• Termination with severance pay	-	-	-
• Termination without severance pay	-	1	-

After completing the investigation of these eight accepted cases pursuant to the regulation, there were five cases in which no offenses had been found while there were three cases of wrongdoing:

1) Two cases were related to conflicts of interest. It was found that the cases constituted disciplinary offenses pursuant to the Good Corporate Governance and Business Ethics (CG&BE). PTTEP has given verbal and written warnings to the offenders.

2) One case was related to the inappropriate behavior of the staff. It was found that the case constituted a disciplinary offense pursuant to the Human Resources Management Policy and Business Ethics on Human Resources. PTTEP has given a written warning to the offender.

The Corporate Governance Section prepared and reported the results of the complaint investigation to related parties. The findings of the cases were used to carry out further improvements to the Company's internal control measures.

For more details on the Whistleblowing Regulation and Whistleblowing System, please visit PTTEP website. Click here for more information

4.3 Business Ethics

PTTEP is committed to operating its business in an ethical manner. Business ethics is regarded as a crucial behavioral framework and a good approach for the conduct of business. Hence, it is a guide for all directors, members of the management, and employees to perform their duties effectively, and ethically, as well as to treat every group of stakeholders equally, fairly, and transparently. These practices will build confidence and lead to acceptance in the efficiency and transparency of the Company's business operations, creating a long-term sustainable value for all stakeholders and fairness for everyone concerned.

Business Ethics of PTTEP Group is part of the "Good Corporate Governance and Business Ethics of PTTEP Group (CG&BE)". The Board first established its written Business Ethics in 1989, and it is constantly reviewed annually. The CG&BE was regarded as the highest regulation for business operations of PTTEP Group. More details of the CG&BE are disclosed in Attachment 5.

PTTEP's Business Ethics consists of principles, guidelines for good practice, samples of questions and answers, information for further study, and a list of the departments responsible for each of the principles. There are 10 ethical issues that reflect our organizational values of PTTEP Group to which directors, management, and employees must adhere as the following:

1) Compliance with Laws, Regulations, and Rules, and Respect for Different Customs and Cultures
2) Political Neutrality
3) Human Resources
   - Workplace Environment
   - Privacy, Equal Treatment, and Anti-Harassment
   - Illegal Drugs, Substance Abuse, and Alcohol
   - Outside Employment and Management and Employees' Participation in Outside Activities
4) Use and Protection of Information and Assets
   - Record Keeping, Using, Disclosing, and Safeguarding Information
   - Use and Storage of Electronic Data and Information Technology Resources
   - Use and Protection of Intellectual Property
   - Insider Trading and Use of Inside Information
5) Conflicts of Interest
6) Procurement and Contracts
7) Anti-Fraud and Corruption
8) Trade Competition
9) Anti-Money Laundering
10) Safety, Security, Health, and Environment

PTTEP has distributed its PTTEP Group's CG&BE electronic booklet to all directors, the management, and employees for their reference and adherence. Everyone is also required to sign their names, thus committing themselves to apply PTTEP Group's CG&BE to the highest working standards. In addition, the booklet is delivered to the Company's business partners, regulators, parties with regular business relationships with the Company, and other interested parties. For the convenience of the Company's shareholders, investors, and interested parties, the contents of PTTEP Group's CG&BE booklet can also be found on the Company's website under the Corporate Governance section.

PTTEP continuously enhances and promotes the awareness and understanding of PTTEP Group's CG&BE among the Company directors and personnel. The Board governs the ways in which the CG&BE is communicated to the directors and personnel to ensure that they are able to uphold and comply with such policy accordingly. Communication also extends to external parties, for example, employees, consultants, business partners, subsidiary companies, agents, nominees, or any persons acting on behalf of PTTEP Group in order to promote good ethical cultures throughout the business chain and society in general. Details are explained in the "Continuing to Provide Communication, Knowledge and Training" sub-topic under the "Anti-Corruption" topic.

The Board monitors and evaluates the performance of the CG&BE activities quarterly. the Corporate Secretary and Assurance Division is in charge of reporting them to the Corporate Governance and Sustainability Committee and the Board on a quarterly basis to ensure that CG&BE activities achieve the targeted performance. Furthermore, the Corporate Governance and Sustainability Committee has reviewed the work plan by taking into account the evaluation results on CG&BE and anti-corruption measures to ensure continuity and efficiency for the development of the work plan.

4.4 Major Changes and Developments of Policy, Practices, and Corporate Governance System in the Past Year

4.4.1 Significant Changes and Developments of the Corporate Governance Policy, Guideline, and Governance System

PTTEP realizes the importance of good corporate governance that it will promote effectiveness and sustainable growth of the Company's operations leading to the best interest of all stakeholders. PTTEP, therefore, regularly reviews and improves the policy, regulation, and relevant guidelines to ensure the effectiveness of implementation. In 2023, significant changes and developments of the Company in the area of CG&BE are as follows:

(1) The Revision of the Good Corporate Governance and Business Ethics Regulation (CG&BE)

The CG&BE regulation is regularly reviewed and updated every year to comply with the changing laws & regulations and alignment with international standards. The result of 2023's review has shown that the contents in the regulation are still in line with the corporate governance principle for listed companies and current good corporate governance practices and there was no significant change in 2023. PTTEP continues to monitor the revised OECD Principles and CG Code of The Securities and Exchange Commission (SEC) and treats them as a guideline for reviewing and revising the regulations of PTTEP.

(2) The Revision of Reporting and Whistleblowing Regulation

PTTEP reviewed and revised the Reporting and Whistleblowing Regulation to ensure appropriateness and alignment with the business environment and the current Company's operations. Key revisions include; specifying the persons entitled to file reports by including anyone who may suffer any damages or impacts from the complaint or

its processes and establishing the Compliant Screening Committee with specific roles and responsibilities; revising the roles of the Company's case coordinator and Subsidiary Case Coordinator; and updating other matters.

3) Establishment of Anti-Fraud and Corruption Policy

PTTEP emphasizes the need to ensure that the organization operates with transparency and fairness under good corporate governance with zero tolerance on any form of corruption whether directly or indirectly. In 2023, to reaffirm the above intention, the Company issued its Anti-Fraud and Corruption Policy in writing as part of the Good Corporate Governance and Business Ethics (CG&BE) of PTTEP group, which requires PTTEP personnel to comply with. The policy indicates the principles and guidelines for all employees, and any persons acting on behalf of, or for the benefit of PTTEP or PTTEP Group to strictly comply with the Anti-Fraud and Corruption Policy including gift offering and acceptance, hospitality, sponsorship and donation, conflicts of interest, etc.

4.4.2 Other Good Corporate Governance Practices

PTTEP values and strictly abides by PTTEP Group CG&BE and international best practices, which are applied with due regard to our circumstances, business, and the best interests of the Company, shareholders, and stakeholders as a whole. Below is PTTEP's additional implementation pursuant to the best practices:

1) Since PTT holds (both directly and indirectly) 65.29 percent shares in PTTEP, the free-float proportion of shares is less than 40 percent of the total paid-up shares. Yet, the current free-float proportion is enough for minor shareholders to exercise their rights to veto significant transactions. PTTEP values full compliance with the SEC and SET rules and regulations while taking seriously the perennial stewardship of minor shareholders' rights. PTTEP organizes various activities to convey useful information to these shareholders, winning acceptance from relevant external agencies.

2) PTTEP recognizes the importance of advanced delivery of the Shareholders' meeting notices to shareholders to allow them enough time to duly examine the information. The shareholders' meeting date is scheduled in March to the beginning of April every year for shareholders' convenience and to not coincide with other listed companies. This schedule also provides shareholders with early receipt of rights and benefits, including dividends. As PTTEP operates its businesses in many countries, it takes more time to carefully audit our financial statements, which are in the interests of shareholders, and to prepare various reports well. Recently, the Company was able to send meeting invitations to shareholders by post 24 days in advance of the Meeting. In addition, PTTEP also publicized the Meeting invitations on our website no less than 28 days in advance of the Meeting to give shareholders enough time to examine the Meeting data.

3) Under PTTEP's Articles of Association, director election is done by a majority vote, with one shareholder having votes equal to the number of shares one holds. Shareholders can vote for individual directors. Directors receiving the highest votes are elected in descending order until the available director positions are filled. PTTEP, therefore, does not rely on the cumulative voting method. Despite this, PTTEP has adopted other methods of looking after the interests of minority shareholders, including allowing them to nominate director candidates for election in advance.

4) The verification of the rights of attending shareholders is done thoroughly and in detail, ensuring that multiple granting of proxies are properly done without affecting the rights of other attending shareholders.

5) Directors automatically retire at the age of 70; their qualifications become void when they reach this age.

6) PTTEP requires that the number of independent directors should be no fewer than half of the number of directors in the Board.

7) PTTEP values the independence of the Chairman of the Board; therefore, we give top priority to the selection of the Chairman from the list of independent directors, except for other justification or suitability in other aspects, e.g. business expertise, work experience, and good leadership in order to find the suitable person. PTTEP has adopted specific processes for this position, including Chairman assessment by the entire Board of Directors to ensure his genuine independence. Details are disclosed in the "Governance Structure and Key Data on the Board of Directors, Sub-Committees, Management, Employees, and Others" section, "Independence of the Chairman" topic. The present Chairman is an independent director.

8) PTTEP Board of Directors annually revisits the suitability of the Skill Mix by explicitly defining each skill aspect or proficiency and setting the annual target for the Skill Mix in line with prevailing business circumstances and changing the business environment for director recruitment and capability development. The Board also values the Board's diversity by not discriminating against gender, nationality, ethnic group, race, country of origin, or cultural background.

9) PTTEP applies best practices on requiring a minimum quorum for voting in the Meeting stating that the minimum quorum is reached with no fewer than two-thirds of the entire Board's directors (excluding those with vested interests) present. Furthermore, PTTEP's corporate governance requires that directors absent without good reasons from the Board meetings on more than three consecutive occasions should automatically lose their director's qualifications. PTTEP also sets meeting attendance as an indicator of the Board Performance Target. PTTEP's practice is to determine and schedule Board and sub-committee meetings during the year in advance for the benefit of efficient planning by the directors. In 2023, more than two-thirds of the Board attended every Board meeting. Finally, before any voting, the Chairman gives all directors opportunities to ask questions and extensively discuss issues in order to reach unanimous decisions.

10) Assessment of the Board and sub-committees is done through scoring on performance assessment forms for both self-assessment and cross-assessment, Chairman assessment, and entire-Board assessment together with evaluation against Board performance target covering all aspects of both business performance and good corporate governance. Assessment results are discussed by applicable sub-committees in order to improve their performances. In addition, the Board of Directors undergoes appraisal by neutral external agencies, including the Corporate Governance Report of Thai Listed Companies (CGR) Project carried out by the Thai Institute of Directors (IOD), and the ASEAN CG Scorecard assessment. Survey findings are used for the Board's performance improvement.

11) This year PTTEP held one independent directors' meeting and one non-executive meeting for consultation and exchange of views on crucial, useful matters of the Company, and major and minority shareholders and upgraded our corporate governance practices. The CEO was subsequently informed of the outcomes of these meetings.

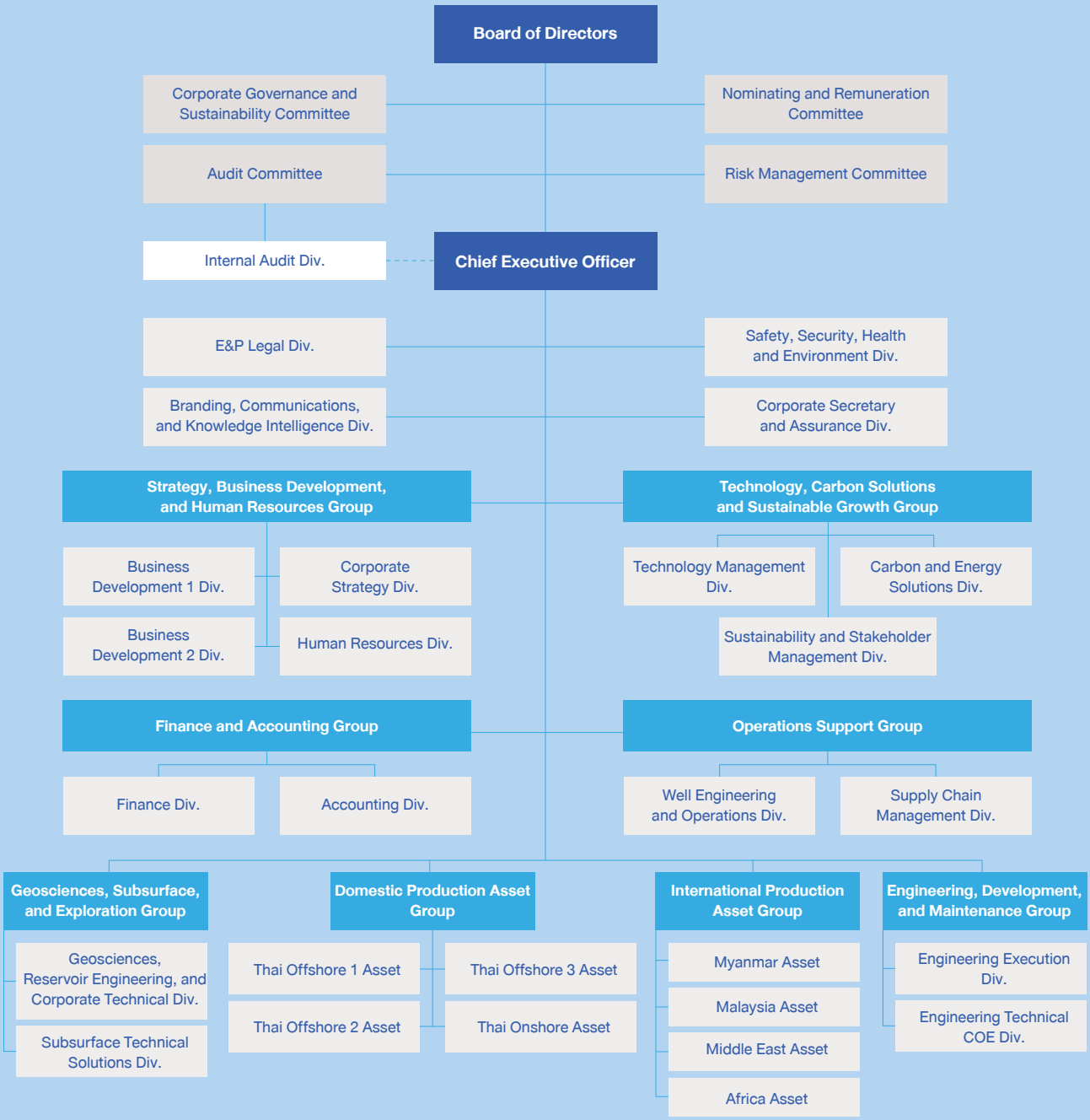
12) PTTEP specifies a policy on CEO and senior management remuneration in line with their short-term and long-term performance, as well as PTTEP's performance. The Company has also disclosed the CEO's remuneration, the ratio of the CEO's remuneration to the average remuneration of the Company's executives, as well as to the average of all employees.

13) PTTEP does not offer a scheme that provides the management with the right to buy PTTEP shares. The Company instead applies an appropriate remuneration structure that is suitable for the Company's business and competitiveness. Such structure is screened by the Nominating and Remuneration Committee and the Board of Directors.

5. Governance Structure and Key Data on the Board of Directors, Sub-Committees, Management, Employees, and Others

5.1 Governance Structure

As of January 1, 2024



5.2 The Board of Directors

5.2.1 Composition of the Board

PTTEP Board of Directors (Board) consists of qualified directors who possess versatile skill sets (Skill Mix) including necessary expertise relevant to the Company's lines of work. In 2023, PTTEP specified the Board's Skill Mix to reflect the Company's strategic directions and clearly defined skills or expertise in each line of work. The Skill Mix has been classified into 12 subject areas under 2 categories as follows:

1) Core Skills: basic expertise which is necessary for directors to oversee the entire Company, namely Business Judgment, Management Skills & Corporate Governance, and Business Strategy.

2) Specific Skills: specific expertise or skill which is useful for directors to supervise and oversee the Company, namely Industry Knowledge, Accounting, Legal, International Market and Collaborations, Risk & Crisis Management, Economics & Finance, SSHE (Safety, Security, Health and Environment), Sustainability, Innovation & Technology and HR & Organization Development.

The candidates nominated for the selection process to become PTTEP's directors shall possess all Core Skills identified above so that they can properly oversee PTTEP's business and conduct as well as the planning of various strategies. The candidates shall also possess Specific Skills that are useful for PTTEP's business. Currently, PTTEP's Board of Directors consists of qualified directors with versatile skills in both Core and Specific Skills, fulfilling the requirements of PTTEP's Board Skill Mix. In addition, PTTEP places great emphasis on the Board Diversity and efforts against discriminations to promote equal treatment, regardless of gender, nationality, race, country of origin, or culture, as well as regularly revisits the balance and sufficiency of Board Diversity to ensure alignment with the changing business environment. Indeed, in 2023, the number of female directors increased from 2 to 3 persons in line with our direction to promote Board Diversity.

PTTEP directors must not be over 70 years old and shall possess the qualifications according to the Good Corporate Governance and Business Ethics of PTTEP Group (CG&BE), Public Limited Companies Act, and Securities and Exchange Act as well as rules and regulations of the Securities and Exchange Commission (SEC), the Capital Market Supervisory Board (CMSB), The Stock Exchange of Thailand (SET), and relevant resolutions of the Cabinet. Directors shall also commit and dedicate their time to fully perform their duties and responsibilities. Directors will be regarded as unqualified if they fail to attend Board meetings more than 3 consecutive times without any reasonable justifications.

The Board structure consists of 15 directors, an appropriate number for the Company's operational size. The Board consists of non-executive and executive directors. In addition, the Board shall have independent directors, comprising a number not fewer than half of the incumbent members. As of December 31, 2023, the Board consisted of 13 directors including:

12 non-executive directors
(92.31% of total members)

1 executive director:
the Chief Executive Officer (CEO)

8 independent directors
(61.54%* of total members)

3 female directors
(23.08% of total members)

* A ratio which is not fewer than half of the incumbent members as required by the Company's CG&BE, and more than the number required by law

PTT is the only major shareholder of PTTEP, while minor shareholders are highly varied and are not concentrated in groups. The aforementioned Board's component and proportion are deemed appropriate to maintain the balance within the Board for the best interests of the Company's shareholders.

The names, biographies, qualifications, experiences, and numbers of shares of non-executive directors, executive directors, independent directors, and directors from PTT are disclosed in Attachment 1 "Information of the Board of Directors, Management, Controlling Persons and Company Secretary" as well as on PTTEP's website.

5.2.2 Information of the Board and Authorized Directors

The full list of the Board of Directors as of December 31, 2023, is as follows:

Name of Directors	Position	Starting Date
1. Mr. Krairit Euchukanonchai	Chairman and Chairman of the Independent Directors Committee	February 1, 2021
2. Mr. Pitipan Tepartimargorn	Independent Director, Chairman of the Risk Management Committee, and Member of the Nominating and Remuneration Committee	November 1, 2015
3. Ms. Penchun Jarikasem	Independent Director and Chairman of the Audit Committee	February 1, 2018
4. Mrs. Angkarat Priebjrivat	Independent Director and Member of the Audit Committee	October 1, 2019
5. Mr. Auttapol Rerkpiboon	Director	August 1, 2020
6. Mr. Veerathai Santiprabhob	Independent Director, Member of the Risk Management Committee, and Member of the Corporate Governance and Sustainability Committee	October 15, 2020
7. Mr. Wattanapong Kurovat	Director and Member of the Nominating and Remuneration Committee	May 1, 2021
8. Mr. Teerapong Wongsiwawilas	Independent Director, Chairman of the Nominating and Remuneration Committee, and Member of the Audit Committee	January 1, 2022
9. Mr. Wuttikorn Stithit	Director and Member of the Risk Management Committee	January 1, 2023
10. General Nithi Chungcharoen	Independent Director, Member of the Nominating and Remuneration Committee, and Member of the Risk Management Committee	January 1, 2023
11. Mrs. Natjaree Anuntasilpa	Independent Director and Member of the Audit Committee	March 17, 2023
12. Mr. Ekniti Nitithanprapas	Director and Member of the Corporate Governance and Sustainability Committee	April 3, 2023
13. Mr. Montri Rawanchaikul	Director and Chief Executive Officer	October 1, 2021

5.2.3 Authorities and Responsibilities of the Board

Scope of Authorities of the Board

According to the principles of accountability, duty of care, and duty of loyalty, the Board's roles and responsibilities have been clearly defined strictly in line with those stipulated by laws, objectives, Articles of Association of PTTEP, and resolutions of the shareholders and Board meetings. The scopes of the authority and responsibilities of the Board are as follows:

1) To govern and ensure that PTTEP's operations are in compliance with the Company's CG&BE as well as to be a leader and a role model in adopting, advising, communicating, and promoting the CG&BE among employees of PTTEP as well as for other organizations.

2) To consider and approve the statement of vision, mission, and corporate values of PTTEP Group to ensure that they are effectively applicable and practical.

3) To consider and approve PTTEP Group's strategic plan, business direction, targets, workforce structure, and other significant operations, including regularly monitoring and reviewing operation results, to ensure that they are in line with the Company's strategy, operational direction, targets, and determined policies with an emphasis on agility and appropriateness to facilitate the management to effectively and efficiently manage the business, whilst considering impacts on safety, security, health, environment, innovation and technology, as well as social responsibility.

4) To ensure efficient and adequate internal control systems through a clear set of regulations and work processes as well as standardized and reliable accounting system and financial reporting, appropriate and adequate risk management, effective compliance program with regular monitoring.

5) To consider and approve significant matters as prescribed by laws or in the Company's affidavits, policies, or regulations, as well as matters that may result in obligations with PTTEP.

6) To consider cases related to conflicts of interest in a prudent and transparent manner. In such cases, reports of vested interests of oneself and/or those of related parties must be filed, including potential misuse of the Company's properties and execution of transactions with the Company's connected persons in an inappropriate way.

7) To ensure that the Company has clear and proper regulations, standardized and reliable financial reporting, an efficient internal control system, and proper risk management.

8) To ensure that audits are performed effectively by internal and external auditors.

9) To ensure that communication and disclosure of information to the Company's stakeholders are performed in an accurate, complete, appropriate, and timely manner.

10) To ensure that the Company's stakeholders are treated fairly and equitably.

11) To consider, approve, and appoint experts from different professional fields to provide the Company with insightful information as well as to act on the Company's behalf on matters which can significantly affect the financial position or reputation of PTTEP Group.

12) To consider and approve the Board Performance Target as well as to evaluate the performance of the Board, Chairman of the Board, and sub-committees.

13) To consider and approve the Performance Agreement of the Chief Executive Officer (CEO), as well as to evaluate performance and determine his or her remuneration. The Board is also responsible for ensuring that the Company has an effective performance evaluation process for high-level executives.

14) To appropriately delegate authority to the CEO to manage the Company according to strategic plan, business directions, targets, and policies of the organization, as well as to ensure that there is appropriate oversight and efficient monitoring and evaluation.

The Board is permitted to request information and seek advice and services in regard to the Company's business operations from the management. In addition, if deemed necessary and appropriate, directors may seek advice from external and independent advisors at the Company's expense.

Responsibilities of the Board

The following are the major responsibilities of the Board. Details are disclosed under the topic of "Scope of Authorities of the Board".

1) Policy and Business Direction Determination

The Board is responsible for making decisions regarding PTTEP's operational policies and determining the corporate vision, mission, and values. The Board is also assigned to be directly involved in the Company's budgetary planning, and organizational development strategy to accommodate continuous changes in the business environment, as well as to provide the management with advice to lead the Company towards our 5 ultimate goals of "Growth, Prosperity, Stability, Sustainability, and Dignity".

2) Good Corporate Governance and Business Ethics

The Board is responsible for establishing PTTEP Group's CG&BE, whereby all the directors, the management, and employees must adhere to while operating businesses for PTTEP Group. This is to ensure that our businesses are operated in accordance with good standards and ethical practices with transparency, efficiency and verifiability. In addition, the rights of the Company's stakeholders are preserved proportionately to their fair share to maintain the general confidence and acceptance in the Company. The Corporate Governance Unit meanwhile has been established to be responsible for matters regarding the CG&BE.

3) Internal Control and Auditing

The Board is responsible for assuring that PTTEP Group is equipped with an effective internal control system which is in accordance with the risk appetite. The Audit Committee and the Internal Audit Division are assigned to regularly audit and follow up on the results of internal controls as well as to submit the results directly to the Audit Committee to ensure that they are in line with the operational objectives of PTTEP Group, in compliance with relevant laws and regulations, and trusted by the management, investors, and other stakeholders. The Company's internal control system is comparable to those accepted by the international standards, taking into account the control environment, risk assessment that may affect objectives, effective control plans, internal and external provisions of adequate and reliable information and communications, as well as routine monitoring and evaluation procedures.

4) Risk Management

The Board is responsible for regulating and overseeing the management of risks that may hinder the achievement of PTTEP's strategic goals. The Board appoints the Risk Management Committee, to establish policies and a framework for risk management, overseeing, and supporting PTTEP Group's risk management. The

Committee also reviews significant risks at both corporate and project levels, sets and monitors operational plans, supervises the implementation and revises the risk mitigation plans to allow for a continuous evaluation of risks to ensure that risks are within the risk appetite, as well as to report the results to the Board on a regular basis.

5) Prevention of Conflicts of Interest

The Board establishes various management tools to ensure that business management is efficiently and transparently carried out in the best interest of PTTEP Group, by ensuring that the Company and our management are without any conflicts of interest. Should anyone of the Company's directors, the management, or employees have a stake that may potentially lead to a conflict of interest, he or she must withdraw from the participation or be abstained from voting, and subsequently inform the authority of such matter. This has been stipulated in the Business Ethics, which directors, management, and employees can use as ethical guidelines in doing business.

6) Compliance

The Board values the importance of full legal compliance with all applicable rules and regulations in all jurisdictions where PTTEP Group operates. The Board also provides the Group with the support required to conform to the applicable laws as well as to properly manage compliance risks. This is an important mechanism to ensure that PTTEP Group's operations are carried out accurately and carefully as well as to be able to operate according to our strategy towards the business goals. The Compliance Unit is assigned by the Board to be responsible for this matter.

Authorities of the Chief Executive Officer

1) Authority in accordance with Resolutions from the Shareholder Meetings

The Chief Executive Officer is the authorized signatory to bind PTTEP with external parties (Clause 9, Paragraph 6, of the Company's Articles of Association registered with the Ministry of Commerce).

2) Authority provided by resolutions from the Board's Meetings of PTTEP

The Board authorizes the Chief Executive Officer to act and conduct, on the Company's behalf, a normal course of business operations under the stated objectives in our Memorandum of Association, petroleum concessions, and other agreements, including other businesses that benefit the Company. In addition, the Chief Executive Officer is also authorized to be the acting body, conducting the business under PTTEP regulations and assigned to act as Secretary to the Board of Directors, adopting the practices similar to other private companies in the E&P business while upholding the best interests of the Company. The Chief Executive Officer's delegation of authority is permitted except in a case where the concerned attorney or the delegated person has a direct or indirect conflict of interest with the Company or our subsidiaries in exercising of such authority.

Segregation of Duties between the Board of Directors and the Management

The Board of Directors and the Management have different important roles. PTTEP Board of Directors oversees and appoints high-level Management to manage the operations of PTTEP Group, follows up on and evaluates the performance of the Management to ensure the highest benefits for PTTEP Group, and ensures that operations are carried out to achieve the stated goals. The Board's key role is to oversee but not to become involved with day-to-day operations, which are the Management's responsibility. In this manner, there is a balance between the role of oversight and the role of carrying out day-to-day operations. The Management is responsible for managing operations in line with the direction set or assigned by the Board. The Management must also report the results of operations to the Board regularly.

Directors' Serving Terms and Their Directorship in Other Companies

PTTEP's Articles of Association prescribes that one-third of the Company's directors shall be retired by rotation in each AGM and that the Board shall consist of no more than 15 members. The Board has determined to allow each of the directors or independent directors to serve on the Board for no more than 9 consecutive years, while a director who has served on the Board for nine consecutive years will not be considered for another term for the optimal benefits of the Company and shareholders. PTTEP recognizes the value of knowledge and experience that our directors have earned over the years in the position and, therefore, does not have a rigid limit for the director's term (not more than a 6-year term, for example). This essentially allows our competent and qualified directors at the time to continuously and effectively perform their duties.

In terms of the qualifications, the Company's directors shall not assume a directorship in more than 3 listed companies at a time. Details of the number of directorships held by each of the Company's directors are disclosed in Attachment 1 "Information of the Board of Directors, Management, Controlling Persons, and Company Secretary". As of December 31, 2023, none of the directors held a directorship in more than 3 listed companies. Meanwhile, the term of a sub-committee member held by a director is the same as the term of that Board member.

Roles of the Chairman and Chief Executive Officer

The Board is authorized to elect one director to be the Chairman of the Board, whereby a pool of independent directors is to be considered first. The Board must also appoint another person to be Chief Executive Officer (CEO). The Chairman of the Board who acts as a policy leader is not the same person as the CEO who is appointed to be responsible for business management under the authorities empowered by the Board of Directors and the framework set out in the Company's regulations. For clear segregation of duties and responsibility and for the balance of authority, the Chairman will not participate in the daily management of the business. The duties and responsibilities of the Chairman of the Board are as follows:

1) Supervise the Board to perform its duties with efficiency, according to the Board Performance Target and shareholders' expectations, independent from the management
2) Determine agenda for the Board's meetings
3) Serve efficiently as Chairman at the Board's and the shareholders' meetings and ensure that the Company's directors perform their duties as stipulated in the CG&BE and foster CG&BE as part of the corporate culture
4) Support and ensure constructive relations between directors and the management.

For the purpose of work delegation and appropriateness, the Chairman is not allowed to hold any position in any of the Company's sub-committees as clearly stated in the charter of the sub-committees.

Independence of the Chairman

PTTEP considers independence the top factor in the selection of the Company's Chairman of the Board. Should there be no suitable candidate for the position, the Company's directors will be considered. The current Chairman, Mr. Krairit Euchukanonchai, is qualified as an independent director, in accordance with the Company's own definition of an independent director which is stricter than what the law requires, and has performed his duties with autonomy and discretion. The Chairman and his performance are appraised and examined for future improvements by the Board every year and the score is also disclosed in the 56-1 One Report (The appraisal score of the Chairman in 2023 was 2.89 out of 3). Details of the appraisal results are disclosed under the "Performance Appraisal of the Board" topic. In addition, all Company's directors are allowed to independently express their views freely in regard to the business operation, whether in meetings of the Board, sub-committees, or on other occasions. This is to ensure

that the management is able to operate businesses with efficiency, accuracy, transparency, and in the best interests of the shareholders.

Policy and Practices for Chief Executive Officer, and Executives with Directorships in Other Companies

PTTEP states a principle in the CG&BE in regard to the holding of a directorship position in other companies or organizations which are not their own or their families' businesses by the Chief Executive Officer and executives. The individuals must be given approval from the Company's authorized personnel, on an only-if-necessary and no-harms-done basis, as well as accept the condition that they shall not, in every aspect, associate PTTEP and their position held in the Company in those external activities. Meanwhile, remuneration of the Company's executives who are assigned to assume a directorship role in the organizations or units in, or related to, the petroleum exploration and production is considered PTTEP's; otherwise, the remuneration is considered theirs. Details of the number of directorships held by each of the executives are disclosed in Attachment 1 "Information of the Board of Directors, Management, Controlling Persons, and Company Secretary".

5.3 Information about Sub-Committees

Sub-Committees

PTTEP Board of Directors is responsible for the appointment of the directors who have expertise and knowledge in certain areas to become members of the sub-committees as specified by the Company's Articles of Association. Each of the Company's sub-committees is responsible for a specific set of tasks as determined by their respective charters. Qualifications, responsibilities, and service terms of the sub-committee members are prescribed by the Company's regulations through the designated charter. All members of the Audit Committee must be independent directors, while the majority of the members of the Nominating and Remuneration Committee, and the Corporate Governance and Sustainability Committee must be independent directors. The Chairman of the Board, however, is not allowed to assume any chairmanship or directorship in the sub-committees. In addition, the Chairman of each sub-committee must be an independent director. Applying to every meeting, the sub-committees are required to report the performance results to the Board for acknowledgment as well as to disclose them in the 56-1 One Report every year.

Currently, the Company has four sub-committees, namely (1) the Audit Committee, (2) the Nominating and Remuneration Committee, (3) the Corporate Governance and Sustainability Committee, and (4) the Risk Management Committee. Names of the directors, duties and responsibilities, numbers of meetings, meeting attendance, and remuneration policy are disclosed in the "Corporate Governance Milestones" section. Reports of the Company's sub-committees meanwhile are disclosed in the "The Sub-Committees Report" topic under the same section.

5.3.1 Corporate Governance and Sustainability Committee

The Corporate Governance and Sustainability Committee has duties and responsibilities according to its charter as follows:

1) To determine the Company's sustainability target, policy, roadmap and workplan, covering all the key aspects: High Performance Organization (HPO); Governance, Risk Management and Compliance (GRC); and Sustainable Value Creation (SVC), and consider Sustainability's workplan and budget which will be proposed to the Board for approval.

2) To advise and provide support to ensure that the Company's operations are in line with the Sustainability Statement and sustainability framework, capable of achieving the Company's targets as well as comparable to the practices of leading companies. Additionally, the Committee shall encourage the Board, the management, and all personnel to

follow the Company's sustainability pathway in an effective manner.

3) To evaluate and review the Company's sustainability target, policy, roadmap and workplan in response to a dynamic business environment, applicable laws, related international best practices, and recommendations from trusted institutions and also to consider and respond to shareholders' proposals.

4) To oversee, monitor, and evaluate the performance of the Company's sustainability to ensure its balance and effectiveness, as well as to create utmost benefits for the Company and its stakeholders and to report the progress to the Board on a regular basis.

5) To determine the Company's good corporate governance and business ethics policy before proposing it to the Board for approval. In addition, the Committee advises and promotes the implementation at all levels, reviews the policy annually to ensure its appropriateness and conformity with the laws and international best practices, and monitors the evaluation and reports on the compliance with good corporate governance and business ethics of PTTEP on a regular basis.

6) To oversee the disclosure of sustainability information to stakeholders in the Company's annual report and sustainability report.

7) To regularly review and update its own charter to ensure its relevance and appropriateness.

8) To disclose the committee's performance in the Company's annual report.

9) To perform other duties as assigned by the Board.

According to its charter, the Committee consists of at least three directors, the majority of whom must be independent directors. The Company Secretary serves as the Committee's secretary and the Committee must meet at least 4 times a year.

However, 2 PTTEP directors who were members of the Corporate Governance and Sustainability Committee ended their terms in 2023. The Company is now in the process of searching for suitable candidates with targeted skill mix to replace them. Thus, as of December 31, 2023, the Committee comprised two members as follows:

Mr. Veerathai Santiprabhob	Member and Independent Director
Mr. Ekniti Nitithanprapas	Member

In 2023, the meeting was arranged 3 times. Once the process of nomination and appointment of directors is completed, the meeting of the Corporate Governance and Sustainability Committee will be quickly arranged to consider the pending important matters of quarter 4/2023.

5.3.2 Audit Committee

The Audit Committee has the duties and responsibilities according to its charter as follows:

1) To determine the audit committee charter to be compatible with the Company's scope of work and responsibilities which must be approved by the Board and revised at least once a year.

2) To review the Company's financial reports with the external auditor on a quarterly basis to ensure accuracy, credibility, and adequacy.

3) To ensure that the Company's activities are performed in compliance with the Securities and Exchange law, SET requirements, other laws, regulations, procedures, cabinet resolutions related to the business, and the Company's rules and regulations.

4) To review connected transactions or transactions with potential conflicts of interest to ensure that these transactions comply with the laws and SET's regulations and that they are reasonable as well as in the best interests of the Company, and review

transactions with potential fraud which may affect the Company's operations.

5) To review the efficiency and effectiveness of internal control, risk management, and governance processes.

6) To oversee and monitor the internal audit process and ensure that the process is appropriate and effective as well as ensure the independence of the Internal Audit Division in order to enhance internal audit performance.

7) To evaluate the Internal Audit Division performance, including audit problems and difficulties, and suggest ways to improve the internal audit system and the capabilities of internal auditors. The results and suggestions are to be reported to the Board at least once a year.

8) To consider, select and propose the appointment, including removal of an external auditor, and to propose the auditor's remuneration to the Board. The Audit Committee is to disclose the remuneration of the external auditor in annual reports of PTTEP as well as attend a meeting with the external auditor from the State Audit Office of the Kingdom of Thailand (SAO) or the external auditor endorsed by SAO at least once a year, in the absence of the management, to review audit findings and other issues, and recommend reviews or audit of any items, if necessary.

9) To endorse the appointment, transfer, removal, promotion, and performance appraisal of the Head of the Internal Audit Division by seeking comments from the Chief Executive Officer. The Audit Committee will appoint an investigation committee to investigate the case in which the Head of the Internal Audit Division is suspected of noncompliance with the law or the Company's rules and regulations which include the Good Corporate Governance and Business Ethics of PTTEP Group.

10) To approve a risk-based audit plan and instruct internal auditors to conduct other duties as appropriate, taking into consideration the Company's benefits as well as the impact on independence and objective of the audit.

11) To endorse the budget, division structure, and manpower of the Internal Audit Division for the management to propose to the Board.

12) To approve the charter of the Internal Audit Division.

13) To approve the Independence Declaration Form when the Head of the Internal Audit Division has to personally conduct audit fieldwork.

14) To endorse the results of audits which are approved in the annual audit plan as well as special audit requests.

15) The Chairman of the Audit Committee or a member must attend the shareholders' meeting to answer questions related to the Committee's duties or the appointment of the external auditor.

16) To review the accuracy of self-assessment and related documents regarding anti-corruption measures in reference to Thai Private Sector Collective Action Against Corruption (CAC).

17) To perform other duties as assigned by the Board upon its consent.

18) To report the Audit Committee's performance on internal audit to the Board at least on a quarterly basis, within 60 days from the end of each quarter, except for the fourth-quarter report, which is to be issued as an annual report. Such reports must be submitted to the regulating ministry of the Company's parent company and the Ministry of Finance within 90 days from the end of the accounting year for acknowledgment. The Committee's annual report must also be disclosed in the Company's annual report.

The Audit Committee consists of at least 3 directors, but not more than 5 directors, all of whom must be independent directors. The Head of the Internal Audit Division acts as the Committee's secretary. As of December 31, 2023, the Committee comprised four members as follows:

Director's Name	Position	Financial Statements Audit Experience	
Ms. Penchun Jarikasem	Chairman of the Audit Committee	• Jun. 27, 2022 - Present	Chairman of the Audit Committee, TISCO Financial Group Public Company Limited
		• Jun. 27, 2022 - Present	Chairman of the Audit Committee, TISCO Bank Public Company Limited
		• Apr. 2018 - Present	Chairman of the Audit Committee, Ritta Holdings Co., Ltd.
		• Apr. 2016 - Present	Chairman of the Audit Committee, Osotspa Public Company Limited
		• Dec. 2020 - Sep. 2023	Sub-Committee on Finance and Accounting of the Energy Conservation Fund
		• Apr. - Jun. 26, 2022	Member of the Audit Committee, TISCO Financial Group Public Company Limited
		• Apr. - Jun. 26, 2022	Member of the Audit Committee, TISCO Bank Public Company Limited
		• 2018 - Sep. 2019	Chairman of the Sub-committee for Finance and Accounting,State Railway of Thailand
		• 2016 - Dec. 2018	Sub-committee for Finance and Budgeting Improvement, Office of the Public Sector Development Commission (OPDC)
		• 2011 - 2015	Executive Vice President, Finance and Accounting Group, PTT Exploration and Production Plc.

Director's Name	Position	Financial Statements Audit Experience	
Mrs. Angkarat Priebjrivat	Member of the Audit Committee	• 1992 - Present	Technical Advisor, Listing and Disclosure Department, The Stock Exchange of Thailand
		• 2020 - Sep. 2023	Chairman of Sub-committee on Finance and Accounting of the Energy Conservation Fund
		• 2016 - Apr. 2023	Member of Audit Committee, TSFC Securities Public Company Limited
		• 2012 - Jan. 2023	Member of the Audit Committee, Thai Public Broadcasting Service (Thai PBS)
		• 2013 - Apr. 2022	Member of the Audit Committee, TISCO Bank Public Company Limited
		• 2013 - Apr. 2021	Chairman of the Audit Committee, TISCO Bank Public Company Limited
		• 2008 - Feb. 2021	Chairman of the Audit Committee, COL Public Company Limited
		• 2018 - 2020	Member of the Audit Committee, TOT Public Company Limited
		• 2018 - 2020	Member of the Technical Advisory Committee for Financial Reporting Standards, Office of the Securities and Exchange Commission
		• 2018 - 2019	Member of the Finance and Accounting Subcommittee, State Railway of Thailand
		• 2014 - 2018	Member of the Audit Committee, Tourism Authority of Thailand
Mr. Teerapong Wongsiwawilas	Member of the Audit Committee	• Dec. 2020 - Present	Independent Director, Krung Thai Bank Public Company Limited
		• 2017 - 2021	Audit Committee, Bangchak Corporation Public Company Limited
Mrs. Natjaree Anuntasilpa	Member of the Audit Committee	• 2019 - Mar. 2023	Member of Audit Committee, Airports of Thailand Public Company Limited
		• 2015 - 2015	Director of the Bureau of Economic Budgeting 1 (Director, higher level), Bureau of the Budget, Office of the Prime Minister
		• 2014 - 2015	Director of Bureau of Evaluation 2 (Policy and Plan Analyst, Expert level), Bureau of the Budget, Office of the Prime Minister

All members of the Committee were capable of knowledge, expertise, and experience in auditing financial statements. Two members namely, Mrs. Angkarat Priebjrivat and Mrs. Natjaree Anuntasilpa, hold a degree in accounting.

According to the Audit Committee Charter, the Committee must hold at least one meeting every quarter. In 2023, the Committee held 13 meetings which included a meeting that was conducted together with the Risk Management Committee. Every member of the Committee attended all meetings. The Committee has disclosed its annual performance in the Audit Committee Report for 2023.

5.3.3 Nominating and Remuneration Committee

The Nominating and Remuneration Committee has the duties and responsibilities according to its charter as follows:

1) To select and nominate individuals who are qualified to be the Company's directors or the Chief Executive Officer (CEO) when there is a vacancy or to replace those whose terms have expired, or an Acting CEO when there is a vacancy while the nomination process is still underway for selection by the Board or the shareholders, considering the Board's composition, knowledge, capability, their useful experience to the Company, number of companies in which they are serving as a director, as well as matters related to conflicts of interest.

2) To consider the CEO's succession plan and appropriate executive-level management development system to ensure that the executives possess the required skills and qualifications to achieve the Company's target growth.

3) To approve the Skill Mix and prepare a list of possible candidates for the Company's directors, CEO, or Acting CEO in advance and/or when there is a vacancy and to supplement the nomination selection decision before submission to the Board for consideration or to the Annual General Shareholders' Meeting (as applicable).

4) To consider the annual Board Performance Target and Performance Agreement of the CEO, to propose them to the Board for approval, as well as to set the Performance Evaluation Form of the Chairman, directors, sub-committees, and the CEO.

5) To consider and propose qualified directors to be members or the chairman of sub-committees when there are vacancies as well as to propose a restructuring of the sub-committees as appropriate.

6) To consider organizational restructuring to support corporate growth and changes in the business environment.

7) To consider the remuneration of the Board and the sub-committees prior to proposing it at the Annual General Shareholders' Meeting for approval, using fair and reasonable criteria or principles, while ensuring that the remuneration is in line with the individuals' performances, the Company's performance, industry practices as well as the scopes of duties and responsibilities.

8) To consider the remuneration of the CEO and the salary structure of the Company's executives with fair and reasonable criteria or principles prior to proposing it to the Board for approval, whereas the remuneration of the CEO must be in line with his or her duties and responsibilities as well as performance.

9) To evaluate the performance of the Nominating and Remuneration Committee and report its performance to the Board and disclose it to the Company's shareholders.

10) To regularly review and update its own charter to ensure its relevance and appropriateness.

11) To perform other duties as assigned by the Board.

The Nominating and Remuneration Committee consists of at least 3 directors, the Chairman, and the majority of the members must be independent directors. The Company Secretary serves as the Committee's secretary. As of December 31, 2023, the Committee comprised 4 members with three independent directors as follows:

Mr. Teerapong Wongsiwawilas	Chairman and Independent Director
Mr. Pitipan Tepartimargorn	Member and Independent Director
General Nithi Chungcharoen	Member and Independent Director
Mr. Wattanapong Kurovat	Member

According to its charter, the Committee must meet at least 2 times a year. In 2023, the Committee held eight meetings and the majority of incumbent directors attended all meetings. The Committee has disclosed its annual performance in the Nominating and Remuneration Committee Report for 2023.

5.3.4 Risk Management Committee

The Risk Management Committee has the duties and responsibilities according to its charter as follows:

1) To define Enterprise Risk Management Policy and Framework including providing guidance and recommendations to the Board and the management on key risks and mitigations at the corporate level.

2) To review Risk Appetite Statement prior to the Board approval as well as approve corporate-level Risk Metrics and Limits and monitor the results regularly.

3) To ensure effective establishment and implementation of enterprise-wide risk management by enhancing the level of risk awareness within PTTEP through the development of procedures and commitment of resources appropriately.

4) To maintain an enterprise-wide view of risks which are related to the Corporate Direction in the businesses, i.e., E&P, related businesses, and other businesses in which PTTEP invests, as well as to recommend mitigation strategies to manage the risks to keep them within the risk appetite according to clause 2) and to continuously monitor, assess, and improve the mitigation strategy in responding to any changes of the business environment.

5) To support the Risk Management Function in assessing key risks and advise on other potential risks that may impact the Company in line with the continuous and efficient risk management which is on par with other leading companies to support PTTEP to achieve its business goals, as well as assign tasks related to PTTEP risk management for the Risk Management Function to perform.

6) To report key risks and results of risk management to the Board regularly and promptly alert the Board of any important events that may significantly affect the Company.

7) To disclose the Committee's performance in the Company's annual report.

8) To regularly review and update its own charter to ensure its relevance and appropriateness.

9) To perform other duties relating to PTTEP risk management as may be assigned by the Board.

The Risk Management Committee consists of at least 3 directors while ensuring that at least one of them must be an independent director. As of December 31, 2023, the Committee comprised 4 members, three of which were independent directors as follows:

Mr. Pitipan Tepartimargorn	Chairman and Independent Director
Mr. Veerathai Santiprabhob	Member and Independent Director
Mr. Wuttikorn Stithit	Member
General Nithi Chungcharoen	Member and Independent Director

In 2023, there were some developments related to members of the Committee as follows:

Mr. Bundhit Eua-arporn resigned from the position of PTTEP Director. His resignation was effective from January 10, 2023 onwards.

Lieutenant General Nimit Suwannarat resigned from the position of PTTEP Director due to retirement by rotation. His resignation was effective from September 1, 2023 onwards.

General Nithi Chungcharoen was appointed as a member of the Risk Management Committee. The appointment has been effective from April 3, 2023.

According to its charter, the Committee must hold a meeting at least 4 times a year. In 2023, the Committee held 14 meetings, which included the meeting that was conducted together with the Audit Committee. The majority of the incumbent directors attended all meetings. The Committee has disclosed its annual performance in the Risk Management Committee Report for 2023.

5.3.5 Independent Directors Committee

The Independent Directors Committee has the duties and responsibilities according to its charter as follows:

1) To propose to the Board and/or the Chief Executive Officer (as applicable) significant matters that are beneficial to the Company as well as to its major and minor shareholders.

2) To advise the Board of Directors on their roles and duties that should be practiced and to provide advice as per the roles and duties of independent directors for the benefit of the Company as well as its major and minor shareholders.

3) To review the Company's operations to ensure that they comply with the laws relevant to independent directors as well as to review the definition of independent directors in order for it to be lawfully appropriate and complete.

4) To perform other duties as assigned by the Board, provided that such duties do not affect the Committee's independence.

5) To regularly review and update the Independent Directors Committee Charter to ensure its appropriateness.

Those who meet all qualifications required of independent directors according to the CG&BE are considered independent directors without the need for any appointment from the Board of Directors. As of December 31, 2023, the Committee comprised 8 members as follows:

Mr. Krairit Euchukanonchai	Chairman
Mr. Pitipan Tepartimargorn	Member
Mr. Veerathai Santiprabhob	Member
Mrs. Angkarat Priebjrivat	Member
Ms. Penchun Jarikasem	Member
Mr. Teerapong Wongsiwawilas	Member
General Nithi Chungcharoen	Member
Mrs. Natjaree Anuntasilpa	Member

According to its charter, the Committee must meet at least one time a year as necessary or appropriate with the Company Secretary serving as the Committee's secretary. In 2023, the Committee held one meeting and the majority of incumbent directors attended the meeting. There was no compensation paid to the members of the Committee for their meeting attendance. The Committee has disclosed its annual performance in the Independent Directors Committee Report for 2023.

5.4 The Management

5.4.1 Name List of the Management

As of January 1, 2024, PTTEP's management, according to the definition of management as defined by the Capital Market Supervisory Board (CMSB), consists of 19 members. Details of their biography, qualifications, and experience are disclosed in Attachment 1 "Information of the Board of Directors, Management, Controlling Persons, and Company Secretary".

Name List and Number of Shares held by the Management, their Spouse/Cohabiting Partner and Minor Child

Name	Number of Ordinary Shares		
	As of January 1, 2023	As of January 1, 2024	Increase/ (Decrease) During the Year
1. Mr. Montri Rawanchaikul Chief Executive Officer	52,050	52,050	-
2. Mr. Chayong Borisuitsawat[1] Executive Vice President, Strategy, Business Development, and Human Resources Group	65,096	65,096	-
3. Mrs. Natruedee Khositaphai[2] Executive Vice President, Operations Support Group	107,457	107,457	-
4. Mr. Suksant Ongvises[3] Executive Vice President, Lang Lebah Project	10,681	10,681	-
5. Mr. Sumrid Sumneing Executive Vice President, Finance and Accounting Group	13,000	13,000	-

Remarks:

1 Appointed as Executive Vice President, Strategy, Business Development, and Human Resources Group effective on September 1, 2023 (Previously held the position of Executive Vice President, Strategy and Sustainable Growth Group).

2 Appointed as Executive Vice President, Operations Support Group effective on September 1, 2023 (Previously held the position of Executive Vice President, Technology and Carbon Solutions Group).

3 Appointed as Executive Vice President, Lang Lebah Project effective on September 1, 2023 (Previously held the position of Executive Vice President, Operations Support Group).

Name	Number of Ordinary Shares		
	As of January 1, 2023	As of January 1, 2024	Increase/ (Decrease) During the Year
6. Mr. Piya Sukhumpanumet Executive Vice President, International Production Asset Group	89,916	89,916	-
7. Mr. Nirandorn Rojanasomsith Spouse/Cohabiting Parter Executive Vice President, Engineering, Development, and Maintenance Group	120,202 38,839	135,202 38,839	15,000 -
8. Ms. Kanita Sartwattayu Executive Vice President, Domestic Production Asset Group	50,279	50,279	-
9. Mr. Rangsan Bhengbhun[4] Executive Vice President, Geosciences, Subsurface, and Exploration Group	N/A	65,917	N/A
10. Mr. Nopasit Chaiwanakupt[5] Acting Executive Vice President, Technology, Carbon Solutions, and Sustainable Growth Group	N/A	-	N/A
11. Mr. Sermsak Satchawannakul Senior Vice President, Accounting Division	45,215	45,215	-
12. Mrs. Panporn Sasananan[6] Senior Vice President, Finance Division	N/A	-	N/A
13. Mr. Sakchai Sarawek Vice President, Managerial Accounting Department	-	-	-
14. Mr. Chayanin Yiamsombut[7] Vice President, Insurance Department	22,145	22,145	-
15. Ms. Pratamaporn Deesrinthum Vice President, Accounting Policy and Solutions Department	49,249	49,249	-

Remarks:

[4] Appointed as Executive Vice President, Geosciences, Subsurface, and Exploration Group effective on January 1, 2024 (Number of ordinary shares held on appointment date were 65,917 shares).

[5] Appointed as Acting Executive Vice President, Technology, Carbon Solutions, and Sustainable Growth Group effective on September 1, 2023 (Number of ordinary shares held on appointment date were 0 share).

[6] Appointed as Senior Vice President, Finance Division effective on December 1, 2023 (Number of ordinary shares held on appointment date were 0 share).

[7] Appointed as Vice President, Insurance Department effective on April 1, 2023 (Previously held the position of Acting Vice President, Insurance Department).

Name	Number of Ordinary Shares		
	As of January 1, 2023	As of January 1, 2024	Increase/ (Decrease) During the Year
16. Ms. Nuchanong Sangkeaw Vice President, Capital Market and Financial Planning Department	4,605	4,605	-
17. Mrs. Yada Vudhivorn Vice President, Tax Department	-	-	-
18. Ms. Sukporndee Assamongkol[8] Acting Vice President, Financial Accounting Department	N/A	4,618	N/A
19. Mr. Thanat Thamrongsaksuvit[9] Vice President, attached to Senior Vice President of Finance Division, assigned as Managing Director of PTTEP Treasury Center Co., Ltd.	N/A	-	N/A
Management Who Retired or Rotated during 2023			
1. Mr. Chalongrut Ya-anan[10]	-	-	-
2. Ms. Orachon Ouiyamapun[11]	-	-	-
3. Mrs. Vanasanan Boonyalerdlak[12]	-	-	-
4. Mr. Anutra Bunnag[13]	-	-	-

Remarks:

[8] Appointed as Acting Vice President, Financial Accounting Department effective on December 1, 2023 (Number of ordinary shares held on appointment date were 4,618 shares).

[9] Appointed as Vice President, attached to Senior Vice President of Finance Division, assigned as Managing Director of PTTEP Treasury Center Co., Ltd. effective on October 1, 2023 (Number of ordinary shares held on appointment date were 0 share).

[10] Ceased to perform the role of Executive Vice President, Geosciences, Subsurface, and Exploration Group effective on January 1, 2024 (Number of ordinary shares held on the last date in his position were 0 share).

[11] Ceased to perform the role of Senior Vice President, Finance Division effective on September 30, 2023 (Number of ordinary shares held on the last date in her position were 0 share).

[12] Ceased to perform the role of Vice President, Financial Accounting Department effective on December 1, 2023 (Number of ordinary shares held on the last date in her position were 0 share).

[13] Appointed as Vice President, report to Executive Vice President, Finance and Accounting Group effective on October 1, 2023 (Previously held the position of Vice President, attached to Senior Vice President of Finance Division, assigned as Managing Director of PTTEP Treasury Center Co., Ltd.) and retired from this position effective on January 1, 2024 (Number of ordinary shares held on the last date in his position were 0 share).

5.4.2 Management's Remuneration Policy

Remuneration of the Chief Executive Officer

Remuneration of the Chief Executive Officer (CEO) is appropriately determined based on criteria that are clear, transparent, fair, and reasonable. PTTEP's Nominating and Remuneration Committee is responsible for reviewing the remuneration of the CEO prior to proposing to the Board for approval. The approval from the Board is based on his or her performance, the Company's performance, remuneration of listed companies comparably in size and industry, roles and responsibility, and overall economic situation.

The ratio of the annual compensation of the CEO compared to the average annual compensation of the Company's executives is approximately 1.4:1, while the ratio of the annual compensation of the CEO compared to the average annual compensation of the Company's employees is approximately 9.9:1.

Remuneration of the Chief Executive Officer

	2022	2023
	Total Amount (THB)	Total Amount (THB)
Salary	12,270,000	13,742,400
Bonus[1]	9,202,500	9,734,200
Other compensation[2]	865,008	973,159
Total	**22,337,508**	**24,449,759**

Remarks: [1] Annual bonus shall be paid in January in the following year.
[2] Provident Fund

Remuneration of the Executives

PTTEP's Nominating and Remuneration Committee is responsible for the salary structure of the Company's executives. The key principle is to establish an unbiased and reasonable structure that reflects not only the Company's business nature and its performance but also some of the variables which can be compared to and justified by those of other leading energy companies in the industry. The Board must grant approval to the structure prior to the implementation.

CEO, meanwhile, is responsible for reviewing the appropriateness of the remuneration of each of the executives as well as their annual salary increase, taking into consideration his or her overall target-based performance and the Company's performance measured against the annual performance targets determined in advance.

To maintain the Company's remuneration competitiveness, PTTEP conducts an annual survey on the remuneration of leading companies in the industry. The information gathered through the survey allows the Board to better understand the current market situation to further increase the Company's competitiveness in the job market as well as to be able to provide the Board with thorough explanations particularly when the changes in the salary structure and payment method are drastic. The ratio of the average annual compensation of the executives compared to the average annual compensation of the Company's employees is approximately 7.4:1

Remuneration of the Executives

	2022		2023	
	Number	Total Amount (THB)	Number	Total Amount (THB)
Salary	8	69,759,620	9*	80,216,110
Bonus		52,977,090		57,948,298
Other compensation		10,092,909		11,650,313
Total		**132,829,619**		**149,814,721**

Remark: * Executives consisted of Executive Vice Presidents, and PTT's executives who have been seconded to PTTEP.

In 2023, compensation (salary, bonus, and contribution to the provident fund) of PTTEP's and the subsidiaries' employees, including wages of the seconded employees, totaled THB 13,197,388,688.

Remuneration of the Directors of Subsidiaries and Associated Companies

PTTEP's subsidiaries and associated companies are functional units of the Company in carrying out E&P and related businesses including new business in order to optimize the Company's benefits, taking into account the business and investment conditions. PTTEP assigns the Company's management to hold a directorship position in our subsidiaries and/or associated companies in order to ensure that they are managed in compliance with the business direction and strategy of PTTEP.

PTTEP has set up a policy for directors' remuneration of subsidiaries and associated companies. The directors' remuneration policy is based on the roles and authorities of the Board of Directors of such subsidiaries and associated companies, their size of investment, and business risks. The management who are assigned to be directors of subsidiaries or associated companies are entitled to additional remuneration subject to the remuneration policy of such subsidiaries or associated companies.

5.5 Personnel

5.5.1 Number of Employees

As of December 31, 2023, PTTEP and our subsidiaries had a total workforce of 5,363 employees.

Number of Employees*

Employee Type	Total (Persons)
Thai Permanent Employees	1,975
Thai Contracted Employees	2,084
Non-Thai Contracted Employees	67
Local Employees in Overseas Subsidiaries	1,232
Seconded Employees from PTT Group Companies and Joint Venture Partners	5
Total	**5,363**

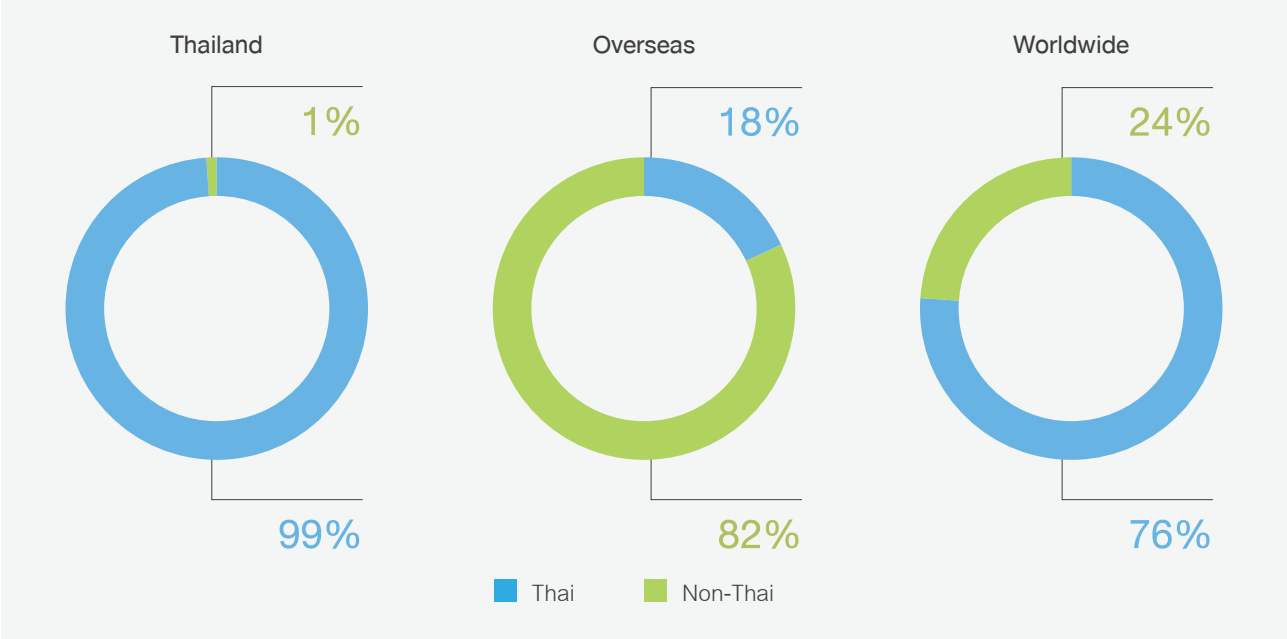
Remarks: * Based on the Company's database as of December 31, 2023.
The list is exclusive of outsourced staff hired through services contracts, and third-party service providers. M&A and Divestment conditions are excluded.

Number of Employees in Each Function Group[1]

Function Group[2]	Thai Permanent Employee	Thai Contracted Employee	Non-Thai Contracted Employee	Local Employee	Seconded Employee	Total
Chief Executive Officer	4	1			1	6
Domestic Production Asset Group	539	909		1		1,449
Engineering, Development, and Maintenance Group	246	285		6		537
Finance and Accounting Group	129	173			2	304
Geosciences, Subsurface and Exploration Group	232	58	11			301
International Production Asset Group	216	47	22	1,198		1,483
Operations Support Group	261	427	13	2		703
Strategy, Business Development, and Human Resources Group	133	72	2	1	1	209
Technology, Carbon Solutions, and Sustainable Growth Group	69	55				124
Lang Lebah Project	22		19	21		62
Internal Audit Division	13	3				16
E&P Legal Division	13	2			1	16
Safety, Security, Health and Environment Division	42	27		2		71
Corporate Secretary and Assurance Division	35	10				45
Branding, Communications, and Knowledge Intelligence Division	21	15		1		37
Grand Total	**1,975**	**2,084**	**67**	**1,232**	**5**	**5,363**

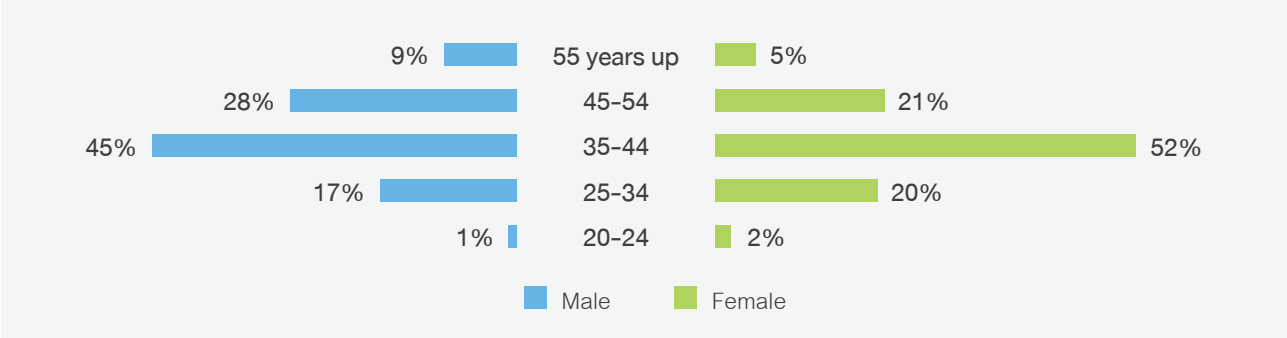
Remarks: [1] Based on the Company's database as of December 31, 2023.
[2] Based on the Company's organization structure as of December 31, 2023.The list is exclusive of outsourced staff hired through services contracts and third-party service providers. M&A and Divestment conditions are excluded.

Staff Demography by Nationality and Work Location[1]



Remark: [1] Based on the Company's database as of December 31, 2023.

Staff Demography by Gender and Age[1]



Remark: [1] Based on the Company's database as of December 31, 2023.

Employee Turnover

	IN[1, 3]	OUT[1, 2]
Thai Permanent Employees	45	46
Thai Contracted Employees[3]	237	89
Non-Thai Contracted Employees	21	5
Local Employees	139	79
Seconded Employees	-	-

Remarks: [1] Based on the Company's database as of December 31, 2023.
[2] Including voluntary resignation, dismissal, early retirement, retirement, and death
[3] The turnover was exclusive of outsourced staff hired through services contracts and third-party service providers. M&A and Divestment conditions are excluded.

Turnover Rate

In 2023, the Company's total employee turnover rate (Voluntary resignation, dismissal, early retirement, retirement, death) was 4.1 percent.

Voluntary Turnover Rate

The voluntary resignation rates (resignation and early retirement) in 2018 through 2023 were as shown below.

2018	2019	2020	2021	2022	2023
3.7%	2.5%	1.7%	3.1%	3.1%	3.0%

Remark: M&A and Divestment conditions are excluded.

5.5.2 Human Resources Development Policy

To increase the organization's and staff's capabilities, both Thais and non-Thais, for continuous expansion of the business domestically and internationally, PTTEP has executed a capability development system and a process by implementing a competency-based 70:20:10 model of on-the-job training, coaching and mentoring, and formal training, respectively in an effort to accelerate human resource development. In 2023, the Company provided training and development programs to employees through the following channels:

(1) In-House and External Training Courses

PTTEP provides in-house and external training courses from various institutions, both domestic and overseas, to staff and management at all levels. These training courses cover a wide variety of courses, including technical and functional training and Safety, Security, Health and Environment (SSHE) training on which PTTEP places great importance. In 2023, there were many development programs regarding the environment arranged, such as on topics of Waste Management, Water Management, Environmental Impact Assessment, Biodiversity and Ecosystem Services Management, and Oil Spill Management. Moreover, PTTEP has also focused on and provided various types of training on digital skills, foreign languages, business management, and leadership skills to our staff to further hone their skills. In 2023, PTTEP also continued to develop individual development plans for all our staff.

To respond to our Company's strategy which will expand to other new business opportunities apart from petroleum exploration and production, and to strive towards becoming a low-carbon organization, PTTEP employees must therefore be equipped with new knowledge and skills for our new business execution in the future. Starting with the key staff who need to have a good knowledge foundation regarding new businesses, such as alternative energy, electricity, and greenhouse gas reduction technology, was provided to ensure their readiness for the energy transition. Furthermore, PTTEP also emphasizes management development, to update and equip them with new necessary knowledge and skills. Training courses were provided to support our management team to ensure the Company's sustainable growth and readiness for succession in management positions.



(2) Online Training Courses

In contrast to conventional learning approaches, online learning enables employees to engage in a structured learning experience irrespective of the limits of their geographical location. The Company has implemented and embraced diverse online learning platforms, catering to all types of employees, thereby enabling them to access learning opportunities from any location and at any time. In order to help employees stay abreast of global trends, PTTEP places a strong emphasis on the integration of Diversity & Inclusion within its learning and development processes, and it has been actively evolving a blended learning approach. By combining diverse methods, the Company aims to craft a comprehensive and impactful training experience that addresses varied learning styles, gender perspectives, generational considerations, and professional aspects.

(3) Long-term Training and Development Programs

Long-term training and development programs are aimed to prepare our employees for roles and assignments in the Company's current and future projects. The programs are generally provided to selected employees based on their Individual Development Plan (IDP) for the period of 1-3 years. Under this approach, the employees are required to undertake on-the-job training through various assignments relating to the Company's projects or to be temporarily assigned to work with the Company's business partners or services companies in Thailand and overseas. In the technical areas, mentors are also assigned to assist and coach the employees along their development journeys.

(4) Master's & Doctoral Degree Scholarship Programs for Employees

The Company provides scholarships to employees to help them pursue master's & doctoral degrees in leading domestic and overseas universities in the following fields:

1) Petroleum Geosciences
2) Applied Geophysics
3) Petroleum Engineering
4) Engineering
5) Drilling and Well Engineering
6) Digital and Information Technology
7) Technology and Carbon Solution (Future Energy)

In 2023, the Company invested in human capital development programs at a total amount of THB 353,544,882 and provided more than 300,889 training and development hours for our employees with an average of 56 training and development hours per person per annum. PTTEP has in place a policy for the management to produce an Individual Competency Development Plan (ICDP) in order for PTTEP to be able to develop its staff capacity in line with the determined plan. To ensure standardization, PTTEP has conducted the Technical Competency Assessment Calibration with Job Family Masters in each Job Family. As a result, our 2023 employees' competency both in PTTEP corporate and international assets increased by approximately 6.24 percent.

The Company calculated the Human Capital Return on Investment (HCROI) in several dimensions. These included man-hours and cost spent on development activities against total revenue and production, time to autonomy of young technical professionals, and readiness of immediate successors for senior management positions, as well as continuous development of additional measurements to evaluate the HCROI more efficiently. The results are subsequently used to evaluate and elevate the efficiency and effectiveness of the development activities for future improvement.

5.6 Other Significant Information

5.6.1 Secretary to the Board of Directors

The Board of Directors appointed Mr. Montri Rawanchaikul, Director and Chief Executive Officer, as Secretary to the Board of Directors, effective from January 1, 2022. The Secretary of the Board of Directors serves as the focal point between the Board and the management and is responsible for providing advice to the Board on legal compliance regarding the duties and responsibilities of the

Board and the management. The Secretary of the Board of Directors is also the accountable person in reviewing the agenda and minutes of the Board's meetings prior to their submission to the Board and managing documentation of the Shareholders' meetings, as well as the preparation for the Board for the Shareholders' meetings. Mr. Montri Rawanchaikul is highly knowledgeable, capable, and experienced, allowing him to aptly support the Board in carrying out its fiduciary duties.

5.6.2 Company Secretary

The Board of Directors appointed Ms. Yaninee Wajeepratubjit, Senior Vice President, Corporate Secretary and Assurance Division, as the Company Secretary and Secretary of the Corporate Governance and Sustainability Committee, Secretary of the Nominating and Remuneration Committee, and Secretary of the Independent Directors Committee since May 1, 2023. Ms. Yaninee holds a degree in accounting. She is highly knowledgeable, capable, and experienced in corporate secretarial functions. In addition, she has attended seminars and completed necessary trainings which are beneficial to her role. Details of the Company Secretary are disclosed under Attachment 1 "Information of the Board of Directors, Management, Controlling Persons, and Company Secretary".

The Company Secretary has performed roles with fiduciary duties by holding responsibilities, and duties on care and loyalty to the Company, as required by the Securities and Exchange Act, including preparing and safeguarding the Company's important documents, namely the director registry, notice of the Shareholders' meetings, notice of the Board's meetings, Minutes of the Shareholders' meetings, Minutes of the Board's meetings, and Annual Reports; safeguarding the Conflicts of Interests Report submitted by the members of the Board and management as well as sending a copy of the report to the Chairman of the Board and Chairman of the Audit Committee, as stipulated by law.

The Company Secretary is also responsible for the following duties as required by the Board:

- Overseeing and advising the Board to ensure that directors perform their roles in compliance with relevant applicable laws, rules, and regulations as well as the Company's objectives, Articles of Association, resolutions from the Board's and shareholders' meetings;
- Organizing meetings of the Board, sub-committees, and shareholders;
- Providing orientation and giving pieces of advice to new members of the Board;
- Recommending necessary and appropriate training programs to members of the Board;
- Coordinating with the Company's functional units to ensure that the Company's business operations are in line with the direction set by the Board and shareholders'meetings and work with external regulators who oversee listed companies;
- Governing the Company's subsidiaries, including preparing and safeguarding their important documents;
- Promoting and educating directors, the management, and employees about Good Corporate Governance and Business Ethics of PTTEP Group and ensuring full compliance with such policy, including regularly reviewing PTTEP Group's CG&BE to comply with related laws and in line with international practices of leading organizations;
- Ensuring that all shareholders are treated fairly, ethically, and lawfully as well as promoting good relationships with minority shareholders;
- Acting as a focal point who is responsible for coordinating with relevant parties when reports or complaints are submitted through the Whistleblowing System of PTTEP Group;
- Performing other duties as required by the Company.

5.6.3 Head of the Internal Audit Division

PTTEP has established the Internal Audit Division, which has a direct reporting line to the Audit Committee and an administrative (Dotted-Line Reporting) reporting line to the CEO. The head of the audit division is to oversee the auditors' performance in accordance with their roles and the scope of work as follows:

(1) In-House and Subsidiary Audits

The purpose of the audits is to ensure that the operations are in accordance with the Company's targets. The auditors evaluate the efficiency, adequacy, and effectiveness of governance, risk management, and internal controls. The audits and the processes involved are also developed to identify control weaknesses which could potentially open up opportunities for fraud as well as to provide recommendations for the enhancement of internal controls to ensure that they are appropriate and adequate.

(2) Joint Venture and Joint Operating Company Audits

The auditors conduct audits on the operators for projects that PTTEP has invested in to ensure that the operators comply with the joint venture agreements and other related contractual arrangements and that they possess appropriate internal controls. Expenditures incurred must also follow correct proportions according to the respective participating interest of each party in the joint venture.

(3) Digital Technology Audit

The auditors conduct audits to review the adequacy of the adoption of digital technology in various work systems of the Company to ensure that digital technology is well managed and in line with the Company's business objectives with appropriate resources, within the risk appetite.

(4) Consulting Services

The auditors provide consulting services for other units whereby the nature and scope of such services are pre-determined. These are to ensure that they will result in improved efficiency and effectiveness of the existing and future processes in corporate governance, risk management, and internal controls. The auditors may also provide useful recommendations on the design of such processes.

(5) Fraud Investigation

The Internal Audit Division is responsible for undertaking investigations of all reported or suspected frauds in accordance with the duties and procedure stipulated in the Whistleblowing Regulation. Investigation team members must not bear any conflicts of interest on complaints under the investigation. Prevention, detection, furtherinvestigation, and prosecution of fraud offenders are the responsibility of the management.

(6) Special Audit Requests

Special audit requests are not included in the annual audit plan. The Internal Audit Division performs such tasks as requested by the Company's management and/or the Audit Committee to quickly prevent and mitigate risks.

According to the Audit Committee Charter, the Audit Committee has a duty to endorse the appointment, transfer, removal, promotion, and performance appraisal of the Head of the Internal Audit Division, as specified in the Audit Committee Charter.

Ms. Yaninee Wajeepratubjit held the position of Senior Vice President of the Internal Audit Division and Head of the Internal Audit Division during January 1, 2021 to April 30, 2023. Since May 1, 2023, Mrs. Maneeya Srisukhumbowornchai has assumed these positions. The Audit Committee deems that both afore-mentioned executives are qualified to undertake the responsibilities efficiently based on their educational background, necessary knowledge, skills, and work experiences.

They both have also completed direct trainings on audits, including the management of the Internal Audit Division and internal auditor competency development. These have contributed to the regular enhancement of efficiency of those related to internal audit, as well as support for the work of the Audit Committee.

The details of the Head of the Internal Audit Division are disclosed in Attachment 3 "Details of Head of the Internal Audit Division and Head of the Compliance Function".

5.6.4 Head of the Compliance Function

PTTEP has established the Governance, Compliance, Internal Control, and Subsidiary Management Department which has a direct reporting line to the Senior Vice President of the Corporate Secretary and Assurance Division and the Chief Executive Officer, respectively. The key responsibilities are to promote and ensure that PTTEP Group operates in full compliance with all applicable laws as well as to support the management in managing compliance risk efficiently through various compliance programs. This includes providing communication and training programs, developing, maintaining, and monitoring legal compliance using the Legislation e-Database, identifying and conducting compliance risk assessment, providing advice on new issuance or amendment of PTTEP Group's internal regulations to be in line with the laws, coordinating with regulators, regularly reporting legal non-compliance cases and compliance performance to the Audit Committee and the management.

Head of the Compliance Function in 2023 was Ms. Chalida Srikorakul who has been appointed as the Vice President of the Governance, Compliance, Internal Control, and Subsidiary Management Department from January 26, 2021, until the present.

More details related to the Head of the Compliance Function are disclosed in Attachment 3 "Details of Head of the Internal Audit Division and Head of the Compliance Function".

5.6.5 Head of the Investor Relations

Details are disclosed in the "Corporate Governance" section under the topic of "Investor Relations".

5.6.6 Remuneration of Auditor

(1) Audit Fees

In 2023, PTTEP and its subsidiaries had total Audit Fees of USD 2.06 million (THB 71.66 million). Of this amount, USD 0.68 million (THB 23.54 million) was for the audit firm of PTTEP (PwC) and person or companies related to the auditor and the audit firm.[1] The remaining amount of USD 1.38 million (THB 48.12 million) was for other firms.

(2) Non-Audit Fees[2]

In 2023, PTTEP and its subsidiaries had non-audit fees to PwC and persons or companies related to the auditor and the audit firm, for a total of USD 1.98 million (THB 68.88 million). Of this amount, USD 1.10 million (THB 38.16 million) was for consulting services for M&A in the areas of Financial Due Diligence, tax, and accounting which were deal-specific or one-off transactions and were totally procured through a bidding process. The remaining amount was for other services, such as tax services and special purpose audits, which were also mostly procured through a bidding process. The non-audit fees to PwC and persons or companies related to the auditor and the audit firm of USD 1.98 million (THB 68.88 million) are approximately 20 percent compared to all non-audit fees in 2023, which include charges from other service companies.

Summary of the Auditors' Report for the Past 3 Years (2021-2023)

The auditors expressed an unqualified opinion in the Auditors' Report on PTTEP's consolidated financial statements for the past 3 years.

[1] In accordance with the definition of Securities and Exchange Commission of Thailand (SEC)

[2] "Non-Audit Fees" is a terminology commonly used by SEC reporting requirement.

6. Corporate Governance Milestones

6.1 Summary of the Board's Performance in the Past Year

6.1.1 Nomination, Development, and Performance Assessment of the Board

(1) Independent Director

PTTEP's Definition of an Independent Director

PTTEP independent directors must review and certify their independence which is required to meet the qualification criteria. They must not have any questionable characteristics prohibited by law. They must also possess additional qualities as stipulated by PTTEP's definitions, which are stricter than those defined by the Capital Market Supervisory Board, specifically in the area of shareholding of no more than 0.5 percent (SEC sets at 1 percent) of the total voting shares of PTTEP as clarified in 1) below. The definition of an independent director, whose qualifications are annually reviewed, is as follows:

1) Must not hold shares exceeding 0.5 percent of the total number of shares with voting rights of PTTEP, our parent company, subsidiary companies, associated companies, major shareholders, or controlling persons, including shares held by those related to the independent director.

2) Neither being nor used to be an executive director, employee, staff member, or advisor who receives salary, or a controlling person of PTTEP, our parent company, subsidiary companies, associated companies, sister subsidiary companies, major shareholders, or controlling persons, unless the foregoing status has ended for at least 2 years prior, excluding the case where the independent director used to be a government official or an advisor of a government unit, which is, by position, a major shareholder or a controlling person of the Company.

3) Not being a person related by blood or legal registration as a father, mother, spouse, sibling, and child, including the spouse of a child of the Company's directors, executives, major shareholders, controlling persons, or persons to be nominated as a director, executive, or controlling person of PTTEP or one of the subsidiaries.

4) Neither having nor used to have a business relationship with PTTEP, our parent company, subsidiary companies, associated companies, major shareholders, or controlling persons in a manner which may interfere with his or her independent judgment, and neither being nor used to be a significant shareholder, or a controlling person of anyone having a business relationship with the Company, our parent company, subsidiary companies, associated companies, major shareholders, or controlling persons, unless the foregoing relationship has ended for at least 2 years prior.

The term "business relationship" under the first paragraph shall include normal business transactions, rental, or lease of immovable property, transactions relating to assets, services, and granting or receiving of financial assistance. These include receiving or extending of loans, guarantees, collaterals, and other similar actions which can potentially result in PTTEP or a counterparty being subject to indebtedness payable to the other party in the amount, whichever is lower, of between 3 percent or more of the net tangible assets of the Company or THB 20 million or more. The amount of such indebtedness shall be calculated according to the method for calculation of the value of connected transactions under the Notification of the Capital Market Supervisory Board's governing rules on connected transactions mutatis mutandis. The consideration of such indebtedness shall include indebtedness that occurred during the period of one year prior to the date on which the business relationship with the person commences.

5) Neither being nor used to be an auditor of PTTEP, our parent company, subsidiary companies, associated companies, major shareholders, or controlling persons, and not being a significant shareholder, controlling person, or partner of an audit firm that employs auditors of the Company, our parent company, subsidiary companies, associated companies, major shareholders, or controlling persons unless the foregoing relationship has ended for at least 2 years prior.

6) Neither being nor used to be a provider of any professional services, including those as a legal advisor or financial advisor who receives service fees exceeding THB 2 million per year from PTTEP, our parent company, subsidiary companies, associated companies, major shareholders, or controlling persons, and not being a significant shareholder, controlling person, or partner of the provider of the professional services unless the foregoing relationship has ended for at least 2 years prior.

7) Not undertaking any businesses in the same nature and in competition with the business of PTTEP or its subsidiary companies, or not being a significant partner in a partnership or an executive director, employee, staff, advisor who receives salary or holds shares exceeding 1 percent of the total number of shares with voting rights of any companies which undertake a business of the same nature and in competition with that of the Company or our subsidiaries.

8) Not being a director appointed as a representative of the directors of PTTEP, major shareholders, or any shareholders who are related to the major shareholders of PTTEP.

9) Not having any other characteristics that hamper him or her from the ability to express independent opinions in regard to PTTEP's business operations.

An independent director with the qualifications under 1) to 9), may be assigned by the Board to take part in the business decision of PTTEP, our parent company, subsidiary companies, associated companies, sister subsidiary companies, major shareholders, or controlling persons, provided that such decision shall be in the form of a collective decision.

The definition of each of the specific terms mentioned is in line with the Notification of the Securities and Exchange Commission RE: Determination of Definitions in Notifications relating to Issuance and Offer for Sale of Securities.

Business Relationship or Professional Services of Independent Directors of the Company during the Past Fiscal Year

- None -

(2) Nomination of Directors and Management

Nomination of Directors

When there is a vacancy for a director position or when a director's term limit is due, it is a duty of the Nominating and Remuneration Committee to select the candidates who fit the required skills, experience, and are in line with the Company's Target Skill Mix and strategic directions to ensure that the Board's composition is complete, comprising experienced and well-rounded experts in various areas with the right balance, and for the optimal benefit to PTTEP. The Company attaches importance on Board Diversity which includes consideration on gender, independence, and conflicts of interest of directors. On December 31, 2023, PTTEP Board comprised 8 independent directors and 3 female directors from 13 directors (there was 1 additional female director from the last year).

Moreover, the Nominating and Remuneration Committee conducts Gap Analysis of the Board's current Skill Mix and Target Skill Mix, where Target Skill Mix of the Board during 2024 will be considered from various skills by emphasizing the following 3 priorities:

1) International Market and Collaborations: According to the Diversification to Beyond E&P strategy, PTTEP aims to expand more investment into new businesses apart from its core E&P business with the focus on adding value to the current projects as well as promoting investment in new business projects both domestically and internationally and developing its potentials in commercial and marketing. Having knowledgeable, experienced, and expert director nominees in this area, especially in commercial and marketing and international relations will be useful for PTTEP to be able to successfully invest and operate its projects internationally.

2) Innovation and Technology: To strengthen PTTEP business by applying technology including information technology, innovation, research, and development to properly set both short-term and long-term strategic directions including enhancing the capability of the organization in achieving our corporate vision.

3) Legal: To support legal and compliance risk management which are corporate-level risks with a direct impact on the business sustainability of the Company, as well as regularly monitor the development of new laws to accommodate new technologies and circumstances while placing importance on new business investments.

The process begins with the Nominating and Remuneration Committee considering candidates' skill alignment with the aforementioned Target Skill Mix, where the Board was able to fulfill adequately the Target Skill Mix in all areas for the year 2023 and will continue to attach importance on future candidates with the Skill Mix covering International Market and Collaborations, Technology, and Legal issues. In addition, the Nominating and Remuneration Committee also holds the process of searching director candidates through the directors' pool of the State Enterprise Policy Office (SEPO) which comprises a list of people who are regarded as highly qualified for state-enterprising. As of December 31, 2023, PTTEP had 7 directors whose names were listed in SEPO's directors' pool. The Company also seeks advice from the major shareholder, PTT, as well as from minor shareholders (if any) according to the rules regarding the nomination of a person to fill in the positions that are due to retire by rotation. A list of qualified candidates must be endorsed by the State Enterprise Policy Committee, according to the Regulations of the Office of the Prime Minister on State Enterprise Policy and Governance Determination, B.E. 2557 (2014).

Election of directors to replace those who are due to retire by rotation must obtain approval from the AGM by a majority vote based on the number of the Company's shareholders with voting eligibility at the Meeting. The election process is as follows:

1) Should the number of director candidates be less than the number of positions to be elected, PTTEP will propose at the Meeting to elect all candidates as directors by voting for individual candidates, under which each of them must receive majority votes.

2) Should the number of director candidates exceed the number of those to be elected, a ballot is to be held. Each shareholder may vote for as many director candidates as the number of the opened positions. Voting will then be carried out for each of the individuals. Those with the highest ballots will be elected, as many as the number of the opened positions. Each of them must receive majority votes.

When a director position becomes vacant for reasons other than rotation, the Board, with approval from the State Enterprise Policy Committee, may elect a new director, using the three-fourth majority voting rule. The elected director is permitted to remain in his or her directorship for only as long as the remaining term of the predecessor.

Nomination and Succession Plan of the Chief Executive Officer

The Nominating and Remuneration Committee has included in its Charter the role of considering the Chief Executive Officer succession plan and appropriate executive-level management's development system to ensure a candidate list with the skills and qualifications in line with the Company's target growth.

The Nominating and Remuneration Committee is responsible for considering the candidates' knowledge, skills, experience, profession, and other various specific qualifications to bring about the best of interests to the Company, for example, strategic vision in the energy sector, the ability to lead substantial investment to achieve targets, the crisis management ability, working experience in Exploration and Production, ability to seek and manage New Business for the Company's sustainable growth and also looking into their probable conflicts of interest.

The Company formulates a succession plan for the Chief Executive Officer to prepare the Company for the time when the Chief Executive Officer is unable to perform his or her duties or when the serving term is completed. The plan helps to minimize the risks and the impacts, potentially resulting from the discontinuity of the management. The procedure to plan a succession is as follows:

1) PTT Group Management Committee (PTTGMC), a committee in which the Company's Chief Executive Officer is a director, and PTTEP forms the Group Leadership Development Program (GLDP). The program's primary focus is to enhance the capability of PTT Group's executives, Senior Vice Presidents, and above to prepare them for a possible nomination to become the Chief Executive Officer in one of PTT Group companies.

2) PTT Management Committee (PTTMC), with PTT as the Company's major shareholder, reviews the shortlisted names with suitable qualifications from 1) and proposes them to PTT's Board of Directors who is responsible for the selection of the most suitable person to be PTTEP's next Chief Executive Officer.

3) After receiving the candidate names, accompanied by opinions of PTT Board from 2), and comparing them with the Company's potential candidates at the executive vice president level, the Company's Nominating and Remuneration Committee will reassess the individual's knowledge, capability, and experience relating to the business, conflicts of interest, and his or her vision to lead the Company to grow according to the strategic plan.

4) The Nominating and Remuneration Committee proposes the name of the final candidate, together with the opinions and a fair and reasonable package proposed by the Nominating and Remuneration Committee, to the Board of Directors for approval and appointment of the Company's Director and new Chief Executive Officer.

Nomination of the Management and Succession Plan

The Board grants Chief Executive Officer the authority to select and appoint individuals who possess the knowledge, capabilities, and experience to management positions in consultation with the Career Review Board (CRB) Committee and the presence of PTTEP Rules and Regulations for Human Resources Management. The nomination must then be acknowledged by the Board. Exceptions are made for the appointment of the Executive Vice President and above, where the Board's approval is required. If the nominee is from outside of the organization, an interview with the interview committee is required, while the nomination of the Head of Internal Audit Division requires approval from the Audit Committee.

PTTEP has a systematic succession planning for every vacancy of the management in accordance with the positions in the organizational structure in order to fill in vacancies due to appointments and transfers, retirement,

and reorganization to support the Company's business expansion domestically and internationally. The Career Review Board (CRB) Committee is authorized to select and appoint successors for managerial positions using the Company's Management Success Profile as the screening criteria. These profiles comprise organizational knowledge, experiences, competency, as well as personal attributes required for the target positions, while Currently Estimated Potential is also taken into consideration. Once the successors are identified, their individual short-term and long-term development plans will be established with emphasis on technique and functional knowledge, managerial skills, personality, and soft skills required for different business areas, such as Asset Management, Business Development, Technical Support, and Business Support, according to the corporate values and organizational culture to ensure that the successors are qualified for the target positions by the time of requirement.

(3) Development of Directors

Orientation of New Directors

The orientation program which is provided to the Company's new directors consists of:

1) Briefing by the Chief Executive Officer and high-level executives: This briefing covers the nature and operational guidelines of the business, knowledge, and techniques with regard to the petroleum exploration and production business and new business of PTTEP Group, relevant rules and regulations, Good Corporate Governance and Business Ethics (CG&BE), and essential information for the directors to perform duties with efficiency.

2) Director Manual: This contains essential information including PTTEP's strategic plan, relevant rules and regulations, and CG&BE covering issues of Human Rights, Measures to Prevent the Use of Insider's Information, Conflicts of Interest, and Anti-Fraud and Corruption, etc., which will be beneficial for the directors to perform duties. The Manual is regularly reviewed and updated to be used as a reference for directors.

3) Site Visits: New directors are taken to visit operational sites of PTTEP Group to enrich their understanding of the Company's operations and optimize their knowledge and experience for the benefit of the Company.

At the end of each orientation, new directors will evaluate the effectiveness of the orientation program for further improvement. Any director who is elected to be Chairman and member of a sub-committee is also required to attend an extra session and subsequently be informed of the important subjects relating to their additional role, including performing the duties of Chairman and a member of a sub-committee as well as conducting and leading meetings of the Company's directors and shareholders.

Development and Training of Directors

PTTEP's directors are knowledgeable and keen to learn and understand more about the business and their duties as directors. In this regard, PTTEP encourages every director to acquire further knowledge through training organized by the Thai Institute of Directors Association (IOD) and other leading organizations as well as attending seminars and joining business visits to enhance the ability to perform their duties. In 2023, the Company's management arranged sessions on "Strategy Review" and "Strategic Retreat" for all directors to promote understanding on the implementation of our strategy for the year 2024 in light of current economic conditions and ongoing changes. PTTEP also provided continuous support to our directors to attend external events such as training, meetings, and seminars that were beneficial to enhance their performance as PTTEP's directors.

Director	Courses
1) Mr. Krairit Euchukanonchai	- Internal Lecture and Discussion Session on 2024 Strategy Review - Internal Lecture and Discussion Session on 2024 Strategic Retreat - CCS Project Overview by Tomakomai CCS Demonstration Project, Japan - CERAWeek 2023
2) Admiral Tanarat Ubol	- Internal Lecture and Discussion Session on 2024 Strategy Review - PTTEP Operational Site visit at Petroleum Development Support Base Department in Songkhla Province (PSB), G1/61 Project at Platong Gas Field and Arthit Field
3) Lieutenant General Nimit Suwannarat	- Internal Lecture and Discussion Session on 2024 Strategy Review - Internal Lecture on Transformation Journey
4) Mr. Pitipan Tepartimargorn	- Internal Lecture and Discussion Session on 2024 Strategy Review - Internal Lecture and Discussion Session on 2024 Strategic Retreat - CERAWeek 2023 - PTTEP Operational Site visit at Petroleum Development Support Base Department in Songkhla Province (PSB), G1/61 Project at Platong Gas Field and Arthit Field - Internal Lecture on the following risk management topics: 1) Transformation Journey 2) The steps for Petroleum Surveying and the Development of Technology for Exploration 3) The future of fraud and red flags
5) Ms. Penchun Jarikasem	- Internal Lecture and Discussion Session on 2024 Strategy Review - Internal Lecture and Discussion Session on 2024 Strategic Retreat - Advanced Audit Committee Program (AACP) by the Thai Institute of Directors Association (IOD) - PTTEP Operational Site visit at Petroleum Development Support Base Department in Songkhla Province (PSB), G1/61 Project at Platong Gas Field and Arthit Field - Internal Lecture on the risk management topic of the future of fraud and red flags
6) Mrs. Angkarat Priebjrivat	- Internal Lecture and Discussion Session on 2024 Strategy Review - Internal Lecture and Discussion Session on 2024 Strategic Retreat - PTTEP Operational Site visit at Petroleum Development Support Base Department in Songkhla Province (PSB), G1/61 Project at Platong Gas Field and Arthit Field - Internal Lecture on the risk management topic of the future of fraud and red flags
7) Mr. Auttapol Rerkpiboon	- Internal Lecture and Discussion Session on 2024 Strategy Review - Internal Lecture and Discussion Session on 2024 Strategic Retreat

Director	Courses
8) Mr. Veerathai Santiprabhob	- Internal Lecture and Discussion Session on 2024 Strategy Review - Internal Lecture and Discussion Session on 2024 Strategic Retreat - CERAWeek 2023 - PTTEP Operational Site visit at Petroleum Development Support Base Department in Songkhla Province (PSB), G1/61 Project at Platong Gas Field and Arthit Field - Internal Lecture on the following risk management topics: 1) Transformation Journey 2) The steps for Petroleum Surveying and the Development of Technology for Exploration 3) The future of fraud and red flags
9) Mr. Wattanapong Kurovat	- Internal Lecture and Discussion Session on 2024 Strategy Review - Internal Lecture and Discussion Session on 2024 Strategic Retreat
10) Mr. Teerapong Wongsiwawilas	- Internal Lecture and Discussion Session on 2024 Strategy Review - Internal Lecture and Discussion Session on 2024 Strategic Retreat - Internal Lecture on the risk management topic of the future of fraud and red flags
11) Mr. Wuttikorn Stithit	- Internal Lecture and Discussion Session on 2024 Strategy Review - Internal Lecture and Discussion Session on 2024 Strategic Retreat - CERAWeek 2023 - PTTEP Operational Site visit at Petroleum Development Support Base Department in Songkhla Province (PSB), G1/61 Project at Platong Gas Field and Arthit Field - Internal Lecture on the following risk management topics: 1) Transformation Journey 2) The steps for Petroleum Surveying and the Development of Technology for Exploration 3) The future of fraud and red flags
12) General Nithi Chungcharoen	- Internal Lecture and Discussion Session on 2024 Strategy Review - Internal Lecture and Discussion Session on 2024 Strategic Retreat - PTTEP Operational Site visit at Petroleum Development Support Base Department in Songkhla Province (PSB), G1/61 Project at Platong Gas Field and Arthit Field - Internal Lecture on the following risk management topics: 1) Transformation Journey 2) The steps for Petroleum Surveying and the Development of Technology for Exploration 3) The future of fraud and red flags - Refreshment Training Program: The Business Case and Ethics of AI: A Board's Imperative (RFP 12/2023) by the Thai Institute of Directors Association (IOD)
13) Mrs. Natjaree Anuntasilpa	- Internal Lecture and Discussion Session on 2024 Strategy Review - Internal Lecture and Discussion Session on 2024 Strategic Retreat - Internal Lecture on the risk management topic of the future of fraud and red flags

Director	Courses
14) Mr. Ekniti Nitithanprapas	- Internal Lecture and Discussion Session on 2024 Strategy Review - Internal Lecture and Discussion Session on 2024 Strategic Retreat
15) Mr. Montri Rawanchaikul	- Internal Lecture and Discussion Session on 2024 Strategy Review - Internal Lecture and Discussion Session on 2024 Strategic Retreat - CERAWEEK 2023 - CCS Project Overview by Tomakomai CCS Demonstration Project, Japan - Capital Market Academy Programs by Capital Market Academy - Director Certification Program (DCP) by IOD - Strategic Board Master Class (SBM) by IOD - Climate Action Leaders Forum by TGO Climate Action Academy

As of December 31, 2023, the Company had 13 directors in total. 12 of the Company's directors (92 percent of the total number) have participated in IOD's Director Certification Program (DCP), while 5 of the Company's directors (38 percent of the total number) have attended the IOD's Director Accreditation Program (DAP). In addition, the Company regularly provided them with information on new and useful seminars and training courses. Details of the training courses attended by the directors are disclosed in Attachment 1: "Information of the Board of Directors, Management, Controlling Persons, and Corporate Secretary".

(4) Performance Appraisal of the Board

The Good Corporate Governance and Business Ethics of PTTEP Group (CG&BE) stipulates that there should be an annual performance appraisal of the Board derived from the Board Performance Target and Performance Appraisal Form. This allows the Company's directors to review their performance, key issues, and obstacles that they have faced during the year as well as to enhance their directorship efficiency.

Four types of the Board's performance appraisal are:

1) Individual self-appraisal and individual cross-appraisal by other directors, including 4 evaluation topics, namely (1) qualifications, (2) independence, (3) roles and responsibilities, and (4) training and self-development.

2) Appraisal of the entire Board, including 6 evaluation topics, namely (1) corporate policies and strategic planning, (2) Board performance, (3) management governance and cooperation, (4) Board meetings, (5) Board structure and qualifications, and (6) training and self-development.

3) Appraisal of the sub-committees, which includes questions on each of the sub-committee's performance and efficiency according to the roles and responsibilities stated in their charters.

4) Appraisal of the Chairman, which includes questions about the efficiency of the Chairman's performance, according to the roles and responsibilities of the Chairman as stated in the SEC's Corporate Governance Code for Listed Companies 2017 (CG Code) and the CG&BE of PTTEP Group under Section 6.3: Roles of the Board of Directors and Management. This includes topics such as acting as the Chairman of the Board's meetings and the Annual General Shareholders' Meeting, setting the agenda for the Board's meetings, and enhancing the relationship between the Board and the management.

In 2023, the Board Performance Target was established by the Nominating and Remuneration Committee, covering 3 aspects, namely the building of the Company's stability, growth, and appropriate return to the Shareholders, PTTEP's Corporate Governance assessment results, and directors' meeting attendances and the efficiency of directors' performance. The criteria and performance appraisal form were also reviewed according to the SEC's CG Code. The 2023 performance appraisal form comprised 4 types of the Board's performance appraisal with a scoring scale of 1 to 3 (1 = needs improvement, 2 = meets standard, and 3 = good). This year, the Appraisal of the entire Board's questions was adjusted to be more concise, reflect their current roles and responsibilities, and align with IOD's best practice IOD (2022 Board Toolkit).

Process

The Corporate Secretary and Assurance Division, a focal point of the Board's performance appraisal coordination and preparation, will distribute the appraisal form to each director, gather and process the result of the assessment in order to summarize and propose the result and improvement plan to the Nominating and Remuneration Committee and the Board for their acknowledgment.

Summary of the 2023 Board Performance Appraisal's Results

1) Self-appraisal average score was 2.91, increased from 2.86 in 2022 (total score = 3). Individual cross-appraisal by other directors, the average score was 2.89, increased from 2.84 in 2022 (total score = 3).

2) Average score from self-appraisal of the entire Board was 2.91, increased from 2.89 in 2022 (total score = 3).

In addition, the 2023 self-appraisal of the entire Board included an assessment on cooperation between the Board and the management. The same set of questions was evaluated by the management to further develop their relationships and cooperation and to promote two-way communication.

3) The 2023 appraisal scores of the 4 sub-committees were as follows:

   3.1) Appraisal score of the Audit Committee was 3.00, same as 2022 score (total score = 3).
   3.2) Appraisal score of the Nominating and Remuneration Committee was 3.00, increased from 2.87 in 2022 (total score = 3).
   3.3) Appraisal score of the Corporate Governance and Sustainability Committee was 2.50, decreased from 2.75 in 2022 (total score = 3).
   3.4) Appraisal score of the Risk Management Committee was 2.89, same as 2022 score (total score = 3).

4) 2023 appraisal of the Chairman of the Board was 2.89, same as 2022 score (total score = 3).

PTTEP reported the aforementioned scores to the Board for acknowledgment. Recommendations from the Board's appraisal will be used in the future for efficiency improvement of the Board, sub-committees, Chairman, and the management in several aspects, such as considering proposing more agenda items on the key operations of subsidiaries to the Board for their consideration and advice on driving business operations in line with the Company's strategy, conducting a survey on development program's requirements to provide appropriate development programs for the Board, and organizing activities related to director self-development such as useful and interesting site visits for the Board.

(5) Performance Appraisal of the Chief Executive Officer (CEO)

The Board has assigned the Nominating and Remuneration Committee to be responsible for conducting the CEO's performance appraisal according to the CEO's Performance Agreement as determined by the Committee. The appraisal is measured by the Corporate KPIs. The appraisal outcome must also be approved by the Board to ensure that checks and balances are maintained as well as to allow the Company to monitor the performance of the CEO. In addition, it will help promote the Company's Good Corporate Governance and greater operational efficiency in the future.

6.1.2 Meeting Attendance and Individual Directors' Compensation

(1) The Board's Meetings

The Board's monthly meetings and agenda are scheduled and set in advance each year by the Board itself. There are 12 ordinary meetings annually, held every Friday on the 3rd week of each month. Additional meetings may also be held as deemed appropriate. Meetings related to the Company's strategic planning are commonly held once a year. The Board members have been informed of the meeting schedule of 2024, along with the monthly regular agenda since September 2023. In 2023, there were 21 Board meetings. PTTEP has also organized meetings in a hybrid format according to the Emergency Decree on Electronic Meeting, B.E. 2563 (2020) to facilitate the Board members who are unable to attend in person on the meeting day. In order to allow the Board Members to study and consider the contents of the meeting agenda in advance, the Board usually receives meeting invitations from the Company Secretary, along with agenda and important documents related to the meetings, for review at least 7 working days prior to the meeting date, except in cases with insufficient information or urgency. In addition, the meeting documents are delivered to the directors through dedicated software to facilitate and speed up their reviews as well as to promote a paperless process.

Generally, the Company's Chairman, the CEO, and the Company Secretary are responsible for agenda proposals for Board meetings; however, the Company's directors are also eligible to propose agenda items. The Board's meeting agenda items are clearly classified, including monthly items of performance review as well as budget execution.

During each of the meetings, which usually lasts approximately 3-4 hours, the Chairman allocates an adequate time for each agenda item to provide an opportunity for directors to express their opinions independently. The Company's executives are also invited to attend the meetings to provide necessary information and answer any questions on the agenda as well as to acknowledge the policies and issues being raised to effectively implement them. The Company Secretary provides advice to the Board on related rules and regulations for proper practices, takes minutes of the meetings, as well as keeps complete filing of all the necessary meeting information and documents.

The Board's resolutions are based on a majority vote, where one director has one vote. Should a director have a stake in one of the issues, he or she will not be allowed to attend the meeting and/or exercise his or her vote on that issue. In the circumstance where the voting is tied, the Chairman of the meeting is to cast the decisive vote.

The issues which require an approval of no less than three-fourths of the total votes of the Company's eligible shareholders attending the meeting are as follows:

1) The sale or transfer of whole or important parts of the business of the Company to other persons;

2) The purchase or acceptance of business transferring from other public limited companies or private companies to the Company;

3) The making, amending, or canceling of contracts relating to the leasing out of the businesses of the Company, wholly or certain important parts, the assignment to any other persons to manage the businesses of the Company or the amalgamation of the businesses with other persons with objectives towards profit and loss sharing;

4) To amend the Memorandum or Articles of Association;

5) To increase or reduce the registered capital, issue debentures, amalgamate, and dissolve the Company;

6) In case where the Company or one of the subsidiaries agrees to enter connected transactions, or disposition or acquisition of the Company's or the subsidiary's assets, as determined by the Securities and Exchange law and notifications in relation to such transactions.

The minutes of the Board's meetings cover all significant matters. For issues seeking approval, all resolutions are unanimous. The names of the persons attending or absent from the meetings, the names of the meetings' attendants, board opinions, questions, management's answers, or clarifications are recorded in detail, while the minutes and related documents are systematically filed and kept safely. All directors of the Board usually attend every meeting unless an absence is deemed necessary, in which case the director in question must submit a leave application to the Board's Chairman, specifying the rationale. The leave application must be communicated to all the Board members prior to the meeting in advance and will be subsequently recorded in the report of individual directors' meeting attendance. In 2023, the majority of the Board members attended every meeting.

In 2023, non-executive directors held one meeting in the absence of the management. The purpose of the meeting was to discuss and clarify ongoing issues from corporate performance of 2023. The results were summarized for and acknowledged by the CEO for further consideration.

Meeting Attendance of PTTEP Directors in 2023

Director's Name	Board of Directors	Independent Directors Committee	Non-Executive Directors Committee	Corporate Governance and Sustainability Committee	Audit Committee	Nominating and Remuneration Committee	Risk Management Committee	Annual General Shareholders' Meeting 2023
	Total number of meetings	Total number of meetings	Total number of meetings	Total number of meetings	Total number of meetings	Total number of meetings	Total number of meetings	Total number of meetings
	21 Times	1 Time	1 Time	3 Times	13 Times	8 Times	14 Times	1 Time
1. Mr. Krairit Euchukanonchai	21/21	1/1	1/1	-	-	-	-	1/1
2. Mr. Pitipan Tepartimargorn	21/21	1/1	1/1	-	-	8/8	14/14	1/1
3. Ms. Penchun Jarikasem	21/21	1/1	1/1	-	13/13	-	-	1/1
4. Mrs. Angkarat Priebjrivat	19/21	1/1	1/1	1/1	13/13	-	-	1/1
5. Mr. Auttapol Rerkpiboon	20/21	-	1/1	-	-	-	-	1/1
6. Mr. Veerathai Santiprabhob	20/21	1/1	1/1	3/3	-	-	14/14	1/1
7. Mr. Wattanapong Kurovat	21/21	-	1/1	1/1	-	5/5	-	1/1
8. Mr. Teerapong Wongsiwawilas	21/21	1/1	1/1	-	13/13	8/8	-	1/1
9. Mr. Wuttikorn Stithit	21/21	-	1/1	-	-	-	14/14	1/1
10. General Nithi Chungcharoen	21/21	1/1	1/1	-	-	5/5	11/11	1/1
11. Mrs. Natjaree Anuntasilpa[1]	17/17	1/1	1/1	-	10/10	-	-	1/1
12. Mr. Ekniti Nitithanprapas[2]	15/16	-	1/1	2/2	-	-	-	-
13. Mr. Montri Rawanchaikul	21/21	-	-	-	-	-	-	1/1
Resignation of Former Directors during 2023								
1. Mr. Bundhit Eau-arporn[3]	-	-	-	-	-	-	-	-
2. Mr. Patchara Anuntasilpa[4]	4/4	-	-	-	-	1/1	-	-
3. Admiral TanaratUbol[5]	13/13	-	1/1	2/2	-	3/3	-	1/1
4. Lieutenant General Nimit Suwannarat[6]	8/13	-	1/1	2/2	-	-	7/8	1/1

Remarks: [1] Mrs. Natjaree Anuntasilpa was elected as a director in place of Mr. Bundhit Eua-arporn effective from March 17, 2023, and was elected as Audit Committee effective from April 3, 2023.
[2] Mr. Ekniti Nitithanprapas was elected as a director in place of Mr. Patchara Anuntasilpa and was elected as Corporate Governance and Sustainability Committee effective from April 3, 2023.
[3] Mr. Bundhit Eau-arporn resigned from directorship effective from January 10, 2023.
[4] Mr. Patchara Anuntasilpa resigned from directorship effective from March 15, 2023.
[5] Admiral Tanarat Ubol ends his PTTEP Directorship due to his term of being Director reaching nine consecutive years, effective from September 1, 2023.
[6] Lieutenant General Nimit Suwannarat ends his PTTEP Directorship due to his term of being Director reaching nine consecutive years, effective from September 1, 2023.

Number of PTTEP Shares held by the Directors, Their Spouses/Cohabiting Couple and Minor Children as of December 31, 2023

Director's Name	Number of Ordinary Shares		
	As of December 31, 2022	As of December 31, 2023	Increase/(Decrease) during the Year
1. Mr. Krairit Euchukanonchai	-	-	-
2. Mr. Pitipann Tepartimargorn	-	-	-
3. Ms. Penchun Jarikasem	-	-	-
4. Mrs. Angkarat Priebjrivat	-	-	-
5. Mr. Auttapol Rerkpiboon Spouse/Cohabiting Couple	- 500	- 500	- -
6. Mr. Veerathai Santiprabhob	-	-	-
7. Mr. Wattanapong Kurovat	-	-	-
8. Mr. Teerapong Wongsiwawilas	-	-	-
9. Mr. Wuttikorn Satititm[1]	N/A	-	-
10. General Nithi Chungcharoen[2]	N/A	-	-
11. Mrs. Natjaree Anuntasilpa[3]	N/A	-	-
12. Mr. Ekniti Nitithanprapas[4]	N/A	-	-
13. Mr. Montri Rawanchaikul	52,050	52,050	-
Former Directors Whose Tenures Lapsed during 2023			
1. Mr. Dechapiwat Na Songkhla[5]	-	-	-
2. Mr. Bundhit Eua-arporn[6] Spouse/Cohabiting Couple	- 4,587	- 4,587	- -
3. Mr. Patchara Anuntasilpa[7]	-	-	-
4. Admiral Tanarat Ubol[8]	-	-	-
5. Lieutenant General Nimit Suwannarat[9]	-	-	-

Remarks: [1] Mr. Wuttikorn Satitith was elected as a director in place of Mr. Atikom Terbsiri effective from January 1, 2023.
[2] General Nithi Chungcharoen was elected as a director in place of Mr. Dechapiwat Na Songkhla effective from January 1, 2023.
[3] Mrs. Natjaree Anuntasilpa was elected as a director in place of Mr. Bundhit Eua-arporn effective from March 17, 2023.
[4] Mr. Ekniti Nitithanprapas was elected as a director in place of Mr. Patchara Anuntasilpa effective from April 3, 2023.
[5] Mr. Dechapiwat Na Songkhla resigned from directorship effective from January 1, 2023.
[6] Mr. Bundhit Eua-arporn resigned from directorship effective from January 10, 2023.
[7] Mr. Patchara Anuntasilpa resigned from directorship effective from March 15, 2023.
[8] Admiral Tanarat Ubol ends his PTTEP Directorship due to his term of being Director reaching nine consecutive years, effective from September 1, 2023.
[9] Lieutenant General Nimit Suwannarat ends his PTTEP Directorship due to his term of being Director reaching nine consecutive years,

(2) Remuneration of the Board and Members of the Sub-Committees

PTTEP has a sound and transparent policy in regard to the remuneration of the Company's directors of the Board and sub-committees. The Nominating and Remuneration Committee, which is responsible for the policy, reviews the remuneration with prudence by taking into consideration the remuneration of listed and comparable companies in the industry, the Board's performance, PTTEP operational performances, duties and responsibilities of the directors, overall economic situation, and the shareholders' opinions. The 2023 Annual General Shareholders' Meeting (AGM) approved the following remunerations for members of the Board and sub-committees, as proposed by the Nominating and Remuneration Committee.

Remuneration Rates for Members of the Board

1) Monthly allowance of THB 40,000 per person per month in a full-month payment;

2) Meeting allowance of THB 50,000 per person per meeting attendance;

3) Bonus for the Board if there is a dividend in that year, totaling 0.2 percent of the Company's consolidated net profit in that year, but no more than THB 60 million per year;

4) The chairman's remuneration rates are an additional 25 percent of all of the above.

Remuneration Rates for Members of the Sub-Committees

The Company's sub-committees received the following remuneration:

1) Meeting allowance of THB 45,000 per person per meeting attendance;

2) The sub-committee chairman's remuneration rate is an additional 25 percent of the above.

Other Remuneration for PTTEP Directors

- None -

Remuneration of Members of the Board and Sub-Committees in 2023

Director's Name	Board of Directors		Audit Committee	Corporate Governance and Sustainability Committee	Nominating and Remuneration Committee	Risk Management Committee	2023 Bonus Paid in 2024	Total
	Monthly Allowance	Meeting Allowance	Meeting Allowance	Meeting Allowance	Meeting Allowance	Meeting Allowance		
1. Mr. Krairit Euchukanonchai	600,000	1,312,500	-	-	-	-	5,226,980	7,139,480
2. Mr. Pitipan Tepartimargorn	480,000	1,050,000	-	-	360,000	787,500	4,181,584	6,859,084
3. Ms. Penchun Jarikasem	480,000	1,050,000	731,250	-	-	-	4,181,584	6,442,834
4. Mrs. Angkarat Priebjrivat	480,000	950,000	585,000	45,000	-	-	4,181,584	6,241,584
5. Mr. Auttapol Rerkpiboon	480,000	1,000,000	-	-	-	-	4,181,584	5,661,584
6. Mr. Veerathai Santiprabhob	480,000	1,000,000	-	135,000	-	630,000	4,181,584	6,426,584
7. Mr. Wattanapong Kurovat	480,000	1,050,000	-	45,000	225,000	-	4,181,584	5,981,584
8. Mr. Teerapong Wongsiwawilas	480,000	1,050,000	585,000	-	416,250	-	4,181,584	6,712,834
9. Mr. Wuttikorn Stithit	480,000	1,050,000	-	-	-	630,000	4,181,584	6,341,584
10. General Nithi Chungcharoen	480,000	1,050,000	-	-	225,000	495,000	4,181,584	6,431,584
11. Mrs. Natjaree Anuntasilpa	400,000	850,000	450,000	-	-	-	3,322,354	5,022,354
12. Mr. Ekniti Nitithanprapas	360,000	750,000	-	90,000	-	-	3,127,595	4,327,595
13. Mr. Montri Rawanchaikul	480,000	1,050,000	-	-	-	-	4,181,584	5,711,584
Former Directors Retiring by Rotation or Resigning during 2023								
1. Mr. Bundhit Eua-arporn	40,000	-	-	-	-	-	103,107	143,107
2. Mr. Patchara Anuntasilpa	120,000	200,000	-	-	45,000	-	836,316	1,201,316
3. Admiral Tanarat Ubol	320,000	650,000	-	112,500	168,750	-	2,783,904	4,035,154
4. Lieutenant General Nimit Suwannarat	320,000	400,000	-	90,000	-	315,000	2,783,904	3,908,904
Total	6,960,000	14,462,500	2,351,250	517,500	1,440,000	2,857,500	60,000,000	88,588,750

Remarks:

1) 2023 Directors' Bonus to be proposed for approval from the Annual General Meeting of Shareholders for the year 2024 at the rate of 0.2 percent of the Company's net profit from the 2023 consolidated financial statements of the Company to be approved by the shareholders in 2024. If paid Dividend to shareholders, the payment will be made according to the terms of service as the director and the chairman of the board receive a 25 percent higher bonus, but no more than THB 60 million per year.

2) PTTEP provides the Chairman with a corporate car to carry out corporate-related purposes while in the chairmanship.

6.1.3 Corporate Governance Concerning Subsidiaries and Associated Companies

PTTEP supervises its subsidiaries and associated companies through the management of PTTEP Group companies. We establish adequate and appropriate monitoring and assessing systems, which include risk management, internal audit and control, compliance with rules and regulations, compliance with good corporate governance and business ethics, and we regularly report the performance to the Corporate Governance and Sustainability Committee. We are also aware of the significance of information disclosure in accordance with the principles of good corporate governance. Details are disclosed in the "Internal Controls and Connected Transactions" section, the "Sufficiency and Suitability of the Internal Control System" topic.

6.2 The Audit Committee Report

PTTEP is determined to conduct our E&P business under the strategic direction to achieve sustainable growth and energy transition by emphasizing the importance of transparency, fairness, and good corporate governance as well as benefits for the shareholders and stakeholders.

The Audit Committee and the Internal Audit Division, in line with this direction, are appointed by the Board to govern, oversee, and review the Company's processes and their conformity to the Good Corporate Governance and Anti-Corruption policy, ensuring that the Governance, Risk Management, and Compliance (GRC) Management remain effective and appropriate. They also closely monitor the Company's work processes and goals as we strive towards a sustainable future, aim to address future challenges, and continuously create shared values for stakeholders.

The Audit Committee consists of 4 independent directors. Ms. Penchun Jarikasem is the Chairman of the Audit Committee. Mrs. Angkarat Priebjrivat, Mr. Teerapong Wongsiwawilas, and Mrs. Natjaree Anuntasilpa are members of the Audit Committee. All directors have sufficient knowledge and experience to review the accuracy and reliability of the financial statements.

In 2023, the Audit Committee executed its Board-assigned duties and those under its own charter, in conformity with best practices and related laws & regulations. The meetings were held 13 times including a co-meeting with the Risk Management Committee. All directors attended all meetings. In December 2023, the Audit Committee Meeting was attended by the Chief Executive Officer (CEO), the Company's internal and external auditors to discuss the agenda items altogether.

The Committee's activities in 2023 according to the Audit Committee Charter can be summarized as follows:

(1) Review of Financial Reports

The Committee reviewed the Company's quarterly and annual financial statements with the auditor (PricewaterhouseCoopers ABAS – PwC) without the presence of the management, to independently discuss significant events that occurred in each accounting period, independence in performance of duties, auditor's opinion, accounting standard updating, and any impact which may have on the Company's financial reporting. The Committee also had a meeting with the management to review the financial statements. This is to ensure that the Company's financial reporting is accurate and reliable, the statements disclosed complete, sufficient, and timely information, and complied with all relevant laws and regulations as well as generally accepted accounting standards. The Committee also provided recommendations regarding the Company's Management's Discussion and Analysis (MD&A) to cover an analysis of the relevant factors affecting the Company's operation and financial statements.

(2) Review of the Internal Control System and Risk Management

The Committee reviewed the efficiency and effectiveness of the Company's internal control system through the audit results reported by the Internal Audit Division and also endorsed the assessment results of the Company's internal control system including the Self-Assessment Form required by the Securities and Exchange Commission of Thailand (SEC), which found that the Company had a proper internal control system. This included internal control related to financial objectives and processes with high fraud risk. The Company also improved internal control continuously to align with its operations, objectives, and relevant laws and regulations and to ensure that it had sufficient monitoring and control on subsidiaries.

The Committee reviewed the effectiveness of risk management through the Corporate Risk Profile report as presented to the Board of Directors meeting, together with the review of significant risk reporting in audit reports of the Internal Audit Division. In addition, a meeting with the Risk Management Committee was arranged to discuss any linkage between the Company's risks and the audit plan to ensure that the audit work covers major risks together with dynamic risks. In addition, the significant audit results had been taken into consideration in the Company-wide risk assessment.

(3) Review of Connected Transactions or Transactions with Potential Conflicts of Interest

The Committee reviewed connected transactions or transactions with potential conflicts of interest prior to the Board's consideration to ensure that they were reasonable and beneficial to the Company and to safeguard the benefits of minority shareholders.

For connected transactions with the parent company, which are Petroleum Sales Agreements, the Committee considers the negotiation transparency, pricing, and contract duration to ensure the reasonableness of the transactions. The joint venture companies, which have no connection with their parent companies, have also reviewed the conditions of such transactions.

The Committee also reviewed the disclosure of the transactions in the Annual Report (56-1 One Report) and was of the opinion that the transactions were correctly and completely disclosed. Prices and conditions were fair. Moreover, the transactions were appropriately approved by the management or the Board of Directors prior to their commencement.

(4) Review of Compliance with Related Laws and Regulations

The Committee reviewed PTTEP Group's compliance with the Securities and Exchange laws, SET's Regulations, and/or other related laws, both Thai laws and the laws of other countries in which PTTEP Group operates or invests. Moreover, the Committee acknowledged the compliance report prepared by Compliance Function, in addition to the audit results related to compliance with related laws and regulations which are reported by the Internal Audit Division. In 2023, the audit plan included the specific audit of compliance with laws and regulations related to information technology. The Committee also recommended additional relevant action plans and followed up on the progress of those action plans.

(5) Oversight of Internal Audit Activities

The Committee reviewed and approved the annual audit plan, long-term audit plan, and audit results as well as followed up on the progress of action plans in response to audit findings. The Committee also reviewed the performance against the audit plan, the independence of auditors, and key performance indicators of the Internal Audit Division, and assessed the performance of the Head of the Internal Audit Division. Moreover, the Committee reviewed the Audit Charter on an annual basis.

The Committee gave precedence to digital technologies and promoted the adoption of it in the audit process. This enabled audit work to adapt to organizational transformation in the digital era. Digital technologies also come into play in enhancing audit work to become more accurate, complete, and rapid as well as equipped with better analysis for precise and timely problem-solving. An example is the implementation of the Audit Management System (TeamMate+) which has assisted the audit process from the audit planning process to the audit issues follow up process (end-to-end process) and the enhancement of Follow Up Dashboard to facilitate management in monitoring the outstanding audit issues. In addition, in 2023, the Internal Audit Division has studied and developed plans to use information technology systems to support the audit process (IA BOT project), such as automated audit programs and related audit reports, etc. The project was due to start in 2024.

The Committee promoted the personal development of internal audit staff by encouraging them to increase IT auditors to support rapid technological changes and the integration of digital technologies into audit operations. The Committee also supported internal audit staff training in digital technologies to adopt them in audit work and ensure that internal audit activities are appropriate and effective. The Committee also supported consulting services role of the Internal Audit Division in order to add long-term value to the Company and fulfill stakeholders' expectations.

(6) Nomination of the External Auditor for 2024 and Meeting with the External Auditor

The State Audit Office of the Kingdom of Thailand (SAO) requested the Company to outsource the external auditor in accordance with the State Fiscal and Financial Disciplines Act, B.E. 2561 (2018), Section 71, requiring the SAO or the external auditor endorsed by the SAO to audit the financial reports of the government agency. The Company then proposed Ms. Amornrat Pearmpoonvatanasuk, Certified Public Accountant Registration No. 4599 or Mr. Boonrueng Lerdwiseswit, Certified Public Accountant Registration No. 6552 or Mr. Kan Tanthawirat, Certified Public Accountant Registration No. 10456, the auditors from PricewaterhouseCoopers ABAS Limited (PwC), to serve as the Company's external auditor. The Committee considered that PwC is a leading company with reliable performance, independence, and experience in auditing; with reasonable audit fee. Therefore, the Committee agreed to propose PwC to be the Company's external auditor together with its audit fees to the Board, SAO, and the 2024 Annual General Meeting for further consideration and approval.

In addition, the Committee met with the external auditor to acknowledge the audit plan and observations as well as key audit matters in the auditor's report, and also met separately with the external auditor in the absence of the management to gather additional opinions from the auditor.

The Committee also considered non-audit services transactions engaging the Company and its affiliated which the external auditors worked for. This is to ensure the external auditor's independence. Additionally, the Committee had an opinion on clear disclosure of non-audit fees in the Annual Report (56-1 One Report) so that shareholders are informed of information that may affect the independence of the external auditors.

(7) Oversight of Good Corporate Governance and Fraud Prevention

The Committee encouraged the improvement of the Company's business processes and internal control system to ensure optimal control over fraud prevention. For example, the Committee promoted procurement through a competitive bidding process and supported the use of analysis of past procurement reports for preparing annual procurement plans in advance. As a result, the proportion of bidding transactions is continuously higher than direct negotiation transactions every year. The Committee also encouraged staff whistleblowing, which allowed a person to raise suspicious misconduct or a potential fraud. In 2023, the Committee verified the results of the Company's self-evaluation relating to the anti-corruption system to re-certify as a member of Thai Private Sector Collective Action Against Corruption (CAC) which expires on March 30, 2024.

In conclusion, in 2023, the Committee conducted its work thoroughly, methodically, and strictly according to the Audit Committee Charter and reported the results of all meetings to the Board on a regular basis. The Committee provided opinions and recommendations that enhanced the Company's good corporate governance. This approach ensures that the Company is able to deliver the best possible performance in comparison with other leading companies in the same industry.

In addition, in September 2023, the Securities and Exchange Commission (SEC) issued a circular titled "Rehearsal of Understanding on Roles and Duties of the Audit Committee" with the objective of communicating expectations about the roles, duties, and responsibilities of the Audit Committee as a representative of shareholders and the Audit Committee's best practices to prevent and deter inappropriate behavior of listed companies. This is to monitor and ensure that listed companies can operate their business efficiently to protect the benefit of shareholders according to the principles of good corporate governance. The Audit Committee has reviewed its roles and responsibilities and has taken steps to ensure that the performance of duties covers such practices.

The Committee is confident in the competency of the Internal Audit Division, which consists of personnel with various qualifications, skills, and experiences, enabling them to perform their duties in auditing to cover various aspects efficiently.

The Committee's overall opinion regarding the work in 2023 is that the Company's financial reports were accurate and in compliance with generally accepted accounting standards and International Financial Reporting Standards. The Company also conducted its operations in compliance with the relevant laws and obligations. In addition, the Company has proper risk management, fraud risk management, internal controls, internal audit, and corporate governance.

The Committee's performance was graded "Very Good" by themselves, the Board of Directors, and related agencies.



(Ms. Penchun Jarikasem)
Chairman of the Audit Committee

6.3 The Sub-Committees Report

6.3.1 The Corporate Governance and Sustainable Development Committee Report

PTTEP emphasizes on operating our business for sustainability by taking into consideration Thailand's goals, global trends in combating climate change, and preparation for energy transition. The Company also adheres to Good Corporate Governance and Business Ethics. PTTEP's Board of Directors has designated the Corporate Governance and Sustainability Committee, comprising at least 3 directors, most of whom are independent directors, to oversee and promote the sustainability and corporate governance of PTTEP.

In 2023, the Committee convened 3 times and provided useful recommendations to the management in order to improve the Company's operations and Corporate Governance. The duties and responsibilities of the Committee this year can be summarized as follows:

1) Considered and revised the Corporate Governance and Sustainability Committee Charter by revising its previous name to the Corporate Governance and Sustainability Committee. Furthermore, the Committee's duties and responsibilities were also extended to cover sustainability budget consideration, with emphasis on our commitment to achieve the target of Net Zero Greenhouse Gas (GHG) Emissions in 2050.

2) Considered and revised the Reporting and Whistleblowing Regulation of PTTEP Group to align with internal operations and suit the present context.

3) Considered and reviewed the application of the Corporate Governance Code (CG Code) for listed company issued in 2017 to PTTEP Group's businesses to strengthen long-term business values. The Company also established corporate governance reporting in accordance with the SEC's CG Code and international standards as well as incorporating the CG Report into the Annual Report (56-1 One Report) for disclosure to stakeholders.

4) Provided support for business operations of PTTEP Group and the work of the Board, the management, and all employees in all operational areas to align with CG&BE by, for example, providing workshops to boost CG&BE understanding among employees so they can apply it in their daily work, communicating and inviting PTTEP suppliers to participate in online training regarding anti-corruption, emphasizing the importance of conflicts of interest (COI) and self-evaluation regarding the COI to employees at least once a year, communicating a No Gift Policy, engaging employees to participate in anti-corruption day activities, supporting PTT Group CG Day 2023 arrangement, and encouraging participation in various good governance assessment as part of maintaining and improving good corporate governance of PTTEP. Additionally, the committee also supported employees to apply Governance, Risk Management, and Compliance (GRC) principles in their work leading to a strong culture in the Company.

5) Reviewed Decarbonization Pathway and Offsetting Strategy to ensure that the Company's operations are aligned with the targets of EP Net Zero 2050 as previously announced.

6) Monitored and provided advice on PTTEP implementation of the Sustainability workplan, which can be divided as follows:

   6.1) Monitored the implementation of EP Net Zero 2050 and GHG Emissions Accounting & Reporting to ensure accurate, standardized, and timely reporting. Furthermore, the Committee recommended incorporating Internal Carbon Price as part of the GHG Criteria for Investment Decision Guideline, along with the monitoring of GHG emissions effects. Strategies and guidelines on GHG offsetting were also taken into consideration, which include exploring short-term, medium-term, and long-term carbon credits to reduce risks. The approach covers studying and comparing the Company's methods and results against those of other leading companies. This may include,

for example, technology investments for obtaining carbon credit from agriculture and farming; studies of laws and regulations which may affect the Company's operations such as international tax measures; benchmarking of the carbon credit registration standards for both domestic and international organizations. These measures are designed to enable PTTEP to operate to achieve the target of Net Zero GHG Emissions in 2050.

6.2) Monitored the progress of Carbon Capture and Storage (CCS). PTTEP began the study and Front-End Engineering Design (FEED) for the two primary projects which are Arthit and Lang Lebah natural gas projects. The key objectives are to reduce GHG emissions from petroleum production process and develop a pilot project of applying technology to reduce GHG emissions. These efforts may lead to the establishment of a new business of PTTEP in alignment with sustainable business development plan, focusing on unit cost controlling and collaboration with partners.

6.3) Monitored PTTEP's implementation of corporate social responsibility (CSR) projects according to 2022 and 2023 workplans. The Committee recommended the Company to implement CSR projects that are linked to PTTEP's sustainability strategy and advised us to prioritize the projects based on project implementation evaluation and their social return on investment (SROI). These aimed to ensure a viable return on investment and create benefits to society and the environment in line with the concept of Sustainability in Substance.

6.4) Promoted a positive public awareness on PTTEP's sustainability implementation by ensuring a clear and effective communication strategy. This can be achieved through exploring new ways to enable the wider society to perceive and recognize PTTEP from our sustainability efforts, such as forestation and initiatives under the Ocean for Life strategy.

6.5) Monitored the result of sustainability assessments covering environmental, social and governance (ESG) dimensions via various raters, such as MSCI, CDP, Sustainalytics, FTSE, Good Moody's ESG, and Dow Jones Sustainability Indices (DJSI) for 2022. The Committee also monitored the overall ESG gap-closing plans and recommended studying sustainability evaluation criteria from other reliable institutions, together with investors' perceptions on ESG activities. These efforts will contribute to enhancing PTTEP's implementation plan to align with investors' requirements in the future.

7) Supported the continuous arrangement of site visit activities for shareholders. The objectives are to build an understanding of PTTEP business, promote confidence in investment in PTTEP, and foster long-term relationships between shareholders and the Company.

The Committee reported the resolution of every meeting to the Board of Directors for acknowledgement. In 2023, the Committee executed its assigned tasks in accordance with its charter with prudence, competence, and independence. The Committee properly provided straightforward opinions to elevate and enhance corporate governance and business ethics of the organization, ensuring the optimal benefit of PTTEP, our shareholders, and stakeholders.

(Mr. Veerathai Santiprabhob)
Member of the Corporate Governance
and Sustainability Committee

(Mr. Ekniti Nitithanprapas)
Member of the Corporate Governance
and Sustainability Committee

6.3.2 The Nominating and Remuneration Committee Report

PTTEP remains focused on conducting business under a strategic framework consisting of three key strategies being (1) Drive Value: by maximizing the value of E&P business, (2) Decarbonize: by reducing greenhouse gas emissions, and (3) Diversify: by expanding into new businesses to accommodate energy transition and sustainable growth by emphasizing on strengthening E&P business and securing energy security in Thailand. PTTEP aims to achieve its goals on greenhouse gas reduction through EP Net Zero 2050 concept and places importance on investment in Beyond E&P business to be congruent with the changing business situations. PTTEP's Board of Directors designated the Nominating and Remuneration Committee which comprises at least 3 directors, most of whom are independent directors, to ensure organization readiness, effective organization restructuring, and nomination of directors who are qualified, knowledgeable, and experienced with a skill set that is beneficial to PTTEP business including nomination of the Company's leaders and development of executives' competencies to provide long-term competitiveness.

The Nominating and Remuneration Committee convened 8 times in 2023. Their outcomes can be summarized as follows:

1) Considered the principles for 2023 Board Performance Target in which the Board shall focus on monitoring and providing feedback to best achieve PTTEP's Corporate Key Performance Index (Corporate KPIs) and comply with the good corporate governance principles as well as monitoring meeting attendance of directors and measuring stakeholders' perspectives towards the Company such as the Corporate Governance Report of Thai listed companies (CGR) by the Thai Institute of Directors (IOD).

2) Effectively considered appropriate assessment method to assess the performance of the Board of Directors, Sub-Committees, and the Chairman, including revising and improving assessment forms to align with the Corporate Governance Code (CG Code) of the Securities and Exchange Commission (SEC) and the guideline on development of assessment form as per Board Toolkit of IOD, by taking into account practices of other leading companies. The result of the assessment was reported to the Board of Directors.

3) Revisited and improved Board Skill Mix criteria for PTTEP Directors and set Board Target Skill Mix for nominees in replacement of the directors who are due to retire by rotation in 2024 to align with the changing business environment and situations. PTTEP set Board Target Skill Mix for 2024 in 3 areas which are International Market and Collaborations, Innovation and Technology, and Legal to support PTTEP business in both E&P and Beyond E&P areas, investment in new projects, and development of advanced technology that leads to development of new technologies and enhancement of existing technologies currently being used to support E&P business as well as promoting greater level of prudence in ensuring legal and contractual compliance to properly manage legal risks.

4) Screened and provided comments on important matters before proposing to the Board of Directors, such as organization restructuring, work process improvement, and human resource management to support long-term corporate growth.

5) Nominated to the Board of Directors suitable and qualified candidates with appropriate Skill Mix to be elected as directors and sub-committee members when positions were vacated, with due consideration on Board composition, competency, and experiences that are useful to PTTEP including the number of companies they were serving and potential conflicts of interest. The Nominating and Remuneration Committee also reviewed the principles allowing shareholders to nominate qualified director nominees in accordance with the Company's Target Skill Mix for consideration by the Board of Directors and

subsequently by the Annual General Shareholders' Meeting so that major and minor shareholders are treated fairly, equally, and suitably.

6) Considered prescribing qualifications and selection criteria for candidates to be nominated as the Company's leader and developed an appropriate succession plan for the Company's leader and executives to accommodate sustainable growth and to align with business environment and corporate strategy both short term and long term as well as considering CEO's performance appraisal and remuneration as appropriate.

7) Considered the remuneration policy and criteria for the Board of Directors and Sub-Committee members to ensure that the remuneration is suitable with their responsibilities and consistent with long-term corporate strategy and goals as well as being comparable to other companies in the same industry.

8) Considered the remuneration policy and salary structure of the Company in alignment with the Company's business to accommodate effective execution of corporate strategy.

The Nominating and Remuneration Committee prudently and freely executed their duties to the best of their ability by providing comments for the best interest of all shareholders and stakeholders. The results of all meetings were regularly reported to the Board of Directors throughout 2023.



(Mr. Teerapong Wongsiwawilas)
Chairman of the Nominating
and Remuneration Committee

6.3.3 The Risk Management Committee Report

PTTEP is committed to effective risk management to enable the Company to achieve its vision, mission, objectives, and strategies in fostering energy security as well as to care for society and the environment. In 2023, PTTEP continued to face the challenges. These compelled the Company to adapt so as to cope with the changing business environment such as the situations of unrest in various countries, e.g. The Republic of the Union of Myanmar (Myanmar) and The Republic of Mozambique (Mozambique), oil price volatility, exchange rate and interest rate volatility, increasing cybersecurity threats, global warming, climate change, and the more frequent and more severe occurrence of natural disasters as well as disruptive technology. As of December 31, 2023, the Risk Management Committee comprised 4 members, 3 of whom were independent directors appointed by PTTEP's Board Directors to oversee PTTEP's risk management to ensure that it is in line with the established risk management policy and framework.

In 2023, the Committee convened 14 times, which included a meeting with the Audit Committee. The duties and responsibilities of the Committee can be summarized as follows:

1) Governed strategic risk management in response to the dynamic changes of internal and external environment to ensure that PTTEP would be able to execute its main strategies which are Drive Value – strengthening the petroleum exploration and production business, Decarbonize – reducing greenhouse gas emissions, and Diversify – expanding into areas beyond E&P businesses. The Committee considered PTTEP's undertakings to maintain the strengths of its E&P businesses for energy security while expanding investments in environmentally friendly energy businesses moving towards becoming a low-carbon organization. Moreover, the Committee considered the 2024 Work Program and Budget, a 5-year (2024-2028) investment plan to ensure its alignment with the changing situations, and the corporate directions and policies.

2) Monitored risks of the existing projects and provided recommendations to mitigate the potential impacts such as unrest situations and plans in Myanmar to maintain and continue natural gas production which would lead to energy security for Thailand and Myanmar. The Committee also monitored investment risks in Malaysia as well as considered the exploration and production period extension of various projects in Malaysia such as the Malaysia SK314A Project. In addition, the Committee considered the Petroleum Contract Extension of the Vietnam 9-2 and 16-1 projects in Vietnam, and the Natuna Sea A Production Sharing Contract (PSC) Amendment in Indonesia by considering risks along with economic returns.

3) Considered risks related to the petroleum exploration and production business expansion including investments in new exploration fields, farm-in, and divestment to manage PTTEP portfolio and serve the Net Zero GHG Emissions target, such as the investment in the G12/48 Project in the Gulf of Thailand and the Malaysia SK325 exploration field in Malaysia. The committee provided recommendations on risks, potential opportunities, and mitigation as well as monitored risks.

4) Considered risks related to investment expansion into new businesses to support the energy transition towards a low-carbon organization, such as investment in renewable energy business and green hydrogen production concession area. The committee provided opinions on risks and opportunities, such as conducting option analysis, formulating partnership with experts, and defining exit strategy, etc.

5) Considered and approved the oil price hedging guideline as well as provided suggestions to improve the oil price hedging approval authority framework in order to have more flexibility and respond to the rapid change in situation. Moreover, the Committee provided advice to enhance Middle Office roles to oversee the execution of hedging more strictly and to thus remain in line with the new authority framework. As a result, PTTEP has been able to reduce the negative impact on cash flow and operation performance resulting from oil price volatility.

6) Supervise undertaking the Enterprise Risk Management Maturity Assessment of PTTEP to review the risk management framework against international standards and other companies in the same industry in order to apply the assessment results to further improve PTTEP's risk management to be more efficient.

Furthermore, Risk Management Committee consistently oversaw enterprise risk management to ensure the businesses were operated within PTTEP's risk appetite, for example, risks related to exploration and production operations, financial, cybersecurity, legal, and environment, including emerging risks. The outcomes of Risk Management Committee meetings were reported to the Board of Directors on a monthly basis.

In summary, the Committee independently performed its duties relating to PTTEP risk management prudently, and competently according to its scopes, authorities and duties defined in PTTEP's Risk Management Committee Charter. These has led PTTEP to efficiently manage risks in order to achieve our objectives and goals for fair and maximum benefit to PTTEP, shareholders, and other stakeholders appropriately and sustainably.



(Mr. Pitipan Tepartimargorn)
Chairman of the Risk Management Committee

6.3.4 The Independent Directors Committee Report

Independent directors play a significant role in ensuring the best interests of the Company, shareholders, and stakeholders. They ensure governance, policies, and strategies implementation, together with transparency and efficient operations in order to provide equal distribution of benefits to all shareholders. PTTEP has set a requirement on the number of independent directors which must be more than half of the Board of Directors, the majority in subcommittees, or enough number to influent decision-making of the whole Board of Directors to ensure checks and balances system. Currently, the independent directors committee comprises 8 directors from the total 13 members of the Board of Directors. In addition, PTTEP is of the view that the qualifications of an independent director may change during their tenure. Hence, independent directors' qualifications are annually reviewed.

PTTEP aims to build sustainable growth which encompasses Environmental, Social and Governance (ESG), in line with the expectations of the stakeholders. Independent directors provided useful recommendations and independent comments in the Board meetings. Such comments addressed business situations and strategic plans and led to decisions of the entire Board of Directors to act on principles for the benefit of the organization and all shareholders.

Members of the Independent Directors Committee had attended training courses and participated in various important activities organized by the Company to advance their knowledge and abilities which would be beneficial to the performance of the Board of Directors' duties in 2023. Independent directors provided valuable opinions, promoting transparency in both Board of Directors' meetings and subcommittees' meetings. In the event that a director is shown to have a conflict of interest with any of the agenda items, he would abstain from expressing an opinion and voting on the agenda items or leave the meeting room when the issue is discussed to allow other directors to express their opinions freely. An exception can be made if other directors vote unanimously to allow the director to stay in the meeting room to provide information for the agenda so that the Board of Directors can make an informed decision. However, the director is not allowed to vote or decide on an issue having a conflict of interest. This is to ensure that the decisions are made for the best interest of the Company without diminishing shareholders' rights, especially minority shareholders and all stakeholders. In 2023, an Independent Directors Committee meeting was held to discuss and provide opinions on the basis of independence from the major shareholder and to consider the Independent Directors Committee Report for disclosure to all stakeholders in the Annual Report (56-1 One Report). The opinions of the meeting were reported to the Board of Directors and the management for acknowledgment and further action on relevant matters.



(Mr. Krairit Euchukanonchai)
Chairman of the Independent Directors Committee

7. Internal Control and Connected Transactions

7.1 Internal Control

PTTEP places great emphasis on the continuous development of the internal control system by applying the Committee of Sponsoring Organizations of the Treadway Commission (COSO) or COSO 2013 Framework to our business activities adequately and appropriately. This is to provide reasonable assurance that the Company's operations including utilization of resources are efficient and effective, the safeguarding of its assets and the reporting for both financial and non-financial reports are accurate, reliable, timely, and suitable for all applications, and that all business operations are in compliance with relevant laws and regulations. PTTEP also establishes the Internal Control Unit reporting to the Governance, Compliance, Internal Control, and Subsidiary Management Department to be responsible for governing and supporting our business operations in alignment with the Internal Control Policy as well as to assess the efficiency of the internal control system throughout the organization. The assessment is subsequently reported and reviewed by the Audit Committee every year.

7.1.1 Adequacy and Suitability of the Internal Control System

PTTEP assesses its internal control system annually based on the five components of the COSO 2013 Framework, namely (1) Control Environment, (2) Risk Assessment, (3) Control Activities, (4) Information and Communication, and (5) Monitoring Activities. It also employs the Self-Assessment Form provided by the Office of the Securities and Exchange Commission of Thailand (SEC). The 2023 assessment results are as follows:

(1) Control Environment

PTTEP has established a sufficient and suitable control environment which promotes effective and efficient business operations. The Board of Directors (Board) and management team have also continuously cultivated an ethical working attitude and atmosphere where the Company's internal control system is in place according to the Good Corporate Governance and Business Ethics of PTTEP Group (CG&BE) with the aim to achieve the ultimate objectives of "Growth, Prosperity, Stability, Sustainability, and Dignity." Main activities conducted by our control environment can be summarized as follows:

- PTTEP has prescribed a written principle of Good Corporate Governance and Business Ethics (CG&BE) as the internal regulation of PTTEP Group. The Board as well as the management and employees at all levels are required to sign the commitment form to formally acknowledge and strictly conform to the CG&BE. They are also required to self-assess their conflicts of interest annually. Moreover, Integrity & Ethics is also embedded as one of PTTEP's Corporate Values (*EP* SPIRIT). This reflects PTTEP's emphasis and strong intention that the CG&BE principles shall be implemented as a fundamental concept for our transparent and auditable business operations. All employees also receive a formal communication regarding our CG&BE along with its booklet to be used as a reference at the very beginning of their employment.

- PTTEP emphasizes the communication of good practices according to the CG&BE and the

consequential penalties in case of a breach to ensure that it is well understood by the management and employees, both domestically and internationally, through email and other communication activities. Topics that are communicated include the use and protection of information and assets of the Company including confidential information and conflict of interest practices. There is also communication on Do/Don't regarding actions that may result in leakage or misuse of the Company's information. Other additional measures include email alerts regarding blackout periods for stock trading to prevent insider trading issues, induction programs for new directors, the management, and employees, as well as E-Learning and CG&BE Train the Trainer courses. PTTEP also publicizes the CG&BE on its website to communicate with external stakeholders and demonstrates a strong will to encourage our business alliances including joint venture partners, suppliers/vendors, and company representatives to operate their businesses with integrity and to avoid involvement in any form of corruption. In addition, online training and examination are also specifically arranged for our vendors to ensure that PTTEP's anti-corruption practices are well-understood. There are measures and procedures to handle complaints and consequences if an actual offense is committed. The Company also has a clear stance against corruption together with the public sector and civil society by continually participating in anti-corruption activities such as being certified by the Thai Private Sector Collective Action Against Corruption (CAC), as well as joining Thailand's National Anti-Corruption Day and International Anti-Corruption Day activities.

- PTTEP monitors and assesses whether our Business Ethics are being followed by units responsible for Second Line roles in related areas: the use of information technology and electronic devices by the Digital Center of Excellence Unit, the monitoring of legal compliance by Compliance unit, and procurement and contract by the Supply Chain, Procurement, and Contracts Unit. The Internal Audit Division is responsible for the third line roles with the task of independently auditing operations to ensure conformance to internal regulations and efficiency of the Company's internal control system in accordance with the international standards to ensure that the management and employees can effectively integrate ethical conduct into the course of their work. PTTEP is regularly evaluated by external independent parties such as assessments by the Corporate Governance Report of Thai Listed Companies held by the Thai Institute of Directors Association (IOD), the Dow Jones Sustainability Indices (DJSI), the ASEAN CG Scorecard, the Thai Private Sector Collective Action Against Corruption (CAC), and the NACC Integrity Awards by the National Anti-Corruption Commission (NACC).

- PTTEP establishes clear Segregation of Duties (SoD) between the Board and the management. The Board's duty is to oversee corporate strategies and goals without performing routine operations as the management does, and to follow up on the business performance of the management to achieve strategic plans, operational directions, objectives, and policies as determined. The Board also ensures that strategies and policies are agile and suitable enough to allow the management team to smoothly and efficiently operate under the business environment at a particular time and thus enable the Company's sustainable growth. The management reports our operational performance to the Board on a regular basis.

In 2023, the Board has continuously focused on the established corporate strategies that focus on sustaining energy security, responding to emerging crisis and energy transition while preserving the environment. Since decarbonization constitutes a key strategy, the Board has set the target to achieve Net Zero Greenhouse Gas Emission in 2050, and reduce greenhouse gas emission intensity by at least 30 percent within 2030 and 50 percent within 2040 (from the 2020 base year) by:

1) Exploring lower carbon E&P portfolio to transform PTTEP into a low-carbon organization. Emphasis will be given to investment in projects that are in line with the Company's Net Zero Greenhouse Gas Emissions target.

2) Developing technology to reduce greenhouse gas emissions from the production process (Production and Planet in Balance). PTTEP determines to reduce excess greenhouse gas emissions from the production of petroleum to zero routine flare. For new projects, PTTEP will adopt the technology to recover and utilize flare gas along with Carbon Capture and Storage (CCS). In addition, renewable energy, e.g. solar and wind power will be used, and the Company will explore new forms of future energy such as Hydrogen for use at operating sites. The Company has also explored the opportunities and technology to utilize carbon dioxide (Carbon Capture and Utilization – CCU) by converting it into valuable products or materials for the future.

3) Accumulating carbon credits to offset greenhouse gas emissions in accordance with the guidelines of the Board of Directors, including Carbon Credit Management and opportunities to develop greenhouse gas offsetting projects in the future. The management shall report the progress to the Board of Directors on a quarterly basis to monitor and evaluate the performance to ensure effectiveness and balance, in order to achieve the maximum benefits for the Company and all stakeholders in the long-term.

- PTTEP's organization structure is designed to accommodate the Company's businesses that involve petroleum exploration and production business (E&P) and businesses beyond E&P, with flexibility and ability to drive strategic business plans and emerge through the energy transition. The Company has been able to manage corporate resource utilities efficiently with cost competitiveness under safety standards. In addition, the Company's segregation of duty and checks and balances are in line with internal control principles. In 2023, the Company has undergone organizational restructuring in order to enhance efficiency in operations and support growth for E&P and new businesses, including carbon management, Net Zero Greenhouse Gas Emissions target, and Sustainability strategy. The restructuring has resulted in, for instance: the establishment of Technology, Carbon Solutions, and Sustainable Group to study and develop carbon management technology and drive sustainability strategy and operations; the upgrading of Middle East Asset; and the establishment of Africa Asset to support operations and future growth in both regions.

- PTTEP has determined reporting lines, duties, and responsibilities in the organizational structure as well as authorities corresponding to the Company's business requirements and responsibilities. They are clearly defined and documented in the Company's Functional Description and the Delegation of Authority and Signatures (DAS). In 2023, PTTEP has further improved the Delegation of Authority (DAS) to support E&P and Beyond E&P businesses with appropriate internal control. The document can be accessed online (DAS Digitalization).

- PTTEP has determined written regulations and policies on human resource management which focus on recruiting, developing, and retaining employees to support businesses and accommodate short-term and long-term organizational growth.

- PTTEP regularly assesses its current and future manpower demands by reviewing qualifications of required and necessary positions to support business growth both short-term and long-term. Manpower plans and management strategies are reviewed annually in parallel with the development of the Company's strategy and business directions. In addition, specific development plans for high potentials, management succession plans, job rotation, and promotion plans have also been developed. Since 2022, PTTEP has reviewed and added human resource development

goals to support the Beyond E&P businesses, allocate manpower, develop success profiles, succession plans, and internal and external recruitment plans, including employee development plans (reskill/upskill) to support new businesses. Additionally, Employee Engagement Survey is regularly carried out every 2 years to obtain current employee satisfaction levels and to create improvement plans for higher levels of employee engagement. The goal of this survey is to increase satisfaction level continuously, whereby the next survey will be conducted in 2024.

- PTTEP has established a clear process of employee performance appraisal where the factors such as achievability, practicality, and alignment with current corporate strategy have been taken into account. Employees and their supervisors are encouraged to periodically review their KPI targets, progress, or any limitations so that appropriate revisions on the KPIs and targets can be agreed upon. The Company also maintains a pay-for-performance compensation system to retain highly competent individuals. The Company has a comprehensive performance appraisal system and 360 Degree Evaluation in alignment with corporate values (*EP* SPIRIT) which is also a part of the KPIs. In addition, the Company adopts an integrated system for remuneration increase and bonus payment to increase the efficiency of performance evaluation, compensation budget monitoring and management.

- PTTEP has established both the Internal Control Policy and the Internal Control Standard. These documents have been consistently communicated with the management and employees through training courses, activities, and publications such as through the communication of internal control to organization-wide employees both domestic and overseas, and the online learning materials on internal control, to ensure accurate understanding of the principles, roles, and responsibilities of each individual in relation to the internal control system. Moreover, PTTEP, which is defined as a state enterprise under the State Fiscal and Financial Disciplines Act, B.E. 2561 (2018), appointed its Internal Control Committee as stipulated by the Ministry of Finance's Rule on Internal Control Standard and Guidelines for Government Agency, B.E. 2561 (2018) in order to ensure that the Company's operations are in compliance with the mentioned laws and regulations. In addition, the Board has assigned the Audit Committee to oversee and provide advice on the Company's system on internal control and internal audit, and financial reports, including the selection and nomination of auditors according to the roles and responsibilities as detailed in the Audit Committee Charter.

(2) Risk Assessment

PTTEP places importance on risk management by appointing the Risk Management Committee, which is responsible for setting policy, risk appetite, and risk metrics & limits, as well as overseeing the effectiveness of the company-wide risk management. The Company has also applied the ISO 31000 Risk Management and COSO Enterprise Risk Management (ERM) concepts across the organization whereby all types of risk and corruption possibilities, as well as key changes that may affect business operations, are taken into account in order to manage such risks in a timely manner. These risk management approaches can be summarized as follows:

- PTTEP has specified a Risk Governance Framework and key documents related to risk management including Risk Appetite Statement, Corporate Level Risk Metrics & Limits, Enterprise Risk Management Policy, and Risk Management Guidelines to clearly define roles, responsibilities, and authorities relevant to risk management at all levels across the Company, including the Board, the Risk Management Committee, and the management, as well as supporting and operational business units. It is also ensured that the contents of each document are updated and aligned with the dynamic business environment, as well as being communicated on a regular basis.

- PTTEP regularly communicates its Risk Management Standard, Guidelines, Process, and Tools to the management and employees through various channels, such as training for the management, employees as well as Risk Coordinators, workshops, and email communication to enhance understanding of all personnel and to ensure that they can apply the concepts and practices to their respective work in order to ensure the Company's objective achievement.

- PTTEP engaged external consulting professionals in 2023 to perform PTTEP Enterprise Risk Management Maturity Assessment against industry practices to improve the risk management of PTTEP.

- PTTEP manages risks throughout the organization based on five key areas: (1) Strategic Planning and Management; (2) Investment and Divestment Decision-Making; (3) Capital Project Management; (4) Operational and Business Process; and (5) Environmental, Social, and Governance (ESG). With these, the five risk categories are: (1) Strategic/ Portfolio Risk; (2) Financial/Market Risk; (3) Shareholder/ Political & Regulatory Risk; (4) Operational Risk; and (5) Major Project Management Risk. In addition, the Company has developed its web-based risk registration system (Risk Register) for relevant units to better identify and assess risk at all levels, allowing for the development of Risk Profile at various levels, ranging from corporate, functional group, division, department, and asset/project. The system for risk registration is now being developed to cover strategic risk, which takes into account the overall risk management perspective.

- PTTEP is also developing and fully utilizing the risk management chatbot called "RIBOT". It aims to help users to identify risks in a more comprehensive manner. RIBOT can automatically display information related to risk management, provide risk guidance, offer a search engine on the risk database and real-time link with other assurance reports in the GRC ONE Digital System.

- PTTEP performs risk assessment from all-round factors that may impact corporate performance, including (1) internal factors such as strategic risk, exploration, development, and production risk, investment risk of existing and new projects, competency risk, financial risk, etc. and (2) external factors from volatility risk in oil and petroleum product prices, foreign-exchange rates, interest rates, geopolitical risk, legal risk, climate change, and cybersecurity risk, etc.

- PTTEP prepares and reviews risk management action plans and reports to the management and Risk Management Committee regularly. Key Risk Indicators (KRIs) are also established as an early warning tool to monitor and determine risk mitigations in a timely manner.

- PTTEP appointed a Hedging Committee to oversee and manage petroleum price risk and financial risk more efficiently.

- PTTEP established a Business Continuity Management Policy, Business Continuity Management Standard, Corporate Business Continuity Procedure, BCMS Audit Procedure, Business Impact Analysis Guideline, and Business Continuity Plan Guideline which are in alignment with the ISO 22301:2019 standard as demonstrated by the certifications possessed by critical assets. In 2023, PTTEP has developed centralized BCMS Management (PTTEP ONE ISO 22301 BCMS) and enhanced BCMS Digital Platform to maximize the competency of PTTEP business continuity management.

- At the corporate level, PTTEP assesses business activities that face high exposure to fraud risk, which comprises asset misappropriation, corruption, fraudulent practices, and misstatement of financial reporting. The Company considers historical information and future possibilities of fraud to evaluate its likelihood and develop the corresponding Corporate Risk Profile.

- At the process level, process owners are responsible for managing both fraud and operational risks arising from processes under their responsibilities and developing internal control corresponding to such risks with the aim to effectively improve our internal control measures.

- PTTEP's Audit Committee assigns the Internal Audit Division to carry out audits on high-risk areas which can lead to fraud and be responsible for regularly assessing audit results and measures taken to prevent and mitigate fraud.

- PTTEP established the Reporting and Whistleblowing Regulation with clear procedures for complaint-handling and response, investigation, penalty, protection of whistleblowers and involved persons, as well as remedy to any affected person. The subsequent report will be submitted to the Audit Committee or the Corporate Governance and Sustainability Committee and related persons. The investigation shall be conducted on a confidential basis. PTTEP encourages both internal and external parties to report any suspicious misconduct or wrongdoing that might be in violation of laws or the Good Corporate Governance and Business Ethics (CG&BE) in order for the Company to take immediate and effective corrective actions.

- PTTEP regularly monitors, reviews, and approves strategic plans to ensure that business goals remain reasonable and consistent with the changing situations. The Company closely monitors changes in key factors that may affect PTTEP. The aforementioned factors include oil prices, global and domestic economic situations, geopolitics, foreign exchange rates, laws and regulations, government policies, climate change, and technological advancements. This is to ensure that PTTEP is able to respond to the risks that have arisen from such factors or any emerging risks in a timely manner.

(3) Control Activities

PTTEP has adequate control activities for its risk appetite and environment and the respective business environments or activities of each unit. Appropriate control activities including preventive, detective, and corrective controls, have been established to mitigate risks. Such activities are periodically reviewed and improved. For instance, deployment of control is done through applying certain policies, work processes, technology, and appropriate organizational restructuring. The Company also encourages employees to be strictly and constantly aware of the importance of adherence to the control activities and compliance with related laws and regulations to ensure that our internal control system is as effective as designed. Our key control activities can be summarized as follows:

- PTTEP has prescribed sets of written policies and work procedures which the management and employees must strictly comply with. The management and supervisors are responsible for overseeing and monitoring compliance with such policies and work procedures. In 2023, to ensure higher work efficiency within the organization, the Company developed and updated corporate policies, standards, and guidelines to improve work efficiency, such as Corporate Governance and Sustainability Committee Charter, Sustainability Policy, Human Rights Policy, and the determination of approval authority of procurement process in the Delegation of Authority and Signature (DAS), etc.

- PTTEP recognizes the significance of control activities at the process level, including SoD, review, and authorization of transactions, to ensure that the Company's business operations are efficient and able to prevent fraudulent acts. In 2023, the Company, teaming up with external consultants, performed Control Self-Assessment (CSA) in the form of End-to-End Process whereby the processes conducted this year were the processes of Human Resource and Organization Development, Reporting & Financial

Management and Facilities Management, Operation Technical Support, and Inventory, Management, Logistics and Supply Base Management to ensure the completeness of risk identification and the adequacy and appropriateness of the existing controls in the overall interrelated processes. In addition, the Company has developed the online internal control system, UControl, to enhance the effectiveness of internal control assessment. In 2023, the corporate level assessments have been integrated into UControl, namely (1) Self-Assessment Form provided by the Office of the Securities and Exchange Commission of Thailand (SEC) and (2) Internal Control Assessment by Management Form. The overall assessment results are systematically and completely recorded, with data linkage to allow for the assessment of the internal control efficiency of PTTEP. In addition, UControl also facilitates the management and related employees to access data in a comprehensive and convenient manner.

- PTTEP develops general control measures over IT system and physical equipment security, including data backup and recovery, to ensure business continuity amidst any disruption. This IT security policy was announced across the organization to be in line with good corporate governance guidelines. The Company has also complied with COBIT 2019 framework and the information security management system standard (Zero Trust, ISO 27001, NIST), for example, to support a Hybrid Workplace Policy, all employees must be able to work, access the database, and communicate internally and externally from anywhere at any time with the highest security on Office 365 Cloud Platform. The Company also develops and integrates various approval systems (Workflow) on the ServiceNow Cloud Platform system so that requests and approvals can be performed from anywhere at any time. Azure Active Directory technology is implemented to control access of the management and employees to various information resources of the Company. All individuals are required to use Multi-Factor Authentication (MFA) Systems to add an extra layer of protection when accessing an account or application, additional credentials must be verified from the mobile phone registered with the Company to the normal username and password. The Company has also developed a management system for collecting and destroying Cookies, including the Cookie Consent banner, Privacy Notice and Data consent form for the Company application in accordance with Personal Data Protection Act B.E. 2562 (2019). For external access into PTTEP system, external service providers shall request access through the Privilege Access Management (PAM) System in order to effectively control the scope and period of time that external service providers can access PTTEP's computer system. In 2023, the Company was certified on the Information Security Management System (ISMS) relating to data centers and supporting facilities governed by PTTEP in accordance with the Statement of Applicability dated September 2, 2023.

- PTTEP manages information management system risks and implements Software Asset Management to monitor and control the use of software licenses.

- PTTEP communicates its regulations, information on data security, and guidelines on the usage of information, and conducts training to raise cyber security awareness among employees. The courses are compulsory for all employees with annual follow-ups in order to ensure that employees are fully aware of cyber threats and reduce related risks, such as phishing email or ransomware.

- PTTEP has also continuously reviewed and developed policies and procedures to ensure the appropriateness of established processes and control activities in line with changes and risks. In 2023, the Company prepared and revised policies, standards, and procedures, for instance, Corporate Governance and Sustainability Committee Charter, Sustainability Policy, Human Rights Policy, SSHE Documentation Management Procedure, PTTEP Business Development Process

Guideline (For E&P), and PTTEP Divestment Process Guideline (For E&P).

- PTTEP oversees its subsidiaries, associated companies, and joint ventures by assigning the Company's management and employees to manage these entities. The Company has developed the Subsidiary Directors' Guidelines for the assigned persons to ensure standardized Subsidiary Directors' Roles and Responsibilities. As for the governance of PTTEP and our subsidiaries, PTTEP's DAS is the reference for E&P businesses, while the assigned directors from PTTEP are in charge of non-E&P businesses. The Internal Audit Division also has the responsibility to audit Assets/Projects in which the Company has invested independently.

(4) Information and Communication

PTTEP realizes the significance of information and communication systems, particularly the quality of data processing systems, to provide accurate, complete, up-to-date, and timely information which is appropriate and sufficient to support business operations and make effective decisions. The Company has functional internal and external communication systems in place to support the work of the internal control system as well as a special communication channel to allow our stakeholders to confidentially report their concerns or complaints. Our key information and communication activities can be summarized as follows:

- PTTEP validates data and information from internal and external sources after being reviewed by responsible units before making business decisions. In addition, the Company imposes the confidentiality and accessibility of usage as well as protection of information in both physical and digital formats, including data classification to prevent the disclosure of the Company's sensitive or confidential information.
- PTTEP has developed a Corporate Reference Document Center or FindMe as the information technology infrastructure to store and manage important business documents in accordance with document management standards through a single access channel.
- In terms of internal communication, PTTEP has effective and efficient internal channels to ensure that the management and employees are aware of and can access essential information to fulfill their work requirements and achieve their respective targets. The Company has arranged town halls, both at corporate and function group levels, to ensure that employees from all units are updated and have their views heard on key developments and information, contributing to the Company's overall directions. The Company also stresses the importance of implementing internal control in a thorough and consistent manner.
- As for external communication, PTTEP established business units that are responsible for communicating with each specific group of stakeholders, such as Investor Relations, Corporate Communication, Corporate Secretary and Safety, Security, Health, and Environment units. This is to ensure that any information disclosed to external stakeholders is accurate, complete, sufficient, transparent, timely, and regularly communicated. The Company continually provides updated information to our stakeholders in various areas, particularly on business growth as well as activities related to Corporate Social Responsibility (CSR) and the Safety, Security, Health, and Environment Policy. The Company also provides information publications for analysts, fund managers, shareholders, and contractors to enhance a better understanding of the E&P business of which the majority in 2023 have been completed via Digital Roadshow, Virtual Conference, Analyst Meeting, and Contractor Forum, etc.

- PTTEP maintains the availability of our whistleblowing channels for employees and external stakeholders to accurately, completely, and timely report wrongdoings by our directors, the management, employees, or third parties acting on behalf of the Company via letters, emails, and online reporting systems via PTTEP's website.

(5) Monitoring Activities

PTTEP regularly monitors and assesses the effectiveness of our internal control system through ongoing evaluations, which are built into the Company's daily operational activities to ensure that the system is sufficient and suitable for the current business environment and dynamic risk factors. Should any deficiency be identified, improvement plans will be developed and responsible parties will be assigned to respond with timely resolutions. In addition to this, the Company has developed control self-assessment evaluations (CSA) on an annual basis at both corporate and business process levels. In addition, the Internal Audit Division, which has a direct reporting line to the Audit Committee, has the responsibility of performing independent audits correspondingly. PTTEP's monitoring activities can be summarized as follows:

- PTTEP performs two levels of CSA, namely (1) corporate level whereby the evaluation is conducted by management review in line with the COSO 2013 Framework and (2) process level whereby related process owners are required to assess controls of their processes and review the assessment results at a specific timeframe. Internal Control Section shall monitor the progress of the internal control improvement implementation. Since 2022, CSA has been performed to cover the End-to-End of significant processes to enhance the efficiency of risk identification, compressive, and completion of the existing controls assessment. Moreover, a digital platform for online assessment has been developed, UControl, will systematically analyze and present the management the information of risk of individual process and its existing controls, which are available at any time.
- The Governance, Compliance, Internal Control, and Subsidiary Management Department is responsible for monitoring, reviewing, and reporting (1) compliance with external laws and regulations and (2) compliance with internal regulations and policies in key areas. Such reports are to be submitted to the CEO and Risk Management Committee on a monthly basis. Additionally, the report of item (1) shall be presented to the Audit Committee Meeting at least twice a year. In 2023, the Company began using the NC Easy Report system for overall non-compliance reporting to facilitate the management in analyzing and considering ways forward to improve the relevant processes, ensuring that they are appropriate and effective, thereby reducing non-compliance as a whole. Compliance testing was performed in 4 business units/areas, namely (1) Safety, Security, Health, and Environment unit; (2) the compliance with Personal Data Protection Act B.E. 2562 (2019) (specifically with PDPA taskforce); (3) G1/61 Project; and (4) AI and Robotics Ventures Company Limited (ARV). Furthermore, the Company has also developed Compliance Testing Report for the recording and monitoring of Compliance Testing performance in order to ensure that PTTEP fully and correctly follows relevant laws.
- PTTEP requires all employees to at least once a year submit the annual conflicts of interest disclosure and at least twice per year for employees under the Procurement Unit or declare every time when there is involvement in such activities. The report through the online system, PTTEP CG&BE Report System, is introduced to enhance the efficiency of conflicts of interest reporting.
- The Internal Audit Division is responsible for auditing and providing recommendations for improvement to ensure that the determined areas of internal control have been complied with. The Internal Audit Division is also responsible for providing recommendations or developing improvement plans to resolve any issues identified and then subsequently communicate with responsible parties, including the Internal Control unit, to further support the remedy, and regularly report

the findings and improvement progress to the Audit Committee. The Internal Audit Division is subject to audit quality assessment performed by an external agency every five years. The division is also required to perform an Internal Self-Assessment QAR annually. In 2023, the internal assessment was performed and concluded that the internal audit practice was in alignment with international standards. Moreover, there are also improvement plans prepared for quality enhancement.

- The Continuous Control Monitoring System (CCMS) was established to monitor Procure to Pay Process and Inventory Management Process and notify the responsible parties in case any irregular transactions are detected for appropriate corrections. Furthermore, PTTEP's whistleblowing channel is another method of monitoring and assessing the Company's CG&BE implementation.

Board of Directors' Evaluation of PTTEP's Internal Control System

For the year 2023, the Board of Directors evaluated PTTEP and its subsidiaries' internal control system, subsequent to the Audit Committee's review on the information according to the assessment from (Internal Control Sufficiency Evaluation Form) of the Securities and Exchange Commission (SEC). It can be concluded that PTTEP Group's internal control system based on the aforementioned five components, relative developments during 2023 and recommendations from the management for improvement, is sufficient and suitable. PTTEP Group assigned an adequate and appropriate proportion of human resources to efficiently operate businesses in accordance with its internal control system which enables the effective and sufficient monitoring and prevention of possible misconducts including asset misappropriation by any unauthorized directors or management individuals, including entering into transactions with persons with potential conflicts of interest or related parties.

7.1.2 Internal Control Deficiencies

- None -

7.1.3 Audit Committee's Evaluation in case it is different from the Board of Directors

- None -

7.1.4 Audit Committee's opinion on the position of the Head of the Internal Audit Division

The Audit Committee is of the opinion that the Head of the Internal Audit Division has an educational background, work experience, and necessary knowledge that is sufficient enough to perform duties. Details are disclosed in the "Governance Structure and Key Data on the Board of Directors, Sub-Committees, Management, Employees and Others" section, under the sub-topic of "Head of the Internal Audit Division".

7.1.5 Practices for the appointment, removal, and transfer of the Head of the Internal Audit Division

The Audit Committee has a duty to endorse the appointment, transfer, removal, promotion, and performance appraisal of the Head of the Internal Audit Division. Details are disclosed in the "Governance Structure and Key Data on the Board of Directors, Sub-Committees, Management, Employees and Others" section, under the sub-topic of "Head of the Internal Audit Division".

7.2 Connected Transactions

7.2.1 Connected transactions at PTTEP and our subsidiaries with other entities that may result in conflicts of interest in the fiscal year ending December 31, 2023, are as follows:

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
PTT Public Company Limited (PTT)	• PTT, the Company's major shareholder, (directly) holds 63.79% of the Company's registered and paid-up capital. • PTT's executives who serve as PTTEP's directors are: (1) Mr. Auttapol Rerkpiboon (2) Mr. Wuttikorn Stithit	Petroleum product sales: crude oil, natural gas, liquefied petroleum gas, and condensate ◦ Total income ◦ Accounts receivable	 5,579.57 767.57	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Other income includes: • Income from infrastructure services to support petroleum development such as warehouse, helicopter, and accommodation for PTT personnel at Arthit, Bongkot, G1/61 and G2/61 projects • Income from charges to PTT for working areas at Arthit, Bongkot, G1/61 and G2/61 projects' production platforms based on the Gas Sales Agreement • Income from charges to PTT for gas receiving areas, working areas, and accommodation on platforms based on the Greater Bongkot South Field's Gas Sales Agreement • Income from the jetty and warehouse rentals provided by the Petroleum Development Support Base (PSB)		• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
		• Income from the Company's personnel seconded to PTT • Income from service charges for the management's drivers based on the agreement between PTT and PTTEP Services, a subsidiary of PTTEP • Income from office building rental and facility management such as water, electricity, air conditioning, parking, and project management fees provided by Energy Complex Company Limited (Energy Complex), a subsidiary of PTTEP • Income from PTT Venture Project provided by a company of AI and Robotics Ventures Company Limited (ARV) Group, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 28.24 7.00	
		Purchase of petroleum products and related expenses, manpower charges for PTT personnel seconded to the Company and subsidiaries, and other expenses ◦ Total expenses ◦ Accounts payable including rental deposit for office building/services provided by Energy Complex	 4.47 1.96	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations. • Manpower rates are based on the actual rates PTT pays to employees seconded to PTTEP.
		Deferred compensation that is the Company's obligation based on the Arthit Project's Gas Sales Agreement ◦ Accounts payable	 1.58	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
Energy Complex Company Limited (Energy Complex)	• PTT, the Company's major shareholder, holds 50% of Energy Complex's registered and paid-up capital. • PTTEP, Energy Complex's major shareholder, holds 50% of Energy Complex's registered and paid-up capital.	Income from the following: • Dividend income • Income from the Company's personnel seconded to Energy Complex • Income from services provided by ARV, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable including prepaid expenses of the hotel fee at THE EnCony Residential Hotel	 2.30 0.08	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations. • Manpower rates are based on the actual rates the Company pays to employees seconded to Energy Complex.
		Lease and services expenses from the following: • The Company has signed a 3-year lease agreement with Energy Complex to rent the office building, storage, and common areas at the Energy Complex. The Company is eligible to extend its lease agreement for another 3 years. • The hotel fee at THE EnCony Residential Hotel ◦ Total lease and service expenses ◦ Accounts payable	 17.46 0.08	• The leasing rate is based on the market rate of the office building lease and follows normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
PTT Digital Solutions Company Limited (PTT Digital)	• PTT, the Company's major shareholder, holds 20% of PTT Digital's registered and paid-up capital. • PTTEP holds 20% of PTT Digital's registered and paid-up capital.	Income from the following: • Income from the Company's personnel seconded to PTT Digital • Dividend income • Income from equipment storage rentals provided by the Petroleum Development Support Base (PSB) • Income from office building rentals and facility services, such as water, electricity, air conditioning, and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 5.51 3.70	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations. • Manpower rates are based on the actual rates the Company pays to employees seconded to PTT Digital.
		The Company and its subsidiaries have signed a contract with PTT Digital for IT services and communications. ◦ Total expenses ◦ Accounts payables including rental deposit for office building/services provided by Energy Complex	 57.90 10.85	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
PTT Energy Resources Company Limited (PTTER)	• PTT, the Company's major shareholder, holds 100% of PTTER's registered and paid-up capital.	Income from office building rentals and facility services, such as water, electricity, air conditioning and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 0.29 0.0009	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Rental deposit for office building/services provided by Energy Complex, a subsidiary of PTTEP ◦ Accounts payable	 0.07	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
Business Services Alliance Company Limited (BSA)	• PTT, the Company's major shareholder, holds 25% of BSA's registered and paid-up capital.	Income from office building rentals and facility services, such as water, electricity, air conditioning and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 0.48 0.0007	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Expenses from the following: • Expenses for field trip • Manpower charges for BSA personnel providing service as management's drivers. • Manpower charges for BSA personnel providing services, based on the agreement between BSA and Energy Complex, a subsidiary of PTTEP at (1) Energy Complex, (2) PTT headquarters, (3) PTT Research and Technology Institute in Wang Noi District, Phra Nakhon Si Ayutthaya Province, and (4) PTT Research and Technology Institute in Wang Chan District, Rayong Province ◦ Total expenses ◦ Accounts payable including rental deposit for office building/services provided by Energy Complex	 1.76 0.35	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
IRPC Public Company Limited (IRPC)	• PTT, the Company's major shareholder, holds 45.05% of IRPC's registered and paid-up capital.	Income from the following: • Income from the jetty and warehouse rentals provided by the Petroleum Development Support Base (PSB) • Income from office building rentals and facility services, such as water, electricity, air conditioning and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 2.51 0.01	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Service fee for equipment inspection of "Pressure Transmitter Yokogawa Model & Pressure gauge precision range" which is used for measurement of gas pressure for S1 Project ◦ Total expenses ◦ Accounts payable including rental deposit for office building/services provided by Energy Complex, a subsidiary of PTTEP	 0.0003 0.47	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
Thai Oil Public Company Limited (TOP)	• PTT, the Company's major shareholder, holds 45.03% of TOP's registered and paid-up capital.	Income from office building rentals and facility service such as water, electricity, air conditioning, and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 1.94 0.01	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Expenses for Golf Charity (Tournament) ◦ Total expenses ◦ Accounts payable including rental deposit for office building/services provided by Energy Complex, a subsidiarys of PTTEP	 0.0032 0.42	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
PTT Global Chemical Public Company Limited (GC)	• PTT, the Company's major shareholder, holds 45.18% of GC's registered and paid-up capital.	Income from the following: • Income from meeting room rentals • Income from office building rentals and facility services, such as water, electricity, air conditioning, and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 5.02 0.02	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Expenses from the followings: • Donation to GC Group for Buddhism's robe-offering ceremony (Thod Phapa) • Mercury analysis fees for the Gas Processing Plant (GPP) of PTTEP SP Limited, a subsidiary of PTTEP ◦ Total expenses ◦ Accounts payable including rental deposit for office building/services provided by Energy Complex	 0.03 1.28	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
PTT Natural Gas Distribution Company Limited (PTT NGD)	• PTT, the Company's major shareholder, holds 58% of PTT NGD's registered and paid-up capital.	Income from office building rentals and facility services, such as water, electricity, air conditioning and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 0.32 0.0013	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Rental deposit for office building/services provided by Energy Complex, a subsidiary of PTTEP ◦ Accounts payable	 0.07	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
PTT Retail Management Company Limited (PTTRM)	• PTT, the Company's major shareholder, holds 75% of PTT Oil and Retail Business Public Company Limited (OR)'s registered and paid-up capital. • OR, the major shareholder of PTTRM, holds 100% of PTTRM's registered and paid-up capital.	Income from office building rentals and facility services, such as water, electricity, air conditioning and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 0.30 0.06	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Expenses for drinking water for Energy Complex, a subsidiary of PTTEP ◦ Total Expenses ◦ Accounts payable including rental deposit for office building/services provided by Energy Complex, a subsidiary of PTTEP	 0.01 0.01	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
PTT Tank Terminal Company Limited (PTT Tank)	• PTT, the Company's major shareholder, holds 100% of PTT Tank's registered and paid-up capital.	Income from office building rentals and facility services, such as water, electricity, air conditioning and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 0.13 0.0005	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Rental deposit for office building/services provided by Energy Complex, a subsidiary of PTTEP ◦ Accounts payable	 0.03	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
Trans Thai-Malaysia (Thailand) Limited [TTM(T)]	• PTT, the Company's major shareholder, holds 50% of TTM(T)'s registered and paid-up capital.	Income from warehouse rentals provided by the Petroleum Development Support Base (PSB) ◦ Total income ◦ Accounts receivable	 0.01 0.0018	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
PTT International Trading Pte. Ltd. (PTTT)	• PTT, the Company's major shareholder, holds 100% of PTTT's registered and paid-up capital.	Petroleum product sales: crude oil ◦ Total income ◦ Accounts receivable	 556.77 50.38	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Income from oil price hedging contracts ◦ Total income ◦ Accounts receivable	 6.87 0.91	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Expenses from oil price hedging contracts ◦ Total expenses ◦ Accounts payable	 5.01 6.25	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
PTT International Trading London Ltd. (PTTT LDN)	• PTT, the Company's major shareholder, holds 100% of PTTT LDN's registered and paid-up capital.	Petroleum product sales: crude oil ◦ Total income ◦ Accounts receivable	 279.28 50.83	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
Global Power Synergy Company Limited (GPSC)	• PTT, the Company's major shareholder, holds 47.27% of GPSC's registered and paid-up capital. • Co-director is Mr. Wuttikorn Stithit	Income from the followings: • Income from expense charged to GPSC for Domestic Gas to Power (DG2P) Project (Joint project between PTTEP and GPSC) • Income from manpower charges based on the agreement between GPSC and PTTEP Services, a subsidiary of PTTEP • Income from office building rentals and facility services such as water, electricity, air conditioning, and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 1.44 0.17	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Rental deposit for office building/services provided by Energy Complex, a subsidiary of PTTEP ◦ Accounts payable	 0.47	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
PTT Global LNG Company Limited (PTTGL)	• PTT, the Company's major shareholder, holds 100% of PTT Global Management Company Limited (PTTGM)'s registered and paid-up capital. • PTTGM holds 100% of Global Management Holding Company Limited (GMH)'s registered and paid-up capital. • GMH holds 100% of Siam Management Holding Company Limited (SMH)'s registered and paid-up capital. • SMH holds 100% of PTTGL's registered and paid-up capital.	Income from office building rentals and facility services, such as water, electricity, air conditioning and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 0.21 0.0005	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Rental deposit for office building/services provided by Energy Complex, a subsidiary of PTTEP ◦ Accounts payable	 0.04	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
PTT LNG Company Limited (PTTLNG)	• PTT, the Company's major shareholder, holds 100% of PTTLNG's registered and paid-up capital.	Income from office building rentals and facility services, such as water, electricity, air conditioning and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 0.16 0.0019	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Rental deposit for office building/services provided by Energy Complex, a subsidiary of PTTEP ◦ Accounts payable	 0.03	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
PTT Oil and Retail Business Public Company Limited (OR)	• PTT, the Company's major shareholder, holds 75% of OR's registered and paid-up capital. • Co-director is Mr. Auttapol Rerkpiboon.	Income from the followings: • Income from the sublease of office space on 18th Floor, Energy Complex Building B • Income from providing facility services and others • Income from office building rentals and facility services, such as water, electricity, air conditioning, and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 7.47 0.53	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Expenses from the followings: • Purchase of petroleum products and related expenses • Expenses such as fuel, petrol and drinking water paid by Energy Complex, a subsidiary of PTTEP ◦ Total expenses ◦ Accounts payables including rental deposit for office building/service provided by Energy Complex	 119.28 11.86	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
PTT Treasury Center Company Limited (PTT TCC)	• PTT, the Company's major shareholder, holds 100% of PTT TCC's registered and paid-up capital.	Income from office building rentals and facility services, such as water, electricity, air conditioning and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 0.07 0.0003	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Rental deposit for office building/services provided by Energy Complex, a subsidiary of PTTEP ◦ Accounts payable	 0.02	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
Alpha Com Company Limited (Alpha Com)	• PTT, the Company's major shareholder, holds 100% of PTT Global Management Company Limited (PTTGM)'s registered and paid-up capital. • PTTGM holds 100% of Global Management Holding Company Limited (GMH)'s registered and paid-up capital. • GMH holds 100% of Siam Management Holding Company Limited (SMH)'s registered and paid-up capital. • SMH holds 100% of Alpha Com's registered and paid-up capital.	Income from office building rentals and facility services, such as water, electricity, air conditioning and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 0.05 0.0008	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Rental deposit for office building/services provided by Energy Complex, a subsidiary of PTTEP ◦ Accounts payable	 0.01	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
Innobic (Asia) Company Limited	• PTT, the Company's major shareholder, holds 100% of PTT Global Management Company Limited (PTTGM)'s registered and paid-up capital. • PTTGM holds 100% of Innobic (Asia) Company Limited	Income from office building rentals and facility services, such as water, electricity, air conditioning and parking and refurbishment fees provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 0.78 0.0003	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Rental deposit for office building/services provided by Energy Complex, a subsidiary of PTTEP ◦ Accounts payable	 0.06	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
ARUN PLUS Company Limited (ARUN PLUS)	• PTT, the Company's major shareholder, holds 100% of PTT Global Management Company Limited (PTTGM)'s registered and paid-up capital. • PTTGM holds 100% of Global Management Holding Company Limited (GMH)'s registered and paid-up capital. • GMH holds 100% of Siam Management Holding Company Limited (SMH)'s registered and paid-up capital. • SMH holds 100% of Alpha Com Company Limited (Alpha Com)'s registered and paid-up capital. • Alpha Com holds 100% of ARUN PLUS's registered and paid-up capital.	Income from parking rentals and electricity provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 0.04 0.0012	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Interest expenses for Electric Vehicle (EV) contract and installation expenses for EV Chargers paid by Energy Complex, a subsidiary of PTTEP ◦ Total expenses ◦ Accounts payable	 0.05 -	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
PTT MEA Limited	• PTT, the Company's major shareholder, holds 100% of PTTT's registered and paid-up capital. • PTTT holds 100% of PTT MEA Limited's registered and paid-up capital.	Petroleum product sales: liquefied petroleum gas ◦ Total income ◦ Accounts receivable	 36.62 3.17	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
EVME PLUS Company Limited (EVME PLUS)	• PTT, the Company's major shareholder, holds 100% of PTT Global Management Company Limited (PTTGM)'s registered and paid-up capital. • PTTGM holds 100% of Global Management Holding Company Limited (GMH)'s registered and paid-up capital. • GMH holds 100% of Siam Management Holding Company Limited (SMH)'s registered and paid-up capital. • SMH holds 100% of Alpha Com Company Limited (Alpha Com)'s registered and paid-up capital. • Alpha Com holds 100% of ARUN PLUS Company Limited (ARUN PLUS)'s registered and paid-up capital. • ARUN PLUS holds 100% of EVME PLUS's registered and paid-up capital.	Income from office building rentals and facility services, such as water, electricity, air conditioning and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 0.01 -	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Interest expenses for Electric Vehicle (EV) contract paid by Energy Complex, a subsidiary of PTTEP ◦ Total expenses ◦ Accounts payables including ozone coupon payable for Energy Complex, a subsidiary of PTTEP	 0.0021 0.0003	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
Nuovo Plus Company Limited (NUOVO PLUS)	• PTT, the Company's major shareholder, holds 100% of PTT Global Management Company Limited (PTTGM)'s registered and paid-up capital. • PTTGM holds 100% of Global Management Holding Company Limited (GMH)'s registered and paid-up capital. • GMH holds 100% of Siam Management Holding Company Limited (SMH)'s registered and paid-up capital. • SMH holds 100% of Alpha Com Company Limited (Alpha Com)'s registered and paid-up capital. • Alpha Com holds 100% of ARUN PLUS Company Limited (ARUN PLUS)'s registered and paid-up capital. • ARUN PLUS holds 51% of NUOVO PLUS's registered and paid-up capital.	Income from office building rentals and facility services, such as water, electricity, air conditioning, and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 0.26 0.01	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Rental deposit for office building/services provided by Energy Complex, a subsidiary of PTTEP ◦ Accounts payable	 0.02	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
Horizon Plus Company Limited (Horizon Plus)	• PTT, the Company's major shareholder, holds 100% of PTT Global Management Company Limited (PTTGM)'s registered and paid-up capital. • PTTGM holds 100% of Global Management Holding Company Limited (GMH)'s registered and paid-up capital. • GMH holds 100% of Siam Management Holding Company Limited (SMH)'s registered and paid-up capital. • SMH holds 100% of Alpha Com Company Limited (Alpha Com)'s registered and paid-up capital. • Alpha Com holds 100% of ARUN PLUS Company Limited (ARUN PLUS)'s registered and paid-up capital. • ARUN PLUS holds 60% of Horizon Plus's registered and paid-up capital.	Income from office building rentals and facility services, such as water, electricity, air conditioning and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 0.0035 0.0004	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
PTT and TGES Optec Company Limited (OPTEC)	• PTT, the Company's major shareholder, holds 100% of PTT Global Management Company Limited (PTTGM)'s registered and paid-up capital. • PTTGM holds 100% of Global Management Holding Company Limited (GMH)'s registered and paid-up capital. • GMH holds 100% of Siam Management Holding Company Limited (SMH)'s registered and paid-up capital. • SMH holds 51% of PTT and TGES Optec Company Limited (OPTEC)'s registered and paid-up capital.	Income from office building rentals and facility services, such as water, electricity, air conditioning and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 0.04 -	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Rental deposit for office building/services provided by Energy Complex, a subsidiary of PTTEP ◦ Accounts payable	 0.01	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
Global Multimodal Logistics Company Limited (GML)	• PTT, the Company's major shareholder, holds 100% of PTT Global Management Company Limited (PTTGM)'s registered and paid-up capital. • PTTGM holds 100% of Global Management Holding Company Limited (GMH)'s registered and paid-up capital. • GMH holds 100% of Siam Management Holding Company Limited (SMH)'s registered and paid-up capital. • SMH holds 100% of Global Multimodal Logistics Company Limited (GML)'s registered and paid-up capital.	Income from office building rentals and facility services, such as water, electricity, air conditioning and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 0.02 -	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Rental deposit for office building/services provided by Energy Complex, a subsidiary of PTTEP ◦ Accounts payable	 0.0045	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Connected Person	Relationship	Transaction	Value (Unit: USD million)	Pricing Policy and/or Reason
Global Renewable Power Company Limited (GRP)	• PTT, the Company's major shareholder, holds 47.27% of GPSC's registered and paid-up capital. • GPSC holds 100% of Global Renewable Power Company Limited (GRP)'s registered and paid-up capital.	Income from office building rentals and facility services, such as water, electricity, air conditioning and parking provided by Energy Complex, a subsidiary of PTTEP ◦ Total income ◦ Accounts receivable	 0.08 0.0012	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.
		Rental deposit for office building/services provided by Energy Complex, a subsidiary of PTTEP ◦ Accounts payable	 0.02	• Conditions and price setting follow normal business operations, at an arm's length basis for non-related persons or operations.

Remark: Please see historical data of 2022 and 2021 for a 3-year comparison from the Company's website.

7.2.2 Preconditions and Reasons for Connected Transactions

PTTEP's Audit Committee reviewed the connected transactions which were recorded during the fiscal year ending December 31, 2023, as summarized above and considered them to be indispensable, fair, and justifiable in terms of conditions and prices, and/or within the arm's length basis. The transactions were also approved by the management or PTTEP's Board of Directors (Board) according to the Company's policy prior to execution.

7.2.3 Policy and Future Possibility of Connected Transactions

(1) Policy for Connected Transactions

PTTEP treats connected transactions as normal business transactions without any intention to transfer benefits between or among the Company and related companies, or persons. The Company strictly adheres to securities and exchange laws and regulations, including those imposed by the Capital Market Supervisory Board, the Stock Exchange of Thailand, and other related supervisory agencies regarding connected transactions. The Company takes into serious consideration the reasonable business terms and conditions, and use of the market reference prices, to ensure that the Company's shareholders and stakeholders will be treated equally and in their interests, in accordance with the Company's good corporate governance policy.

(2) Future Possibility of Connected Transactions Potentially Leading to Conflicts of Interest

PTTEP will continue to have connected transactions with related entities in the future. Most of these transactions include normal business, office building-leasing, and business support, which can be summarized as follows:

1) **Sales of petroleum products and purchases of fuel:** Since the transactions are a normal part of the Company's business and are executed under conditions and requirements as stated in the contracts, they will continue due to their necessity to the operations.

2) **Lease of office buildings:** Since leasing of office buildings is reasonable and necessary for the Company's business operations, the transactions will be continued.

3) **Hiring of information and technology services:** Since it remains reasonable and necessary for the Company to be supported with information and technology services to operate our business, the transactions will be continued.

8. General Information and Other Significant Information

8.1 References

(1) Securities Registrar

1.1) Name: Thailand Securities Depository Company Limited
Address: 93 Ratchadaphisek Road, Din Daeng, Bangkok 10400, Thailand
Telephone: +66-2009-9999
Website: http://www.set.or.th/tsd

(2) Registrar and Paying Agent for Debentures

2.1) Registrar and paying agent for THB 11,400 million debentures (PTTEP296A) issued in June 2014
Name: Siam Commercial Bank Public Company Limited
Address: 17th Floor, Zone B&C, 9 Ratchadaphisek Road, Chatuchak, Bangkok 10900, Thailand
Telephone: +66-2795-6305, +66-2795-7006, +66-2795-7007
Facsimile: +66-2128-4625

2.2) Registrar and paying agent for THB 6,000 million debentures (PTTEP26NA) issued in November 2021
Name: Krungthai Bank Public Company Limited
Address: 3rd Floor, 977/2 SM Tower, Phahonyothin Road, Samsen Nai, Phaya Thai, Bangkok 10400, Thailand
Telephone: +66-2298-0828 ext. 111
Facsimile: -

2.3) Registrar and paying agent for following debentures:
- THB 5,000 million (PTTEPT274A), THB 1,000 million (PTTEPT294A) and THB 6,000 million (PTTEPT324A) issued in April 2022
- THB 1,500 million (PTTEPT265A) issued in May 2023

Name: KASIKORNBANK PUBLIC COMPANY LIMITED
Address: 1 Soi Rat Burana 27/1, Rat Burana Road, Rat Burana, Bangkok 10140, Thailand
Telephone: +66-2470-5978, +66-2470-1042
Facsimile: -

(3) Debenture Holders' Representative

3.1) Debenture holders' representative for following debentures:
- THB 6,000 million debentures (PTTEP26NA) issued in November 2021
- THB 5,000 million (PTTEPT274A), THB 1,000 million (PTTEPT294A) and THB 6,000 million (PTTEPT324A) issued in April 2022
- THB 1,500 million (PTTEPT265A) issued in May 2023

Name: KASIKORNBANK PUBLIC COMPANY LIMITED
Address: 1 Soi Rat Burana 27/1, Rat Burana Road, Rat Burana, Bangkok 10140, Thailand
Telephone: +66-2470-5978, +66-2470-1042
Facsimile: -

(4) Trustee

4.1) Trustee for outstanding USD 458 million debentures issued in June 2012

Name	Citicorp International Limited
Address	20th Floor, Citi Tower, One Bay East, 83 Hoi Bun Road, Kwun Tong, Hong Kong
Telephone	+852-2868-7964, +852-2868-7982
Facsimile	+852-2323-0279

4.2) Trustee for outstanding USD 600 million debentures issued in December 2019, outstanding USD 350 million debentures issued in January 2020, and outstanding USD 500 million debentures issued in June 2020

Name	BNY Mellon Corporate Trust
Address	#03-01 Millenia Tower, 1 Temasek Avenue, Singapore 039192
Telephone	+65-6632-0193, +65-6432-4147
Facsimile	+65-6883-0338

(5) Process Agent

5.1) Process agent for USD 200 million Committed Revolving Credit Facilities dated September 2020 and USD 200 million Committed Revolving Credit Facilities dated October 2020

Name	Law Debenture Corporate Services Limited
Address	8th Floor, 100 Bishopsgate, London, EC2N 4AG, United Kingdom
Telephone	+44-20-7606-5451
Facsimile	+44-20-7606-0643

5.2) Process Agent for Common Shares

Name	CT Corporation System
Address	28 Liberty Street, New York, New York 10005, United States of America
Telephone	+1-212-894-8800
Facsimile	-

(6) Cross Currency Swap Counterparties

6.1)

Name	Siam Commercial Bank Public Company Limited
Division	Financial Market Division
Address	12th Floor, Zone B, 9 Ratchadaphisek Road, Chatuchak, Bangkok 10900, Thailand
Telephone	+66-2544-5741-9
Facsimile	+66-2937-7968

6.2)

Name	Krung Thai Bank Public Company Limited
Division	Markets Solutions and Innovation Team, Global Markets Group
Address	8th Floor, Building 1 (Nana Nuea), 35 Sukhumvit Road, Khlong Toei Nuea, Watthana, Bangkok 10110, Thailand
Telephone	+66-2208-4678, +66-2208-4699
Facsimile	+66-2256-8398

6.3)

Name	Bangkok Bank Public Company Limited
Division	Treasury Division
Address	9th Floor, Head Office, 333 Silom Road, Silom, Bang Rak, Bangkok 10500, Thailand
Telephone	+66-2626-3584-6
Facsimile	+66-2231-4223

(7) FX Contracts Counterparties

7.1) Name: KASIKORNBANK PUBLIC COMPANY LIMITED
Division: Capital Markets Business Division
Address: 400/22 Phahonyothin Road, Samsen Nai, Phaya Thai, Bangkok 10400, Thailand
Telephone: +66-2470-3006
Facsimile: +66-2271-4486

7.2) Name: Krung Thai Bank Public Company Limited
Division: Markets Solutions and Innovation Team, Global Markets Group
Address: 8th Floor, Building 1 (Nana Nuea), 35 Sukhumvit Road, Khlong Toei Nuea, Watthana, Bangkok 10110, Thailand
Telephone: +66-2208-4649, +66-2208-4699
Facsimile: +66-2256-8398

7.3) Name: Siam Commercial Bank Public Company Limited
Division: Financial Market Division
Address: 12th Floor, Zone B, 9 Ratchadaphisek Road, Chatuchak, Bangkok 10900, Thailand
Telephone: +66-2544-5741-9
Facsimile: +66-2937-7968

7.4) Name: Bank of America National Association
Division: Fixed Income Currencies and Commodities
Address: 33rd Floor, CRC Tower, 87/2 All Seasons Place, Wireless Road, Lumphini, Pathum Wan, Bangkok 10330, Thailand
Telephone: +66-2305-2986-89
Facsimile: +66-2685-3224

7.5) Name: Citibank N.A., Bangkok Branch
Division: Global Markets
Address: Interchange 21 Building, 399 Sukhumvit Road, Khlong Toei Nuea, Watthana, Bangkok 10110, Thailand
Telephone: +66-2079-2222
Facsimile: +66-2079-4342

7.6) Name: CIMB Thai Bank Public Company Limited
Division: Treasury Sales, Treasury & Markets
Address: 44 Langsuan Road, Lumphini, Pathum Wan, Bangkok 10330, Thailand
Telephone: +66-2670-4623
Facsimile: +66-2657-3280

7.7) Name: Bank of Ayudhya Public Company Limited
Division: Global Corporate Banking Division
Address: 550 Phloen Chit Road, Lumphini, Pathum Wan, Bangkok 10330, Thailand
Telephone: +66-2296-2000
Facsimile: +66-2296-6921

7.8) Name: Bangkok Bank Public Company Limited
Division: Treasury Division
Address: Head Office, 333 Silom Road, Silom, Bang Rak, Bangkok 10500, Thailand
Telephone: +66-2021-1111
Facsimile: +66-2636-4633

7.9) Name TMB Thanachart Bank Public Company Limited
Division Global Markets
Address 3000 Phahonyothin Road, Chom Phon, Chatuchak, Bangkok 10900, Thailand
Telephone +66-2676-8008
Facsimile +66-2292-4690-2

7.10) Name Deutsche Bank AG, Bangkok Branch
Division Risk Management Solutions
Address Athenee Tower, 63 Wireless Road, Lumphini, Pathum Wan, Bangkok 10330, Thailand
Telephone +66-2646-5138
Facsimile +66-2651-5892

7.11) Name BNP Paribas Bangkok Branch
Division Global Markets & ALM Treasury
Address 41st Floor, One City Centre Building, 548 Phloen Chit Road, Lumphini, Pathum Wan, Bangkok 10330, Thailand
Telephone +66-2659-8990-2, +66-2659-8998
Facsimile -

7.12) Name United Overseas Bank (Thai) Public Company Limited
Division Global Markets
Address UOB Plaza Bangkok Building, 690 Sukhumvit Road, Khlong Tan, Khlong Toei, Bangkok 10110, Thailand
Telephone +66-2343-4381-4
Facsimile +66-2285-1414

7.13) Name J.P. Morgan Chase Bank N.A.
Division Currencies and Emerging Markets
Address 2nd Floor, Bubhajit Building, 20 North Sathon Road, Silom, Bang Rak, Bangkok 10500, Thailand
Telephone +66-2684-2257
Facsimile +66-2684-2260

7.14) Name The Hongkong and Shanghai Banking Corporation Limited, Bangkok Branch
Division Markets & Securities Services
Address HSBC Building, 968 Rama IV Road, Silom, Bang Rak, Bangkok 10500, Thailand
Telephone +66-2614-4847
Facsimile +66-2353-7311

7.15) Name Sumitomo Mitsui Banking Corporation
Division Treasury Department
Address 8th-10th Floor, Q.House Lumphini Building, 1 South Sathon Road, Thung Maha Mek, Sathon, Bangkok 10120, Thailand
Telephone +66-2353-8196, +66-2353-8197
Facsimile +66-2343-8815, +66-2343-8816

(8) Auditor

Name Ms. Amornrat Pearmpoonvatanasuk
Certified Public Accountant No. 4599
PricewaterhouseCoopers ABAS Ltd.
Address 15th Floor, Bangkok City Tower, 179/74-80 South Sathon Road, Thung Maha Mek, Sathon, Bangkok 10120, Thailand
Telephone +66-2844-1000
Facsimile +66-2286-5050

(9) Legal Advisors

9.1) Name Kudun & Partners Company Limited
Address 4th, 5th, and 6th Floor, Vivre Langsuan, 34/3 Soi Langsuan, Lumphini, Pathum Wan, Bangkok 10330, Thailand
Telephone +66-2838-1750
Facsimile -

9.2) **Name** TTT & Partners Company Limited
Address 18th Floor, Unit DE, Tower B, Vanissa Building, 29 Chit Lom Alley, Ploenchit Road Lumphini, Pathum Wan, Bangkok 10330, Thailand
Telephone +66-2080-5699
Facsimile -

9.3) **Name** Baker & McKenzie Ltd.
Address 25th Floor, Abdulrahim Place, 990 Rama IV Road, Silom, Bang Rak, Bangkok 10500, Thailand
Telephone +66-2666-2824
Facsimile +66-2666-2924

9.4) **Name** Vigour Step Co., Ltd. & Pracha Tooppoltup Law Office
Address 48/51 Soi Sukhonthasawat 38 (Soi Pradit Manutham 27), Sukhonthasawat Road, Lat Phrao, Bangkok 10230, Thailand
Telephone +66-2553-1858, +66-2553-1898
Facsimile +66-2102-3032

9.5) **Name** Rouse & Co. International (Thailand) Co., Ltd.
Address 14th Floor, Unit 1401-3 and 1408, Two Pacific Place Building, 142 Sukhumvit Road, Khlong Toei, Bangkok 10110, Thailand
Telephone +66-2653-2730
Facsimile +66-2653-2734

9.6) **Name** Linklaters (Thailand) Ltd.
Address 20th Floor, Capital Tower, All Seasons Place, 87/1 Wireless Road, Lumphini, Pathum Wan, Bangkok 10330, Thailand
Telephone +66-2305-8000
Facsimile +66-2305-8010

9.7) **Name** Weerawong, Chinnavat & Partners Ltd.
Address 22nd Floor, Mercury Tower, 540 Phloen Chit Road, Lumphini, Pathum Wan, Bangkok 10330, Thailand
Telephone +66-2264-8000
Facsimile +66-2657-2222

9.8) **Name** Siam Premier International Law Office Limited
Address 26th Floor, The Offices at CentralWorld, 999/9 Rama I Road, Pathum Wan, Bangkok 10330, Thailand
Telephone +66-2646-1888
Facsimile +66-2646-1919

9.9) **Name** Atthaworadej & Associates Co., Ltd.
Address 12th Floor, Srijulsup Tower, 44 Rama I Road, Rong Mueang, Pathum Wan, Bangkok 10330, Thailand
Telephone +66-2613-9449
Facsimile -

9.10) **Name** Allen & Overy (Thailand) Co., Ltd.
Address 23rd Floor, Sindhorn Building Tower 3, 130-132 Wireless Road, Lumphini, Pathum Wan, Bangkok 10330, Thailand
Telephone +66-2263-7600
Facsimile +66-2263-7699

9.11) **Name** R&T Asia (Thailand) Company Limited
Address 12th Floor, Units 12A-12F, President Tower, 973 Ploenchit Road, Lumphini, Pathum Wan, Bangkok 10330, Thailand
Telephone +66-2656-1991
Facsimile +66-2656-0833

9.12) **Name** Intellectual Design Group (IDG) Co., Ltd.
Address 194, 196 Nonthaburi Road, Bang Kraso, Mueang Nonthaburi, Nonthaburi 11000, Thailand
Telephone +66-2011-7161-6
Facsimile -

9.13) **Name** ES Counsel Co., Ltd.
Address 17th Floor, Italthai Tower, 2034/78 New Phetchaburi Road, Bangkapi, Huai Khwang, Bangkok 10310, Thailand
Telephone +66-2716-1717-8
Facsimile +66-2716-1719

9.14) **Name** Adnan Sundra & Low
Address Level 25, Menara Etiqa, No. 3, Jalan Bangsar Utama 1, Kuala Lumpur 59000, Malaysia
Telephone +60-3-2279-3288
Facsimile +60-3-2279-3228

9.15) **Name** Ali Budiardjo, Nugroho, Reksodiputro
Address 24th Floor, Graha CIMB Niaga, Jl. Jenderal Sudirman Kav. 58 Jakarta 12190, Indonesia
Telephone +62-2-1250-5125/5136
Facsimile +62-2-1250-5001/5121/5122/5392

9.16) **Name** Allens
Address Level 37, 101 Collins Street, Melbourne VIC 3000, Australia
Telephone +61-3-9614-1011
Facsimile +61-3-9614-4661

9.17) **Name** Ariff Rozhan & Co.
Address L-6-1, No. 2, Jalan Solaris, Solaris Mont Kiara, Kuala Lumpur 50480, Malaysia
Telephone +60-3-6411-4001
Facsimile +60-3-6419-0987

9.18) **Name** Ashurst Australia
Address Level 10, Brookfield Place Tower 2, 123 St Georges Terrace, Perth WA 6000, Australia
Telephone +61-8-9366-8000
Facsimile +61-8-9366-8111

9.19) **Name** Azman Davidson & Associates
Address 14th Floor, Menara Keck Seng, 203 Jalan Bukit Bintang, Kuala Lumpur 55100, Malaysia
Telephone +60-3-2118-5121
Facsimile +60-3-2118-5111

9.20) **Name** Baker & McKenzie Abogados, S.C.
Address 12th Floor, Edificio Virreyes, Pedregal 24, Lomas Virreyes / Col. Molino del Rey, Mexico City 11040, Mexico
Telephone +52-55-5279-2900
Facsimile +52-55-5279-2999

9.21) **Name** Bennani & Associés LLP
Address 155 A Chemin El Kadous – Birkhadem, Algiers 16029, Algeria
Telephone +213-23-598-363
Facsimile -

9.22) **Name** Bennett Jones LLP
Address 4500 Bankers Hall East, 855 2nd Street SW, Calgary, Alberta T2P 4K7, Canada
Telephone +1-40-3298-3100
Facsimile +1-40-3265-7219

9.23) **Name** Clifford Chance Pte. Ltd.
Address 25th Floor, Tower 3, Marina Bay Financial Centre, 12 Marina Boulevard, Singapore 018982
Telephone +65-6410-2254
Facsimile +65-6410-2288

9.24) **Name** Corrs Chambers Westgarth
Address Level 6, Brookfield Place Tower 2, 123 St Georges Terrace, Perth WA 6000, Australia
Telephone +61-8-9460-1666
Facsimile +61-8-9460-1667

9.25) **Name** Dentons & Co Oman Branch
Address 3rd Floor, Salam Square - South, Madinat Al Sultan Qaboos PO Box 3552, Muscat, Ruwi PC 112, Sultanate of Oman
Telephone +968-2457-3000
Facsimile +968-2457-3097

9.26) **Name** Henrique Abecasis, Andresen Guimarães & Associados - Socuedade de Advigadis, SP, RL (HAAG)
Address n.º 35 Av. Miguel Bombarda, 1050-161 Lisboa, Portugal
Telephone +351-213-169-500
Facsimile +351-213-153-463

9.27) **Name** Herbert Smith Freehills
Address 23rd Floor, Gloucester Tower, 15 Queen's Road Central, Hong Kong
Telephone +852-2845-6639
Facsimile -

9.28) **Name** Herbert Smith Freehills LLP
Address 50 Raffles Place, #24-01 Singapore Land Tower, Singapore 048623
Telephone +65-6868-8000
Facsimile +65-6868-8001

9.29) **Name** Jones Day
Address Level 48, Rialto Towers, 525 Collins Street, Melbourne, VIC 3000, Australia
Telephone +61-3-9101-6800
Facsimile +61-3-9101-6899

9.30) **Name** Jones Day
Address Level 28, 138 Market Street, CapitaGreen, Singapore 048946
Telephone +65-6538-3939
Facsimile -

9.31) **Name** José Carlos de Oliveira & Associados - Sociedade de Advogados, RL
Address n.º 16 - 1º Dto., Av. João XXI, 1000-302 Lisboa, Portugal
Telephone +351-218-498-813
Facsimile +351-218-473-153

9.32) **Name** King & Spalding (Singapore) LLP
Address #31-01 North Tower, 1 Raffles Quay, Singapore 048583
Telephone +65-6303-6041
Facsimile +65-6303-6055

9.33) **Name** Latham & Watkins LLP
Address #42-02 Republic Plaza, 9 Raffles Place, Singapore 048619
Telephone +65-6536-1161
Facsimile +65-6536-1171

9.34) **Name** Lau, Horton & Wise LLP in Association with CMS Hasche Sigle, Hong Kong LLP
Address 8th Floor, Nexxus Building, 41 Connaught Road Central, Hong Kong
Telephone +852-2533-7878
Facsimile +852-2533-7887

9.35) **Name** Loucif & Co
Address 19, Rue des Pins, Hydra, Algiers 16035, Algeria
Telephone +213-7-70-07-21-16
Facsimile -

9.36) **Name** Myanmar Legal Services Limited
Address No. 138/D, New University Avenue Road, 5th Floor, No. 5-C, Park Lane Condominium Bahan Township, Yangon, Myanmar
Telephone +951-652-139, +951-650-740
Facsimile +951-650-466

9.37) **Name** PLMJ Advogados, SP, RL
Address 43, Av. Fontes Pereira de Melo, 1050-119 Lisboa, Portugal
Telephone +351-213-197-300
Facsimile +351-213-197-400

9.38) **Name** Shearman & Sterling LLP
Address #28-01, 6 Battery Road, Singapore 049909
Telephone +65-6230-3800
Facsimile -

9.39) **Name** Skrine - Advocates & Solicitors
Address Level 8, Wisma UOA Damansara, 50 Jalan Dungun Damansara Heights, Kuala Lumpur 50490, Malaysia
Telephone +60-3-2081-3999
Facsimile +60-3-2094-3211

9.40) **Name** Slaughter and May
Address One Bunhill Row, London EC1Y8YY, United Kingdom
Telephone +44-20-7600-1200
Facsimile +44-20-7090-5000

9.41) **Name** Steptoe & Johnson LLP
Address 1114 Avenue of the Americas, New York, New York 10036, United States of America
Telephone +1-212-506-3900
Facsimile -

9.42) **Name** Tilleke & Gibbins Myanmar Ltd.
Address 16th Floor, No. 1608, Sakura Tower, 339 Bogyoke Aung San Road, Kyauktada Township, Yangon 11182, Myanmar
Telephone +95-1-8255-208
Facsimile +95-1-8255-207

9.43) **Name** VDB Loi Myanmar
Address Yangon Office: 1st Floor, No. 112-114, Bogalay Zay Street, Botahtaung Township, Yangon 11161, Myanmar

Nay Pyi Taw Office: No.Da/30125, Da/30127, Shwe Thapyay Street, Dekkhina Thiri Township, Nay Pyi Taw 15011, Myanmar
Telephone +95-1837-1635 (Yangon Office) / +95-9650-0002-60, +95-9785-5924-33 (Nay Pyi Taw Office)
Facsimile +95-1837-1902 (Yangon Office)

(10) Advisor to the Board of Directors

- None -

8.2 Other Significant Information

Other information that has a significant impact on Investors' Decision

- None -

Restrictions on Foreign Shareholders

- None -

8.3 Legal Dispute

As of December 31, 2023, the outstanding legal dispute which PTTEP or one of the Company's subsidiaries is a party involved and which can significantly affect our operation or the subsidiary's, excluding dispute from the normal operation and circumstance, is as follows:

PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEP AAA) was sued for damages at the Federal Court of Australia (the Court) by a group of Indonesian seaweed farmers.

Reference is made to the class action lawsuit brought by a group of Indonesian seaweed farmers against PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEP AAA) in the Federal Court of Australia (the Court) in 2016, claiming that damages to their seaweed crops were allegedly caused by the 2009 Montara incident, followed by the trial judge judgements (decisions) on March 19, 2021 and October 25, 2021, and Final orders on November 15, 2021 of the Court, and PTTEP AAA's filing of Notice of Appeal in the Court on December 13, 2021. However, in parallel in Q4/2022, PTTEP AAA participated in mediation, as ordered by the Court and in line with the normal legal process under Australian law for class action, and reached an in-principle agreement on November 21, 2022 in full and final settlement of the class action (including PTTEP AAA's appeal) on a no admission of liability basis. In Q1/2023, the Court approved this in-principle settlement agreement and the approach to the distribution of the settlement sum to the group members. In Q2/2023, PTTEP AAA paid the approved settlement amount. Nevertheless, the class action remains on foot until the claims administrator appointed by the Court has completed the distribution process in accordance with the approved distribution scheme under the supervision of the Court.

8.4 Secondary Market in Case of Listing on the Stock Exchange of Other Countries

- None -

Part 3

Sustainable Transition

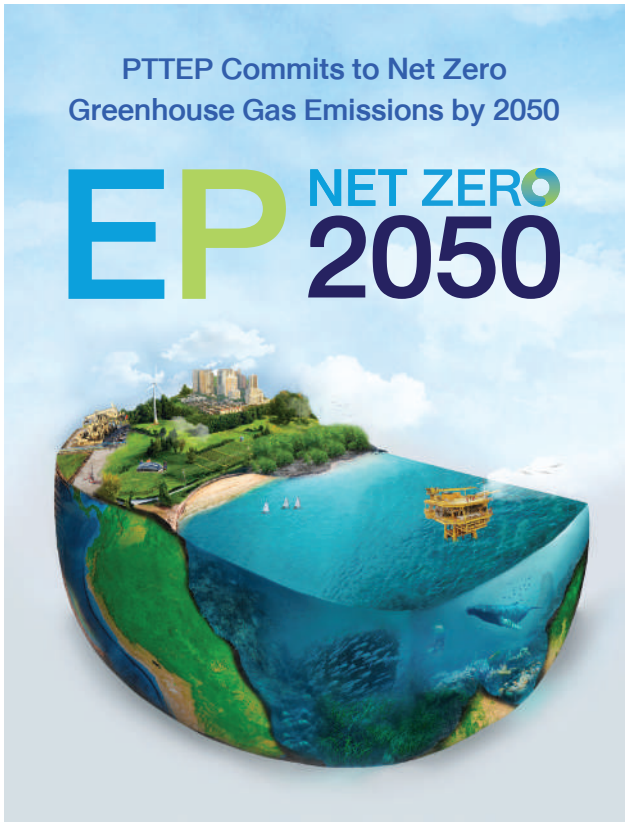
As the world begins to transition away from fossil fuels towards other forms of energy, the Company has recognized the need for careful and considered preparation to meet the challenges brought by the energy transition, which will also impact our stakeholders and the broader society. PTTEP, as a responsible operator, will continue to conduct our business with due care for society, communities, and the environment. We are committed to developing the competencies and capabilities across the business value chain, including employees, suppliers, and local communities to ensure mutual growth, without leaving no one behind. By harnessing and leveraging the latest innovative technology, PTTEP strives to foster a sustainable transition encompassing the environment, society, and good governance.



9. Building a Sustainable Tomorrow

9.1 Striving towards Net Zero

PTTEP acknowledges the critical business challenges posed by the energy transition and the impacts of global warming and climate change. Consequently, in 2022, the Company announced our commitment through EP Net Zero 2050 strategy, aiming to reach Net Zero Greenhouse Gas (GHG) Emissions by 2050. This goal covers both direct emissions (Scope 1) and indirect emissions (Scope 2) of the exploration and production business under PTTEP's operational control. PTTEP has also set interim targets to reduce GHG emissions intensity by at least 30 percent within 2030 and 50 percent within 2040 (from base year 2020).



In 2023, PTTEP was able to reduce GHG emissions by more than 0.9 million tonnes of CO_2 equivalent. This accomplishment results in a cumulative GHG reduction of more than 2.4 million tonnes of CO_2 equivalent since 2020. This is equivalent to CO_2 absorption by 2.5 million rai of trees per year. PTTEP has effectively reduced GHG through E&P portfolio management and the deployment of diverse technologies to reduce GHG emissions from the production process. Notable initiatives include flare gas recovery and utilization, energy efficiency improvement, production efficiency enhancement, mitigation of methane leaks, and integration of renewable energy in operations as well as efficient management of logistic fleets. PTTEP's highly dedicated efforts to reduce GHG emissions contribute significantly to environmental sustainability. Additionally, these GHG reduction efforts yield economic gains, amounting to over USD 25 million.

In addition, the Company has involved employees in transitioning towards the net zero target through "From We to World Birthday" campaign. Over 2,500 employees took part in planting 88,000 trees, contributing to the CO_2 absorption of 340 tonnes of CO_2 equivalent.

In our journey towards net zero, the highlighted projects in 2023 can be summarized as follows:

Targeting CCS Final Investment Decision (FID) at Arthit Project

Leveraging E&P knowledge and experience in geosciences and engineering, PTTEP spearheads the implementation of Carbon Capture and Storage (CCS) project in response to the energy transition, aiming to become a lower-carbon organization and ensure sustainable growth. The Company initiated Thailand's first CCS project study in 2021 at the Arthit Project, an offshore petroleum exploration and production field in the Gulf of Thailand (GoT) operated

by PTTEP. Having completed the project's Front-End Engineering and Design (FEED) phase, PTTEP has set to achieve a Final Investment Decision (FID) and anticipated executing CCS technology at the Arthit Project by 2027, targeting to reduce GHG emissions from the petroleum production process by approximately 700,000-1,000,000 tonnes of CO_2 per annum.

The Arthit CCS project plays a crucial role in demonstrating the technical viability of exploring CO_2 storage sites and executing PTTEP's decarbonization pathway, contributing to Thailand's ambitious net-zero target by 2065. Therefore, scaling up and deploying CCS technology is essential. Currently, Thailand aims to reduce 40 million tonnes of CO_2 per annum, utilizing CCS technology to support its national carbon neutrality target in 2050. In this regard, PTTEP has worked alongside INPEX Corporation (INPEX), Japan's largest E&P company, under a collaboration between the Thai Department of Mineral Fuels (DMF) and Japan Organization for Metals and Energy Security (JOGMEC) in conducting a study to assess CO_2 storage potential in the northern GoT. With PTTEP's subsurface insight and expertise from our petroleum exploration and production activities in the GoT combined with INPEX's experience in CCS project implementation in Japan, we believe that the study outcome will outline infrastructure development plan for CCS projects, particularly the "Eastern Thailand CCS Hub" initiative. The initiative targets to tackle the key challenge of industrial emission reduction across the petroleum value chain, including natural gas processing, petrochemicals, refinery, and power generation, for domestic businesses under PTT Group. It also aims to pave the way for future expansion to support other industrial emitters as appropriate.

However, PTTEP still faces significant challenges in regulatory frameworks and policy advocacy to support investment decisions. This encompasses tax benefits and investment promotion schemes including appropriate measurement, monitoring and verification program.

Strengthening Methane Management in All Operations

PTTEP recognizes methane management as a rapid solution to combat climate change due to its substantial impact on global warming. Even minor efforts in methane management can significantly contribute to reducing GHG emissions. To achieve Net Zero GHG Emissions by 2050, PTTEP has elevated methane management in all operations to align with the international framework in collaboration with operators in the energy sector, government agencies, and international organizations. This has been driven through 3 key initiatives: ASEAN Energy Sector Methane Leadership Program (ASEAN MLP)





at the Energy Asia 2023 in June 2023, Memorandum of Understanding (MoU) to participate in the Oil & Gas Methane Partnership 2.0 (OGMP 2.0*) under the United Nations Environment Programme (UNEP) in October 2023 and Oil & Gas Decarbonization Charter (OGDC) at COP28 in December 2023. Under OGDC, PTTEP pledged to commit to near-zero upstream methane emissions, and zero routine flaring (according to World Bank's Zero Routine Flaring by 2030), both by 2030. These pledges underscore the Company's adherence to operating in line with industry best practices and accelerating the reduction of GHG emissions to meet the objectives of the Paris Agreement.

Expediting GHG Offsetting Mechanism through Nature-based Solutions

PTTEP has made our best efforts to avoid and reduce GHG emissions through effectively managing the E&P portfolio and embracing a wide range of GHG emissions reduction technologies. Nonetheless, certain GHG emissions remain challenging to abate, which PTTEP aims to offset through CO_2 removal initiatives with an aim to ultimately achieve Net Zero GHG Emissions by 2050.

In 2023, PTTEP defined a robust offsetting strategy comprising three pillars: (1) Managing carbon credit portfolio with minimal controversial risks to the Company's reputation, primarily by implementing nature-based solution projects to absorb CO_2 from the atmosphere, (2) Leaving "No Footprint" in PTTEP operations by focusing on minimizing environmental impact while maximizing positive impact to local communities, and (3) Exploring potential offsetting projects for future implementation. This strategy adheres to internationally accepted guidelines and standards. The Company's commitment lies in transparency and accountability in reporting to prevent any possible controversies including greenwashing.

In addition, by 2050, PTTEP aims to secure at least 1.8 million tonnes of cumulative carbon credits. In 2023, PTTEP entered into a Memorandum of Understanding (MOU) for the "Two-million-rai Reforestation Project of PTT Group" in collaboration with the Department of Royal Forest, Department of National Parks, Wildlife and Plant Conservation, and Department of Marine and Coastal Resources. Presently, PTTEP has obtained approval to plant and maintain mangrove forests covering 4,007 rai of land, along with land forests covering 5,530 rai of land. The scope is also broadened to include projects undertaken in partnership with the Mae Fah Luang Foundation, involving community engagement to conserve and restore 20,000 rai of community forests. This sums up PTTEP's total forest area for conserving and restoring land forests to 29,537 rai of land, covering 9 provinces in Thailand. It is expected to achieve CO_2 absorption from the forest conservation and restoration by 2030 at approximately 0.16 million tonnes of CO_2 equivalent.



* The OGMP 2.0 is the UNEP's flagship oil and gas reporting and mitigation program to support members in providing a comprehensive, measurement-based reporting framework to improve the accuracy and transparency of methane emissions detection, reduction, and reporting.



As part of PTTEP's offsetting strategy, we aim to explore opportunities for potential offsetting initiatives. This involves expanding the study scope to different areas. For instance, PTTEP seeks opportunities to support the development of carbon credit methodologies that encompass all eligible types and activities for carbon credit registration. In 2023, PTTEP collaborated with the Royal Initiative Discovery Foundation (Pid Thong Lang Phra) to execute a project to enhance community capacity in conserving and restoring peatland forests. This effort plays a pivotal role in carbon absorption and storage. The collaboration also involves developing a methodology for peatland forest carbon credit calculation, already approved by Thailand Greenhouse Gas Management Organization (Public Organization) (TGO) for both Standard T-VER and Premium T-VER. The project covers an area of 5,500 rai of land in Bacho District, Narathiwat Province. Besides, PTTEP partnered with the Fisheries Faculty of Kasetsart University, to continuously monitor the survival rates of seagrass plantations, utilizing both seedling and separation, for further project development. In addition, PTTEP collaborated with the Department of Marine and Coastal Resources to assess the CO_2 sequestration rate in a 12-rai seagrass area in Chumphon Province. PTTEP has also collaborated with Chulalongkorn University for preliminary research on potential seaweeds and seashells that are best for CO_2 absorption and grow well in the GoT for developing pilot-scale cultivation in a hatchery. Furthermore, Direct Air Capture (DAC) technology has been developed with the goal of improving efficiency and achieving economic viability. This involves constructing a DAC test unit with the capability of handling 1 tonne CO_2 annually at PTTEP Technology and Innovation Center (PTIC).



Accumulated GHG Emissions Reduction
more than **2.4** MM tonnes of CO_2 equivalent
(compared to the GHG emissions intensity from base year 2020)

=

CO_2 absorption by
more than **2.5** MM rai of trees per year*



Forest Conservation and Restoration
29,537 rai of land across **9** provinces

=

CO_2 absorption by 2030
0.16 MM tonnes of CO_2 equivalent



"From We to World Birthday" Campaign
Over **2,500** employees planted **88,000** trees

=

CO_2 absorption
340 tonnes of CO_2 equivalent

* Calculated based on local slow-growing plants, cited from TGO's plant capacity manual (June 2011)

9.2 Diversification for Lower Carbon Future

As part of our commitment to becoming a low-carbon organization and fostering future growth, PTTEP is dedicated to Research, Development, and Technology (RD&T) activities while fostering innovation, aiming to support the corporate strategy and targets, with three key objectives: (1) Enhancing value and competitiveness in E&P business, (2) Minimizing GHG emissions to transition into a low-carbon organization, and (3) Supporting the energy transition and venturing into new businesses. In this regard, the Company thus established PTTEP Rapid Scale-up Center (RASC) in 2019 and PTTEP Technology and Innovation Center (PTIC) in 2021 as hubs for research and technology advancement. Besides, PTTEP has been exploring opportunities to diversify into new businesses focusing on future energy, advanced technology, and innovation as well as decarbonization technology. These initiatives are designed not only to support the petroleum industry but also to benefit other sectors. Presently, PTTEP has allocated capital expenditure (CAPEX) budget to energy transition businesses amounting to USD 29.5 million.

In our journey to diversify business for a low-carbon future, the highlighted projects in 2023 can be summarized as follows:

Navigating Future Energy with Green Hydrogen

Moving towards future energy development, PTTEP has embarked on a large-scale green hydrogen project in the Sultanate of Oman (Oman). In this project, FutureTech Energy Ventures Company Limited, a subsidiary of PTTEP, along with 6 consortium partners based in the Republic of Korea (South Korea) and the French Republic (France), has been awarded the Green Hydrogen Concession Block and entered into a Project Development Agreement and Sub-usufruct Agreement with Hydrogen Oman SPC (Hydrom), a subsidiary under the Omani government, for the exclusive business development and production rights of green hydrogen project in Block Z1-02 for a duration of 47 years.

The project aims to establish an integrated green hydrogen production system. It involves the development of a green hydrogen plant, alongside solar and wind plants in Block Z1-02, with a planned capacity of about 5 gigawatts (GW), to generate renewable energy to power the production process. To facilitate transportation, it's planned to build an ammonia production facility to convert most of the green hydrogen production into green ammonia in the Special Economic Zone at Duqm City in 2027, with a targeted commercial operations date in 2030. The plant is geared towards achieving an annual capacity of 1.2 million tonnes. The produced green ammonia is primarily intended for export to South Korea, where there is a demand for its use as a mixed fuel with coal fuels. The initial target is to reduce GHG emissions by approximately 20 percent from power generation process. The remaining green hydrogen will fulfill Oman's domestic consumption needs. Presently, the consortium is carrying out feasibility and technical studies to finalize the total capital expenditure required for the project.





Powering a Better Tomorrow with Renewable Energy

In our efforts to expand into the clean energy sector, venturing into both solar and wind power, the solar power project for the S1 Project, known as the "Lan Sang Arun" project, was initiated in Lan Krabue District, Kamphaeng Phet Province, Thailand in 2022, operated by FutureTech Solar (Thailand) Company Limited, a PTTEP subsidiary.

The project aims to replace natural gas with solar power in the electricity generation process for petroleum production at the S1 Project. With an installed capacity of approximately 10 megawatts, the project targets to fulfill around 10 percent of the electricity demand at the S1 project, equaling to a reduction of natural gas consumption for power generation at approximately 0.6 million cubic feet per day. Presently, the Lan Sang Arun project started power generation in July 2023, resulting in reducing the GHG emitted from natural gas power generation by around 13,000 tonnes of CO_2 equivalent per year through solar energy application. This is equivalent to CO_2 absorption by 13,684 rai of trees per year.* This initiative is also aligned with the National Energy Plan and its targets.

In addition, FutureTech SG Pte. Ltd. (FSG), a subsidiary of PTTEP, has entered into a Sales and Purchase Agreement (SPA) to acquire a 50 percent stake in TotalEnergies Renewables Seagreen Holdco Ltd. (TERSH) from TotalEnergies SE Group. TERSH has invested in the Seagreen Offshore Wind Farm project, the largest offshore wind power plant in Scotland, located in the North Sea where it harnesses strong wind resources, offering significant potential for sustainable electricity generation. The project targets to supply electricity to more than 1.6 million homes, equivalent to two-thirds of all homes in Scotland, through Seagreen Offshore Wind Farm, expectedly displacing over 2 million tonnes of GHG emissions annually from electricity generated by fossil fuels. This transaction leads to PTTEP owning a 25.5 percent share of the project, translating to an approximate wind power installed capacity of 290 megawatts based on the equity portion. This strategic investment will generate immediate revenue for the Company and pave the way for potential collaborations on clean energy projects with prominent energy companies in the future. Besides, PTTEP signed a Memorandum of Understanding (MoU) with TotalEnergies to expand the cooperation in potential offshore wind and clean energy investments, and to facilitate the exchange of experiences and knowledge to foster mutual business growth in the future.



* Calculated based on local slow-growing plants, cited from TGO's plant capacity manual (June 2011)



Elevating Green Area Management for Carbon Credit with “Smart Forest Solution”

With the goal of optimizing green area management and providing nature-based carbon credits, VARUNA, under the group of AI and Robotics Ventures Company Limited (ARV), a subsidiary of PTTEP, has developed a “Smart Forest Solution” with a target to generate 1 million tonnes of nature-based carbon credits annually for its potential customers by 2030.

The project aims to aid in the processing and management of forest areas, with a specific focus on reducing GHG emissions and enhancing CO_2 sequestration. It also utilizes multispectral survey drones to capture high-resolution images over large areas, combined with satellite imagery, resulting in the acquisition of accurate and detailed spatial information. The acquired data is then processed, using Artificial Intelligence (AI) technology to monitor and analyze changes in green areas and detect potential wildfires and hot spots, enabling precise planning for forest conservation and reforestation. Consequently, the implementation of the “Smart Forest Solution” will lead to enhanced work efficiency, cutting down surveying time by 10 times, while also reducing the costs and risks associated with employing human labor for field operations.

Furthermore, the solution assists in calculating and verifying carbon credit quantities across extensive areas, significantly contributing to sustainable forest carbon credit goals. Presently, VARUNA has been actively engaged in developing Forest Carbon Projects that meet the international standards set by Verra and Gold Standard, covering 4 million rai of land, as well as projects meeting the Thai standard under T-VER, spanning an area totaling 400,000 rai of land.



Capital Expenditure (CAPEX) Budget Allocated to Energy Transition Business

USD **29.5** MM



Green Hydrogen Project

Oman

1.2 MM tonnes annual capacity



Lan Sang Arun Project

Thailand

10 megawatts* installed capacity



Seagreen Offshore Wind Farm Project

Scotland

290 megawatts* installed capacity

* Based on PTTEP’s equity share

9.3 Just Transition

To facilitate a sustainable energy transition, PTTEP emphasizes not only sustainable business growth but also prioritizes the support of relevant stakeholders throughout the business value chain, including workforces, suppliers, vendors, and communities. Our efforts also include promoting effective human rights due diligence, aiming to prevent any human rights violations stemming from PTTEP's direct business operations. Our goal is to ensure that everyone can transition towards a cleaner energy landscape together, without leaving no one behind.

In our journey to ensure a just transition, the highlighted projects in 2023 can be summarized as follows:

Fostering Tomorrow's Talents through "Future Workforce" Strategy

PTTEP prioritizes enhancing people's capabilities to navigate the energy transition and expand new ventures beyond exploration and production (Beyond E&P) business. In 2023, the Company revisited and revised our human resource management procedure, particularly focusing on employee capability development that aligns with a flexible end-to-end work process.

To ensure that our employees are primed for Beyond E&P business, PTTEP equips our employees with knowledge and skill beyond their core expertise through upskilling and reskilling of individuals. Apart from practical development, training initiatives, and scholarship programs for employees' capability development in alignment with the Company's objectives, PTTEP has developed a new business skill set and Business Success Profile to prepare employees and future leaders for a smooth transition into new business endeavors while fostering their career advancement opportunities.

At PTTEP, learning and development programs are customized to cater to individual needs and preferences. This is achieved by providing employees with diverse channels for self-development, including instructor-led learning in classrooms, virtual classrooms, hands-on



workshops, and E-Learning covering future, business, and language skills, and more. Emphasizing learning through experts via CoP (Community of Practice), knowledge sharing session under the "Human Library" concept, including coaching sessions is also a priority. The Human Library is designed to facilitate knowledge, skill, and expertise transfer from experienced experts (Human Books) to young employees or the future workforce of PTTEP in preparation for the upcoming business transition journey. In 2023, the Human Library initiative involved 27 experts, encompassing 10 key areas related to exploration and production. This initiative also aims to cultivate a culture of knowledge sharing among employees to foster continuous knowledge bridging. Equipping our employees with these competencies enables them to effectively cope with future challenges while enhancing their efficiency, ultimately driving innovation development, and strengthening the Company's competitive edge.

Additionally, PTTEP recognizes that the foundation for business growth, success, and sustainability amid rapid changes rests on the way of thinking or mindset of our employees as it equips them to tackle challenges and foster collaboration which will ultimately contribute to workplace happiness. As a result, we initiated the "me to We" project in mid-2022, officially launching it at the beginning of 2023 under "Outward Mindset" concept. Embracing an Outward Mindset means valuing others' objectives, challenges, and needs as much as our own, which fosters greater workplace happiness and yields productive outcome. At PTTEP, we prioritize sharing the same goal, which is the Company's goal, and working together under the "One Team, One Goal" spirit.



Throughout 2023, the "me to We" project has organized active learning courses through various activities to promote an Outward Mindset which has integrated theory and practice through simulation situations. These initiatives actively engaged over 1,500 participants. PTTEP's Outward Mindset curriculum and activities were tailored to suit the participants covering executive, middle management, and supervisor/team leader levels from both domestic and international assets. It was found that 60 percent of the "me to We Outbox Days & Night" session participants applied the Outward Mindset to their work, resulting in improved collaboration and reduced team conflict. This project will continue in 2024, expanding its reach to include operational-level employees.



Employee Competency
6.24% increase from 2022



Over **1,500** employees
participated in initiatives
under "me to We" project



27 experts covering
10 key areas related to E&P
under "Human Library" project



Upholding Fairness and DE&I through Effective Human Rights Due Diligence

Effective human rights management plays a crucial role in PTTEP's business sustainability. Therefore, we have emphasized all human rights management approaches encompassing workplace, safety, security, health and environment, supply chain, and communities including vulnerable groups across PTTEP's value chain, aiming to proactively prevent human rights violations from our direct business operations.

In 2023, PTTEP engaged an independent human rights specialist to conduct a comprehensive review of PTTEP human rights due diligence (HRDD) as part of our 3-year review cycle. Based on the review, PTTEP has demonstrated a strong commitment to aligning our policies and practices with key international human rights standards, such as the Universal Declaration of Human Rights, UN Guiding Principles on Business and Human Rights (UNGPs), IPIECA's Human Rights Due Diligence Guidance, and other relevant international standards. However, to ensure a more effective human rights risk assessment, PTTEP revised our human rights risk assessment criteria (severity and likelihood), and risk assessment matrix to be more relevant to the current human rights issues and corresponding to international guidelines. PTTEP Human Rights Management System Guideline was consequently updated in response to the revised risk assessment methodology and rolled out across the organization.

In our 2023 annual human rights risk assessment, which was conducted covering 100 percent of PTTEP's operating assets and joint ventures, the salient issues identified are concerning (1) workplace safety (for both employees and contractors) and (2) environmental impacts from PTTEP operations. In view of the coup in the Republic of the Union of Myanmar (Myanmar), PTTEP identified two key risks from Yadana and Zawtika projects. Those chiefly concern (1) the safety and security of employees and contractors at the operational sites during the coup and (2) controversy from our operational continuity to supply natural gas to Myanmar and Thailand for the generating of electricity. While prioritizing the energy security of both countries, PTTEP has closely monitored the local political situation

and established the Workplace Coordination Committee (WCC) responsible for addressing issues related to Safety, Security, Health, and Environment (SSHE) and the well-being of relevant stakeholders such as employees, contractors, etc.

The mediation involving PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEP AAA), a subsidiary of PTTEP, and a group of Indonesian seaweed farmers seeking compensation for alleged damages to their seaweed crops stemming from the 2009 Montara incident in Australian waters, has resulted in an in-principle agreement. This agreement, in line with the normal legal process under Australian Law for class actions and ordered by the Federal Court of Australia, was approved by the Federal Court on February 23, 2023. The approach to the distribution of the settlement sum to the group members will be proceeded as per agreed procedures.

In our efforts to guide our employees to proactively address potential human rights issues from PTTEP's direct operations, we have launched an intermediate-level human rights E-Learning course covering a wide range of human rights topics concerning employees, safety, security, health, and environment (SSHE), supply chain and communities.

Given the importance of Diversity, Equity, and Inclusion (DE&I), PTTEP has kept up our momentum in promoting a diverse, equitable, and inclusive environment for all employees. Various activities to promote "Trust and Respect," one of *EP* SPIRIT values, including initiatives to support employees of different religions and cultures were put in place to ensure an inclusive and happy workplace. As a testament of our continuous efforts, the female representation in all levels (directors, executives, and employees) in 2023 surpassed the oil and gas industry's average while there has been a steady improvement in the number of local employments each year.

As a result of PTTEP's unwavering commitment to human rights, we were honored with the top tier award for 2023 Role Model Organization on Human Rights in the State Enterprise Sector for the 5th consecutive year from the Rights and Liberties Protection Department, Ministry of Justice.



PTTEP Human Rights Due Diligence Review by independent specialist



Local Employment Ratio **93%** average from every country where PTTEP operates



Female Workforce Ratio

23% of directors

29% of executives

33% of employees

23% Oil and Gas Industry Average*

* Referred from Global Gender Gap Report 2023, World Economic Forum

Advocating for Sustainable Supply Chain

PTTEP puts an emphasis on supply chain management efficiency to proactively address and minimize environmental, social, and governance risks while fostering shared value with suppliers and enhancing their capabilities for mutual growth in order to navigate the energy transition. In this regard, the Company mandates all vendors to acknowledge PTTEP Vendor Sustainable Code of Conduct. In addition, PTTEP has been hosting the annual SSHE Forum for over 2 decades, with the objective of strengthening the commitment between PTTEP and our suppliers and contractors to enhance Safety, Security, Health and Environment in order to achieve a Zero Incident Organization and realize PTTEP's ambitious target of EP Net Zero 2050. Besides, PTTEP has continued to expand the knowledge and understanding of Good Corporate Governance and Business Ethics (CG&BE) to vendors through E-Learning. The highlighted activities in 2023 involve:

Green Procurement

PTTEP has been continuously practising green supply chain management since 2019 with focus on the procurement of environmentally friendly products and services, while ensuring fuel efficiency and energy conservation in transportation to minimize combustion-related GHG emissions, thereby mitigating impacts on global warming. Notably, in 2023, PTTEP implemented green supply chain management activities, amounting to USD 955 million, representing an improvement of approximately 68 percent compared to 2022.

Local Content

PTTEP has been consistently advocating for local* products and services to promote the local economy. The Company places significant emphasis on local suppliers capable of innovating diverse goods and services that meet PTTEP's standards and requirements.



* Local refers to the countries where PTTEP operates.



This collaborative development involves an exchange of information between PTTEP and our suppliers, including recommendations for process improvement and safety enhancement. Through this initiative, PTTEP has successfully generated job opportunities and income for local suppliers, resulting in a good relationship and acceptance within the countries of our operations. Notably, in 2023, PTTEP supported local businesses in operational areas, amounting to over USD 1,818 million, representing an improvement of approximately 30 percent compared to 2022.

Collaboration with Suppliers for Sustainable Growth

Apart from our annual SSHE Forum, in 2023, PTTEP engaged more than 100 domestic and international suppliers on Supplier Day, themed "Collaboration Towards Sustainable Growth," aiming to communicate PTTEP's procurement directions and processes while promoting the Vendor Sustainable Code of Conduct and relevant operating systems. The goal was to enhance efficiency, accuracy, and transparency in the collaboration between PTTEP and our suppliers.

Green Procurement Spending
USD **955** MM
68% increase from 2022

Local Content Spending
USD **1,818** MM
30% increase from 2022

2023 Supplier Day
Over **100** suppliers, both domestic and international, participated in the event

Nurturing Sustainable Society

To achieve PTTEP's aspiration of becoming the "Energy Partner of Choice", the Company places significant emphasis on fostering long-term shared value creation for all stakeholders with due care for society, community, and the environment. Therefore, PTTEP has continuously implemented social development initiatives to fulfill the needs of local communities and elevate their quality of life.

Under the "Ocean for Life" Memorandum of Understanding (MoU) with the Department of Marine and Coastal Resources, PTTEP has executed the "Aquatic Animal Hatchery Learning Center" project, aiming to establish networks for conserving marine and coastal resources and promoting best practices for sustainable fisheries. Presently, 12 out of 19 learning centers were established across 10 provinces around the GoT, including Songkhla, Pattani, Nakhon Si Thammarat, Surat Thani, Prachuap Khiri Khan, Phetchaburi, Samut Songkhram, Rayong, Chumphon, and Chon Buri provinces. These centers welcomed 70,292 visitors, and over 19,000 million baby crabs and aquatic animals were released into the sea. In parallel, PTTEP has implemented the "Sea Products Development" project, aiming to empower local communities by generating job opportunities and income for sustainable economic development. Through this initiative, PTTEP has supported communities by providing knowledge, technology, funding, packaging solutions, product innovation, and distribution channels to meet market demands. As a result, 11 sea-product production and distribution groups were established across Songkhla, Nakhon Si Thammarat, Surat Thani, Prachuap Khiri Khan, Chumphon, Phetchaburi, Samut Songkhram, Rayong, Chon Buri, Chanthaburi, and Pattani provinces. Through these two initiatives, PTTEP raised the average community income by more than 39 percent.

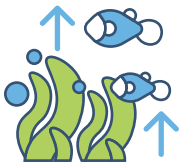
In addition, PTTEP has embraced the concept of man-made tourist site development, aiming to promote ecotourism and increase biodiversity. In this context, the Company has executed the "H.T.M.S. Underwater Learning Site" project, a collaborative effort involving the Royal Thai Navy, Department of National Parks, Wildlife and Plant Conservation, Department of Marine and Coastal Resources, Fisheries Faculty of Kasetsart University,





Chumphon and Surat Thani provinces, including various agencies and local communities. Through this project, PTTEP placed H.T.M.S. Prab at Ko Ngam Noi in Chumphon Province and H.T.M.S. Sattakut at Ko Tao in Surat Thani Province. The project has generated community income, amounting to over THB 432 million, and has led to a significant population increase of fouling and fish, comprising over 80 species according to the biodiversity study.

Recognizing the importance of improving community quality of life and ensuring equal educational opportunities, PTTEP has implemented the "Labor Skill and Competency Development" project in Songkhla Province, Thailand, and Myanmar. This effort resulted in the successful development and employment of 306 technicians and vocational trainees in Thailand and 800 in Myanmar. The project aims to develop skilled workers equipped with specialized expertise aligned with international standards for the labor market and to support the petroleum exploration and production business expansion. Those skills encompass underwater metal arc cutting, modern welding technology, as well as electrical and air conditioner installation skills. Furthermore, in collaboration with PTT Group, "Kamnoetvidya Science Academy School" (KVIS) and "Vidyasirimedhi Institute of Science and Technology" (VISTEC) were established to advance Thailand's education and research on science and technology. These efforts aim to strengthen the country's sustainable competitiveness. As of now, KVIS has graduated 420 students, with 217 currently enrolled. Concurrently, VISTEC has seen 123 graduates, and 252 students are currently pursuing their study.



Net Positive Impact on Ocean Biodiversity and Ecosystem Services (BES) Value for offshore operations

68% increase from base year 2019



Community Income of Focused Communities Participating in PTTEP Projects

over **39%** increase from before project implementation



SROI*

3.43 : 1

from strategic CSR projects

* SROI: Social Return on Investment

9.4 Unlocking Marine Sustainability

As most of PTTEP's operations are offshore, we consider oceans our second home and strive to take a lead in conserving and rehabilitating natural resources and marine ecosystems. To drive the implementation forward, PTTEP has leveraged our strength in operational locations, technology, and innovation capabilities, including our strong collaborations and networking.


Telemetry Marine Monitoring Station

In our journey to promote marine sustainability, the highlighted projects in 2023 can be summarized as follows:

Advancing Technology for Sustainable Ocean

With PTTEP's strong commitment to environmentally friendly operations, we have leveraged our knowledge and expertise, as well as advanced technology development, while utilizing offshore operational sites, to safeguard, preserve, and protect marine ecosystems under the "Ocean for Life" strategy. In collaboration with partners, particularly academic institutions, PTTEP has implemented diverse initiatives, centering our efforts around the studies, monitoring, collection, and transparent disclosure of scientific ocean data to ensure ocean sustainability.

Due to lack of continuous data surveys and limited knowledge concerning the GoT, posing a significant challenge to effectively manage marine resources in the area. Presently, PTTEP has thus collaborated with the Fisheries Faculty of Kasetsart University under a Memorandum of Understanding (MoU) for academic cooperation to promote ocean sustainability through leveraging PTTEP's strength in offshore location together with Kasetsart University's marine science knowledge and expertise. In 2023, we deployed telemetry marine monitoring stations at offshore petroleum platforms located in the GoT where it holds importance for marine science, piloting with the Arthit Project and later optimized for automatic operation at the G2/61 Project. The station at the G2/61 Project now operates to measure and provide the monitoring data based on the configured time setting, including meteorological parameters, such as wind speed and direction, air pressure, air temperature, and humidity; and oceanographic parameters, such as sea level, water current speed and direction, sea surface temperature, salinity, chlorophyll-a concentration, dissolved oxygen, and turbidity. With cutting-edge equipment, the station collects data at various depths, ranging from the sea surface to approximately 30 meters deep. Currently, those parameters and data are publicly available on PTTEP Ocean Data Platform, which has welcomed over 8,000 views to date. The platform serves as a foundation to support the advancement of marine science studies and research in Thailand and promote the effective management of marine and coastal resources, in alignment with PTTEP and Thailand's sustainable development goals.

In addition, PTTEP, together with ARV, has carried out a project of application of underwater camera installation and Artificial Intelligence (AI) software for the identification of aquatic iconic species beneath offshore petroleum platforms in the GoT in order to promote and support national efforts on aquatic species conservation, and to improve their population and survival rate. Currently, PTTEP has installed underwater motion recording cameras on the jacket legs of 2 offshore petroleum platforms, while developing an AI software to automatically identify and classify aquatic iconic animals. At present, 7 aquatic species can be identified, such as fish, turtles, whale, dolphin, shark, seal, and sea lion. In addition, the software can identify 7 species of fish beneath the offshore petroleum platform with 85 percent of confidence level of identified aquatic animals, such as giant trevally, indo-pacific sergeant, rainbow runner, etc. This also demonstrates marine biodiversity and abundance around PTTEP offshore

petroleum platforms with our commitment to operate in a more environmentally friendly manner toward the marine ecosystem. Presently, PTTEP is in the process of enhancing the efficiency of the project by expanding the installation of underwater cameras to other offshore petroleum platforms. In addition, there is ongoing development of AI software aimed at enhancing precision. Besides, PTTEP is committed to fostering collaboration with government agencies, such as the Department of Marine and Coastal Resources, in developing a conservation plan to monitor rare marine species in Thailand for sustainable ocean conservation.

Recognizing that CO_2 is the primary GHG emitted into the atmosphere, PTTEP has partnered with Chulalongkorn University to pioneer a curing technology for carbon sequestration in artificial reefs. Named “SEACURE,” this technology rapidly converts CO_2 into calcium carbonate ($CaCO_3$), and embeds it into cement-based materials, such as concrete, utilizing furnace pressure. The artificial reefs from the technology serve as a tool for preserving and enriching the biodiversity of marine natural resources, while offering protection against coastal erosion. In 2023, the project was in the development phase, focusing on creating a CO_2 curing prototype and conducting marine environment assessment from the utilization of artificial reefs. It is estimated that 100,000-300,000 pieces of concrete artificial reefs have the potential to mitigate 5,700-17,000 tonnes of CO_2 equivalent per annum.



PTTEP Ocean Data Platform
Over **8,000** views

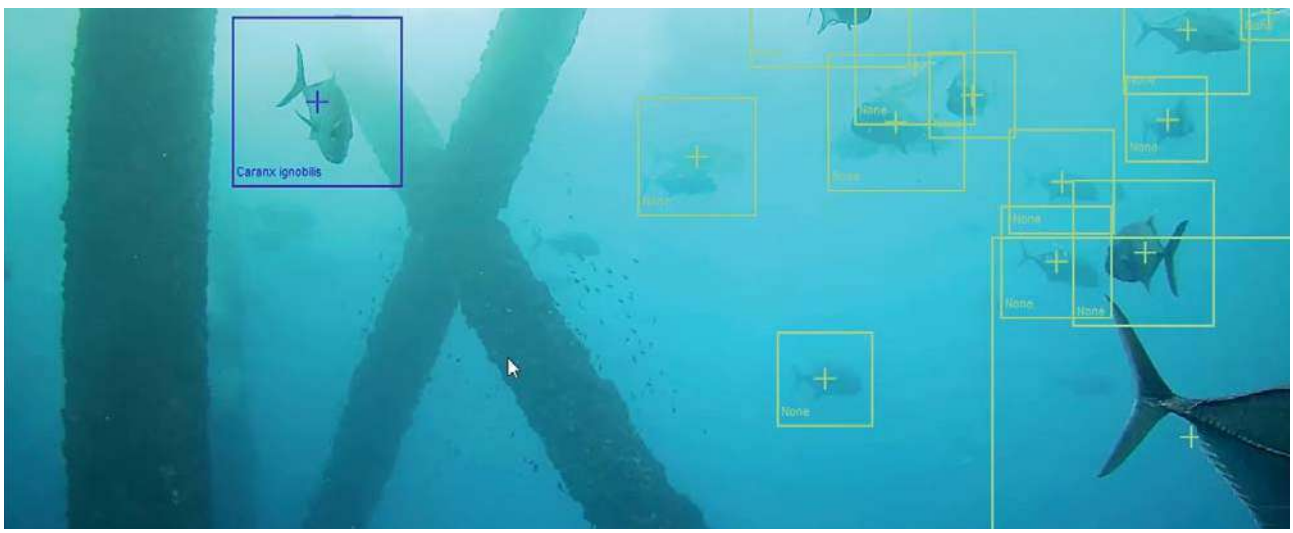


Telemetry Marine Monitoring Station*
2 stations in the Gulf of Thailand



Underwater Camera & AI Application
able to detect **7** aquatic species
beneath offshore petroleum platforms

* Meteorological and oceanographic data monitoring



Attachment 1:
Information of the Board of Directors, Management, Controlling Persons and Corporate Secretary

1. PTTEP's Board of Directors

As of December 31, 2023, PTTEP's Board of Directors consisted of 13 directors. Details of 13 current directors and 5 directors retiring from the office during the year 2023 are as follows:

Mr. Krairit Euchukanonchai
Chairman and Chairman of the Independent Directors Committee

Age: 68

Starting Date: February 1, 2021

Education:
- Master of Business Administration (Banking and Finance), North Texas State University, USA
- Bachelor of Science, Chulalongkorn University, Thailand

Training of Thai Institute of Directors Association:
- Role of the Chairman Program (RCP)16/2007
- Director Certification Program (DCP) 59/2005

Other Training:
- Certificate, Executive Program on Energy Literacy for a Sustainable Future (Class 12/2018), Thailand Energy Academy (TEA)
- Citibank's training courses in many countries

% of Shareholding:
- None -

Family Relationship among Executives:
- None -

Working Experiences in the 5 Preceding Years:

Other Listed Companies

2015 - Present
Vice Chairman, Chairman of the Board of Executive Directors, Chairman of the Risk Oversight Committee, Krungthai Bank Public Company Limited

2014 - Present
Chairman of Audit and Risk Committee, Independent Director, Advanced Info Service Public Company Limited

2018 - 2020
Chairman, Chairman of Independent Directors, PTT Public Company Limited

Other Companies

2020 - Present
Chairman, INFINITAS by Krungthai Co., Ltd.

1998 - Present
Chairman, V. Group Honda Cars Co., Ltd. and its subsidiaries

Other Organizations

Apr. 2021 - Present
Commissioner (Finance),
the Securities and Exchange Commission

2020 - Present
Commissioner (Finance),
Office of Insurance Commission

2017 - 2019
Chairman, Mass Rapid Transit Authority of Thailand

Mr. Pitipan Tepartimargorn
Independent Director, Chairman of the Risk Management Committee and Member of the Nominating and Remuneration Committee

Age: 67

Starting Date: November 1, 2015

Education:
- Master of Arts – Political Science (Public Administration), Thammasat University, Thailand
- Bachelor of Engineering – Electrical Engineering (Second Class Honors), King Mongkut's Institute of Technology Ladkrabang, Thailand

Training of Thai Institute of Directors Association:
- Anti-Corruption: Leadership Role of the Board
- Anti-Corruption for Executive Program (ACEP) 4/2012
- Director Certification Program (DCP) 138/2010

Other Training:
- Director's Briefing - Corporate Strategy beyond the Crisis, a Chairman/Board Perspective, Bain & Company, Inc.
- Strategic Human Resource Management, Harvard University, USA
- NIDA–Wharton Executive Leadership Program, The Wharton School, University of Pennsylvania, USA
- Senior Executive Program (SEP), Sasin Graduate Institute of Business Administration of Chulalongkorn University
- Advance Political and Electoral Development Program (Class 3), Office of the Election Commission of Thailand
- PTT Executive Leadership Program, General Electrics, Crotonville, USA
- Capital Market Leadership Program (CMA19), Capital Market Academy (CMA)

% of Shareholding:
- None -

Family Relationship among Executives:
- None -

Working Experiences in the 5 Preceding Years:

Other Listed Companies

Oct. 2018 - Nov. 2019
Chairman of the Nomination and Remuneration Committee, Thai Airways International Public Company Limited

May. - Jul. 2019
Chairman of the Labour Relations Committee, Thai Airways International Public Company Limited

Apr. - Nov. 2019
Member of the Corporate Plan Steering and Monitoring Committee, Thai Airways International Public Company Limited

May. 2018 - Apr. 2019
Member of the Risk Management Committee, Thai Airways International Public Company Limited

Feb. 2018 - Nov. 2019
Member of the Nomination and Remuneration Committee, Thai Airways International Public Company Limited

Aug. 2018 - Apr. 2019
Member of the U-Tapao Aircraft Repair Center Project Governance and Thai Airways Business Development Project at U-Tapao Airport Sub-Committee, Thai Airways International Public Company Limited
Jan. 2018 - Apr. 2019
Member of the Human Resources Committee, Thai Airways International Public Company Limited
Dec. 2017 - Nov. 2019
Director, Thai Airways International Public Company Limited
Mar. - Aug. 2018
Member of the Recruitment of THAI's President Committee, Thai Airways International Public Company Limited

Other Companies

Apr. - Oct. 2016
Chairman, PTT Energy Resources Co., Ltd.

Other Organizations

Sep. 2019 - Present
Senior Advisor of the Governing Board, Kamnoetvidya Science Academy (KVIS)
Feb. 2018 - Present
Chairman of the Executive Committee, Vidyasirimedhi Institute of Science and Technology (VISTEC)
Jul. 2015 - Present
Chairman of the Personnel Management Committee, Vidyasirimedhi Institute of Science and Technology (VISTEC)
May 2015 - Present
Council Member, Vidyasirimedhi Institute of Science and Technology (VISTEC)
Dec. 2017 - Sep. 2019
Vice Chairman of the Governing Board, Kamnoetvidya Science Academy (KVIS)
Oct. 2014 - May 2019
Director, the Civil Service Sub-Commission on Development of Human Resource Management (HRM), Office of the Civil Service Commission (OCSC)

Ms. Penchun Jarikasem
Independent Director and Chairman of the Audit Committee

Age: 68

Starting Date: February 1, 2018

Education:
- Master of Business Administration, Thammasat University, Thailand
- Bachelor of Arts, Chulalongkorn University, Thailand

Training of Thai Institute of Directors Association:
- Advanced Audit Committee Program (AACP) 47/2023
- IT Governance and Cyber Resilience Program (ITG) 15/2020
- Board Matters and Trends (BMT) 6/2018
- Risk Management Program for Corporate Leaders Class (RCL) 13/2018
- Ethical Leadership Program (ELP) 11/2018
- Role of Chairman Program (RCP) 36/2015
- Advanced Audit Committee Programs (AACP) 7/2012
- Director Certification Program (DCP) 113/2009
- Director Accreditation Program (DAP) 75/20088

Other Training:

- Sustainable Development Workshop, Sustainability Business Development Institute (SBDi)
- Upstream Insight "Navigating Through Uncertainly: Upstream Transformation, Greener Pastures-Better Future, Corporate Strategies for Resilience & NOC's: What is the Path Forward?", IHS Markit.
- Director's Briefing - Corporate Strategy beyond the Crisis, a Chairman/Board Perspective, Bain & Company, Inc.
- The Executive Program in Energy Literacy for a Sustainable Future (Class 6), Thailand Energy Academy (TEA)
- Power of the Kingdom (Bhumipalung Phandin) (Class 3), Chulalongkorn University Executive Program
- Senior Executive Program no.77 (SEP 77), London Business School (LBS)
- Capital Market Leadership Program (CMA4), Capital Market Academy (CMA)

% of Shareholding:

- None -

Family Relationship among Executives:

- None -

Working Experiences in the 5 Preceding Years:

Other Listed Companies

Jun. 2022 - Present
Independent Director, Chairperson of the Audit Committee and Member of the Nomination and Compensation Committee, TISCO Financial Group Public Company Limited

Apr. - Jun. 2022
Independent Director, Member of the Audit Committee and Member of the Nomination and Compensation Committee, TISCO Financial Group Public Company Limited

Apr. 2016 - Present
Chairperson of the Audit Committee, Osotspa Public Company Limited

Mar. 2016 - Present
Independent Director, Osotspa Public Company Limited

Other Companies

Jun. 2022 - Present
Independent Director and Chairperson of the Audit Committee, TISCO Bank Public Company Limited

Apr. - Jun. 2022
Independent Director and Member of the Audit Committee, TISCO Bank Public Company Limited

Apr. 2018 - Present
Chairman of the Audit Committee, Ritta Holdings Company Limited

Mar. 2018 - Present
Independent Director, Ritta Holdings Company Limited

Other Organizations

Dec. 2020 - Sep 2023
Sub-Committee on Finance and Accounting of the Energy Conservation and Promotion Fund

May - Dec. 2020
The working group was established to resolve accounting issues of the Energy Conservation Fund from fiscal years 2014 to 2018, the Energy Conservation and Promotion Fund

Dec. 2017 - 2019
Advisory Committee for Fund Raising and Listed Company Oversight, the Securities and Exchange Commission (SEC)

Dec. 2018 - Dec. 2020
Sub-Committee on Consideration of Debt Securities, Derivatives and Structured Products, the Securities and Exchange Commission (SEC)

2018 - Sep. 2019
Chairman of the Sub-Committee for Finance and Accounting, State Railway of Thailand

Apr. 2018 - Sep. 2019
Director, State Railway of Thailand

2016 - Dec. 2018
Sub-Committee for Finance and Budgeting Improvement, Office of the Public Sector Development Commission (OPDC)

Mrs. Angkarat Priebjrivat
Independent Director and Member of the Audit Committee

Age: 68

Starting Date: October 1, 2019

Education:

- Ph.D. (Accounting), New York University, USA
- Master of Accounting, Thammasat University, Thailand
- Bachelor of Business Administration (Account) (Second Class Honors), Thammasat University, Thailand

Training of Thai Institute of Directors Association:

- National Director Conference 2022 (NDC)
- National Director Conference 2021 (NDC)
- DCP Series 4/2019: "How to Develop a Winning Digital Strategy"
- Audit Committee Forum 2018: Learn, Unlearn and Relearn – Audit Committee in the Age of Disruption
- Driving Company Success with IT Governance (ITG) 6/2017
- The Role of Chairman (RCP) 2008
- Audit Committee Program (ACP) 2007
- Director Certification Program (DCP) 2006
- Director Accreditation Program (DAP) 2005
- Monitoring the Internal Audit Function Program (MIA)
- Monitoring the System of Internal Control and Risk Management Program (MIR)
- Anti-Corruption for Executive Program

Other Training:

- The Importance of the Audit Committee to the Thai Capital Market
- PTT Group Audit Committee Forum 2023
- Company Directors and Senior Executives and ESG Risk Management
- Engaging Board in ESG: The Path to Effective Sustainability
- Hot Issue for Director: Climate Governance
- Sustainability Trends in Business Across Industries
- Cyber Security Issues & Defenses for Financial Sector, TISCO Financial Group Public Company Limited
- Artificial Intelligence & Machine Learning, TISCO Learning Center Co., Ltd.
- Cyber Resilience Leadership: SMART Goal, Bank of Thailand, the Securities and Exchange Commission of Thailand and Office of the Insurance Commission
- Cyber Armor: Capital Market Board Awareness 2022, Cyber Threat Lessons Learned for Board of Directors
- PTT Group AC Forum 2022, "Risk in Environmental, Social, and Governance (ESG) and Reporting by EY Corporate Services Limited" and "Fundraising and Digital Asset Accounting by EY Office Limited", PTT Public Company Limited
- Management and Staff Roles for Developing Anti-Corruption Compliance System, Thai Private Sector Collective Action Against Corruption
- Cyber Armor: Capital Market Board Awareness No.2, the Securities and Exchange Commission of Thailand

- Top Risk 2022 and Audit Risk-based Plan, IA Academy
- Technology Audit and Audit Innovation, IA Academy
- Director's Briefing – Corporate Strategy beyond the Crisis, a Chairman/Board Perspective, Bain & Company, Inc.
- IT Security Awareness for Top Management, ACIS Professional Center Co., Ltd.
- Corporate Sustainability Development, SBDI Co., Ltd.
- PTT Group AC Forum 2020 "It's time to Reform a Next New Normal", PTT Public Company Limited
- Understanding Thailand Data Protection Law and its Unintended Consequence, ACIS Professional Center Co., Ltd. (ACIS)
- Role of the Board room: Transforming Corporate Compliance into Corruptless Society
- Understanding Cryptocurrency, Blockchain, and Digital Asset and the Opportunities in Thailand, KQ Consulting Co., Ltd.
- Capital Market Leadership Program (CMA 4), Capital Market Academy (CMA)
- Certificate in International Financial Reporting Standard (IFRS), the Institute of Chartered Accountants in England and Wales (ICAEW)

% of Shareholding:

- None -

Family Relationship among Executives:

- None -

Working Experiences in the 5 Preceding Years:

Other Listed Companies

Apr. 2022 - Present
Chairperson of the Corporate Governance Committee, Chairperson of the Risk Oversight Committee, and Non-Executive Director, TISCO Financial Group Public Company Limited

Apr. 2021 - Apr. 2022
Audit Committee, TISCO Financial Group Public Company Limited

2013 - Apr. 2022
Independent Director, TISCO Financial Group Public Company Limited

2013 - Apr. 2021
Chairperson of Audit Committee, TISCO Financial Group Public Company Limited

Other Companies

Apr. 2021 - Present
Chairperson of the Risk Oversight Committee and Non-Executive Director, TISCO Bank Public Company Limited

Apr. 2021 - Apr. 2022
Audit Committee and Independent Director, TISCO Bank Public Company Limited

Mar. - Aug. 2021
Independent Director, Bioscience Animal Health (Thailand) Co., Ltd.

2016 - Apr. 2023
Director, Member of Audit Committee,
TSFC Securities Public Company Limited
2014 - Feb. 2021
Chairperson of Risk Management Committee,
COL Public Company Limited
2013 - Apr. 2021
Chairperson of Audit Committee, Independent
Director, TISCO Bank Public Company Limited
2013 - Apr. 2022
Independent Director and Audit Committee,
TISCO Financial Group Public Company Limited
2008 - Feb. 2021
Chairperson of Audit Committee, Independent Director,
COL Public Company Limited
2018 - 2020
Chairperson of Risk Management Committee,
Member of Audit Committee,
Independent Director, TOT Public Company Limited

Other Organizations

Dec. 2020 - Sep. 2023
Chairperson of Subcommittee on Finance and
Accounting of the Energy Conservation Fund
Jun. - Dec. 2020
The working group to resolve accounting issues of the
Energy Conservation Fund fiscal years 2014-2018,
The Energy Conservation Fund
2012 - Jan. 2023
Member of Audit Committee,
Thai Public Broadcasting Service (Thai PBS)
2002 - Present
Member of Government Accounting Standards
Committee, the Comptroller General's
Department, Ministry of Finance
1992 - Present
Consultant for Information Disclosure and Accounting
Standards, the Stock Exchange of Thailand
2018 - 2020
Member of Risk Management Committee,
the Government Pension Fund (GPF)
2018 - 2020
Member of Technical Advisory Committee for
Financial Reporting Standards and Member of
Advisory Committee for Fund Raising and Listing
Department, the Securities and Exchange
Commission Board
2018 - 2019
Member of Finance and Accounting Subcommittee,
State Railway of Thailand
2014 - 2018
Director, Member of Audit Committee,
Tourism Authority of Thailand

Mr. Auttapol Rerkpiboon
Director

Age: 58

Starting Date: August 1, 2020

Education:
- Master of Economics, National Institute of Development Administration, Thailand
- Bachelor of Engineering (Civil Engineering), Chulalongkorn University, Thailand
- Diploma of Petroleum Management, College of Petroleum Studies, Oxford University, UK (British Council Scholarship)

Training of Thai Institute of Directors Association:
- Director Certification Program (DCP) 173/2013
- Company Secretary Program (CSP) 14/2005

Other Training:
- Director's Briefing - Corporate Strategy beyond the Crisis, a Chairman/Board Perspective, Bain & Company, Inc.
- The National Defence Course (Class 58), National Defence College
- Advanced Certificate Course in Politics and Governance in Democratic System for Executives, (Class 14), King Prajadhipok's Institute
- Certificate, Executive Program on Energy Literacy for a Sustainable Future (Class 12), Thailand Energy Academy (TEA)
- Capital Market Leadership Program (CMA20), Capital Market Academy (CMA)
- Executive Program on Rule of Law and Development: RoLD (Class 2), Thailand Institute of Justice: TIJ
- Executive Development Program (EDP), Class 1, Thai Listed Companies Association (TLCA)
- Rule of Law for Democracy (Class 8), College of the Constitutional Court
- NIDA - Wharton Executive Leadership Program 2009, The Wharton School of the University of Pennsylvania, USA
- PTT Executive Leadership, General Electric, GE, New York, USA

% of Shareholding:
Spouse 0.00001% (500 Shares)

Family Relationship among Executives:
- None -

Working Experiences in the 5 Preceding Years:

Other Listed Companies

May 2020 - Present
President and Chief Executive Officer, PTT Public Company Limited

May 2020 - Present
Director, Secretary to the Board, PTT Public Company Limited

Dec. 2015 - Present
Chairman, PTT Oil and Retail Business Public Company Limited

Apr. 2018 - Jul. 2020
Director, Chairman of the Risk Management Committee/ Member of the Nomination and Remuneration Committee, Thai Oil Public Company Limited

Oct. 2017 - May 2020
Chief Operating Officer, Downstream Petroleum Business Group, (Oct. 1, 2017 - Sep. 30, 2018, Acting Senior Executive Vice President, Downstream Business Group Alignment), PTT Public Company Limited

Oct. 2015 - Oct. 2018
Director, Director to the Corporate Governance Committee, Director to the Risk Management Committee, PTT Global Chemical Public Company Limited

Oct. 2015 - Sep. 2017
Senior Executive Vice President – Oil Business Unit, PTT Public Company Limited

Other Companies

Jun. 2021 - Feb. 2022
Director, ARUN PLUS Company Limited

Other Organizations

Nov. - Dec. 2022
Advisory Board, Fund Raising Committee for Contribution to a Charity Fund Started by the King, Thai Red Cross Society 2022, Chulalongkorn University

Nov. 2022 - Present
Honorary Advisor, the S.E.A. Write Award Organizing Committee

Nov. 2022 - Present
Chairman Council Board, Thailand Carbon Neutral Network

Oct. 2022 - Present
Advisory Board, Committee of Lottery Tickets Red Cross Fair 2022, the National Council on Social Welfare of Thailand

Oct. 2022 - Present
Director, Steering Committee Friends in need of (“PA”) 2022

Oct. 10 - 23, 2022
Chairman, Steering Committee King Chulalongkorn Day 2022, Chulalongkorn University Alumni Association

Sep. 2022 - Present
Member of the Raising Funds Committee for Building and Construction Maintenance, Suan Luang Rama IX Foundation

Jun. 2022 - Present
Committee Member, the General Prem Tinsulanonda Historical Park

May 2022 - Present
Advisor, IEEE Power & Energy Society
May 2022 - Present
Director, Steering Committee According to Royal Initiative Projects, the Vetiver Grass Project
Apr. 2022 - Present
Advisory Board, Sirinart Rajini Mangrove Ecosystem Learning Center
Apr. 2022 - Present
Honorary Advisor, the Economic Reporters Association
Mar. 2020 - Present
Expert Committee of NIDA Council, the National Institute of Development Administration (NIDA)
Nov. - Dec. 2021
Advisory Committee of Fund Raising Committee 2021, Thai Red Cross Society, Chulalongkorn University
Nov. 2021 - Present
Promoting Social Cooperation Committee, Princess Maha Chakri Award Foundation
Mar. 2021 - Present
Director, Thai Foundation
Oct. 2020 - Present
Committee Member, Suan Luang Rama IX Foundation
Oct. 2020 - Present
Advisory Board, the Institute of Energy for Industry
Aug. 2020 - Present
Chairman, Power for Sustainable Future Foundation
Aug. 2020 - Present
Expert Committee of Vidyasirimedhi Institute Council, Vidyasirimedhi Institute of Science and Technology (VISTEC)
Jun. 2020 - Present
Committee Member, Ruamchit Normklao Foundation for Thai Youth under the patronage of H.R.H. the Queen
Jun. 2020 - Present
Chairman, Power of Innovation Foundation
May 2020 - Present
Member of Trustees, Petroleum Institute of Thailand (PTIT)
May 2020 - Present
Vice Chairman, Thailand Energy Academy
May 2020 - Present
Committee Member, OUR Khung BangKachao
May 2020 - Present
President, PTT Group Employee Association
May 2020 - Present
Advisory Board, PTT Natural Gas Business Saving Co-Operative, Limited
May 2020 - Present
Committee Member, Green Globe Institute
2019 - Present
Honorary Advisor, the National Institute of Development Administration Alumni Association under the Royal Patronage (NIDA)
Jul. 2018 - Present
Committee Member, Payment Systems Committee (PSC), the Bank of Thailand
2018 - Present
Honorary advisor, Thai-Laos Business Council
2018 - 2020
President, the Marketing Association of Thailand
Nov. 2016 - Present
Vice President, Swimming Association Thailand

Mr. Veerathai Santiprabhob

Independent Director, Member of the Risk Management Committee and Member of the Corporate Governance and Sustainability Committee

Age: 54

Starting Date: October 15, 2020

Education:

- Ph.D. in Economics, Harvard University, USA
- A.M. in Economics, Harvard University, USA
- Bachelor of Economics (First Class Honors), Thammasat University, Thailand

Training of Thai Institute of Directors Association:

- National Director Conference 2021 "Leadership Behind Closed Door"
- Advanced Audit Committee Program (AACP) 41/2021
- Director Certification Program (DCP) 2014
- Director Accreditation Program (DAP) 2007

Other Training:

- Upstream Insight "Navigating Through Uncertainty: Upstream Transformation, Greener Pastures – Better Future, Corporate Strategies for Resilience & NOC's: What is the Path Forward?" by IHS Markit
- Director's Briefing - Corporate Strategy beyond the Crisis, a Chairman/Board Perspective, Bain & Company, Inc.
- Capital Market Leadership Program (CMA4), Capital Market Academy (CMA)
- Corporate Strategy Executive Education Program, MIT Sloan School of Management, Cambridge, MA, USA

% of Shareholding:

- None -

Family Relationship among Executives:

- None -

Working Experiences in the 5 Preceding Years:

Other Listed Companies

Apr. 2021 - Present
Independent Director and Audit Committee Member, Bangkok Dusit Medical Services Public Company Limited

Apr. 2021 - Present
Independent Director and Chairman of the Audit Committee Member, Univanich Palm Oil Public Company Limited

Other Companies

- None -

Other Organizations

Nov. 2021 - Present
Member of the Independent Oversight Advisory Committee, World Food Programme

Feb. 2021 - Present
Secretary-General and Chairman of the Executive Board of Mae Fah Luang Foundation under Royal Patronage

Oct. 2015 - Sep. 2020
Governor, Bank of Thailand

Oct. 2015 - Sep. 2020
Member of the Board, Office of the Insurance Commission

Oct. 2015 - Sep. 2020
Member of the Board, the Securities and Exchange Commission (SEC)

Oct. 2015 - Sep. 2020
Member, National Economic and Social Development Council

Mr. Wattanapong Kurovat
Director and Member of the Nominating and Remuneration Committee

Age: 49

Starting Date: May 1, 2021

Education:
- Master of Business Administration, Western Michigan University, USA
- Bachelor of Political Science, Thammasat University, Thailand

Training of Thai Institute of Directors Association:
- Director Certification Program (DCP) 288/2020
- Director Accreditation Program (DAP) 168/2020

Other Training:
- The Role of the Board in IT Governance 2020
- Digital Transformation for CEO (Class 1)
- The Executive Program in Energy Literacy for Sustainable Future (Class 13), Thailand Energy Academy (TEA)
- The Civil Service Executive Development Program: Visionary and Moral Leadership, Class 86, Civil Service Training Institute, Office of the Civil Service Commission
- Chief of Staff Program, Class 53, Joint Staff College, National Defense Studies Institute

% of Shareholding:
- None -

Family Relationship among Executives:
- None -

Working Experiences in the 5 Preceding Years:

Other Listed Companies

Apr. 2021 - Present
Director and Member of the Nomination and Remuneration Committee, IRPC Public Company Limited

2019 - Mar. 2021
Director and Member of the Risk Management Committee, IRPC Public Company Limited

Other Companies
- None -

Other Organizations

2019 - Present
Director General, Energy Policy and Planning Office

2018 - 2019
Deputy Director General, Energy Policy and Planning Office

2015 - 2018
Director, Power Policy Bureau, Energy Policy and Planning Office

Mr. Teerapong Wongsiwawilas
Independent Director, Chairman of the Nominating and Remuneration Committee and Member of the Audit Committee

Age: 59

Starting Date: January 1, 2022

Education:
- Bachelor of Law, Thammasat University, Thailand

Training of Thai Institute of Directors Association:
- Director Certification Program (DCP) 246/2017
- Board Nomination and Compensation Program (BNCP) 13/2022
- Director Leadership Certification Program (DLCP) 6/2022

Other Training:
- The National Defence Course (Class 57), National Defence College
- Senior Executive Program, Class 8, Office of the Civil Service Commission
- Certificate, Public Law and Management, Class 12/2013, King Prajadhipok's Institute

% of Shareholding:
- None -

Family Relationship among Executives:
- None -

Working Experiences in the 5 Preceding Years:

Other Listed Companies

2023 - Present
Chairman, MCOT Public Company Limited

Dec. 2020 - Present
Independent Director, Chairman of the Compliance Committee and Member of the Nomination and Remuneration Committee, Krung Thai Bank Public Company Limited

2017 - 2021
Independent Director, Audit Committee, Bangchak Corporation Public Company Limited

Other Companies
- None -

Other Organizations

Oct. 2022 - Present
Permanent Secretary of the Prime Minister's Office

Oct. 2022 - Present
Executive Director, Broadcasting and Telecommunications Research and Development Fund for Public Interest, Office of The National Broadcasting and Telecommunications Commission

2022 - Present
Council of State No.7 (Natural Resources and Environment Law), Office of the Council of State

2022 - Present
Honorable Executive Director of the Judicial Administration (Administration and Management), Court of Justice

2020 - Present
Committee member of the Political Reform of the Thailand's National Reform, Office of the National Economic and Social Development Council

2019 - 2023
Honorable Special Investigation Committee (Law), Department of Special Investigation, Ministry of Justice

2021 - 2022
Advisor to the Prime Minister for Government Officials, the Secretariat of the Prime Minister

2019 - 2021
National Science and Technology Development Committee, National Science and Technology Development Agency

2017 - 2021
- Secretary-General to the Cabinet

Mr. Wuttikorn Stithit
Director and Member of the Risk Management Committee

Age: 59

Starting Date: January 1, 2023

Education:
- Master of Business Administration (Finance and Banking), Kasetsart University, Thailand
- Master of Science (Industrial & System ENGR), Ohio University, USA
- Bachelor of Engineering (Electrical Engineering), King Mongkut's Institute of Technology Ladkrabang, Thailand

Training of Thai Institute of Directors Association:
- Director Certification Program (DCP) 158/2012

Other Training:
- The National Defence Course (Class 62), National Defence College
- Leadership Development Program3 (LDP3), PTT Leadership and Learning Institute (PLLI)
- Leadership Succession Program (LSP), Institute of Research and Development for Public Enterprises (IRDP)
- Senior Executive Education Program, SIBA 2017, College of Management, Mahidol University
- Power of the Kingdom Class 4 (Bhumipalung Phandin), Chulalongkorn University
- Senior Executive Program, SASIN 2011, Sasin Graduate Institute of Business Administration of Chulalongkorn University (SASIN)

% of Shareholding:
- None -

Family Relationship among Executives:
- None -

Working Experiences in the 5 Preceding Years:

Other Listed Companies

2022 - Present
Chief Operating Officer, Upstream Petroleum and Gas Business Group, PTT Public Company Limited

2019 - Present
Director, Global Power Synergy Public Company Limited

2019 - 2022
Senior Executive Vice President, Gas Business Unit, PTT Public Company Limited

2015 - 2019
Executive Vice President, Natural Gas Supply & Trading, PTT Public Company Limited

Other Companies

2023 - Present
Chairman, PTT LNG Company Limited

2019 - 2023
Chairman, PTT Natural Gas Distribution Company Limited

2019 - 2023
Chairman, PTT Global LNG Company Limited None

Other Organizations

- None -

General Nithi Chungcharoen
Independent Director, Member of the Nominating and Remuneration Committee and Member of the Risk Management Committee

Age: 52

Starting Date: January 1, 2023

Education:
- Master of Engineering (Mechanical), Stevens Institute of Technology, USA
- Bachelor of Science, Chulachomklao Royal Military Academy, Thailand

Training of Thai Institute of Directors Association:
- Director Certification Program (DCP) 200/2015
- Driving Company Success with IT Governance (ITG) 5/2017
- IOD Talk 2/2017 “Cyber Security: Risks, Liabilities, and Best Practices”
- Role of the Nomination and Governance Committee (RNG) 8/2016
- Board that Make a Difference (BMD) 9/2019
- Director Leadership Certification Program (DLCP) 8/2022
- Refreshment Training Program: The Business Case and Ethics of AI: A Board’s Imperative (RFP) 12/2023

Other Training:
- None -

% of Shareholding:
- None -

Family Relationship among Executives:
- None -

Working Experiences in the 5 Preceding Years:

Other Listed Companies

2014 - 2022
Independent Director (Non-Executive Director), PTT Global Chemical Public Company Limited

2022 - 2022
Chairman of the Nomination and Remuneration Committee, PTT Global Chemical Public Company Limited

2019 - 2022
Director to Nomination and Remuneration Committee, PTT Global Chemical Public Company Limited

2014 - 2022
Director to the Corporate Governance and Sustainability Committee, PTT Global Chemical Public Company Limited

Other Companies

- None -

Other Organizations

2022 - 2023
Director, Metropolitan Electricity Authority

2021 - 2022
Assistant Chief of Staff Officer to Minister of Defence, Ministry of Defense

2020 - 2021
Staff Officer, Ministry of Defence

2019 - 2020
Expert, Royal Thai Army

2018 - 2019
Assistant General Director, 2nd Coordination Centre, Office of the Internal Security Coordination, Royal Thai Army

2016 - 2018
Army Attaché, Royal Thai Embassy, Canberra, Australia

Mrs. Natjaree Anuntasilpa
Independent Director and Member of the Audit Committee

Age: 53

Starting Date: March 17, 2023

Education:
- Master of Business Administration, Shenandoah University, USA
- Bachelor of Business Administration (Accounting), Chulalongkorn University, Thailand

Training of Thai Institute of Directors Association:
- Director Accreditation Program (DAP), Class 159/2019
- Advanced Audit Committee Program (AACP), Class 34/2019

Other Training:
- The National Defence Course (Class 65), National Defence College
- Executive Development Program: Leaders with Vision and Morality (Nor Bor Sor.), Class 79

% of Shareholding:
- None -

Family Relationship among Executives:
- None -

Working Experiences in the 5 Preceding Years:

Other Listed Companies

2019 - Mar. 2023
Independent Director, Member of Audit Committee, and Member of Remuneration Committee, Airports of Thailand Public Company Limited

Jan. 25, 2019 - Mar. 31, 2023
Chairman of the President's Performance Evaluation Sub-Committee, Airports of Thailand Public Company Limited)

Other Companies
- None -

Other Organizations

2021 - Present
Secretary-General of the Cabinet, The Secretariat of the Cabinet, Office of The Prime Minister

2022 - Present
Expert Committee on organizational development for the Judicial Administration Commission

2021 - Present
Member in Sub-Committee to drive, monitor, and evaluate the performance of the Royal Scholarship Program

2021 - Present
Member in Charity lottery reviewing projects committee

2018 - 2022
Sub-Committee for Personnel Structure and Development Highland Research and Development Institute (Public Organization)

2019 - 2021
Special expert attached to the Office of the Prime Minister (Executive, Higher level), the Office of the Permanent Secretary Prime Minister's Office, Office of the Prime Minister

2017 - 2019
Deputy Secretary General of the Cabinet, The Secretariat of the Cabinet, Office of the Prime Minister

2016 - 2017
Advisor attached to the Executives House (Plan and Policy Analyst, Honorary Level), Executives House, Office of the Prime Minister

Mr. Ekniti Nitithanprapas
Director and Member of the Corporate Governance and Sustainability Committee

Age: 52

Starting Date: April 3, 2023

Education:

- Ph.D. (Economics / Macroeconomics and International Finance), Claremont Graduate University, USA
- Master of Science – Economics / Policy Economics, University of Illinois at Urbana-Champaign, USA
- Bachelor of Economics (Honors), Thammasat University, Thailand

Training of Thai Institute of Directors Association:

- ESG in the Boardroom: A Practical Guide for Board (Class 0/2023)
- ESG as a vehicle for Business Transformation 2022
- Director Leadership Certification Program (Class 2/2021)
- Risk Management Program for Corporate Leaders (Class 25/2021)
- Role of the Chairman Program (Class 45/2019)
- Board Matters and Trends (Class 4/2017)
- Role of the Nomination & Governance Committee Program (Class 8/2016)
- Financial Statements for Directors (Class 29/2015)
- Corporate Governance for Capital Market Intermediaries (Class 4/2015)
- Director Certification Program (Class 93/2007)

Other Training:

- Hot Issue for Directors: Climate Governance (Class 1/2023), the Stock Exchange of Thailand (SET) with the Thai Institute of Directors Association (IOD)
- Director Forum: Engaging Board in ESG: the Path to Effective Sustainability, the Stock Exchange of Thailand (SET) with the Thai Institute of Directors Association (IOD)
- The Wellness and Healthcare Business Opportunity Program for Executives (WHB), Class 2
- The Cullinan: The Making of Digital Board (class 1/2022), the Ministry of Digital Economy and Society in Collaboration with the Digital Economy Promotion Agency (depa) and Thailand Management Association (TMA)
- Decentralized Finance (DeFi), Digital Marketing Strategy, Open Banking and Virtual Banking, and ESG – Environmental, Social, Governance, TMBThanachart Bank PCL.
- Internal Ratings-Based Approach (IRB), Overview of Fund Transfer Pricing (FTP), Bank KPI Setting in Practice, and Generative AI In Banking, TMBThanachart Bank PCL.
- Security Awareness Training: Cybersecurity and Cyber Resilience, TMBThanachart Bank PCL.
- 2020 Cyber Security Awareness for BoD, Personal Data Protection Act, and Economic and Sectoral Outlook: A High-Frequency Data Perspective, TMB Bank PCL.

- Year 2020, Cyber Resilience Leadership: Tone from the Top and Year 2019, Cyber Resilience, Bank of Thailand
- Year 2019, Oxford Programme on Negotiation in Bangkok, SAID Business School of Oxford University, UK
- The Program for Senior Executives on Justice Administration (Class 24/2019), Judicial Training Institute
- Year 2011, The Civil Service Executive Development Program, Office of the Civil Service Commission,
- Advanced Certificate Course in Public Administration and Law for Executive (Class 9/2010), the College of Politics and Governance, King Prajadhipok's Institute
- Year 2009, Financial Markets and New Financial Instruments, International Monetary Fund Institute,

% of Shareholding:

- None -

Family Relationship among Executives:

- None -

Working Experiences in the 5 Preceding Years:

Other Listed Companies

Feb. 2020 - Present
Chairman, TMBThanachart Bank Public Company Limited

Feb. 2020 - Nov. 2021
Chairman, Thanachart Bank Plc.

Mar. 2016 - Apr. 2023
Member of the Risk Management Committee, IRPC Public Company Limited

Nov. 2015 - Apr. 2023
Director, IRPC Public Company Limited

Jun. 2018 - Jan. 2020
Chairman, Krung Thai Bank Public Company Limited

Jul. 2018 - Oct. 2019
Chairman, Thai Airways International Public Company Limited

Jun. 2018 - Oct. 2019
Director, Thai Airways International Public Company Limited

Nov. 2015 - May 2018
Director and Member of the Nomination, Compensation and Corporate Governance Committee, the Siam Commercial Bank Public Company Limited

Other Companies

Jan. 2023 - Present
Director, Chairman of the Innovation Management Committee, and Member of the Risk Oversight Committee, Aeronautical Radio of Thailand Ltd.

Nov. 2015 - May 2018
Chairman, National Credit Bureau Co., Ltd.

Other Organizations

May 2022 - Present
Director General, the Excise Department, Ministry of Finance

2020 - Present
Governing Board of Tax Inspectors Without Borders, OECD & UNDP

May 2018 - May. 2022
Director General, the Revenue Department, Ministry of Finance

Oct. 2015 - May. 2020
Director General, State Enterprise Policy Office, Ministry of Finance

2015 - 2018
Director and Secretary to the Private Investment State Undertakings Policy Committee

2015 - 2018
Director and Secretary to the Steering Committee of Vayupak Fund

2015 - 2018
Director in the Investment Committee of Vayupak Fund

Mr. Montri Rawanchaikul
Director and Secretary to the Board

Age: 59

Starting Date: October 1, 2021

Education:
- Honorary Doctorate Degree in Applied Geophysics, Chiang Mai University, Thailand
- Master of Applied Science (Exploration Geophysics), University of New South Wales, Australia
- Bachelor of Science (Physics), Chiang Mai University, Thailand

Training of Thai Institute of Directors Association:
- Strategic Board Master Class (SBM) 12/2023
- Director Certification Program (DCP) 337/2023
- The Corporate Governance: Regulation and Disclosure Training

Other Training:
- Capital Market Academy (CMA) 31/2021
- Leadership Development Program III (LDP III) by PTT Leadership and Learning Institute
- The Executive Program in Energy Literacy for a Sustainable Future (Class 11), Thailand Energy Academy (TEA)
- Leadership Development Program II (LDP II) by PTT Leadership and Learning Institute
- EP LEAD III Leadership Development Program by IMD

% of Shareholding:
Director 0.00131% (52,050 Shares)

Family Relationship among Executives:
- None -

Working Experiences in the 5 Preceding Years:

Other Listed Companies

Oct. 2021 - Present
Chief Executive Officer, PTT Exploration and Production Public Company Limited

Oct. 2021 - Present
Senior Executive Vice President, PTT, Reporting to Chief Operating Officer, Upstream Petroleum and Gas Business Group working on a secondment as Chief Executive Officer, PTT Exploration and Production Public Company Limited

Feb. - Sep. 2021
President, PTT Exploration and Production Public Company Limited

Feb. - Sep. 2021
Senior Executive Vice President, PTT, Reporting to Chief Operating Officer, Upstream Petroleum and Gas Business Group working on a secondment as President PTT Exploration and Production Public Company Limited

Oct. 2020 - Jan. 2021
President and acting as Executive Vice President, Production Asset Group, PTT Exploration and Production Public Company Limited

Oct. 2020 - Jan. 2021
Senior Executive Vice President, PTT, Reporting to Chief Operating Officer, Upstream Petroleum and Gas Business Group working on secondment as President and acting as Executive Vice President, Production Asset Group, PTT Exploration and Production Public Company Limited
Jan. - Sep. 2020
Executive Vice President, Production Asset Group, PTT Exploration and Production Public Company Limited
Oct. 2017 - Dec. 2019
Executive Vice President, Strategy and Business Development Group, PTT Exploration and Production Public Company Limited
Nov. 2017 - Sep. 2018
Executive Vice President, Strategy and Business Development Group and Acting Senior Vice President, New Business Unit, and additional assigned as Project Champion, Spend Smart, PTT Exploration and Production Public Company Limited

Other Companies

Jan. 1998 - Aug. 2004
Project Manager and Business Unit Manager, Fugro Jason Geosystems in the Netherlands
Jul. 1989 - Dec. 1990
Researcher Assistant Road and Traffic Authority Sydney and Wireline Engineer, Schlumberger in Australia

Other Organizations

- None -

Mr. Dechapiwat Na Songkhla
Ex-Director

Age: 62

Education:
- Master of Science (National Development and Project Planning), University of Bradford, UK
- Bachelor of Science (Mathematics and Economics), University of Surrey, UK

Training of Thai Institute of Directors Association:
- None -

Other Training:
- Director's Briefing – Corporate Strategy beyond the Crisis, a Chairman/Board Perspective, Bain & Company, Inc.
- The National Defence Course (Class 54), National Defence College
- Senior Justice Administration Course (Class 19), College of Justice, Office of the Judiciary
- High Level Executives Course for Strategic Management of Anti-Corruption (Class 1), Office of the National Anti-Corruption Commission
- Rule of Law for Democracy Course (Class 2), the Constitutional Court of the Kingdom of Thailand

% of Shareholding:
- None -

Family Relationship among Executives:
- None -

Working Experiences in the 5 Preceding Years:

Other Listed Companies
- None -

Other Companies
- None -

Other Organizations

May 2021 - Present
Director, Srisavarinddhira Thai Red Cross Institute of Nursing, Thai Red Cross Society

Oct. 2021 - 2023
Advisor to the Prime Minister, the Prime Minister's Office

Dec. 2020 - Dec. 2022
Director, Judicial Administration Commission, Judicial Administration Office

2017 - Sep. 2021
Director, the Budget Bureau

2017 - Sep. 2021
Committee member by position, the Office of the National Economic and Social Development Council

2017 - Sep. 2021
Committee member by position, the Government Pension Fund (GPF)

2017 - Sep. 2021
Committee member by position, Eastern Economic Corridor Policy Committee

2017 - Sep. 2021
Committee member by position, King Prajadhipok's Institute Council

2015 - 2017
Deputy Director, the Budget Bureau

Mr. Bundhit Eua-arporn
Ex-Director

Age: 58

Education:
- Ph.D., Imperial College of Science Technology and Medicine, University of London, UK
- Master of Engineering, Chulalongkorn University, Thailand
- Bachelor of Engineering, Chulalongkorn University, Thailand

Training of Thai Institute of Directors Association:
- IT Governance and Cyber Resilience Program (ITG) 17/2021
- Director Certification Program (DCP) 110/2009

Other Training:
- Director's Briefing – Corporate Strategy beyond the Crisis, a Chairman/Board Perspective, Bain & Company, Inc.
- The Executive Program in Energy Literacy for a Sustainable Future (Class 6), Thailand Energy Academy (TEA)
- Power of the Kingdom (Bhumipalung Phandin) (Class 3), Chulalongkorn University Executive Program
- Temasek Foundation – NUS Programme for Leadership in University Management

% of Shareholding:
Spouse 0.00012% (4,587 Shares)

Family Relationship among Executives:
- None -

Working Experiences in the 5 Preceding Years:

Other Listed Companies

Jan 2023 - Present
Independent Director, Chairman of the Nomination and Remuneration Committee, and Director of the Audit Committee, PTT Oil and Retail Business Public Company Limited

Apr. 2021 - Present
Independent Director, Bangkok Bank Public Company Limited

2016 - Present
Executive Board Member, Banpu Power Public Company Limited

Other Companies

Nov. 2018 - Jan. 2023
Chairman of the Board, AI and Robotics Ventures Company Limited (ARV)

Other Organizations

Aug. 2021 - Present
Member of Nominating Committee of the Energy Regulatory Commission

2016 - Present
President, Chulalongkorn University

Aug. - Sep. 2017
Board Member, National Reform Committee in Energy, National Reform Committee

2015 - 2016
Honorary Board Member, Thailand Institute of Scientific and Technological Research

2013 - 2016
Dean, Faculty of Engineering, Chulalongkorn University

Mr. Patchara Anuntasilpa
Ex-Director

Age: 52

Education:
- Honorary Doctorate Degree in Laws, Ramkhamhaeng University, Thailand
- Master of Business Administration, Shenandoah University, USA
- Bachelor of Business Administration, Bangkok University, Thailand

Training of Thai Institute of Directors Association:
- Director Certification Program (DCP) 221/2016

Other Training:
- The Executive Program in Energy Literacy for a Sustainable Future (Class 16), Thailand Energy Academy (TEA)
- Director's Briefing – Corporate Strategy beyond the Crisis, a Chairman/Board Perspective, Bain & Company, Inc.
- Director and Executive Development Program, Royal Thai Police
- Super Series Program: Leadership & Effective Corporate Culture (Class 2), Institute of Research and Development for Public Enterprises (IRDP) in collaboration with Judge Business School, University of Cambridge
- Advanced Master of Management Program (Class 4), National Institute of Development Administration
- The Executive Program in Justice System (Class 23), Judicial Training Institute
- Top Executive Program in Commerce and Trade (TEPCoT), Class 11, Commerce Acadamy, University of the Thai Chamber of Commerce
- Capital Market Leadership Program (CMA24), Capital Market Academy (CMA)
- Financial Analysis Program, Haas School of Business, University of California at Berkeley, USA
- Executive Program (Class 3), Office of the Civil Service Commission (OCSC)
- Foreign Affairs Executive Program (Class 3), Ministry of Foreign Affairs
- Fundamentals of Public Procurement, United Nations Development Programme: UNDP, Denmark
- WTO Advanced Regional Workshop on Government Procurement for Asia and Pacific Economies, World Trade Organization: WTO, the People's Republic of China
- Executive Program for Senior Management in collaboration with Kellogg School of Management, Maxwell School of Citizenship and Public Affairs and Schulich School of Business by Fiscal Policy Research Institute Foundation

% of Shareholding:
- None -

Family Relationship among Executives:
- None -

Working Experiences in the 5 Preceding Years:

Other Listed Companies

Apr. 2023 - Present
Director (Non-Executive Director), and Director to the Corporate Governance and Sustainability Committee, PTT Global Chemical Public Company Limited

Other Companies

- None -

Other Organizations

2023 - Present
Director-General, the Public Debt Management Office, Ministry of Finance
Jan. 2022 - Present
Chairman of the Board of Directors, Government Housing Bank
Oct. 2020 - 2023
Director-General, Thai Customs Department, Ministry of Finance
2020 - 2022
Director, Board of the Judicial Administration Commission
2019 - Jan. 2022
Chairman of the Board of Directors, Government Saving Bank
2019 - Jan. 2021
Chairman of the Board of the Government Lottery, the Government Lottery Office, Ministry of Finance
2018 - Sep. 2020
Director-General, the Excise Department, Ministry of Finance
Apr. 2018 - Oct. 2019
Director, State Railway of Thailand
2017 - 2020
Director, Board of Office of the Commission for Judicial Service
2018 - 2022
Chairman, Board of Institute for Good Governance Promotion
2015 - May 2019
Director, the Government Lottery Office, Ministry of Finance
2017 - Sep. 2018
Director-General, the Treasury Department, Ministry of Finance
2016 - 2017
Deputy Permanent Secretary of the Expense and Debt Cluster, the Expense and Debt Cluster, Ministry of Finance

Admiral Tanarat Ubol
Ex-Director

Age: 69

Education:
- Master of Public and Private Management, National Institute of Development Administration, Thailand
- Bachelor of Science (Electrical Engineering), the National Defense Academy of Japan, Japan

Training of Thai Institute of Directors Association:
- Board Matters and Trends (BMT) 4/2017
- Strategic Board Master Class (SBM) 1/2017
- Anti-Corruption: Leadership Role of the Board
- How to Develop a Risk Management Plan (HRP) 9/2016
- Risk Management Program for Corporate Leaders (RCL) 26/2016
- Boards that Make a Difference (BMD) 1/2016
- Ethical Leadership Program (ELP) 1/2015
- Director Certification Program (DCP) 204/2015

Other Training:
- Director's Briefing – Corporate Strategy beyond the Crisis, a Chairman/Board Perspective, Bain & Company, Inc.
- 22nd World Petroleum Congress (WPC), Istanbul, Turkey
- Maritime Joint Force Commander Course (Admiral Level), Hawaii, USA
- Advanced Security for Senior Executive, Hawaii, USA
- National Institute for Defense Studies (Japan) Class 45
- National Institute for Defense College (Class 51), Thailand

% of Shareholding:
- None -

Family Relationship among Executives:
- None -

Working Experiences in the 5 Preceding Years:

Other Listed Companies
- None -

Other Companies

2014 - 2015
Chairman, Bangkok Dock Company Limited

Apr. - Sep. 2015
Director, Thai Aviation Industries Company Limited

Other Organizations

2015 - Present
Royal Thai Navy Retired, Office of the Permanent Secretary for Defence

2014 - 2015
Chief of Staff, Royal Thai Navy

2014 - 2015
Chairman, Frigate Squadron Project, Royal Thai Navy

Apr. - Sep. 2015
Director, Equipment Control and Industry Development Committee Defence Industry Department, Ministry of Defence

Apr. - Sep. 2015
Deputy Chief of Joint Staff, Royal Thai Armed Forces Headquarters

Lieutenant General Nimit Suwannarat
Ex-Director

Age: 52

Education:
- Master of Arts in International Relations, Chulalongkorn University, Thailand
- Master of Science in Electrical Engineering (Communications and Signal Processing), University of Minnesota, USA
- Bachelor of Science in Electrical Engineering, Virginia Military Institute, USA

Training of Thai Institute of Directors Association:
- Director Certification Program (DCP) 216/2016

Other Training:
- Director's Briefing – Corporate Strategy beyond the Crisis, a Chairman/Board Perspective, Bain & Company, Inc.
- Public Key Infrastructure (Certification Authority, Digital Signature) Course, Ottawa, Canada
- Electronic Commerce Course, Orlando, Florida, USA
- Computer Emergency Response Team, Carnegie Mellon University, Pennsylvania, USA
- National Crisis Management Course, APCSS, Hawaii, USA
- Command and General Staff College (Class 83), Royal Thai Army
- Joint Staff Course, Joint Staff College
- Intermediate Certificate Course in Political Leadership in the New Era (Class 2), King Prajadhipok's Institute

% of Shareholding:
- None -

Family Relationship among Executives:
- None -

Working Experiences in the 5 Preceding Years:

Other Listed Companies

Jan. 2023 - Present
Independent Director (Non-Executive Director), Director to the Audit Committee and Director to the Nomination & Remuneration Committee, PTT Global Chemical Public Company Limited

Nov. 2023 - Present
Independent Director, Thaicom Public Company Limited

Other Companies
- None -

Other Organizations

Oct. 2021 - Present
Special Advisor, Office of the Permanent Secretary for Defence

Jun. 2019 - Present
Advisor to the Prime Minister, Office of the Prime Minister

2018 - Present
Deputy Chief of Office, Office of the Military Affairs Coordination to the Ministry of Foreign Affairs, Office of the Policy Planning, the Ministry of Defence

Apr. - Sep. 2018
Staff Officer to the Minister of Defence, Ministry of Defence

2017 - Mar. 2018
Commanding Officer, 1st Development Regiment, Royal Thai Army

2016 - 2017
Senior Operation Officer, Defence Industry and Energy Center, Office of the Permanent Secretary for Defence

Criminal offense record during the past 10 years

- Being adjudged of convicting a crime or being on trial for convicting a crime
  No
- Being adjudged bankrupt or a receiver is appointed
  No
- Being a management in the company or partnership which is adjudged bankrupt or a receiver is appointed
  No

Remarks: The name and number(s) of the authorized directors who may sign to bind the Company from November 7, 2023 are Mr. WattanapongKurovat, Mr. Wuttikorn Stithit and Mr. Ekniti Nitithanprapas. Two of the above three directors can sign jointly and affix the Company's seal, or Mr. Montri Rawanchaikul, the Chief Executive Officer, can sign singly.

2. Management

As of January 1, 2024, PTTEP management team had 19 personnel as defined by the Capital Market Supervisory Board. Details are as follows:

Mr. Montri Rawanchaikul
Chief Executive Officer

Please see part 1 for details

Mr. Chayong Borisuitsawat
Executive Vice President, Strategy, Business Development, and Human Resources Group

Age: 56

Starting Date: September 2023 - Present

Education:

- Bachelor of Engineering (Petroleum Engineering), Chulalongkorn University, Thailand

% of Shareholding:

Management 0.00164% (65,096 shares)

Family Relationship among Executives:

- None -

Working Experiences in the 5 Preceding Years:

Jan. 2023 - Aug. 2023
Executive Vice President, Strategy and Sustainable Growth Group

Dec. 2021 - Dec. 2022
Executive Vice President, Human Resources, Corporate Affairs, and Assurance Group, PTTEP

Jan. 2020 - Nov. 2021
Executive Vice President, Engineering and Development Group, PTTEP

Nov. 2018 - Dec. 2019
Executive Vice President, Business and Organization Transformation Group, PTTEP

Oct. 2018
Executive Vice President, Operations Support Group, PTTEP

Nov. 2017 - Sep. 2018
Acting Executive Vice President, Operations Support Group, PTTEP

Nov. 2017 - Jul. 2018
Project Champion, SPEND SMART Project, PTTEP

Jul. 2016 - Oct. 2017
Project Champion, SAVE to be SAFE, PTTEP

Mrs. Natruedee Khositaphai
Executive Vice President, Operations Support Group

Age: 58

Starting Date: September 2023 - Present

Education:

- Master of Business Administration, Sasin Graduate Institute of Business Administration, Chulalongkorn University, Thailand
- Bachelor of Engineering (Petroleum Engineering), Chulalongkorn University, Thailand

% of Shareholding:

Management 0.0027% (107,457 shares)

Family Relationship among Directors and Executives:

- None -

Working Experiences in the 5 Preceding Years:

Jan. 2023 - Aug. 2023
Executive Vice President, Technology and Carbon Solutions Group

Jan. 2020 - Dec. 2022
Executive Vice President, Strategy and Business Development Group, PTTEP

Jun. - Dec. 2019
Executive Vice President, Corporate Affairs and Assurance Group, PTTEP

Oct. 2018 - May 2019
Acting Executive Vice President, Corporate Affairs and Assurance Group, PTTEP

Oct. - Dec. 2018
Acting Senior Vice President, Corporate Communications and Public Affairs Division, PTTEP

Nov. 2017 - Sep. 2018
Senior Vice President, International Asset, PTTEP

Jul. - Nov. 2017
Acting Senior Vice President, International Asset, PTTEP

May 2016 - Jun. 2017
Vice President, assigned as Project Manager, SAVE to be SAFE Project, PTTEP

Mr. Suksant Ongvises
Executive Vice President, Lang Lebah Project, seconded to PTTEP Sarawak Oil Limited as Lang Lebah Project Director

Age: 59

Starting Date: September 2023 - Present

Education:

- Bachelor of Engineering (Chemical), University of Newcastle, Australia

% of Shareholding:

Management 0.00027% (10,681 shares)

Family Relationship among Directors and Executives:

- None -

Working Experiences in the 5 Preceding Years:

Jan. 2020 - Aug. 2023
Executive Vice President, Operations Support Group
Jun. - Dec. 2019
Executive Vice President, Engineering, Development and Operations Group, PTTEP
Oct. 2018 - May. 2019
Acting Executive Vice President, Engineering, Development and Operations Group, PTTEP
Mar. 2017 - Oct. 2018
Senior Vice President, Engineering and Construction Division, PTTEP
Apr. - Sep. 2018
Acting Vice President, M3 Development Project, PTTEP
Jul. 2016 - Feb. 2017
Acting Senior Vice President, Engineering and Construction Division, PTTEP

Mr. Sumrid Sumneing
Executive Vice President, Finance and Accounting Group

Seconded from PTT Public Company Limited, Executive Vice President, attached to Chief Financial Officer

(The person supervises Finance and Accounting)

Age: 59

Starting Date: January 2019 - Present

Education:

- Master of Business Administration, Kasetsart University, Thailand
- Bachelor of Accounting, Thammasart University, Thailand

Training:

- Capital Market Academy 29/2019
- Financial & Fiscal Management Program for Senior Executive by the Comptroller General's Department 5/2018
- Executive Development Program (EDP III), Thai Listed Companies Association (TLCA)
- Director Certification Program (Class 180/2013), the Institute of Directors Association (IOD)
- Leadership Development Program – Center of Creative Leadership (CCL)
- Finance Executive Program (FINEX21), the Thai Institute of Banking and Finance Association

% of Shareholding:

Management 0.00033% (13,000 shares)

Family Relationship among Directors and Executives:

- None -

Working Experiences in the 5 Preceding Years:

Jun. 2016 - Dec. 2018
Executive Vice President, Group Corporate Finance and Strategy, PTT Public Company Limited

Dec. 2014 - Dec. 2015
Vice President, Financial Strategy and Policy, PTT Public Company Limited

Mr. Piya Sukhumpanumet
Executive Vice President, International Production Asset Group

Age: 58

Starting Date: April 2022 - Present

Education:
- Master of Business Administration, Sasin Graduate Institute of Business Administration, Chulalongkorn University, Thailand
- Bachelor of Geology, Chulalongkorn University, Thailand

% of Shareholding:
Management 0.00226% (89,916 shares)

Family Relationship among Directors and Executives:
- None -

Working Experiences in the 5 Preceding Years:

Dec. 2021 - Mar. 2022
Executive Vice President, Geosciences, Subsurface and Exploration Group, PTTEP

Jun. - Nov. 2021
Executive Vice President, Human Resources, Corporate Affairs, and Assurance Group, PTTEP

Oct. 2020 - May 2021
Acting Executive Vice President, Human Resources, Corporate Affairs, and Assurance Group, PTTEP

Sep. 2016 - Sep. 2020
Senior Vice President, Myanmar Asset, seconded as General Manager, PTTEP International Limited, Union of Myanmar

Jul. - Aug. 2016
Senior Vice President, Technology and Knowledge Management Division, PTTEP

Mr. Nirandorn Rojanasomsith
Executive Vice President, Engineering, Development, and Maintenance Group

Age: 58

Starting Date: January 2023 - Present

Education:

- Master of Science (Mechanical Engineering), Manhattan College, USA
- Master of Science (Computer), Brooklyn College, USA
- Master of Business Administration (Executive), Sasin Graduate Institute of Business Administration, Chulalongkorn University, Thailand
- Bachelor of Engineering (Mechanical Engineering), Kasetsart University, Thailand

% of Shareholding:

Management, Spouse 0.00438% (174,041 Shares)

Family Relationship among Directors and Executives:

- None -

Working Experiences in the 5 Preceding Years:

Apr. - Dec. 2022
Executive Vice President, Domestic Production Asset Group, PTTEP

Aug. 2021 - Mar. 2022
Executive Vice President, Production Asset Group, PTTEP

Feb. - Jul. 2021
Acting Executive Vice President, Production Asset Group, PTTEP

Feb. 2021
Acting Senior Vice President, Thai Offshore Asset, PTTEP

Aug. 2019 - Jan. 2021
Senior Vice President, Thai Offshore Asset, Production Asset and Supply Chain Management Group, PTTEP

Nov. 2017 - Jul. 2019
Senior Vice President, Australia Asset and seconded as General Manager, PTTEP Australasia Pty Ltd., Australia

Ms. Kanita Sartwattayu
Executive Vice President, Domestic Production Asset Group

Age: 53

Starting Date: January 2023 - Present

Education:

- Master of Science (Engineering Management), University of Missouri-Rolla, USA
- Bachelor of Engineering (Chemical Engineering), Chulalongkorn University, Thailand

% of Shareholding:

Management 0.00127% (50,279 shares)

Family Relationship among Directors and Executives:

- None -

Working Experiences in the 5 Preceding Years:

Jun. - Dec. 2022
Executive Vice President, Engineering and Development Group, PTTEP

Dec. 2021 - May. 2022
Acting Executive Vice President, Engineering and Development Group, PTTEP

Oct. 2019 - Nov. 2021
Senior Vice President, Development Project Division, PTTEP

Jun. - Sep. 2019
Senior Vice President assigned as Project Head of Asset Transition Project and Acting Senior Vice President, Development Project Division, PTTEP

Oct. 2018 - May 2019
Acting Vice President, M3 Development Project, PTTEP

Oct. 2018 - Jan. 2019
Senior Vice President, Development Project Division, PTTEP

Jul. 2017 - Sep. 2018
Senior Vice President, Business Development 1 Division, PTTEP

Jan. 2016 - Jun. 2017
Acting Senior Vice President, Business Development 1 Division, PTTEP

Mr. Rangsan Bhengbhun
Executive Vice President, Geosciences, Subsurface, and Exploration Group

Age: 59

Starting Date: January 2024 - Present

Education:

- Bachelor of Geology, Chulalongkorn University, Thailand

% of Shareholding:

Management 0.00166% (65,917 shares)

Family Relationship among Directors and Executives:

- None -

Working Experiences in the 5 Preceding Years:

Mar. 2020 - Dec. 2023
Senior Vice President, Subsurface Technical Solutions Division
Jan. 2019 - Feb. 2020
Senior Vice President, Geosciences, Reservoir Engineering and Corporate
Jul. - Dec. 2018
Acting Senior Vice President, Geosciences, Reservoir Engineering and Corporate
Jul. 2016 - Jun. 2018
Vice President, Geology Department

Mr. Nopasit Chaiwanakupt
Acting Executive Vice President, Technology, Carbon Solutions, and Sustainable Growth Group

Age: 54

Starting Date: September 2023 - Present

Education:

- Master of Business Administration (Executive), Sasin Graduate Institute of Business Administration, Chulalongkorn University, Thailand
- Master of Science (Engineering Management), Oregon State University, USA
- Bachelor of Engineering (Chemical Engineering), Chulalongkorn University, Thailand

% of Shareholding:

- None -

Family Relationship among Directors and Executives:

- None -

Working Experiences in the 5 Preceding Years:

Jan. - Aug. 2023
Senior Vice President, Carbon and Energy Solutions Division and Acting Vice President, Strategy and Business Management Department
Jan. - Mar. 2023
Acting Vice President, CCS Department
Oct. 2021 - Dec. 2022
Senior Vice President, New Business Division
Feb. 2020 - Sep. 2021
Senior Vice President assigned as Project Head, Malaysia Asset Transition
May 2019 - Jan. 2020
Project Head of Malaysia Asset Transition
Nov. 2018 - Jul. 2019
Senior Vice President, Thai Offshore Asset
Jul. 2017 - Oct. 2018
Senior Vice President, Business Development 3 Division
Oct. 2016 - Jun. 2017
Acting Senior Vice President, International Asset

Ms. Panporn Sasananan
Senior Vice President, Finance Division

Seconded from PTT Public Company Limited, Executive Vice President, attached to Chief Financial Officer

Age: 56

Starting Date: December 2023 - Present

Education:

- Master of Science (Finance), Business Administration, University of Colorado, USA
- Bachelor of Accounting, Thammasat University, Thailand

% of Shareholding:

- None -

Family Relationship among Directors and Executives:

- None -

Working Experiences in the 5 Preceding Years:

Jan. 2021 - Nov. 2023
Vice President, Group Financial Planning, PTT Public Company Limited

Jan. 2019 - Dec. 2020
Vice President, Investor Relations, PTT Public Company Limited

Dec. 2016 - Dec. 2018
Vice President, PTT Public Company Limited, seconded as Vice President, Finance, IRPC Public Company Limited

Jan. - Nov. 2016
Strategic Financial Investment Management Division Manager, PTT Public Company Limited

Mr. Sermsak Satchawannakul
Senior Vice President, Accounting Division

(The person is directly responsible for supervising accounting functions)

Age: 55

Starting Date: October 2020 - Present

Education:

- Master of Business Administration, Thammasat University, Thailand
- Bachelor of Accounting, Thammasat University, Thailand

Training:

- EP LEAD III Leadership Development Program by IMD
- TLCA Executive Development Program by Thai Listed Companies Association
- Financial & Fiscal Management Program for Senior Executive by the Comptroller General's Department 8/2021

Continuing Professional Development (CPD) 2023

- ESG Reporting and Disclosure (Principle and Practice) [CPD (Accounting) 7 hours]
- CFO Conference 2023 Embracing Changes & Unveiling the Path to Business Resilience and Success [CPD (Accounting) 3 hours]
- Thai Chartered Management Accountants (TCMA) 2/2023 (Financial Strategy) [CPD (Accounting) 6 hours] (An Accountant with criteria specified by the Department of Business Development)

% of Shareholding:

Management 0.00114% (45,215 shares)

Family Relationship among Directors and Executives:

- None -

Working Experiences in the 5 Preceding Years:

Jan. 2019 - Sep. 2020
Vice President, Financial Accounting Department, PTTEP

Jan. 2019
Acting Vice President, Office Facility Management Department, PTTEP

Jul. 2015 - Dec. 2018
Vice President, Myanmar Business Support Department, seconded as Myanmar Business Support Manager, PTTEP International Limited (Yangon Branch), The Republic of the Union of Myanmar

Mr. Sakchai Sarawek
Vice President, Managerial Accounting Department

Age: 54

Starting Date: July 2020 - Present

Education:
- Master of Science (Accounting Information System), Chulalongkorn University, Thailand
- Bachelor of Accounting, Thammasat University, Thailand

% of Shareholding:
- None -

Family Relationship among Directors and Executives:
- None -

Working Experiences in the 5 Preceding Years:
Jul. 2018 - Jun. 2020
Vice President attached to International Asset seconded as Senior Manager, Business Support at CPOC, Malaysia
Jul. 2016 - Jun. 2018
Vice President, Accounting Policy and Solutions Department, PTTEP
Nov. 2012 - Jun. 2016
Vice President, attached to Australia Asset, seconded as Finance and Accounting Manager, PTTEP Australasia Limited, Australia

Mr. Chayanin Yiamsombut
Vice President, Insurance Department

Age: 46

Starting Date: April 2022 - Present

Education:
- Master of Business Administration (Finance), DePaul University, USA
- Bachelor of Science (Economics), Chulalongkorn University, Thailand

% of Shareholding:
Management 0.00056% (22,145 shares)

Family Relationship among Directors and Executives:
- None -

Working Experiences in the 5 Preceding Years:
Oct. 2022 - Mar. 2023
Acting Vice President, Insurance Department
Jun. 2014 - Sep. 2022
Senior Analyst, Insurance, PTTEP

Mr. Thanat Thamrongsaksuvit
Vice President, attached to Finance Division, assigned as Managing Director, PTTEP Treasury Center

Age: 46

Starting Date: October 2023 - Present

Education:
- Master of Commerce (Finance and Banking), the University of Sydney, Australia
- Bachelor of Business Administration (Finance and Banking), Assumption University, Thailand

% of Shareholding:
- None -

Family Relationship among Directors and Executives:
- None -

Working Experiences in the 5 Preceding Years:
Oct. 2020 - Sep. 2023
Manager, Investor Relations Section
Feb. 2018 - Sep. 2020
Manager, Financial Risk Management Section

Ms. Pratamaporn Deesrinthum
Vice President, Accounting Policy and Solutions Department

Age: 52

Starting Date: April 2020 - Present

Education:
- Master of Business Administration, Thammasat University, Thailand
- Bachelor of Accounting, Chulalongkorn University, Thailand

% of Shareholding:
Management 0.00124% (49,249 shares)

Family Relationship among Directors and Executives:
- None -

Working Experiences in the 5 Preceding Years:
Apr. 2018 - Mar. 2020
Vice President, Managerial Accounting Department, PTTEP
Jan. - Apr. 2018
Acting Vice President, Managerial Accounting Department, PTTEP
Jun. - Dec. 2017
Senior Accountant, Thai Offshore Asset, PTTEP

Ms. Nuchanong Sangkeaw
Vice President, Capital Market and Financial Planning Department

Age: 46

Starting Date: August 2020 - Present

Education:
- Master in Professional Accounting, the University of Texas at Austin, USA
- Master of Arts (Economic Law), Chulalongkorn University, Thailand
- Bachelor of Accounting, Thammasat University, Thailand

% of Shareholding:
Management 0.00012% (4,605 shares)

Family Relationship among Directors and Executives:
- None -

Working Experiences in the 5 Preceding Years:
Jan. - Jul. 2020
Acting Vice President, Capital Market and Financial Planning Department, PTTEP
Jul. - Dec. 2019
Acting Vice President, Capital and Investor Relations Department, PTTEP
Nov. 2018 - Jun. 2019
Manager, Investor Relations Section, PTTEP

Mrs. Yada Vudhivorn
Vice President, Tax Department

Age: 44

Starting Date: April 2020 - Present

Education:
- Master of Law, University of London, UK
- Master of Law, Northwestern University, USA
- Bachelor of Law, Thammasat University, Thailand

% of Shareholding:
- None -

Family Relationship among Directors and Executives:
- None -

Working Experiences in the 5 Preceding Years:
Sep. 2019 - Mar. 2020
Acting Vice President, Tax Department, PTTEP
Aug. 2015 - Aug. 2019
Manager, Tax Planning Section, PTTEP

Ms. Sukporndee Assamongkol
Acting Vice President, Financial Accounting Department

Age: 43

Starting Date: December 2023 - Present

Education:

- Master of Accounting, Chulalongkorn University, Thailand
- Bachelor of Accounting, Chulalongkorn University, Thailand

% of Shareholding:

Management 0.00012% (4,618 shares)

Family Relationship among Directors and Executives:

- None -

Working Experiences in the 5 Preceding Years:

Apr. 2022 - Nov. 2023
Manager, Accounting Solutions Section
Aug. 2019 - Mar. 2022
Manager, Payment Section
Oct. 2017 - Jul. 2019
Senior Accountant, Thai Onshore Asset

PTTEP management team had 4 personnel, as defined by the Capital Market Supervisory Board, who retired or rotated during the year 2023. Details are as follows:

Ms. Orachon Ouiyamapun
Senior Vice President, Finance Division

Seconded from PTT Public Company Limited, Executive Vice President, attached to Chief Financial Officer

Age: 60

Starting Date: January 2021 - September 2023

Education:

- Master of Business Administration, King Mongkut's Institute of Technology Ladkrabang, Thailand
- Bachelor of Business Administration (Human Resource Management), Prince of Songkla University, Thailand

% of Shareholding:

- None -

Family Relationship among Directors and Executives:

- None -

Working Experiences in the 5 Preceding Years:

Oct. 2018 - Dec. 2020
Vice President, Group Financial Planning, PTT Public Company Limited

Nov. 2016 - Sep. 2018:
Vice President, Treasury, PTT Public Company Limited

Jun. - Oct. 2016
Vice President, Group Financial Structure and Funding, PTT Public Company Limited

Dec. 2014 - May 2016
Vice President, Affiliates Financial Management, PTT Public Company Limited

Mr. Anutra Bunnag
Vice President, report to Executive Vice President, Finance and Accounting Group

Age: 60

Starting Date: October - December 2023

Education:
- Master of Science (Finance), University of Massachusetts, USA
- Bachelor of Science (Chemistry), University of Bradford, UK

% of Shareholding:
- None -

Family Relationship among Directors and Executives:
- None -

Working Experiences in the 5 Preceding Years:
May 2017 - Sep. 2023
Vice President, attached to Finance Division, assigned as Managing Director, PTTEP Treasury Center
Oct. 2016 - Apr. 2017
Vice President, Treasury Department, PTTEP
Feb. 2011 - Sep. 2016
Vice President, seconded as Vice President, Corporate Administration and Finance Department, Energy Complex Co., Ltd. (EnCo)

Mrs. Vanasanan Boonyalerdlak
Vice President, Financial Accounting Department

Seconded from PTT Public Company Limited, Vice President, attached to Chief Financial Officer

Age: 52

Starting Date: October 2020 - November 2023

Education:
- Master of Business Administration (Finance), Sasin Graduate Institute of Business Administration, Chulalongkorn University, Thailand
- Bachelor of Accounting, Chulalongkorn University, Thailand

% of Shareholding:
- None -

Family Relationship among Directors and Executives:
- None -

Working Experiences in the 5 Preceding Years:
Oct. 2017 - Sep. 2020
Vice President, Business Accounting and Services Management, PTT Public Company Limited
Oct. 2016 - Sep. 2017
Managerial Accounting - Gas Business Division Manager, PTT Public Company Limited

Mr. Chalongrut Ya-anan
Executive Vice President, Geosciences, Subsurface, and Exploration Group

Age: 58

Starting Date: October 2022 - December 2023

Education:

- Bachelor of Sciences (Geology), Chiang Mai University, Thailand

% of Shareholding:

- None -

Family Relationship among Directors and Executives:

- None -

Working Experiences in the 5 Preceding Years:

Acting Executive Vice President, Geosciences, Subsurface, and Exploration Group, PTTEP
Mar. 2020 - Mar. 2022

Senior Vice President, Geosciences, Reservoir Engineering and Corporate Technical Division, PTTEP
Oct. 2018 - Feb. 2020

Senior Vice President, Business Development 1 Division, PTTEP
Aug. - Sep. 2018

Senior Vice President, attached to Strategy and Business Development Group, PTTEP
Jul. 2016 - Jul. 2018

Senior Vice President, Exploration Project Division, PTTEP

3. Corporate Secretary

Ms. Yaninee Wajeepratubjit
Senior Vice President, Corporate Secretary and Assurance Division, assigned as Company Secretary

Age: 54

Starting Date: May 2023 - Present

Education:

- Master of Business Administration, Chulalongkorn University, Thailand
- Bachelor of Accounting (Accounting), University of the Thai Chamber of Commerce, Thailand

Training:

- Basic Compliance & Ethics Academy by Society of Corporate Compliance and Ethics (SCCE)
- Director Certificate Program (DCP) 342/2023 by the Thai Institute of Directors Association (IOD)
- Company Secretary Program (CSP) 136/2023 by the Thai Institute of Directors Association (IOD)
- Risk in Environmental, Social, and Governance (ESG) and Reporting, EY
- PDPA and Roles of Internal Auditors, PwC
- ESG and the Role of Internal Audit, PwC
- Performance Audit, KPMG
- Management Audit, Deloitte
- International Asset Audit, EY
- The Divestment and Post Merger Integration, EY
- EP-LEAD III Leadership Development Program, IMD

Working Experiences in the 5 Preceding Years:

Jan. 2021 - Apr. 2023
Senior Vice President, Internal Audit Division, PTTEP
Nov. 2019 - Dec. 2020
Specialist, attached to President and CEO, in charge of internal audit assignments, PTTEP
Jan. - Oct. 2019
Acting Senior Vice President, Internal Audit Division, PTTEP
Jul. - Dec. 2018
Acting Senior Vice President, Enterprise Risk Management and Internal Control Division, PTTEP

% of Shareholding:

0.00063% (25,200 shares)

Family Relationship among Directors and Executives:

- None -

Attachment 2: Directors of Subsidiaries and Associated Companies[1]

1. List of PTTEP's Subsidiaries: As of December 31, 2023, there were 79 subsidiaries.

Name (the list only includes directors designated by PTTEP Group)	Subsidiaries																			
	APICO	APICO KH	APICO KL	APT	ARV	ATi	ATL	Bedrock	BIND	B-MED X	Cariva	CEEAL	COVE	CPOC	DGH	DGT	Energy Complex	EP-Tech	FSG	FST
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Mr. Korn Saranyasoontorn																				
2. Mr. Grinchai Hattagam																				
3. Mr. Krit Limbanyen																				
4. Mrs. Krissana Juisiri																				
5. Mr. Kritsada Kleechaya																				
6. Mr. Kitchai Pitiwiwat																				
7. Miss Kanita Sartwattayu														●						
8. Mr. Komson Tachapanich																				
9. Mr. Jaturong Jerdsakulboon																	●			
10. Mr. Chalongrut Ya-anan																				
11. Mr. Chayong Borisuitsawat																				
12. Mrs. Yada Vudhivorn																				
13. Mr. Titi Thongjen							●									●				
14. Mr. Narongpol Suthapintu												●	●							

Remarks: ● = Director

[1] Notification of the Securities and Exchange Commission No. Kor Jor. 17/2551, Re: Determination of Definitions in Notifications Relating to Issuance and Offer for Sale of Securities.

Name (the list only includes directors designated by PTTEP Group)	Subsidiaries																			
	APICO	APICO KH	APICO KL	APT	ARV	ATi	ATL	Bedrock	BIND	B-MED X	Cariva	CEEAL	COVE	CPOC	DGH	DGT	Energy Complex	EP-Tech	FSG	FST
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
15. Mr. Nathawut Sattayakhunnasakul			●																	
16. Mr. Dittapon Soothi-O-Soth																				
17. Mr. Ditsaphon Mikusol				●											●	●				
18. Mr. Direk Wangudomsuk																			●	●
19. Mr. Thanasit Vichaipairojwong																				
20. Mr. Thanat Thamrongsaksuvit																				
21. Mr. Thana Slanvetpan						●		●	●	●	●									
22. Mr. Thisan Dhienhirun																				
23. Mr. Terapol Phoonsiri																	●			
24. Mr. Nopasit Chaiwanakupt																	●	●		
25. Mr. Napa Medheethunyapong																				●
26. Mrs. Natruedee Khositaphai					●															
27. Mr. Nirandorn Rojanasomsith				●											●					
28. Miss Nuchanong Sangkeaw																				
29. Mr. Bundit Pattanasak																		●		
30. Mr. Pongtai Wilaireungsuwan																				
31. Mr. Piya Sukhumpanumet																				
32. Mr. Polasant Kullavanijaya														●						
33. Mrs. Patchara Romyanan																				
34. Miss Pungjai Jittasevi																				

Remark: ● = Director

Name (the list only includes directors designated by PTTEP Group)	Subsidiaries																			
	APICO	APICO KH	APICO KL	APT	ARV	ATi	ATL	Bedrock	BIND	B-MED X	Cariva	CEEAL	COVE	CPOC	DGH	DGT	Energy Complex	EP-Tech	FSG	FST
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
35. Mr. Padsakorn Suwanruji																				
36. Mr. Montri Rawanchaikul					●															
37. Miss Maylada Chayavadhanangkur																			●	
38. Miss Worrarat Rattanawong			●																	
39. Mr. Vitoon Chaisomboonpan																				
40. Mr. Saran Umpuch																				●
41. Mr. Sarayut Niamrit																				
42. Mr. Suppakarn Thanatit																				
43. Mr. Suphawich Thanudamrong																				
44. Mr. Soraphol Asavathevakiet																				
45. Mr. Sinthu Satawiriya											●									
46. Mr. Sermsak Satchawannakul																	●			
47. Mr. Anan Amornprabharwat																				
48. Mr. Anutra Bunnag																				
49. Mr. Awirut Sirimongkolkitti																				
50. Miss Maria Teresa Ribeiro																				
51. Mr. Ryan Hartfield																				

Remark: ● = Director

Name (the list only includes directors designated by PTTEP Group)	Subsidiaries																				
	FTEV	JV Marine	Natuna	Nila	NKA	Orange	PANG	PGC	PGH	PKC	POC	PSC	PTTEP AAA	PTTEP AAO	PTTEP AAS	PTTEP AB	PTTEP AG	PTTEP AI	PTTEP AP	PTTEP AT	PTTEP BC
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
1. Mr. Korn Saranyasoontorn																	●				
2. Mr. Grinchai Hattagam			●																		
3. Mr. Krit Limbanyen																					
4. Mrs. Krissana Juisiri																					
5. Mr. Kritsada Kleechaya							●			●											
6. Mr. Kitchai Pitiwiwat																					
7. Miss Kanita Sartwattayu		●				●															
8. Mr. Komson Tachapanich												●					●	●			
9. Mr. Jaturong Jerdsakulboon																					
10. Mr. Chalongrut Ya-anan																					
11. Mr. Chayong Borisuitsawat																					
12. Mrs. Yada Vudhivorn																					●
13. Mr. Titi Thongjen																					
14. Mr. Narongpol Suthapintu																					
15. Mr. Nathawut Sattayakhunnasakul																					
16. Mr. Dittapon Soothi-O-Soth																					
17. Mr. Ditsaphon Mikusol																					
18. Mr. Direk Wangudomsuk																					
19. Mr. Thanasit Vichaipairojwong																					
20. Mr. Thanat Thamrongsaksuvit																					

Remark: ● = Director

Name (the list only includes directors designated by PTTEP Group)	Subsidiaries																				
	FTEV	JV Marine	Natuna	Nila	NKA	Orange	PANG	PGC	PGH	PKC	POC	PSC	PTTEP AAA	PTTEP AAO	PTTEP AAS	PTTEP AB	PTTEP AG	PTTEP AI	PTTEP AP	PTTEP AT	PTTEP BC
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
21. Mr. Thana Slanvetpan				●																	
22. Mr. Thisan Dhienhirun																	●				
23. Mr. Terapol Phoonsiri																					
24. Mr. Nopasit Chaiwanakupt	●																				
25. Mr. Napa Medheethunyapong																					
26. Mrs. Natruedee Khositaphai																					
27. Mr. Nirandorn Rojanasomsith													●	●	●	●			●	●	
28. Miss Nuchanong Sangkeaw																					
29. Mr. Bundit Pattanasak																					
30. Mr. Pongtai Wilaireungsuwan																					
31. Mr. Piya Sukhumpanumet								●			●	●									
32. Mr. Polasant Kullavanijaya		●				●															
33. Mrs. Patchara Romyanan																					
34. Miss Pungjai Jittasevi																					
35. Mr. Padsakorn Suwanruji																					
36. Mr. Montri Rawanchaikul																					
37. Miss Maylada Chayavadhanangkur																					
38. Miss Worrarat Rattanawong																					
39. Mr. Vitoon Chaisomboonpan								●	●		●	●									
40. Mr. Saran Umpuch																					

Remark: ● = Director

Name (the list only includes directors designated by PTTEP Group)	Subsidiaries																				
	FTEV	JV Marine	Natuna	Nila	NKA	Orange	PANG	PGC	PGH	PKC	POC	PSC	PTTEP AAA	PTTEP AAO	PTTEP AAS	PTTEP AB	PTTEP AG	PTTEP AI	PTTEP AP	PTTEP AT	PTTEP BC
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
41. Mr. Sarayut Niamrit																					
42. Mr. Suppakarn Thanatit																					
43. Mr. Suphawich Thanudamrong																					
44. Mr. Soraphol Asavathevakiet								●													
45. Mr. Sinthu Satawiriya				●																	
46. Mr. Sermsak Satchawannakul	●					●															
47. Mr. Anan Amornprabharwat																					
48. Mr. Anutra Bunnag																					
49. Mr. Awirut Sirimongkolkitti																					
50. Miss Maria Teresa Ribeiro											●										
51. Mr. Ryan Hartfield					●								●	●	●	●			●	●	

Remark: ● = Director

Name (the list only includes directors designated by PTTEP Group)	Subsidiaries																				
	PTTEP BI	PTTEP CA	PTTEP ED	PTTEP EH	PTTEP HK	PTTEP HKO	PTTEP HL	PTTEP HV	PTTEP ID	PTTEP IH	PTTEP KV	PTTEP MENA	PTTEP MEP	PTTEP ML	PTTEP MZA1	PTTEP NC	PTTEP NH	PTTEP NL	PTTEP SA	PTTEP SBO	PTTEP Services
	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
1. Mr. Korn Saranyasoontorn																					
2. Mr. Grinchai Hattagam									●					●							
3. Mr. Krit Limbanyen																					
4. Mrs. Krissana Juisiri		●														●					
5. Mr. Kritsada Kleechaya							●	●			●										
6. Mr. Kitchai Pitiwiwat			●																		
7. Miss Kanita Sartwattayu			●																		
8. Mr. Komson Tachapanich																					
9. Mr. Jaturong Jerdsakulboon																					
10. Mr. Chalongrut Ya-anan	●																				
11. Mr. Chayong Borisuitsawat					●																
12. Mrs. Yada Vudhivorn										●											
13. Mr. Titi Thongjen																			●		
14. Mr. Narongpol Suthapintu															●						
15. Mr. Nathawut Sattayakhunnasakul																					
16. Mr. Dittapon Soothi-O-Soth			●																		
17. Mr. Ditsaphon Mikusol																					
18. Mr. Direk Wangudomsuk																					
19. Mr. Thanasit Vichaipairojwong																					
20. Mr. Thanat Thamrongsaksuvit																					

Remark: ● = Director

Name (the list only includes directors designated by PTTEP Group)	Subsidiaries																				
	PTTEP BI	PTTEP CA	PTTEP ED	PTTEP EH	PTTEP HK	PTTEP HKO	PTTEP HL	PTTEP HV	PTTEP ID	PTTEP IH	PTTEP KV	PTTEP MENA	PTTEP MEP	PTTEP ML	PTTEP MZA1	PTTEP NC	PTTEP NH	PTTEP NL	PTTEP SA	PTTEP SBO	PTTEP Services
	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
21. Mr. Thana Slanvetpan																					
22. Mr. Thisan Dhienhirun																					
23. Mr. Terapol Phoonsiri																					
24. Mr. Nopasit Chaiwanakupt																					
25. Mr. Napa Medheethunyapong																					
26. Mrs. Natruedee Khositaphai																					
27. Mr. Nirandorn Rojanasomsith				●														●			
28. Miss Nuchanong Sangkeaw																					
29. Mr. Bundit Pattanasak																					
30. Mr. Pongtai Wilaireungsuwan																			●		
31. Mr. Piya Sukhumpanumet						●						●					●			●	
32. Mr. Polasant Kullavanijaya																					
33. Mrs. Patchara Romyanan												●									
34. Miss Pungjai Jittasevi																					●
35. Mr. Padsakorn Suwanruji						●														●	
36. Mr. Montri Rawanchaikul																					
37. Miss Maylada Chayavadhanangkur																					
38. Miss Worrarat Rattanawong																					
39. Mr. Vitoon Chaisomboonpan																					
40. Mr. Saran Umpuch																					

Remark: ● = Director

Name (the list only includes directors designated by PTTEP Group)	Subsidiaries																				
	PTTEP BI	PTTEP CA	PTTEP ED	PTTEP EH	PTTEP HK	PTTEP HKO	PTTEP HL	PTTEP HV	PTTEP ID	PTTEP IH	PTTEP KV	PTTEP MENA	PTTEP MEP	PTTEP ML	PTTEP MZA1	PTTEP NC	PTTEP NH	PTTEP NL	PTTEP SA	PTTEP SBO	PTTEP Services
	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
41. Mr. Sarayut Niamrit																					
42. Mr. Suppakarn Thanatit	●																				
43. Mr. Suphawich Thanudamrong													●								
44. Mr. Soraphol Asavathevakiet																					
45. Mr. Sinthu Satawiriya																					
46. Mr. Sermsak Satchawannakul				●	●				●												
47. Mr. Anan Amornprabharwat																					
48. Mr. Anutra Bunnag																					
49. Mr. Awirut Sirimongkolkitti													●								
50. Miss Maria Teresa Ribeiro																					
51. Mr. Ryan Hartfield																					

Remark: ● = Director

Name (the list only includes directors designated by PTTEP Group)	Subsidiaries																
	PTTEP SKO	PTTEP SP	PTTEP SV	PTTEP SVPC	PTTEP TC	PTTEPH	PTTEPI	PTTEPO	PTTEP Siam	Rovula	S2	SHL	Skyller	TTI	Varuna	XPV	ZeaQuest
	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
1. Mr. Korn Saranyasoontorn																	
2. Mr. Grinchai Hattagam																	
3. Mr. Krit Limbanyen								●									
4. Mrs. Krissana Juisiri																	
5. Mr. Kritsada Kleechaya			●	●													
6. Mr. Kitchai Pitiwiwat																	
7. Miss Kanita Sartwattayu																	
8. Mr. Komson Tachapanich																	
9. Mr. Jaturong Jerdsakulboon																	
10. Mr. Chalongrut Ya-anan																	
11. Mr. Chayong Borisuitsawat																	
12. Mrs. Yada Vudhivorn																	
13. Mr. Titi Thongjen																	
14. Mr. Narongpol Suthapintu																	
15. Mr. Nathawut Sattayakhunnasakul																	
16. Mr. Dittapon Soothi-O-Soth																	
17. Mr. Ditsaphon Mikusol																	
18. Mr. Direk Wangudomsuk																	
19. Mr. Thanasit Vichaipairojwong								●									
20. Mr. Thanat Thamrongsaksuvit					●												

Remark: ● = Director

Name (the list only includes directors designated by PTTEP Group)	Subsidiaries																
	PTTEP SKO	PTTEP SP	PTTEP SV	PTTEP SVPC	PTTEP TC	PTTEPH	PTTEPI	PTTEPO	PTTEP Siam	Rovula	S2	SHL	Skyller	TTI	Varuna	XPV	ZeaQuest
	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
21. Mr. Thana Slanvetpan										●	●		●		●		●
22. Mr. Thisan Dhienhirun																	
23. Mr. Terapol Phoonsiri																	
24. Mr. Nopasit Chaiwanakupt																●	
25. Mr. Napa Medheethunyapong																	
26. Mrs. Natruedee Khositaphai																●	
27. Mr. Nirandorn Rojanasomsith																	
28. Miss Nuchanong Sangkeaw						●											
29. Mr. Bundit Pattanasak																	
30. Mr. Pongtai Wilaireungsuwan																	
31. Mr. Piya Sukhumpanumet	●																
32. Mr. Polasant Kullavanijaya							●					●					
33. Mrs. Patchara Romyanan																	
34. Miss Pungjai Jittasevi																	
35. Mr. Padsakorn Suwanruji	●																
36. Mr. Montri Rawanchaikul																	
37. Miss Maylada Chayavadhanangkur																	
38. Miss Worrarat Rattanawong																	
39. Mr. Vitoon Chaisomboonpan																	
40. Mr. Saran Umpuch																	

Remark: ● = Director

Name (the list only includes directors designated by PTTEP Group)	Subsidiaries																
	PTTEP SKO	PTTEP SP	PTTEP SV	PTTEP SVPC	PTTEP TC	PTTEPH	PTTEPI	PTTEPO	PTTEP Siam	Rovula	S2	SHL	Skyller	TTI	Varuna	XPV	ZeaQuest
	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
41. Mr. Sarayut Niamrit									●								
42. Mr. Suppakarn Thanatit																	
43. Mr. Suphawich Thanudamrong																	
44. Mr. Soraphol Asavathevakiet																	
45. Mr. Sinthu Satawiriya										●	●		●				●
46. Mr. Sermsak Satchawannakul																●	
47. Mr. Anan Amornprabharwat		●					●		●			●					
48. Mr. Anutra Bunnag		●															
49. Mr. Awirut Sirimongkolkitti																	
50. Miss Maria Teresa Ribeiro																	
51. Mr. Ryan Hartfield														●			

Remark: ● = Director

2. List of PTTEP's Associated Companies: As of December 31, 2023, there were 26 associated companies.

Name (the list only includes directors designated by PTTEP Group)	Associated Companies															
	AeroSky	AGP	B8/32 Partners	E2FSO	GISCO	HDL	MGTC	MOZ LNG1 Financing	MOZ LNG1 Holding	MZ LNG 1	OLNG	PDO	POHOL	PTT Digital	SPSE	SkyVIV
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Mr. Krit Limbanyen							●									
2. Mr. Komson Tachapanich									●							
3. Miss Natiya Leelasiri*							●									
4. Mr. Narongpol Suthapintu										●						
5. Mrs. Natruedee Khositaphai														●		
6. Miss Nuchanong Sangkeaw								●								
7. Miss Bussaban Cheencharoen															●	
8. Mr. Polasant Kullavanijaya			●	●												
9. Mr. Pongkit Luksamepicheat						●										
10. Mr. Vitoon Chaisomboonpan		●			●						●	●	●			
11. Mr. Soraphol Asavathevakiet*		●														
12. Mr. Sinthu Satawiriya	●															●
13. Mr. Sermsak Satchawannakul			●													
14. Miss Arporn Aranwattananon*										●						
15. Miss Maria Teresa Ribeiro*											●	●	●			

Remarks: ● = Director
* = Alternate Director

Ten associated companies which do not have any directors from PTTEP are:

1) Asia Pacific Marine Services, PDO-S, Moz LNG1 Co-Financing, and GARY which are governed by shareholders' meetings;
2) HV JOC, HL JOC, GBRS, GHBR, and LAL which are governed by the Management Committee;
3) QLNG director will be appointed on a rotation annual basis by OLNG shareholders.

Attachment 3:
Details of the Head of the Internal Audit Division and the Head of the Compliance Function

1. Details of the Head of the Internal Audit Division as of January 1, 2024 are as follows:

Mrs. Maneeya Srisukhumbowornchai
Senior Vice President, Internal Audit Division

Age: 49

Starting Date: May 1, 2023

Education:
- Master of Business Administration, Thammasat University
- Bachelor of Accounting, Chulalongkorn University

Training:
- Management of the Internal Audit Function, Federation of Accounting Professions under The Royal Patronage of His Majesty The King
- Financial Fraud, Federation of Accounting Professions under The Royal Patronage of His Majesty The King
- Corruption issues that organizations need to be aware of & Fraud Risk Assessment, Federation of Accounting Professions under The Royal Patronage of His Majesty The King
- Information Technology Risk Management Foundation for Internal Auditor, The Institute of Internal Auditors of Thailand
- Thai Financial Reporting Standards (TFRS) Year 2023, The Stock Exchange of Thailand (SET)
- 2023 Audit Committee Priorities: How Audit Committee can plan for success, EY
- Enhancing Internal Audit Maturity through Data and Technology, PwC
- The 22nd Annual Conference: Maximise Shareholder Value 2024, Embracing today's complexities, welcoming tomorrow's opportunities (Tax and Legal), PwC
- The Evolution of the New International Professional Practices Framework (new IPPF), PwC
- Future of E&P in Thailand, Valeura Energy Inc.
- Futuristic Leadership for Future Energy Boundaryless, Carbon Institute for Sustainability – CBiS
- Corporate Venture Capital (CVC) Investments for a World-Changing Future: Driving Innovation and Impact, PTTEP
- Digital Disruption & Board Viewpoints on Internal Audit Function, Global Power Synergy Public Company Limited (GPSC)
- Measures to Combat Financial Fraudulent Activities and the Royal Decree on Cybercrime Prevention and Suppression, Bank of Thailand
- Subsidiary Governance Program (SGP) 4/2023, The Thai Institute of Directors (IOD)
- All TFRS (Thai Financial Reporting Standards) Course 2565 (2022), Federation of Accounting Professions under The Royal Patronage of His Majesty The King

- How to comply with Personal Data Protection Act (PDPA) B.E. 2562 (2019), Baker & McKenzie Ltd.
- Corporate Secretary Program (CSP), The Thai Institute of Directors (IOD)
- Risk Management Program (Basic) – COSO ERM 2017
- Risk Management Program (Advanced) – COSO ERM 2017
- Fundamental for Corporate Secretaries, Thai Listed Companies Association
- The Executive Program in Anti-Corruption, Office of the National Anti-Corruption Commission

Work Experience in the Past 5 Years:

May 2023 - Present
Senior Vice President, Internal Audit Division, PTTEP

Sep. 2020 - Apr. 2023
Senior Vice President, Corporate Secretary Division, PTTEP, assigned as Company Secretary

Sep. 2019 - Aug. 2020
Acting Senior Vice President, Corporate Secretary Division, PTTEP, assigned as Company Secretary

Oct. 2018 - Jun. 2019
Acting Vice President, Accounting Policy and Solutions Department, PTTEP

May 2015 - Aug. 2019
Vice President, Tax Department, PTTEP

Jun. 2014 - Apr. 2015
Manager, Tax Compliance, PTTEP

2. Details of Head of the Compliance Function as of January 1, 2024 are as follows:

Ms. Chalida Srikorakul
Vice President, Governance, Compliance, Internal Control, and Subsidiary Management Department

Age: 55

Starting Date: January 26, 2021

Education:

- Master of Arts, Linguistics, California State University, Fresno, USA
- Bachelor of Laws, Thammasat University

Training:

- Subsidiary Governance Program, The Thai Institute of Directors (IOD)
- Ethical Leadership Program, The Thai Institute of Directors (IOD)
- Tax Overview & Compliance, PTTEP
- Petroleum Fiscal System and E&P Economic, PTTEP
- International Tax, PTTEP
- Financial Modelling, PTTEP
- Finance for Non-Finance Management, PTTEP
- Corporate Governance, The Vision Mission Co., Ltd.
- Overview on LNG Markets and Contracts, Herbert Smith Freehills
- Production Sharing Contract, UNI Strategic Pte Ltd.
- Oil and Gas Contracts, UNI Strategic Pte Ltd.
- LNG Fundamentals, PetroEdge
- Understanding of Gas Sale Agreement, PTTEP
- Petroleum Income Tax, International Consulting Network

Work Experience in the Past 5 Years:

Jan. 2021 - Present
Vice President, Governance, Compliance, Internal Control, and Subsidiary Management Department

Dec. 2015 - Dec. 2020
Senior Officer, Subsidiary Secretariat and Governance Department

Attachment 4: Asset Revaluation

- None -

Attachment 5:
Good Corporate Governance and Business Ethics

PTTEP Group values the importance of conducting business with good corporate governance. The Company, therefore, stipulates that the “Good Corporate Governance and Business Ethics” of PTTEP Group is to be treated as a Company’s regulation. The details are disclosed on PTTEP website. Click here for more information

Attachment 6:
Audit Committee Report

The details are disclosed in the “Corporate Governance Milestones” section, under the topic of “Audit Committee Report”.

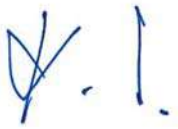
Financial Report



Report of the Board of Directors' Responsibilities for the Financial Statements

The financial statements of PTT Exploration and Production Public Company Limited and subsidiaries being consolidated have been prepared in accordance with Thai Financial Reporting Standards under the Accounting Act B.E. 2543, being those Thai Accounting Standards issued under the Accounting Profession Act B.E. 2547 including interpretations and accounting treatment guidance announced by the Federation of Accounting Professions, as well as the financial reporting requirements of the Securities and Exchange Commission under the Securities and Exchange Act B.E. 2535.

The Company's Board of Directors are responsible for the integrity and objectivity of the financial statements of PTT Exploration and Production Public Company Limited and subsidiaries in providing reasonable assurance that the financial statements truly and fairly present financial position, results of operation and cash flows. The books and records of the Company accurately reflect all transactions to safeguard the Company's assets and the control systems are in place to prevent fraud and irregularity. The financial statements have been prepared by adoption of the appropriate accounting policy which is applied on the consistency basis and in accordance with Thai Financial Reporting Standards. In addition, significant information has been adequately disclosed in the notes to financial statements, in which the independent auditor expresses an opinion on the financial statements of PTT Exploration and Production Public Company Limited and subsidiaries in the auditor's report.





(Mr. Krairit Euchukanonchai)
Chairman

(Mr. Montri Rawanchaikul)
Chief Executive Officer

Independent Auditor's Report

To the Shareholders of PTT Exploration and Production Public Company Limited

My opinion

In my opinion, the consolidated financial statements and the separate financial statements present fairly, in all material respects, the consolidated financial position of PTT Exploration and Production Public Company Limited (the Company) and its subsidiaries (the Group) and the separate financial position of the Company as at 31 December 2023, and its consolidated and separate financial performance and its consolidated and separate cash flows for the year then ended in accordance with Thai Financial Reporting Standards (TFRS).

What I have audited

The consolidated financial statements and the separate financial statements comprise:

- the consolidated and separate statements of financial position as at 31 December 2023;
- the consolidated and separate statements of income for the year then ended;
- the consolidated and separate statements of comprehensive income for the year then ended;
- the consolidated and separate statements of changes in equity for the year then ended;
- the consolidated and separate statements of cash flows for the year then ended; and
- the notes to the consolidated and separate financial statements, which include significant accounting policies and other explanatory information.

Basis for opinion

I conducted my audit in accordance with the State Audit Standards and Thai Standards on Auditing (TSAs). My responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the consolidated and separate financial statements section of my report. I am independent of the Group and the Company in accordance with the State Audit Standards as determined by the State Audit Commission and the Code of Ethics for Professional Accountants including Independence Standards issued by the Federation of Accounting Professions (TFAC Code) that are relevant to my audit of the consolidated and separate financial statements, and I have fulfilled my other ethical responsibilities in accordance with the State Audit Standards and the TFAC Code. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Other matter

The State Audit Standards as described in the basis for opinion section and the auditor's responsibilities for the audit of the consolidated and separate financial statements section are relevant to the particular section of audit on the financial reporting by independent auditor.

Key audit matters

Key audit matters are those matters that, in my professional judgement, were of most significance in my audit of the consolidated and separate financial statements of the current period. I determine one key audit matter: Impairment assessment of goodwill. The matter was addressed in the context of my audit of the consolidated and separate financial statements as a whole, and in forming my opinion thereon, and I do not provide a separate opinion on the matter.

Key audit matter	How my audit addressed the key audit matter
Impairment assessment of goodwill As at 31 December 2023, the Group has recognised goodwill net of an allowance for impairment of US Dollar 1,353.20 million representing 5.13% of its total consolidated assets. In 2023, the Group recognised an impairment loss for the goodwill of US Dollar 120 million as disclosed in Note 20. Management tests impairment of goodwill annually or whenever there is an indicator of impairment. The impairment test is performed at the cash generating unit (CGU) level. Determining the CGU's recoverable amount (the higher of value in use or fair value less costs of disposal), which includes goodwill, requires significant management judgement in identifying both the relevant CGUs and valuation assumptions. These assumptions include global oil price trends, estimated petroleum reserves, exploration, development and production plans, cost profiles,	I carried out the following procedures to assess management's impairment testing of goodwill: • Evaluated the appropriateness of CGUs that the Group identified and the internal impairment assessment process of the Group. • Held discussions with management to understand the basis of the assumptions used to estimate the discounted cash flow to calculate the recoverable amount and assessed whether the impairment testing process and assumptions used in each CGU had been applied consistently across the Group. • Challenged management's significant assumptions for estimating the discounted cash flow, specifically global oil price trends, petroleum reserve estimates, exploration, development and production plans, cost profiles, growth rate and discount rate. The procedures included comparing key assumptions with reliable external sources and the approved business plan.

Key audit matter	How my audit addressed the key audit matter
growth rate and discount rate applied to the discounted cash flow forecasts. I focused on the impairment assessment of goodwill from the acquisition of exploration and production businesses in each region as noted below due to their significant values. Also, determining the recoverable amount of each CGU depends on a number of assumptions and management judgement in determining the appropriate level of those assumptions, which were impacted from an uncertainty of current economic conditions. • goodwill of US Dollar 445.03 million from acquiring the exploration and production business in Thailand; • goodwill of US Dollar 454.10 million from acquiring the exploration and production business in other Southeast Asia countries; and • goodwill of US Dollar 250.79 million from acquiring the exploration and production business in Africa.	• Assessed the reasonableness of the business plan by comparing the plan for 2023 with actual results. • Tested reasonableness of the discount rate by considering publicly available information on other companies in the industry, obtained independently by the auditor's expert, to assess whether the discount rate that management used was within an acceptable range compared to comparable companies in the industry. • Assessed the factors which were sensitive to assumptions and tested the sensitivity analysis of key assumptions in management's model to assess the potential impact of various possible outcomes from changing in those assumptions. Based on the results of the procedures performed, I found that management's key assumptions were reasonable and within the acceptable range. They were consistent with supporting evidence.

Other information

The directors are responsible for the other information. The other information comprises the information included in the annual report, but does not include the consolidated and separate financial statements and my auditor's report thereon. The annual report is expected to be made available to me after the date of this auditor's report.

My opinion on the consolidated and separate financial statements does not cover the other information and I will not express any form of assurance conclusion thereon.

In connection with my audit of the consolidated and separate financial statements, my responsibility is to read the other information identified above when it becomes available and, in doing so, consider whether the other information is materially inconsistent with the consolidated and separate financial statements or my knowledge obtained in the audit, or otherwise appears to be materially misstated.

When I read the annual report, if I conclude that there is a material misstatement therein, I am required to communicate the matter to the audit committee.

Responsibilities of the directors for the consolidated and separate financial statements

The directors are responsible for the preparation and fair presentation of the consolidated and separate financial statements in accordance with TFRS, and for such internal control as the directors determine is necessary to enable the preparation of consolidated and separate financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated and separate financial statements, the directors are responsible for assessing the Group's and the Company'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 the directors either intend to liquidate the Group and the Company or to cease operations, or has no realistic alternative but to do so.

The audit committee assists the directors in discharging their responsibilities for overseeing the Group's and the Company's financial reporting process.

Auditor's responsibilities for the audit of the consolidated and separate financial statements

My objectives are to obtain reasonable assurance about whether the consolidated and separate 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 my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the State Audit Standards and TSAs 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 and separate financial statements.

As part of an audit in accordance with the State Audit Standards and TSAs, I exercise professional judgement and maintain professional scepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the consolidated and separate 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 my 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 and the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the directors.
- Conclude on the appropriateness of the directors' 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 and the Company's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the consolidated and separate financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Group and the Company to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated and separate financial statements, including the disclosures, and whether the consolidated and separate 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. I am responsible for the direction, supervision and performance of the group audit. I remain solely responsible for my audit opinion.

I communicate with the audit committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

I also provide the audit committee with a statement that I have complied with the State Audit Standards and relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on my independence, and where applicable, related safeguards.

From the matters communicated with the audit committee, I determine those matters that were of most significance in the audit of the consolidated and separate financial statements of the current period and are therefore the key audit matters. I describe these matters in my auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, I determine that a matter should not be communicated in my report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

PricewaterhouseCoopers ABAS Ltd.



Certified Public Accountant (Thailand) No. 4599

Bangkok

12 February 2024

Financial Statements

Statement of Financial Position

PTT Exploration and Production Public Company Limited

As at 31 December 2023

		Consolidated financial statements			
		Unit: Thousand US Dollar		Unit: Thousand Baht	
	Notes	2023	2022	2023	2022
Assets					
Current assets					
Cash and cash equivalents	11	4,018,959	3,539,220	137,541,856	122,323,890
Short-term investments	12	200,000	-	6,844,650	-
Trade and other receivables	13	1,818,678	1,219,995	62,241,058	42,165,954
Short-term loans to a related party	16	7,545	1,317	258,203	45,516
Inventories	15	611,110	553,046	20,914,183	19,114,603
Current tax assets		54,152	53,878	1,853,270	1,862,144
Derivative assets	10	19,265	16,254	659,316	561,781
Other current financial assets	14	-	667	-	23,056
Other current assets		131,135	300,171	4,487,848	10,374,627
Assets held-for-sale		-	10,730	-	370,848
Total current assets		6,860,844	5,695,278	234,800,384	196,842,419
Non-current assets					
Investments in associates	17	134,141	115,345	4,590,730	3,986,595
Investments in joint ventures	17	151,276	162,230	5,177,146	5,607,066
Long-term loans to a related party	16	438	434	15,000	15,001
Property, plant and equipment	18	12,864,663	11,880,375	440,270,605	410,613,962
Right-of-use assets	19	838,921	974,706	28,710,592	33,688,151
Goodwill	20	1,353,200	1,548,622	46,310,918	53,524,061
Intangible assets		134,327	132,703	4,597,101	4,586,552
Exploration and evaluation assets	21	2,756,341	3,071,577	94,330,965	106,160,969
Deferred tax assets	22	533,957	929,484	18,273,750	32,125,179
Rights to receive reimbursement from decommissioning funds		348,655	317,176	11,932,093	10,962,362
Derivative assets	10	10,837	26,521	370,892	916,629
Other non-current financial assets		162,860	139,655	5,573,617	4,826,788
Other non-current assets	23	229,877	173,848	7,867,133	6,008,589
Total non-current assets		19,519,493	19,472,676	668,020,542	673,021,904
Total assets		26,380,337	25,167,954	902,820,926	869,864,323

(Chayong Borisuitsawat)
Executive Vice President, Strategy,
Business Development, and Human Resources Group
Acting Chief Executive Officer

(Sermsak Satchawannakul)
Senior Vice President, Accounting Division

The notes to the consolidated and separate financial statements are an integral part of these financial statements.

Statement of Financial Position

PTT Exploration and Production Public Company Limited

As at 31 December 2023

	Notes	Consolidated financial statements			
		Unit: Thousand US Dollar		Unit: Thousand Baht	
		2023	2022	2023	2022
Liabilities and equity					
Current liabilities					
Trade and other payables	24	1,443,807	1,531,737	49,411,782	52,940,485
Current portion of long-term liabilities	25	280,860	303,193	9,611,929	10,479,059
Income tax payable		494,710	800,166	16,930,593	27,655,640
Short-term provisions		104,015	488,591	3,559,722	16,886,877
Derivative liabilities	10	42,320	53,027	1,448,333	1,832,740
Other current liabilities		222,889	137,787	7,628,005	4,762,261
Liabilities held-for-sale		-	1,704	-	58,887
Total current liabilities		2,588,601	3,316,205	88,590,364	114,615,949
Non-current liabilities					
Debentures	25	2,785,242	2,809,260	95,320,026	97,094,695
Lease liabilities	25	587,524	720,569	20,106,978	24,904,569
Deferred tax liabilities	22	1,526,388	1,575,376	52,237,956	54,448,734
Provision for employee benefits	28	206,726	190,800	7,074,852	6,594,534
Provision for decommissioning costs	26	3,851,781	2,799,503	131,820,463	96,757,437
Provision for remuneration for production bonus and renewal of petroleum production	27	158,997	193,533	5,441,395	6,688,963
Derivative liabilities	10	802	-	27,442	-
Other non-current liabilities		80,607	47,417	2,758,640	1,638,836
Total non-current liabilities		9,198,067	8,336,458	314,787,752	288,127,768
Total liabilities		11,786,668	11,652,663	403,378,116	402,743,717

Statement of Financial Position

PTT Exploration and Production Public Company Limited

As at 31 December 2023

	Note	Consolidated financial statements			
		Unit: Thousand US Dollar		Unit: Thousand Baht	
		2023	2022	2023	2022
Liabilities and equity (continued)					
Equity					
Share capital					
Authorised share capital					
Ordinary shares, 3,969,985,400 shares					
at par value of Baht 1 each	29			3,969,985	3,969,985
Issued and paid-up share capital					
Ordinary shares, 3,969,985,400 shares					
paid-up at Baht 1 each		150,684	150,684	3,969,985	3,969,985
Share premium		3,439,037	3,439,037	105,417,620	105,417,620
Retained earnings					
Appropriated					
Legal reserve		15,048	15,048	396,999	396,999
Reserve for expansion		431,231	431,231	16,900,000	16,900,000
Unappropriated		10,531,354	9,481,343	349,691,132	311,767,883
Other components of equity		22,917	(2,052)	22,950,765	28,668,119
Equity attributable to owners of the parent		14,590,271	13,515,291	499,326,501	467,120,606
Non-controlling interests		3,398	-	116,309	-
Total equity		14,593,669	13,515,291	499,442,810	467,120,606
Total liabilities and equity		26,380,337	25,167,954	902,820,926	869,864,323

The notes to the consolidated and separate financial statements are an integral part of these financial statements.

Statement of Financial Position

PTT Exploration and Production Public Company Limited

As at 31 December 2023

	Notes	Separate financial statements			
		Unit: Thousand US Dollar		Unit: Thousand Baht	
		2023	2022	2023	2022
Assets					
Current assets					
Cash and cash equivalents	11	954,109	1,189,891	32,652,711	41,125,443
Short-term investments	12	200,000	-	6,844,650	-
Trade and other receivables	13	850,042	810,998	29,091,210	28,030,016
Inventories	15	95,547	107,680	3,269,938	3,721,688
Current tax assets		24,420	21,252	835,727	734,530
Other current assets		76,139	196,170	2,605,720	6,780,110
Total current assets		2,200,257	2,325,991	75,299,956	80,391,787
Non-current assets					
Investments in associates	17	25,577	25,577	875,343	884,017
Investments in subsidiaries	17	3,210,564	3,198,250	109,875,958	110,539,109
Long-term loans to a related party	16	6,982,835	6,982,835	238,975,311	241,343,325
Property, plant and equipment	18	1,470,815	1,631,053	50,336,057	56,373,052
Right-of-use assets	19	53,506	44,472	1,831,162	1,537,064
Goodwill	20	-	75,158	-	2,597,624
Intangible assets		79,704	79,659	2,727,726	2,753,203
Deferred tax assets	22	270,138	548,525	9,244,985	18,958,334
Rights to receive reimbursement from decommissioning funds		7,939	-	271,710	-
Derivative assets	10	8,491	17,743	290,606	613,234
Other non-current financial assets		222	212	7,594	7,307
Other non-current assets	23	26,458	24,439	905,464	844,682
Total non-current assets		12,136,249	12,627,923	415,341,916	436,450,951
Total assets		14,336,506	14,953,914	490,641,872	516,842,738

Statement of Financial Position

PTT Exploration and Production Public Company Limited

As at 31 December 2023

	Notes	Separate financial statements			
		Unit: Thousand US Dollar		Unit: Thousand Baht	
		2023	2022	2023	2022
Liabilities and equity					
Current liabilities					
Trade and other payables	24	309,611	385,854	10,595,877	13,336,041
Current portion of lease liabilities	25	34,169	31,264	1,169,388	1,080,538
Short-term loans from a related party	16	493,854	511,605	16,901,299	17,682,293
Income tax payable		243,560	541,373	8,335,397	18,711,148
Short-term provisions		22,056	277,561	754,831	9,593,157
Derivative liabilities	10	20,677	44,055	707,645	1,522,630
Other current liabilities		40,520	101,670	1,386,734	3,513,969
Total current liabilities		1,164,447	1,893,382	39,851,171	65,439,776
Non-current liabilities					
Debentures	25	508,121	503,055	17,389,568	17,386,788
Lease liabilities	25	32,291	19,294	1,105,085	666,844
Deferred tax liabilities	22	514	-	17,605	-
Provision for employee benefits	28	120,247	106,931	4,115,255	3,695,792
Provision for decommissioning costs	26	925,972	825,031	31,689,767	28,515,021
Provision for remuneration for renewal of petroleum production	27	18,390	21,953	629,347	758,758
Other non-current liabilities		10,243	15,466	350,546	534,530
Total non-current liabilities		1,615,778	1,491,730	55,297,173	51,557,733
Total liabilities		2,780,225	3,385,112	95,148,344	116,997,509

Statement of Financial Position

PTT Exploration and Production Public Company Limited

As at 31 December 2023

	Note	Separate financial statements			
		Unit: Thousand US Dollar		Unit: Thousand Baht	
		2023	2022	2023	2022
Liabilities and equity (continued)					
Equity					
Share capital					
Authorised share capital					
Ordinary shares, 3,969,985,400 shares at par value of Baht 1 each	29			3,969,985	3,969,985
Issued and paid-up share capital					
Ordinary shares, 3,969,985,400 shares paid-up at Baht 1 each		150,684	150,684	3,969,985	3,969,985
Share premium		3,439,037	3,439,037	105,417,620	105,417,620
Retained earnings					
Appropriated					
Legal reserve		15,048	15,048	396,999	396,999
Reserve for expansion		431,231	431,231	16,900,000	16,900,000
Unappropriated		7,500,990	7,498,155	252,272,599	250,734,588
Other components of equity		19,291	34,647	16,536,325	22,426,037
Total equity		11,556,281	11,568,802	395,493,528	399,845,229
Total liabilities and equity		14,336,506	14,953,914	490,641,872	516,842,738

Statement of Income

PTT Exploration and Production Public Company Limited

For the year ended 31 December 2023

	Notes	Consolidated financial statements			
		Unit: Thousand US Dollar		Unit: Thousand Baht	
		2023	2022	2023	2022
Revenues					
Revenue from sales		8,511,079	9,270,564	296,242,285	326,018,964
Revenue from pipeline transportation		128,067	150,923	4,451,314	5,331,365
Other income					
Gain on foreign exchange rate		48,129	-	1,625,597	-
Gain on disposal of participating interests		73,239	-	2,561,078	-
Interest income		152,274	44,031	5,303,998	1,566,585
Other income		144,545	195,134	5,031,970	6,984,948
Total revenues		9,057,333	9,660,652	315,216,242	339,901,862
Expenses					
Operating expenses		1,224,841	1,110,010	42,663,573	39,091,978
Exploration expenses		94,044	71,683	3,308,662	2,551,124
Administrative expenses		486,938	578,363	16,979,153	20,386,490
Petroleum royalties		450,155	687,723	15,632,043	24,137,820
Depreciation, depletion and amortisation		2,334,711	2,363,135	81,321,703	83,168,048
Other expenses					
Loss on foreign exchange rate		-	91,064	-	3,277,904
Loss on remeasuring of financial instruments		55,588	184,486	1,880,828	5,889,156
Impairment loss on assets and goodwill	20	120,000	300,080	4,255,168	10,652,638
Finance costs		294,457	233,583	10,243,440	8,218,448
Total expenses		5,060,734	5,620,127	176,284,570	197,373,606
Share of profit of associates and joint ventures		42,556	19,556	1,476,513	667,830
Profit before income taxes		4,039,155	4,060,081	140,408,185	143,196,086
Income taxes	34	(1,831,388)	(2,061,501)	(63,703,666)	(72,294,751)
Profit for the year		2,207,767	1,998,580	76,704,519	70,901,335
Profit (loss) attributable to:					
Owners of the parent		2,207,826	1,998,580	76,706,392	70,901,335
Non-controlling interests		(59)	-	(1,873)	-
		2,207,767	1,998,580	76,704,519	70,901,335

		Unit: US Dollar		Unit: Baht	
		2023	2022	2023	2022
Earnings per share					
Basic earnings per share	35	0.54	0.51	18.89	17.94

The notes to the consolidated and separate financial statements are an integral part of these financial statements.

Statement of Comprehensive Income

PTT Exploration and Production Public Company Limited

For the year ended 31 December 2023

	Consolidated financial statements			
	Unit: Thousand US Dollar		Unit: Thousand Baht	
	2023	2022	2023	2022
Profit for the year	2,207,767	1,998,580	76,704,519	70,901,335
Other comprehensive income (expense)				
Items that will be reclassified subsequently to profit or loss				
Currency translation differences	50,326	(850)	518,392	468,895
Changes in hedging reserves	(37,766)	62,562	(1,309,436)	2,281,901
Income taxes relating to changes in hedging reserves	11,249	(12,512)	391,358	(456,380)
Share of other comprehensive income (expense) of associates and joint ventures	1,033	(2,607)	32,683	(92,647)
Total items that will be reclassified subsequently to profit or loss	24,842	46,593	(367,003)	2,201,769
Items that will not be reclassified subsequently to profit or loss				
Currency translation differences	-	-	(5,356,587)	11,798,378
Gain on remeasuring of financial assets	88	134	3,005	4,551
Share of other comprehensive income of associates	-	474	-	15,916
Gain (loss) from changes in actuarial assumptions of provision for employee benefits	(12,338)	14,787	(433,784)	514,420
Income taxes resulting from changes in actuarial assumptions of provision for employee benefits	2,701	(6,759)	95,749	(235,166)
Total items that will not be reclassified subsequently to profit or loss	(9,549)	8,636	(5,691,617)	12,098,099
Other comprehensive income (expense) for the year - net of tax	15,293	55,229	(6,058,620)	14,299,868
Total comprehensive income for the year	2,223,060	2,053,809	70,645,899	85,201,203
Total comprehensive income (expense) attributable to:				
Owners of the parent	2,223,158	2,053,809	70,651,003	85,201,203
Non-controlling interests	(98)	-	(5,104)	-
	2,223,060	2,053,809	70,645,899	85,201,203

The notes to the consolidated and separate financial statements are an integral part of these financial statements.

Statement of Income

PTT Exploration and Production Public Company Limited

For the year ended 31 December 2023

	Notes	Separate financial statements			
		Unit: Thousand US Dollar		Unit: Thousand Baht	
		2023	2022	2023	2022
Revenues					
Revenue from sales		2,476,779	3,698,710	85,836,619	129,755,643
Other income					
Gain on foreign exchange rate		52,939	-	1,813,526	-
Gain on remeasuring of financial instruments		-	1,228	-	25,671
Interest income		454,544	346,864	15,816,284	12,126,601
Other income		206,787	178,905	7,196,663	6,291,005
Dividend income from related parties		74,256	136,107	2,581,264	4,810,495
Total revenues		3,265,305	4,361,814	113,244,356	153,009,415
Expenses					
Operating expenses		219,946	235,281	7,599,750	8,248,412
Exploration expenses		1,026	1,038	36,701	35,732
Administrative expenses		453,426	371,290	15,801,814	12,998,744
Petroleum royalties		307,436	466,747	10,657,228	16,377,896
Depreciation, depletion and amortisation		465,929	853,336	16,082,260	30,019,247
Other expenses					
Loss on foreign exchange rate		-	37,040	-	1,345,189
Loss on remeasuring of financial instruments		43,093	-	1,445,573	-
Finance costs		89,204	56,667	3,106,528	1,994,272
Total expenses		1,580,060	2,021,399	54,729,854	71,019,492
Profit before income taxes		1,685,245	2,340,415	58,514,502	81,989,923
Income taxes	34	(581,064)	(799,452)	(20,164,868)	(28,046,043)
Profit for the year		1,104,181	1,540,963	38,349,634	53,943,880

		Unit: US Dollar		Unit: Baht	
		2023	2022	2023	2022
Earnings per share					
Basic earnings per share	35	0.28	0.39	9.66	13.67

The notes to the consolidated and separate financial statements are an integral part of these financial statements.

Statement of Comprehensive Income

PTT Exploration and Production Public Company Limited

For the year ended 31 December 2023

	Separate financial statements			
	Unit: Thousand US Dollar		Unit: Thousand Baht	
	2023	2022	2023	2022
Profit for the year	1,104,181	1,540,963	38,349,634	53,943,880
Other comprehensive income (expense)				
Items that will be reclassified subsequently to profit or loss				
Changes in hedging reserves	(22,173)	43,366	(770,529)	1,557,346
Income taxes relating to changes in hedging reserves	6,814	(8,673)	237,326	(311,469)
Total items that will be reclassified subsequently to profit or loss	(15,359)	34,693	(533,203)	1,245,877
Items that will not be reclassified subsequently to profit or loss				
Currency translation differences	-	-	(5,356,587)	11,798,378
Gain (loss) on remeasuring of financial assets	3	(2)	78	(36)
Gain (loss) from changes in actuarial assumptions of provision for employee benefits	(5,148)	13,557	(182,532)	471,686
Income taxes resulting from changes in actuarial assumptions of provision for employee benefits	2,574	(6,779)	91,266	(235,843)
Total items that will not be reclassified subsequently to profit or loss	(2,571)	6,776	(5,447,775)	12,034,185
Other comprehensive income (loss) for the year - net of tax	(17,930)	41,469	(5,980,978)	13,280,062
Total comprehensive income for the year	1,086,251	1,582,432	32,368,656	67,223,942

Statement of Changes in Equity

PTT Exploration and Production Public Company Limited

For the year ended 31 December 2023

	Consolidated financial statements											
	Unit: Thousand US Dollar											
							Other components of equity					
							Other comprehensive income (expense)					
				Retained earnings								
	Issued and paid-up share capital	Share premium	Subordinated capital debentures	Legal reserve	Reserve for expansion	Unappropriated	Currency translation differences	Remeasuring of financial assets	Cash flow hedge reserve	Share of other comprehensive income (expense) of associates and joint ventures	Total other components of equity	Total equity
Balance as at 1 January 2022	150,684	3,439,037	156,570	15,048	431,231	8,306,161	(47,956)	(674)	(726)	(21,156)	(70,512)	12,428,219
Changes in equity for the year												
Interest expenses for subordinated capital debentures	-	-	-	-	-	(4,256)	-	-	-	-	-	(4,256)
Redemption of subordinated capital debentures	-	-	(156,570)	-	-	13,980	-	-	-	-	-	(142,590)
Income tax for subordinated capital debentures	-	-	-	-	-	(399)	-	-	-	-	-	(399)
Dividends paid	-	-	-	-	-	(819,492)	-	-	-	-	-	(819,492)
Profit for the year	-	-	-	-	-	1,998,580	-	-	-	-	-	1,998,580
Other comprehensive income (expense) for the year	-	-	-	-	-	(13,231)	(850)	134	50,050	19,126	68,460	55,229
Balance as at 31 December 2022	150,684	3,439,037	-	15,048	431,231	9,481,343	(48,806)	(540)	49,324	(2,030)	(2,052)	13,515,291

The notes to the consolidated and separate financial statements are an integral part of these financial statements.

Statement of Changes in Equity

PTT Exploration and Production Public Company Limited

For the year ended 31 December 2023

		Consolidated financial statements												
		Unit: Thousand US Dollar												
		Attributable to owners of the parent												
							Other components of equity							
							Other comprehensive income (expense)							
				Retained earnings										
	Notes	Issued and paid-up share capital	Share premium	Legal reserve	Reserve for expansion	Unappropriated	Currency translation differences	Remeasuring of financial assets	Cash flow hedge reserve	Share of other comprehensive income (expense) of associates and joint ventures	Total other components of equity	Total owners of the parent	Non-controlling interests	Total equity
Balance as at 1 January 2023		150,684	3,439,037	15,048	431,231	9,481,343	(48,806)	(540)	49,324	(2,030)	(2,052)	13,515,291	-	13,515,291
Changes in equity for the year														
Foreign exchange difference from repayment of subordinated perpetual loan	31	-	-	-	-	(49,406)	-	-	-	-	-	(49,406)	-	(49,406)
Increase in share capital of subsidiaries		-	-	-	-	-	-	-	-	-	-	-	3,496	3,496
Dividends paid	32	-	-	-	-	(1,098,772)	-	-	-	-	-	(1,098,772)	-	(1,098,772)
Profit for the year		-	-	-	-	2,207,826	-	-	-	-	-	2,207,826	(59)	2,207,767
Other comprehensive income (expense) for the year		-	-	-	-	(9,637)	50,365	88	(26,517)	1,033	24,969	15,332	(39)	15,293
Balance as at 31 December 2023		150,684	3,439,037	15,048	431,231	10,531,354	1,559	(452)	22,807	(997)	22,917	14,590,271	3,398	14,593,669

The notes to the consolidated and separate financial statements are an integral part of these financial statements.

Statement of Changes in Equity

PTT Exploration and Production Public Company Limited

For the year ended 31 December 2023

	Consolidated financial statements											
	Unit: Thousand Baht											
							Other components of equity					
							Other comprehensive income (expense)					
				Retained earnings								
	Issued and paid-up share capital	Share premium	Subordinated capital debentures	Legal reserve	Reserve for expansion	Unappropriated	Currency translation differences	Remeasuring of financial assets	Cash flow hedge reserve	Share of other comprehensive income (expense) of associates and joint ventures	Total other components of equity	Total equity
Balance as at 1 January 2022	3,969,985	105,417,620	4,981,992	396,999	16,900,000	269,709,716	14,554,658	(23,888)	109,213	(666,547)	13,973,436	415,349,748
Changes in equity for the year												
Interest expenses for subordinated capital debentures	-	-	-	-	-	(145,093)	-	-	-	-	-	(145,093)
Redemption of subordinated capital debentures	-	-	(4,981,992)	-	-	490,594	-	-	-	-	-	(4,491,398)
Income tax for subordinated capital debentures	-	-	-	-	-	(14,283)	-	-	-	-	-	(14,283)
Dividends paid	-	-	-	-	-	(28,779,571)	-	-	-	-	-	(28,779,571)
Profit for the year	-	-	-	-	-	70,901,335	-	-	-	-	-	70,901,335
Other comprehensive income (expense) for the year	-	-	-	-	-	(394,815)	12,267,273	4,551	1,825,521	597,338	14,694,683	14,299,868
Balance as at 31 December 2022	3,969,985	105,417,620	-	396,999	16,900,000	311,767,883	26,821,931	(19,337)	1,934,734	(69,209)	28,668,119	467,120,606

The notes to the consolidated and separate financial statements are an integral part of these financial statements.

Statement of Changes in Equity

PTT Exploration and Production Public Company Limited

For the year ended 31 December 2023

		Consolidated financial statements												
														Unit: Thousand Baht
		Attributable to owners of the parent												
							Other components of equity							
							Other comprehensive income (expense)							
				Retained earnings						Share of other comprehensive				
	Notes	Issued and paid-up share capital	Share premium	Legal reserve	Reserve for expansion	Unappropriated	Currency translation differences	Remeasuring of financial assets	Cash flow hedge reserve	income (expense) of associates and joint ventures	Total other components of equity	Total owners of the parent	Non-controlling interests	Total equity
Balance as at 1 January 2023		3,969,985	105,417,620	396,999	16,900,000	311,767,883	26,821,931	(19,337)	1,934,734	(69,209)	28,668,119	467,120,606	-	467,120,606
Changes in equity for the year														
Foreign exchange difference from repayment of subordinated perpetual loan	31	-	-	-	-	(1,724,751)	-	-	-	-	-	(1,724,751)	-	(1,724,751)
Increase in share capital of subsidiaries		-	-	-	-	-	-	-	-	-	-	-	121,413	121,413
Dividends paid	32	-	-	-	-	(36,720,357)	-	-	-	-	-	(36,720,357)	-	(36,720,357)
Profit for the year		-	-	-	-	76,706,392	-	-	-	-	-	76,706,392	(1,873)	76,704,519
Other comprehensive income (expense) for the year		-	-	-	-	(338,035)	(4,834,964)	3,005	(918,078)	32,683	(5,717,354)	(6,055,389)	(3,231)	(6,058,620)
Balance as at 31 December 2023		3,969,985	105,417,620	396,999	16,900,000	349,691,132	21,986,967	(16,332)	1,016,656	(36,526)	22,950,765	499,326,501	116,309	499,442,810

The notes to the consolidated and separate financial statements are an integral part of these financial statements.

Statement of Changes in Equity

PTT Exploration and Production Public Company Limited

For the year ended 31 December 2023

	Separate financial statements									
	Unit: Thousand US Dollar									
							Other components of equity			
							Other comprehensive income (expense)			
				Retained earnings						
	Issued and paid-up share capital	Share premium	Subordinated capital debentures	Legal reserve	Reserve for expansion	Unappropriated	Remeasuring of financial assets	Cash flow hedge reserve	Total other components of equity	Total equity
Balance as at 1 January 2022	150,684	3,439,037	156,570	15,048	431,231	6,760,581	(5)	(39)	(44)	10,953,107
Changes in equity for the year										
Interest expenses for subordinated capital debentures	-	-	-	-	-	(4,256)	-	-	-	(4,256)
Redemption of subordinated capital debentures	-	-	(156,570)	-	-	13,980	-	-	-	(142,590)
Income tax for subordinated capital debentures	-	-	-	-	-	(399)	-	-	-	(399)
Dividends paid	-	-	-	-	-	(819,492)	-	-	-	(819,492)
Profit for the year	-	-	-	-	-	1,540,963	-	-	-	1,540,963
Other comprehensive income (expense) for the year	-	-	-	-	-	6,778	(2)	34,693	34,691	41,469
Balance as at 31 December 2022	150,684	3,439,037	-	15,048	431,231	7,498,155	(7)	34,654	34,647	11,568,802

The notes to the consolidated and separate financial statements are an integral part of these financial statements.

Statement of Changes in Equity

PTT Exploration and Production Public Company Limited

For the year ended 31 December 2023

		Separate financial statements								
										Unit: Thousand US Dollar
							Other components of equity			
							Other comprehensive income (expense)			
				Retained earnings						
	Note	Issued and paid-up share capital	Share premium	Legal reserve	Reserve for expansion	Unappropriated	Remeasuring of financial assets	Cash flow hedge reserve	Total other components of equity	Total equity
Balance as at 1 January 2023		150,684	3,439,037	15,048	431,231	7,498,155	(7)	34,654	34,647	11,568,802
Changes in equity for the year										
Dividends paid	32	-	-	-	-	(1,098,772)	-	-	-	(1,098,772)
Profit for the year		-	-	-	-	1,104,181	-	-	-	1,104,181
Other comprehensive income (expense) for the year		-	-	-	-	(2,574)	3	(15,359)	(15,356)	(17,930)
Balance as at 31 December 2023		150,684	3,439,037	15,048	431,231	7,500,990	(4)	19,295	19,291	11,556,281

The notes to the consolidated and separate financial statements are an integral part of these financial statements.

Statement of Changes in Equity

PTT Exploration and Production Public Company Limited

For the year ended 31 December 2023

	Separate financial statements										
	Unit: Thousand Baht										
				Retained earnings			Other components of equity				
							Other comprehensive income (expense)				
	Issued and paid-up share capital	Share premium	Subordinated capital debentures	Legal reserve	Reserve for expansion	Unappropriated	Currency translation differences	Remeasuring of financial assets	Cash flow hedge reserve	Total other components of equity	Total equity
Balance as at 1 January 2022	3,969,985	105,417,620	4,981,992	396,999	16,900,000	225,003,218	9,357,417	(163)	24,564	9,381,818	366,051,632
Changes in equity for the year											
Interest expenses for subordinated capital debentures	-	-	-	-	-	(145,093)	-	-	-	-	(145,093)
Redemption of subordinated capital debentures	-	-	(4,981,992)	-	-	490,594	-	-	-	-	(4,491,398)
Income tax for subordinated capital debentures	-	-	-	-	-	(14,283)	-	-	-	-	(14,283)
Dividends paid	-	-	-	-	-	(28,779,571)	-	-	-	-	(28,779,571)
Profit for the year	-	-	-	-	-	53,943,880	-	-	-	-	53,943,880
Other comprehensive income (expense) for the year	-	-	-	-	-	235,843	11,798,378	(36)	1,245,877	13,044,219	13,280,062
Balance as at 31 December 2022	3,969,985	105,417,620	-	396,999	16,900,000	250,734,588	21,155,795	(199)	1,270,441	22,426,037	399,845,229

The notes to the consolidated and separate financial statements are an integral part of these financial statements.

Statement of Changes in Equity

PTT Exploration and Production Public Company Limited

For the year ended 31 December 2023

		Separate financial statements									
											Unit: Thousand Baht
							Other components of equity				
				Retained earnings			Other comprehensive income (expense)				
	Note	Issued and paid-up share capital	Share premium	Legal reserve	Reserve for expansion	Unappropriated	Currency translation differences	Remeasuring of financial assets	Cash flow hedge reserve	Total other components of equity	Total equity
Balance as at 1 January 2023		3,969,985	105,417,620	396,999	16,900,000	250,734,588	21,155,795	(199)	1,270,441	22,426,037	399,845,229
Changes in equity for the year											
Dividends paid	32	-	-	-	-	(36,720,357)	-	-	-	-	(36,720,357)
Profit for the year		-	-	-	-	38,349,634	-	-	-	-	38,349,634
Other comprehensive income (expense) for the year		-	-	-	-	(91,266)	(5,356,587)	78	(533,203)	(5,889,712)	(5,980,978)
Balance as at 31 December 2023		3,969,985	105,417,620	396,999	16,900,000	252,272,599	15,799,208	(121)	737,238	16,536,325	395,493,528

The notes to the consolidated and separate financial statements are an integral part of these financial statements.

Statement of Cash Flows

PTT Exploration and Production Public Company Limited

For the year ended 31 December 2023

	Consolidated financial statements			
	Unit: Thousand US Dollar		Unit: Thousand Baht	
	2023	2022	2023	2022
Cash flows from operating activities				
Profit before income taxes	4,039,155	4,060,081	140,408,185	143,196,086
Adjustments for:				
Share of profit of associates and joint ventures	(42,556)	(19,556)	(1,476,513)	(667,830)
Depreciation, depletion and amortisation	2,334,711	2,363,135	81,321,703	83,168,048
Impairment loss on assets and goodwill	120,000	300,080	4,255,168	10,652,638
Write-off of exploration expenses	66,233	32,634	2,341,859	1,178,276
Other amortised expenses	9,299	12,426	323,453	442,492
Write-off of assets	72,783	17,704	2,496,809	617,381
Income recognised from deferred income	(233)	(7,333)	(8,121)	(256,528)
(Gain) loss on remeasuring of financial instruments	(14,871)	95,993	(505,353)	2,941,428
(Gain) loss on foreign exchange rates	(2,932)	8,142	(101,968)	284,850
Interest income	(152,274)	(44,031)	(5,303,998)	(1,566,585)
Finance costs	287,957	223,287	10,027,416	7,849,907
Other Income	(80,901)	(73,041)	(2,828,561)	(2,555,307)
Other expenses	16,351	147,840	569,588	5,173,469
Cash flows before changes in working capital	6,652,722	7,117,361	231,519,667	250,458,325
Changes in working capital				
Trade and other receivables	(87,656)	(201,830)	(3,048,436)	(7,060,925)
Inventories	(51,576)	(135,478)	(1,793,675)	(4,739,633)
Other current financial assets	2,028	(2,544)	70,534	(89,017)
Other current assets	1,425	(170,716)	49,544	(5,972,416)
Rights to receive reimbursement from decommissioning funds	(31,431)	(26,630)	(1,093,072)	(931,647)
Other non-current financial assets	5,364	(5,364)	186,559	(187,670)
Other non-current assets	5,376	(2,663)	186,967	(93,140)
Trade and other payables	(125,498)	55,656	(4,364,505)	1,947,086
Other current liabilities	451	(63,186)	15,699	(2,210,518)
Provisions	(340,919)	(281,543)	(11,856,289)	(9,849,625)
Other non-current liabilities	(12,728)	(12,228)	(442,660)	(427,783)
Net cash provided by operating activities	6,017,558	6,270,835	209,430,333	220,843,037
Interest received from bank deposits	130,966	27,644	4,554,654	967,113
Cash paid for income taxes	(1,786,615)	(1,611,247)	(62,133,830)	(56,368,631)
Net cash flows provided by operating activities	4,361,909	4,687,232	151,851,157	165,441,519

Statement of Cash Flows

PTT Exploration and Production Public Company Limited

For the year ended 31 December 2023

	Consolidated financial statements			
	Unit: Thousand US Dollar		Unit: Thousand Baht	
	2023	2022	2023	2022
Cash flows from investing activities				
Cash paid for short-term investments	(400,389)	-	(13,924,486)	-
Cash received from short-term investments	200,390	-	6,969,047	-
Cash paid for other financial assets	(2,818)	-	(97,995)	-
Cash received from short-term loans to a related party	3,000	-	104,332	-
Cash paid for short-term loans to a related party	(9,093)	(1,250)	(316,230)	(43,730)
Cash received from long-term loans to a related party	-	41,500	-	1,451,851
Cash paid for lending long-term loans	(15,222)	(15,458)	(529,402)	(540,750)
Dividends received from related parties	52,820	60,979	1,836,947	2,133,330
Net cash received from disposal of participating interests	208,284	-	7,243,583	-
Cash paid for contingent considerations from business acquisition	(717)	(955)	(24,925)	(33,397)
Cash received from disposal of investment in an associate	-	128,841	-	4,507,420
Cash paid for investments in an associate and joint ventures	(16,323)	(17,642)	(567,682)	(617,193)
Cash received from lease receivables	50	234	1,739	8,181
Interest received from short-term investments	959	-	33,373	-
Interest received from loans to related parties	243	772	8,461	27,022
Increase in property, plant and equipment	(2,206,914)	(1,765,221)	(76,750,746)	(61,755,355)
Increase in intangible assets	(26,414)	(31,077)	(918,636)	(1,087,226)
Increase in exploration and evaluation assets	(158,560)	(95,357)	(5,514,324)	(3,336,028)
Net cash flows used in investing activities	(2,370,704)	(1,694,634)	(82,446,944)	(59,285,875)
Cash flows from financing activities				
Cash paid for repayment of debentures and long-term loans	(71,460)	(1,025,126)	(2,485,186)	(35,863,486)
Cash received from issuance of debentures	44,550	358,644	1,549,328	12,546,980
Cash paid for finance cost from issuance of debentures	(1,058)	(563)	(36,800)	(19,696)
Cash paid for lease liabilities	(261,489)	(177,008)	(9,093,897)	(6,192,521)
Interest paid	(136,604)	(144,365)	(4,750,748)	(5,050,512)
Cash paid for redemption of subordinated capital debentures	-	(142,590)	-	(4,988,476)
Interest paid for subordinated capital debentures	-	(4,256)	-	(148,892)
Net cash paid from financial derivative contracts	-	(44,924)	-	(1,571,643)
Cash received from issuance of subsidiaries' share capital	3,496	-	121,413	-
Dividends paid	(1,098,772)	(819,492)	(36,720,357)	(28,779,571)
Net cash flows used in financing activities	(1,521,337)	(1,999,680)	(51,416,247)	(70,067,817)

The notes to the consolidated and separate financial statements are an integral part of these financial statements.

Statement of Cash Flows

PTT Exploration and Production Public Company Limited

For the year ended 31 December 2023

	Consolidated financial statements			
	Unit: Thousand US Dollar		Unit: Thousand Baht	
	2023	2022	2023	2022
Net increase in cash and cash equivalents	469,868	992,918	17,987,966	36,087,827
Cash and cash equivalents at the beginning of the year	3,539,220	2,559,189	122,323,890	85,527,810
Adjustment for the impact of exchange rate changes	9,871	(12,887)	(2,770,000)	708,253
Cash and cash equivalents at the end of the year	4,018,959	3,539,220	137,541,856	122,323,890
Significant non-cash transactions				
Outstanding payable from purchases of assets	629,260	595,710	21,884,031	20,840,593
Increase in right-of-use assets	170,686	645,890	5,936,021	22,596,116

The notes to the consolidated and separate financial statements are an integral part of these financial statements.

Statement of Cash Flows

PTT Exploration and Production Public Company Limited

For the year ended 31 December 2023

	Separate financial statements			
	Unit: Thousand US Dollar		Unit: Thousand Baht	
	2023	2022	2023	2022
Cash flows from operating activities				
Profit before income taxes	1,685,245	2,340,415	58,514,502	81,989,923
Adjustments for:				
Depreciation, depletion and amortisation	465,929	853,336	16,082,260	30,019,247
Write-off of exploration expenses	993	995	35,595	34,286
Other amortised expenses	2,278	1,386	79,239	47,602
Write-off of assets	71,721	7,541	2,470,643	263,321
Income recognised from deferred income	(233)	(867)	(8,088)	(30,348)
(Gain) loss on remeasuring of financial instruments	(37,359)	49,104	(1,300,808)	1,826,168
Dividend income from related parties	(74,256)	(136,107)	(2,581,264)	(4,810,495)
(Gain) loss on foreign exchange rates	(1,823)	10,186	(63,418)	356,335
Interest income	(454,544)	(346,864)	(15,816,284)	(12,126,601)
Finance costs	88,848	56,238	3,096,820	1,977,700
Other expenses	10,673	8,384	372,067	293,513
Cash flows before changes in working capital	1,757,472	2,843,747	60,881,264	99,840,651
Changes in working capital				
Trade and other receivables	29,897	(120,038)	1,039,734	(4,199,470)
Inventories	7,736	9,244	269,047	323,384
Other current assets	(40,701)	(149,487)	(1,415,490)	(5,229,710)
Rights to receive reimbursement from decommissioning funds	(7,891)	-	(274,445)	-
Other non-current assets	(4,197)	(2,402)	(145,959)	(84,020)
Trade and other payables	(98,025)	10,297	(3,409,071)	360,230
Other current liabilities	(14,225)	(33,918)	(494,696)	(1,186,604)
Provisions	(105,907)	(258,967)	(3,683,156)	(9,059,820)
Other non-current liabilities	(8,828)	(16,946)	(307,000)	(592,854)
Net cash provided by operating activities	1,515,331	2,281,530	52,460,228	80,171,787
Interest received from bank deposits	55,076	9,406	1,915,401	329,064
Cash paid for income taxes	(587,477)	(640,615)	(20,430,943)	(22,411,579)
Net cash flows provided by operating activities	982,930	1,650,321	33,944,686	58,089,272

Statement of Cash Flows

PTT Exploration and Production Public Company Limited

For the year ended 31 December 2023

	Separate financial statements			
	Unit: Thousand US Dollar		Unit: Thousand Baht	
	2023	2022	2023	2022
Cash flows from investing activities				
Cash paid for short-term investments	(324,837)	-	(11,296,981)	-
Cash received from short-term investments	124,837	-	4,341,500	-
Decrease in short-term loans to a related party	-	449,944	-	15,741,066
Cash paid for long-term loans to a related party	-	(542,000)	-	(18,961,590)
Dividends received from related parties	74,256	136,107	2,581,264	4,810,495
Cash paid for investment in subsidiaries	(12,314)	(713,463)	(428,261)	(24,960,145)
Cash received from lease receivables	50	234	1,739	8,181
Interest received from loans to related parties	334,845	272,538	11,645,048	9,534,610
Increase in property, plant and equipment	(231,107)	(375,047)	(8,037,293)	(13,120,807)
Increase in intangible assets	(16,324)	(12,604)	(567,684)	(440,957)
Net cash flows used in investing activities	(50,594)	(784,291)	(1,760,668)	(27,389,147)
Cash flows from financing activities				
(Decrease) increase in short-term loans from a related party	(10,956)	571,268	(381,015)	19,985,504
Cash paid for lease liabilities	(14,933)	(42,626)	(519,307)	(1,491,233)
Interest paid	(44,339)	(29,298)	(1,542,006)	(1,024,963)
Cash paid for redemption of subordinated capital debentures	-	(142,590)	-	(4,988,476)
Interest paid for subordinated capital debentures	-	(4,256)	-	(148,892)
Dividends paid	(1,098,772)	(819,492)	(36,720,357)	(28,779,571)
Net cash flows used in financing activities	(1,169,000)	(466,994)	(39,162,685)	(16,447,631)
Net (decrease) increase in cash and cash equivalents	(236,664)	399,036	(6,978,667)	14,252,494
Cash and cash equivalents at the beginning of the year	1,189,891	788,461	41,125,443	26,350,301
Adjustment for the impact of exchange rate changes	882	2,394	(1,494,065)	522,648
Cash and cash equivalents at the end of the year	954,109	1,189,891	32,652,711	41,125,443
Significant non-cash transactions				
Outstanding payable from purchases of assets	95,483	69,758	3,320,641	2,440,437
Increase in right-of-use assets	45,341	33,068	1,576,858	1,156,883

The notes to the consolidated and separate financial statements are an integral part of these financial statements.

Notes to the Consolidated and Separate Financial Statements

PTT Exploration and Production Public Company Limited
For the year ended 31 December 2023

1 General information

PTT Exploration and Production Public Company Limited (the Company) is registered as a company in Thailand and listed on the Stock Exchange of Thailand. On 1 April 2023, the Company notified of changing the address and the new registered office is 555/1 Energy Complex Building A,19th - 36th Floor, Vibhavadi-Rangsit Road, Chatuchak, Bangkok 10900.

For reporting purposes, the Company and its subsidiaries are together referred to as the Group.

The principal business operations of the Group are exploration and production of petroleum in Thailand and overseas, and related business associated with the Group's strategy.

These consolidated and separate financial statements were authorised for issue by the Board of Directors on 12 February 2024.

2 Significant events during the current period

- From the 2009 Montara incident, the class action lawsuit was brought by a group of Indonesian seaweed farmers against PTTEP AAA in the Federal Court of Australia in 2016, claiming that damage to their seaweed crops was allegedly caused by the incident. The trial judge found that, on the balance of probabilities, oil from the Montara oil spill incident reached the seaweed farms and caused damage, and also identified the impacted areas. PTTEP AAA lodged an appeal against the court’s first instance judgment in its entirety. However, in parallel in quarter 4 of 2022, PTTEP AAA participated in mediation, as ordered by the Court, and reached an in-principle agreement, whereby PTTEP AAA would pay Australian Dollar 192.5 million in full and final settlement of the class action (including PTTEP AAA's appeal) to the group of Indonesian seaweed farmers, on a no admission of liability basis.

  In quarter 1 of 2023, the Federal Court of Australia approved this in-principle settlement agreement and the approach to the distribution of the settlement sum to the group members.

In May 2023, PTTEP AAA paid the approved settlement amount of Australian Dollar 192.5 million, equivalent to US Dollar 130.42 million (Baht 4,421.22 million). Nevertheless, the class action remains on foot until the claims administrator appointed by the court has completed the distribution process in accordance with the approved distribution scheme under the supervision of the court. PTTEP AAA will monitor such distribution process to ensure it is conducted in line with the settlement agreement approved by the court. The case will conclude when the distribution process has been completed.

- On 21 June 2023, FutureTech Energy Ventures Co., Ltd. (FTEV), a subsidiary of the Group, and consortium partners have been awarded the Green Hydrogen Concession Block in the Sultanate of Oman and entered into the Project Development Agreement and Sub-Usufruct Agreement for the exclusive business development and production rights of green hydrogen project in Block Z1-02 for 47 years. On 14 December 2023, FTEV and consortium partners established Hydrogen Duqm LLC (HDL), where FTEV holds 11% interest in HDL. The Group classifies the investment in HDL as an investment in an associate. This investment aligns with the Group's strategy to expand into the clean energy business.

- On 18 August 2023, PTTEP AAA entered into a Sale and Purchase Agreement to sell its total participating interest in petroleum retention lease AC/RL7 to INPEX Cash Maple Pty Ltd and TotalEnergies Exploration Australia Pty Ltd. The sale transaction was completed on 22 December 2023 and PTTEP AAA recognised the gain on disposal of participating interest amounting to US Dollar 72.87 million (Baht 2,548 million). The fair value of total considerations of US Dollar 260.99 million (Baht 9,127 million) consists of cash payment amounting to US Dollar 200.14 (Baht 6,999 million) and contingent consideration amounting to US Dollar 60.85 million (Baht 2,128 million) calculated by discounted cash flow.

- On 1 September 2023, PTTEP International Limited (PTTEPI), a subsidiary of the Group, which is the operator of the block G12/48, signed an agreement to acquire 33.3333% interest in block G12/48 from TotalEnergies EP Thailand. The completion of this acquisition is conditional to necessary government approvals. After completion, PTTEPI will hold 100% interest in the block.

- On 29 September 2023, PTTEP Sarawak Oil Limited (PTTEP SKO), a subsidiary of the Group, signed Farm-Out Agreement with Petronas Carigali Sdn. Bhd. (PCSB) to sell 10% of the investment in Production Sharing Contract (PSC) Block SK405B, located offshore Sarawak in Malaysia. The sale and purchase shall be completed when the conditions specified in the Farm-Out Agreement are met, and receiving the official approval from the Government.

- On 21 December 2023, FutureTech SG Pte. Ltd. (FSG), a subsidiary of the Group, has entered into a Share Purchase Agreement (SPA) to acquire 50% share capital in TotalEnergies Renewables Seagreen Holdco (TERSH) from TotalEnergies Renewables UK Ltd (TERUK), a subsidiary in TotalEnergies SE group company (TotalEnergies). The completion of transaction is subject to customary conditions precedent as prescribed in the SPA, including applicable government approval. This investment aligns with the Group's strategy to expand into the clean energy business.

3 Basis of preparation

The consolidated and separate financial statements have been prepared in accordance with Thai Financial Reporting Standards (TFRS) and the financial reporting requirements issued under the Securities and Exchange Act.

The Company's management has determined US Dollar as the functional currency of the Company and presents the consolidated and separate financial statements in US Dollar. However, the Stock Exchange of Thailand and the Department of Business Development require the Company to present its consolidated and separate financial statements in Thai Baht, so the Company also presents its financial statements in Thai Baht by translating from US Dollar.

Where the Group has entered into joint interest operations in the Concession or the Production Sharing Contract with other parties to participate in exploration and production of petroleum businesses, the Group records its share of expenses, assets and liabilities incurred in accordance with the Statements of Expenditures prepared by the operators of the Concession or the Production Sharing Contract. The Statements of Expenditures have been audited by other independent auditors and the joint venture committee on a regular basis.

The consolidated and separate financial statements have been prepared under the historical cost convention except as disclosed in the accounting policies.

The preparation of financial statements in conformity with TFRS requires the Group's management to use certain critical accounting estimates and to exercise its judgement in applying the Group's accounting policies. The areas involving a higher degree of judgement or complexity, or areas that are more likely to be materially adjusted due to changes in estimates and assumptions are disclosed in Note 8.

An English version of the consolidated and separate financial statements has been prepared from the statutory financial statements that are in the Thai language. In the event of a conflict or a difference in interpretation between the two languages, the Thai language statutory financial statements shall prevail.

4 Amended financial reporting standards

4.1 Amended financial reporting standards that are effective for accounting period beginning on or after 1 January 2023 and related to the Group

a) Amendment to Thai Accounting Standard (TAS) 16 – Property, plant and equipment clarified to prohibit entities from deducting any proceeds received from selling any items produced, while preparing that asset for its intended use, from the cost of property, plant and equipment. The proceeds received shall be recognised as income.

b) Amendment to TAS 37 – Provisions, contingent liabilities and contingent assets clarified that, in considering whether a contract is onerous, the direct costs of fulfilling a contract include both the incremental costs of fulfilling the contract and an allocation of other costs directly related to fulfilling the contract. Before recognising a separate provision for an onerous contract, entities must recognise any impairment losses that have occurred on the assets used in fulfilling the contract.

c) Amendment to Thai Financial Reporting Standard (TFRS) 3 – Business combinations clarified to update its references to the Conceptual Framework for Financial Reporting and added a consideration for the recognition of liabilities and contingent liabilities acquired from business combinations. The amendments also confirmed that contingent assets should not be recognised at the acquisition date.

d) Amendment to TFRS 9 – Financial instruments clarified that only fees between the borrower and lender should be included in the 10% test for the derecognition of financial liabilities.

Commencing from 1 January 2023, the Group has adopted these amended financial reporting standards. The adoption of the amended financial reporting standards did not have significant impacts to the Group.

4.2 Amended financial reporting standards that are effective for accounting period beginning on or after 1 January 2024 and related to the Group

The Group did not early adopt the amended financial reporting standards before the effective date.

a) Amendment to TAS 1 – Presentation of financial statements revised the disclosure from "significant accounting policies" to "material accounting policies". The amendment also provides guidelines on identifying when the accounting policy information is material which is the information that impacts the economic decisions made by the users of financial statements.

b) Amendment to TAS 8 – Accounting policies, changes in accounting estimates and errors revised the definition of accounting estimates to be more distinctive being monetary amounts in financial statements that are subject to measurement uncertainty as the entity shall apply prospectively to the transactions for the changes in accounting estimates.

c) Amendment to TAS 12 – Income taxes

c.1) The entity is required to recognise deferred tax related to assets and liabilities arising from a single transaction that, on initial recognition, gives rise to equal amounts of taxable and deductible temporary differences. Example transactions are leases and decommissioning obligations.

c.2) The entity gets a temporary relief not required to recognise and disclose deferred taxes arising from the Pillar Two income taxes published by the Organisation for Economic Co-operation and Development (OECD). The entity must disclose the fact that it has applied those exceptions. In addition, the amendments require to disclose the information as follows:

- Disclose the current tax expense related to the Pillar Two separately.
- During the period that the Pillar Two legislation being enacted or substantially enacted but has not becoming effective, the entities shall disclose:
  - Qualitative information such as an entity's exposure to Pillar Two legislation, and
  - Quantitative information which can be reasonably estimated related to Pillar Two income taxes at the end of reporting period such as the profits of entities in scope of the Pillar Two legislation and average effective tax rate of those profits.

The Group's management has assessed and found that the amended financial reporting standards in a) - c.1) will not have significant impacts to the Group. However, the Group is in process of assessing the impacts in the period in which the amendment of TAS 12 - Income taxes relating to Pillar Two legislation as stated in c.2) is effective.

5 Accounting policies

The principal accounting policies applied in the preparation of these consolidated and separate financial statements are set out below.

5.1 Principles of consolidation accounting

a) Subsidiaries

Subsidiaries are all entities over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Subsidiaries are consolidated from the date on which control is transferred to the Group until the date that control ceases.

In the separate financial statements, investments in subsidiaries are accounted for using cost method less impairment (if any).

List of subsidiaries has been presented in Note 17.

b) Associates

Associates are all entities over which the Group has significant influence but not control or joint control. Investments in associates are accounted for using the equity method of accounting.

In the separate financial statements, investments in associates are accounted for using cost method less impairment (if any).

List of associates has been presented in Note 17.

c) Joint arrangements

Investments in joint arrangements are classified as either joint operations or joint ventures depending on the contractual rights and obligations of each investor, rather than the legal structure of the joint arrangements.

Joint operations

A joint operation is a joint arrangement whereby the Group has rights to the assets, and obligations for the liabilities relating to the arrangement. The Group recognises its direct right to the assets, liabilities, revenues and expenses of joint operations and its share of any jointly held or incurred assets, liabilities, revenues and expenses. These have been incorporated in the Group's financial statement line items.

Joint ventures

A joint venture is a joint arrangement whereby the Group has rights to the net assets of the arrangement. Interests in joint ventures are accounted for using the equity method in the consolidated financial statements.

In the separate financial statements, investments in joint ventures are accounted for using cost less impairment (if any).

List of joint ventures and joint operations have been presented in Note 17.

d) Equity method

The investment is initially recognised at cost which is consideration paid and directly attributable costs.

The Group's subsequently recognises shares of its associates and joint ventures' profits or losses and other comprehensive income in the profit or loss and other comprehensive income, respectively. The subsequent cumulative movements are adjusted against the carrying amount of the investment.

When the Group's share of losses in associates and joint ventures equals or exceeds its interest in the associates and joint ventures, the Group does not recognise further losses, unless it has incurred obligations or made payments on behalf of the associates and joint ventures.

e) Changes in ownership interests

The Group treats transactions with non-controlling interests that do not result in a loss of control as transactions with equity owners of the Group. A difference between the amount of the adjustment to non-controlling interests to reflect their relative interest in the subsidiary and any consideration paid or received is recognised within equity.

If the ownership interest in associates and joint ventures is reduced but significant influence and joint control is retained, only a proportionate share of the amounts previously recognised in other comprehensive income is reclassified to profit or loss where appropriate. Profit or loss from reduce of the ownership interest in associates and joint ventures is recognise in profit or loss.

When the Group losses control, joint control or significant influence over investments, any retained interest in the investment is remeasured to its fair value, with the change in carrying amount recognised in profit or loss. The fair value becomes the initial carrying amount of the retained interest which is reclassified to investment in an associate, or a joint venture or a financial asset accordingly.

f) Intercompany transactions on consolidation

Intra-group transactions, balances and unrealised gains on transactions are eliminated. Unrealised gains on transactions between the Group and its associates and joint ventures are eliminated to the extent of the Group's interest in the associates and joint ventures. Unrealised losses are also eliminated in the same manner unless the transaction provides evidence of an impairment of the asset transferred.

5.2 Business combination

The Group applies the acquisition method to account for business combinations with an exception on business combination under common control. The consideration transferred for the acquisition of a subsidiary comprises.

- Fair value of the assets transferred,
- Liabilities incurred to the former owners of the acquiree,
- Equity interests issued by the Group.

Identifiable assets and liabilities acquired and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date.

The excess of the consideration transferred, the amount of any non-controlling interest recognised and the acquisition-date fair value of any previous equity interest in the acquiree (for business combination achieved in stages) over the fair value of the identifiable net assets acquired is recorded as goodwill. In the case of a bargain purchase, the difference is recognised directly in profit or loss.

Acquisition-related cost are recognised as expenses in consolidated financial statements.

Subsequent changes to the fair value of the contingent consideration that is an asset or liability is recognised in profit or loss. Contingent consideration that is classified as equity is not re-measured.

Business combination under common control

The Group accounts for business combination under common control by measuring acquired assets and liabilities of the acquiree at their carrying values presented in the highest level of the consolidation. The Group retrospectively adjusted the business combination under common control transactions as if the combination had occurred on the later of the beginning of the preceding comparative period and the date the acquiree has become under common control.

Consideration of business combination under common control is the aggregated amount of fair value of assets transferred, liabilities incurred and equity instruments issued by the acquirer at the date of which the exchange in control occurs.

The difference between consideration under business combination under common control and the acquirer's interests in the carrying value of the acquiree is presented as "surplus arising from business combination under common control" in equity and is derecognised when the investment is disposed.

5.3 Foreign currency translation

a) Functional and presentation currency

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which the entity operates (the functional currency). The financial statements are presented in US Dollar, which is the Company's functional currency and the Company's and Group's presentation currency.

b) Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the profit or loss.

When a gain or loss on a non-monetary item is recognised in other comprehensive income, any exchange component of that gain or loss is recognised in other comprehensive income. Conversely, when a gain or loss on a non-monetary item is recognised in profit or loss, any exchange component of that gain or loss is recognised in profit or loss.

c) Group companies

The operational results and financial position of the Group's entities (none of which has the currency of a hyper-inflationary economy) that have a different functional currency from the Group's presentation currency are translated into the presentation currency by applying the method below.

To comply with the financial reporting requirements of the Stock Exchange of Thailand and the Department of Business Development, the Group presents the financial statements by translating from US Dollar to Thai Baht as follows:

- Assets and liabilities are translated at the closing rate at the date of respective statement of financial position;
- Income and expenses for statement of income and statement of comprehensive income are translated at average exchange rates during the period; and
- All resulting exchange differences from such translations are recognised in other comprehensive income (expense).

5.4 Cash and cash equivalents

Cash and cash equivalents include cash on hand, deposits at bank, short-term highly liquid investments with maturities of three months or less from acquisition date.

5.5 Trade receivables

Trade receivables are amounts due from customers for goods sold or services performed in the ordinary course of business.

Trade receivables are recognised initially at the amount of consideration that is unconditional unless they contain significant financing components, they are recognised at fair value. The Group holds the trade receivables with the objective to collect the contractual cash flows and therefore measures them subsequently at amortised cost.

The impairment of trade receivables is disclosed in Note 5.8 (f).

5.6 Inventories

Inventories are stated at the lower of cost and net realisable value.

Cost of inventories is determined by the weighted average method. Net realisable value is the estimated selling price in the ordinary course of business less the costs of completion and selling expenses.

5.7 Materials and supplies

Materials and supplies are stated at cost less allowance for obsolescence. The costs of materials and supplies are determined using the weighted average cost method.

5.8 Financial asset

a) Classification

The Group classifies its debt instrument financial assets into the following measurement categories depending on i) business model for managing the asset and ii) the cash flow characteristics of the asset whether they represent solely payments of principal and interest (SPPI).

- Those to be measured subsequently at fair value through other comprehensive income (FVOCI) or fair value through profit or loss (FVPL); and
- Those to be measured at amortised cost.

For investments in equity instruments, the Group has an irrevocable election at the time of initial recognition to account for the equity investment at a) fair value through profit or loss or b) at fair value through other comprehensive income except those that are held for trading, they are measured at FVPL.

b) Recognition and derecognition

Regular way purchases, acquires and sales of financial assets are recognised on the trade date, which the Group commits to purchase or sell the asset. Financial assets are derecognised when the rights to receive cash flows from the financial assets have expired or have been transferred and the Group has transferred substantially all the risks and rewards of ownership.

c) Measurement

At initial recognition, the Group measures a financial asset at its fair value plus or minus, in the case of a financial asset not at FVPL, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at FVPL are expensed in profit or loss.

Financial assets with embedded derivatives are considered in their entirety when determining whether the cash flows are solely payment of principal and interest.

d) 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 financial assets. There are three measurement categories into which the Group classifies its debt instruments:

- Amortised cost - Financial assets that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortised cost. Interest income from these financial assets is included in interest income using the effective interest rate method. Any gain or loss arising on derecognition and foreign exchange gains and losses are recognised in profit or loss and presented in other gains (losses) and gain (loss) on foreign exchange rates, respectively. Impairment losses are presented as a separate line item in the statement of income.

- FVOCI - Financial assets that are held for i) collection of contractual cash flows and ii) for selling the financial assets are measured at FVOCI. Movements in the carrying amount are taken through other comprehensive income (OCI), except for the recognition of impairment gains or losses, interest income using the effective interest method, and foreign exchange gains and losses which are recognised in profit or loss. When the financial assets is derecognised, the cumulative gain or loss previously recognised in OCI is reclassified from equity to profit or loss and recognised in other gains/(losses). Interest income is included in interest income. Impairment expenses are presented separately in the statement of income.

- FVPL - Financial assets that do not meet the criteria for amortised cost or FVOCI are measured at FVPL. A gain or loss on a debt investment that is subsequently measured at FVPL is recognised in profit or loss and presented in gains (loss) on remeasuring of financial instruments from in the period in which it arises.

The Group reclassifies debt instruments only when its business model for managing those assets changes.

e) Equity instruments

The Group measures all equity investments at fair value. Where the Group has elected to present fair value gains and losses on equity instruments in OCI, there is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment. Dividends from such investments continue to be recognised in profit or loss as other income when the right to receive payments is established.

Changes in the fair value of financial assets at FVPL are recognised in gain on remeasuring financial instruments in the incurring period.

Impairment losses and reversal of impairment losses on equity investments are reported together with changes in fair value.

f) Impairment

The Group applies the TFRS 9 simplified approach in recognising the impairment of trade and other receivables, which applies lifetime expected credit loss, from initial recognition, for trade and other receivables.

To measure the expected credit losses, trade receivables have been grouped based on shared credit risk characteristics and the days past due. The expected loss rates are based on the payment profiles and the corresponding historical credit losses experienced. The historical loss rates are adjusted to reflect current and forward-looking information on macroeconomic factors affecting the ability of the customers to settle the receivables.

For long-term loans to related parties and other financial assets carried at amortised cost and FVOCI, the Group applies TFRS 9 general approach in measuring the impairment of those financial assets. Under the general approach, the 12-month or the lifetime expected credit loss is applied depending on whether there has been a significant increase in credit risk since the initial recognition.

The credit risk assessment is performed at the end of each reporting period whether there is any significant increase in credit risk profile from the initial recognition by comparing i) expected risk of default as of the reporting date and ii) estimated risk of default on the date of initial recognition.

The Group assesses expected credit loss by taking into consideration forward-looking information and past experiences. The expected credit loss is a probability-weighted estimate of credit losses (probability-weighted present value of estimated cash shortfall). The cash shortfall is the difference between all contractual cash flows that are due to the Group and all cash flows expected to receive, discounted at the original effective interest rate.

When measuring expected credit losses, the Group reflects the following:

- Probability-weighted estimated uncollectible amounts;
- Time value of money; and
- Supportable and reasonable information as of the reporting date about past experience, current conditions and forecasts of future situations.

Impairment and reversal of impairment losses are recognised in profit or loss and included in administrative expenses.

5.9 Group of non-current assets held-for-sale

Non-current assets (or disposal groups) are classified as assets held-for-sale when their carrying amount will be recovered principally through a sale transaction and a sale is considered highly probable. They are measured at the lower of the carrying amount and fair value less costs to sell.

An impairment loss is recognised for initial and subsequent write-down of the asset (or disposal group) to fair value less costs to sell. A gain is recognised for any subsequent increases in fair value less costs to sell of an asset (or disposal group), but not in excess of any cumulative impairment loss previously recognised.

Non-current assets (including those that are part of a disposal group) are not depreciated or amortised.

5.10 Property, plant and equipment

Property, plant and equipment are presented at cost, after deducting accumulated depreciation and the provision for the impairment of assets.

Land is not depreciated. Depreciation on other assets is calculated as follows:

a) Exploration and production assets

The Group follows the Successful Efforts Method in accounting for its assets used for exploration and production activities as follows:

Cost of exploration and production assets

- Costs of exploration and production assets comprise total acquisition costs of petroleum rights or the acquisition costs of the portion of properties, decommissioning costs as well as support equipment and facilities.

- Exploratory drilling costs are capitalised as exploration and evaluation assets and will be classified as oil and gas properties of the projects if their exploratory wells have identified proved reserves that have been found to be commercially producible. However, if the exploratory wells have not identified proved reserves or have identified proved reserves but have not been found to be commercially producible, such drilling costs will be expensed in the statements of income.

- Exploration costs, comprising geological and geophysical costs as well as area reservation fees during the exploration stage, are charged to expenses in the statement of income when incurred.

- Development costs, whether relating to the successful or unsuccessful development of wells, are capitalised as oil and gas properties.

Depreciation and depletion

- The capitalised acquisition costs of petroleum rights are depreciated using the unit of production method based on proved reserves. Depreciation of exploratory wells, development costs as well as decommissioning costs, except unsuccessful projects, are calculated using the unit of production method based on proved reserves or proved developed reserves. The Group recognises changes in reserve estimates prospectively.

- Proved reserves and proved developed reserves are calculated by the engineers of the Company and are based on the information received from the joint operators.

- Depreciation for support equipment and facilities is calculated using the straight-line method with an estimated useful life of assets which is between 2 - 20 years.

- Depreciation for remuneration for production bonus and the renewal of petroleum production is calculated using the straight-line method with an estimated useful life which is between 10 - 26 years in accordance with the agreement.

b) Pipelines and others

Costs of properties comprises of other direct costs necessary to bring the asset to working condition suitable for its intended use.

Depreciation of pipelines and others is determined using the straight-line method with an estimated useful life of assets which is between 5 - 30 years.

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period.

Subsequent costs are included in the asset's carrying amount, only when it is probable that future economic benefits associated with the item will flow to the Group. The carrying amount of the replaced part is derecognised.

Repair and maintenance costs are recognised as expenses when incurred.

Gains and losses on disposal of property, plant and equipment are determined by comparing proceeds from disposal with the carrying amount and are recognised in the statement of income when incurred.

5.11 Rights to receive reimbursement from decommissioning funds

Rights to receive reimbursement from decommissioning funds is recognised at present value when the Group contribute cash into the fund in accordance to terms and it is certainly probable that it can reimburse the cost of decommissioning from the funds. When funds reimburse cash to the Group after the completion of the decommissioning activities, cash will be adjusted against the right to receive reimbursement from decommissioning funds. The differences between the amount received and the remaining carrying amount of the decommissioning fund is recognised profit or loss.

The Group will not offset the rights to receive reimbursement from decommissioning fund with provisions for decommissioning costs if the Group is still obligated to the decommissioning liabilities. The Group does not have control, joint control or significant influence over the funds.

5.12 Goodwill

Goodwill arises from the business combination which represents the excess of the fair value of the consideration transferred over the fair value of the net identifiable assets, liabilities and contingent liabilities of the acquired subsidiaries, joint operations, associates or joint ventures undertaking at the date of the acquisition.

Goodwill on acquisitions of subsidiaries and joint operations is separately reported in the statements of financial position, while goodwill on acquisitions of associates and joint ventures is included in investment in associates and joint ventures.

Goodwill is not amortised but is annually tested for impairment. Goodwill is allocated to cash-generating unit of group of cash-generating units that are expected to gain benefit from the business combination that caused goodwill. Goodwill is presented at cost less accumulated impairment losses.

Impairment losses on goodwill are not reversed. The carrying amount of goodwill is included in the gains and losses on the disposal of business when it is divested.

5.13 Intangible assets

Intangible assets are presented at cost, after deducting accumulated amortisation and the allowance for the impairment of assets.

Where the carrying amount of an asset is greater than its estimated recoverable amount, it is written down to its recoverable amount.

Intangible assets are amortised using the straight-line method according to asset's useful life, which is as follows;

Computer software	2 – 10 years
Other assets	3 – 10 years

Research and development/ internally generated intangible assets

Research expenditure is recognised as an expense as incurred.

Development expenditure is recognised as an asset when the Group can demonstrate all of the following:

- The expenditure attributable to its development can be measured reliably and feasibility in technical, financial, commercial, and resource and;
- The Group intends to and has the ability to complete the development for the purpose of using or selling.

Development costs previously recognised as an expense are not recognised as an asset in a subsequent period.

Other intangible assets

Other intangible assets comprise expenditures incurred to acquire computer software licenses and concession rights in midstream oil and gas business.

5.14 Exploration and evaluation assets

Exploration and evaluation expenditures are capitalised at cost as exploration and evaluation assets. If the projects have identified the proved reserves that have been found to be commercially producible, the capitalised exploration and evaluation expenditures under these projects will be transferred to oil and gas properties of the projects with proved reserves. Subsequent accounting of such costs is described in the accounting policy for property, plant and equipment in Note 5.10 - Property, Plant and Equipment. The capitalised exploration and evaluation expenditure is written off as expenses in the statements of income in the period in which the projects have not identified proved reserves or have identified proved reserves, but have not been found to be commercially producible.

5.15 Impairment of assets

The Group's assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may exceed the recoverable amount. Intangible assets that have an indefinite useful life or are not ready to be used are tested for impairment annually.

An impairment loss is recognised for the amount by which the carrying amount of the assets exceeds its recoverable amount which is the higher of an asset's fair value less costs to sell and its value in use, and is recorded in the statement of income. For the purposes of assessing impairment, assets are grouped at the lowest levels in which they are separately identifiable.

Estimates of future cash flows used in the evaluation for impairment of assets which relate to petroleum production are made with consideration of the risk assessment on field and reservoir performance which includes the estimate of proved and unproved reserves.

Allowance for impairment of assets, except when relating to goodwill, is reversed as applicable to the extent that the events or circumstances that triggered the original allowance for impairment change. For this circumstance, the increased carrying amount of the assets from the reversal could not exceed the carrying amount (net of amortisation or depreciation), if the Group did not recognise the impairment loss for assets in the prior period.

5.16 Current and deferred income taxes

The tax expense for the period comprises current and deferred tax. Tax is recognised in profit or loss, except to the extent that it relates to items recognised in other comprehensive income or directly in equity.

Current tax

The current income tax is calculated on the basis of the tax laws enacted or substantially enacted at 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. It establishes provisions where appropriate on the basis of amounts expected to be paid to the tax authorities.

Deferred income tax

Deferred income tax will be recognised when there are temporary differences arising from differences between the tax base of assets and liabilities and their carrying amounts in the financial statements. However, deferred income tax is not recognised for temporary differences arise from:

- Initial recognition of an asset or liability in a transaction other than a business combination that affects neither accounting nor taxable profit or loss is not recognised
- Investments in subsidiaries, associates and joint arrangements where the timing of the reversal of the temporary difference is controlled by the Group and it is probable that the temporary difference will not be reversed in the foreseeable future.

Deferred income tax is measured using tax rates of the period in which temporary difference is expected to be reversed, based on tax rates and tax laws that have been enacted or substantially enacted by the end of the reporting period.

Deferred tax assets are recognised only to the extent that it is probable that future taxable profit will be available against which the temporary differences can be utilised.

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 assets and liabilities balances relate to the same or different taxable entities which intend either to settle current tax liabilities and assets on a net basis.

5.17 Deferred remuneration under agreement

The Company has an obligation to make a payment to the buyer (PTT) under the conditions in the Gas Sales Agreement of Arthit project. The remuneration is classified as non-current asset, presented under the caption “Other non-current assets”, and amortised over contract life using the straight-line method.

5.18 Leases

Leases – where the Group is lessee

Leases are recognised as a right-of-use asset and a corresponding liability at the date at which the leased asset is available for use by the Group. Each lease payment is allocated between the liability and finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period. The right-of-use asset is depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

The Group allocates the consideration in the contract to the lease and non-lease components based on their relative stand-alone prices. In the event that the Group cannot allocate the lease and non-lease components, the Group elected not to separate lease and non-lease components and instead accounts for these as a single lease component.

Assets and liabilities arising from a lease are initially measured at a present value basis. Lease liabilities include the net present value of the following lease payments:

- Fixed payments (including in-substance fixed payments), less any lease incentives receivable
- Variable lease payment that are based on an index or a rate
- Amounts expected to be payable by the lessee under residual value guarantees
- The exercise price of a purchase option if the lessee is reasonably certain to exercise that option, and
- Payments of penalties for terminating the lease, if the lease term reflects the lessee exercising that option.

Lease payments under the extension options period are also included in the measurement of the liability, if the Group is reasonably certain about exercising its extension options.

The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be determined, the lessee’s incremental borrowing rate is used, being the rate that the lessee would have to pay to borrow the funds necessary to obtain an asset of similar value in a similar economic environment with similar terms and conditions.

The Group is exposed to potential future increases in variable lease payments based on an index or rate, which are not included in the lease liability until they take effect. When adjustments to lease payments based on an index or rate take effect, the lease liability is reassessed and adjusted against the right-of-use asset.

Right-of-use assets are measured at cost comprising the following:

- The amount of the initial measurement of lease liability
- Any lease payments made at or before the commencement date less any lease incentives received
- Any initial direct costs; and
- Restoration costs.

Payments associated with short-term leases and leases of low-value assets are recognised on a straight-line basis as an expense in profit or loss. Short-term leases are leases with a lease term of 12 months or less. Low-value assets comprise computer and IT equipment.

Leases - where the Group is the lessor

Assets leased under operating leases are included in property, plant and equipment in the statements of financial position. They are depreciated over their expected useful lives on a basis consistent with other similar property, plant and equipment owned by the Group. Rental income is recognised on a straight-line basis over the lease term.

5.19 Financial liabilities

a) Classification

Financial instruments issued by the Group are classified as either financial liabilities or equity securities by considering contractual obligations.

- Where the Group has an unconditional contractual obligation to deliver cash or another financial asset to another entity, it is considered a financial liability unless there is a predetermined or possible settlement for a fixed amount of cash in exchange of a fixed number of the Group's own equity instruments.

- Where the Group has no contractual obligation or has an unconditional right to avoid delivering cash or another financial asset in settlement of the obligation, it is considered an equity instrument.

Borrowings are classified as current liabilities unless the Group has an unconditional right to defer settlement of the liability for at least 12 months after the reporting date.

b) Measurement

Financial liabilities are initially recognised at fair value and are subsequently measured at amortised cost.

c) Derecognition and modification

Financial liabilities are derecognised when the obligation specified in the contract is discharged, cancelled, or expired.

Where the terms of a financial liability are renegotiated/modified, the Group assesses whether the renegotiation / modification results in the derecognition of that financial liability. Where the modification results in an extinguishment, the new financial liability is recognised based on fair value of its obligation. The remaining carrying amount of financial liability is derecognised. The difference as well as proceed paid is recognised as other gains (losses) in profit or loss.

Where the modification does not result in the derecognition of the financial liability, the carrying amount of the financial liability is recalculated as the present value of the renegotiated / modified contractual cash flows discounted at its original effective interest rate. The difference is recognised in other gains/(losses) in profit or loss.

5.20 Borrowing costs

General and specific borrowing costs directly attributable to the acquisition, construction or production of qualifying assets, are added to the cost of those assets less investment income earned from these specific borrowings. The capitalisation of borrowing costs is ceased when substantially all of the activities necessary to prepare the qualifying assets for its intended use or sale are complete.

Other borrowing costs are recognised as expenses in the period in which they are incurred.

5.21 Employee benefits

The Group has recognised employee benefits based on the types of benefits which are post-employment benefits and other long-term benefits.

a) Post-employment benefits

The Group has recognised both defined contribution and defined benefit plans as follows:

Defined contribution plan

The Group's employees have become members of the following provident funds: "Employee of PTTEP Registered Provident Fund", "Sinsataporn Registered Provident Fund" and "TISCO Master Pooled Fund Registered Provident Fund".

The provident funds are funded by payments from employees and from the Group which are held in a separate trustee-administered fund. The Group contributes to the funds at a rate of 3% - 15% of the employees' salaries which are charged to the statements of income in the period the contributions are made.

Employee retirement benefits

The Group's obligation in respect of the retirement benefit plans is calculated by estimating the amount of future benefits that employees will earn in return for their services to the Group in current and future periods. Such benefits are discounted to the present value. The employee benefits obligation is calculated by an independent actuary using the projected unit credit method. Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to equity in other comprehensive income (loss) in the period in which they arise.

Past-service costs are recognised immediately in the statements of income.

b) Other long-term benefits

The Group's other long-term benefits are benefits based on employees' length of service. The Group calculates the amount of these benefits according to the employees' service period.

The expected obligation of these benefits is calculated by independent actuarial experts and accrued over the period of employment based on the same accounting practice used for the employee retirement benefits. Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions will be recognised in the statements of income in the period in which they arise.

The Group recognises the obligation in respect of employee benefits in the statements of financial position under "Provision for Employee Benefits" as disclosed in Note 28.

5.22 Provisions

Provisions are recognised when the Group has a present legal or constructive obligation as a result of past events; it is probable that an outflow of resources will be required to settle the obligation; and the amount has been reliably estimated.

Provisions are measured at the present value of the expenditures expected to be required to settle the obligation. The increase in the provision due to passage of time is recognised as interest expense.

5.23 Capital management

The Group's objectives when managing capital are to safeguard its ability to continue as a going concern, to provide returns for shareholders and benefits for other stakeholders, and maintain an optimal capital structure to reduce the cost of capital.

5.24 Other reserve for expansion

The Group considers to set aside a reserve for expanding its investments in new projects in the exploration phase, which is generally susceptible to high risk, and for exploration of additional petroleum reserves. The reserve for expansion is set aside at no more than 35% of the net taxable income from its exploration and production activities.

5.25 Revenue recognition

Revenue are recorded net of value added tax. They are recognised in accordance with the provision of goods or services, provided that collectability of the consideration is probable.

Multiple element arrangements involving delivery or provision of multiple products or services are separated into individual distinct performance obligations. Total transaction price of the bundled contract is allocated to each performance obligation based on their relative standalone selling prices or estimated standalone selling prices. Each performance obligation is recognised as revenue on fulfilment of the obligation to the customer.

The Group has the revenue recognition in each category as follows:

Revenue from contracts with customers

Revenue from contracts with customers is recognised when the Group complete performance obligations at a point in time by transferring petroleum product to a customer and the control over the product is transferred to a customer whom the product is physically possessed. The revenue is measured at the fair value of the consideration which the Group expects to be entitled in exchange for petroleum product, provided that collectability of the consideration is probable. Inter-company sales revenue is excluded in the consolidated financial statements.

Deferred income under agreements (Take-or-Pay)

Under the Gas Sales Agreements, the Group has obligations to supply minimum quantities of gas to a customer in each contract year. If in any contract year, the customer has not taken the minimum quantities of gas according to the Gas Sales Agreements, the customer shall pay for quantities of gas not taken (Take-or-Pay). If the customer is unable to take the minimum contracted quantities in a given year, the volume of gas that the customer has paid for but has not taken in that year (Make-up) can be taken free of charge in subsequent years. Payments received in advance under these agreements are recognised as deferred income. This deferred income is recognised in the statements of income when the gas is subsequently taken.

Interest income

Interest income is recognised based on time proportion basis considering on an effective interest rate of one point of time until the end of term and considering on an outstanding balance of the principal recognised in deferred income account of the Group.

Dividend income

Dividend income is recognised when the right to receive payment is established.

Other income

Other income is recognised on an accrual basis.

5.26 Share capital

Ordinary shares with discretionary dividends are classified as equity.

Incremental costs directly attributable to the issue of new shares or options (net of tax) are shown as a deduction in equity.

5.27 Dividend distribution

Dividend distributed to the Company's shareholders is recognised as a liability when interim dividends are approved by the Board of Directors' meeting, and when the annual dividends are approved by the shareholders' meeting.

5.28 Earnings per share

Basic earnings per share are calculated by dividing the income for the year attributable to ordinary shareholders less interest expense for subordinated capital debentures by the weighted average number of ordinary shares outstanding during the year.

Diluted earnings per share are calculated by dividing the income for the year attributable to shareholders less interest expense for subordinated capital debentures by the weighted average number of ordinary shares outstanding during the year, adjusted with dilutive potential ordinary shares. The Company assumes that all dilutive potential ordinary shares are converted into ordinary shares.

5.29 Segment reporting

Operating segments are reported in a manner consistent with the internal reporting provided to the chief operating decision-maker. The chief operating decision-maker is a person responsible for allocating resources and assessing performance of the operating segments that makes strategic decisions.

In considering the segment reporting, the chief operating decision-maker considers product types as well as geographical areas classified by business segments which are identified by different business activities that are subject to risks and returns that are different from those of other business segments.

5.30 Derivatives and hedging activities

a) Embedded derivative and derivatives that do not qualify for hedge accounting

Embedded derivative that is separately accounted for and derivatives that do not qualify for hedge accounting is initially recognised at fair value. Changes in the fair value are included in other income or other expenses.

Fair value of derivatives is classified as a current or non-current following its remaining maturity.

b) Hedge accounting

Derivatives are initially recognised at fair value on the date a derivative contract is entered into and are subsequently remeasured to their fair value at the end of each reporting period. The Group designates certain derivatives as either 1) hedges of the fair value of recognised assets or liabilities or 2) hedges of a particular risk associated with the cash flows of highly probable forecast transactions (cash flow hedges).

At inception of the hedge relationship, the Group documents i) the economic relationship between hedging instruments and hedged items including whether changes in the cash flows of the hedging instruments are expected to offset changes in the cash flows of hedged items and ii) its risk management objective and strategy for undertaking its hedge transactions.

The full fair value of a hedging derivative is classified as a current or non-current asset or liability following the maturity of related hedged item.

The fair values of derivative financial instruments designated in cash flow hedge relationships and movements in the hedging reserve in shareholders' equity are disclosed in Note 7.

Cash flow hedges

The effective portion of changes in the fair value of derivatives that are designated and qualified as cash flow hedges is recognised in the cash flow hedge reserve within equity. The gain or loss relating to the ineffective portion is recognised immediately in profit or loss.

The Group applies hedge accounting on cross currency and interest rate swap and forward foreign exchange contracts in hedge relationships that were being used to hedge the underlying assets or liabilities and highly probable forecast transactions. The Group only designates the spot component of cross currency and interest rate swap and forward foreign exchange contracts as hedging instrument. Gains or losses relating to the effective portion of the change in the spot component and intrinsic value are recognised in the cash flow hedge reserve within equity and recognised the changes in foreign currency basis spreads of cross currency and interest rate swap and forward foreign exchange contracts that relate to hedged items as the costs of hedging reserve within other comprehensive income of equity.

The full fair value of a hedging derivative is classified as a current or non-current asset or liability following the maturity of related hedged item.

The gain or loss relating to the effective portion of cross currency and interest rate swap and forward foreign exchange contracts is recognised in profit or loss within gain or loss on remeasuring of financial instruments at the same time as recognising gain or loss on foreign exchange rate of the hedged items.

The gain or loss relating to the effective portion of cross currency and interest rate swap hedging interest rate risk from debentures is recognised in profit or loss within finance costs at the same time as recognising interest expense on the hedged debentures.

5.31 Financial guarantee contracts

Financial guarantee contracts are recognised as a financial liability at the time the guarantee is issued. The liability is initially measured at fair value and subsequently at the higher of:

- The amount determined in accordance with the expected credit loss model under TFRS 9; and
- The amount initially recognised less the cumulative amount of income recognised in accordance with the principles of TFRS 15.

The fair value of financial guarantees is determined based on the present value of the difference in cash flows between a) the contractual payments required under the debt instrument; and b) the payments that would be required without the guarantee, or the estimated amount that would be payable to a third party for assuming the obligations.

The Group recognised guarantees associated with loans or other payables without compensation as part of the cost of the investment.

6 Financial risk management

The Group exposes to various risks from its business operations as follows:

6.1 Financial risk

The Group exposes to a variety of financial risks which comprise market risk (including foreign exchange risk, interest rate risk and price risk), credit risk and liquidity risk. The Group's overall risk management programme focuses on the unpredictability of financial markets and seeks to minimise potential effects on the Group's financial performance to an acceptable level. The Group also uses derivative financial instruments to hedge certain exposures.

Financial risk management is centralised and carried out by the financial risk management function. The Group's financial risk management includes areas such as foreign exchange risk, interest rate risk, price risk, credit risk and liquidity risk. The framework parameters are approved by the Board of Directors and used as the key communication and control tools for financial risk management function of the Group's subsidiaries.

6.1.1 Market risk

a) Foreign exchange risk

The vast majority of the Group's domestic and overseas business (revenues and expenses) are in US Dollar and most companies in the Group have determined the US Dollar as the functional currency by considering from revenue and operating expenses used in the primary economic environment in which the entity operates. The Group's exposure to the foreign exchange risk arises from transactions which are denominated in currencies that are not the functional currency.

Exposure

The Group and the Company have significant exposure to financial statements from transactions denominated in Baht at the end of the reporting period as follows:

	Consolidated financial statements			
	31 December 2023		31 December 2022	
	Unit: Million US Dollar	Unit: Million Baht	Unit: Million US Dollar	Unit: Million Baht
Cash and cash equivalents	380	13,013	462	15,966
Trade and other receivables	762	26,085	561	19,396
Cross currency and interest rate swaps				
- cashflow hedge derivative *	851	29,120	843	29,120
Other current financial assets	-	-	1	23
Other non-current financial assets	-	8	-	8
Other non-current assets	4	149	4	148
Trade and other payables	(391)	(13,385)	(462)	(15,974)
Forward foreign exchange contracts				
- trading *	(1,549)	(53,024)	(1,197)	(41,368)
Other current liabilities	(53)	(1,812)	(50)	(1,731)
Lease liabilities	(37)	(1,270)	(55)	(1,891)
Debentures	(902)	(30,879)	(850)	(29,376)

	Separate financial statements			
	31 December 2023		31 December 2022	
	Unit: Million US Dollar	Unit: Million Baht	Unit: Million US Dollar	Unit: Million Baht
Cash and cash equivalents	37	1,268	52	1,794
Trade and other receivables	337	11,538	383	13,227
Cross currency and interest rate swaps				
- cashflow hedge derivative *	508	17,400	503	17,400
Short-term loans to related parties	46	1,585	15	528
Other non-current financial assets	-	8	-	7
Other non-current assets	4	147	4	147
Trade and other payables	(190)	(6,516)	(291)	(10,050)
Forward foreign exchange contracts				
- trading *	(930)	(31,833)	(1,087)	(37,560)
Other current liabilities	(3)	(101)	(50)	(1,731)
Lease liabilities	(23)	(797)	(37)	(1,275)
Debentures	(508)	(17,390)	(503)	(17,387)

* These are disclosed with notional amount.

Financial instruments used by the Group for risk management

The Group manages its foreign exchange risks on financial assets and financial liabilities those are not functional currency by balancing the structure and transactions, types of assets, liabilities and equity. In addition, the Group uses derivative instruments to manage and hedge the risks exposure of the foreign currency transaction while it also considers costs, effectiveness, and risks that may arise in each interval.

The Group uses cross currency and interest rate swaps, forward foreign exchange contracts and forward foreign exchange contracts with resettable options to hedge firm and anticipated foreign exchange commitments and to manage its foreign exchange risk arising from future commercial transactions. The Group does not usually hedge its net investments in foreign operations except in circumstances where there is a material exposure arising from a currency that is anticipated to be volatile and the hedging is cost effective. The Group manages its foreign exchange risks by swapping into the entity's functional currency.

Foreign currency borrowings are swapped into the entity's functional currency using cross currency and interest rate swaps, except where the foreign currency borrowings are repaid with cash flows generated in the same foreign currency. The purpose of these hedges is to mitigate the impact of movements in foreign exchange rates on assets and liabilities and the profit or loss of the Group.

The Group enters into cross currency and interest rate swaps, forward foreign exchange contracts and forward foreign exchange contract with resettable options to hedge its exposure to foreign exchange risk. Under the Group's policy, the critical terms of these contracts must align with the hedged items. The Group applies hedge accounting for cross currency and interest rate swaps and forward foreign exchange contracts with resettable options. As a result, gain or loss of non-hedge items are recognised in profit or loss.

The Group only designates the spot component of cross currency and interest rate swap and forward foreign exchange contracts with resettable options in hedge relationships. The spot component is determined with reference to relevant spot market exchange rates. The difference between the contracted forward rate and the spot market exchange rate is defined as the forward points. It is discounted, where material.

The changes in the forward element of the cross currency and interest rate swaps and forward foreign exchange contracts with resettable options that relate to hedged items are deferred in the costs of hedging reserve.

The Group and the Company entered into a cross currency and interest rate swaps with 99.05% of total Thai Baht borrowings which are not matched with the Company's and each subsidiary's functional currency.

Cross currency and interest rate swaps comprise of accrued interest income and expense which will be made twice a year. The due date of interest and principal of the cross currency and interest rate swaps are the same date as loan maturity date.

As at 31 December 2023, the Group and the Company entered into forward foreign exchange contracts and forward foreign exchange contracts with resettable options at 82.01% and 81.36%, respectively, of forecasted Thai Baht trade receivables which are not matched with the Company's and each subsidiary's functional currency.

The Group's exposure of hedging instrument to financial position and performance are as follows:

Consolidated financial statements									
31 December 2023									
	Hedging instrument		Carrying amount of hedging instrument						
Type of hedge	Derivative	Total contractual amount (Million US Dollar)	Unit: Million US Dollar	Unit: Million Baht	Hedge ratio	Maturity date	Contractual exchange rate	Swap rate received	Swap rate paid
Cash flow hedge	Cross currency and interest rate swap	349	6	215	1:1	6 June 2029	32.66	4.82%	4.99%
		182	2	76	1:1	5 November 2026	33.00	2.00% - 2.75%	2.46% - 2.60%
		148	1	50	1:1	5 April 2027	33.75	2.09%	2.88% - 3.26%
		30	-	2	1:1	5 April 2029	33.60	2.69%	3.68%
		171	-	1	1:1	5 April 2032	33.50	3.05%	4.05% - 4.16%
	Forward foreign exchange contracts with resettable options	600	(14)	(478)	1:1	January - October 2024	35.87	-	-
		234	(9)	(296)	1:1	January - April 2024	35.70	-	-

Consolidated financial statements									
31 December 2022									
	Hedging instrument		Carrying amount of hedging instrument						
Type of hedge	Derivative	Total contractual amount (Million US Dollar)	Unit: Million US Dollar	Unit: Million Baht	Hedge ratio	Maturity date	Contractual exchange rate	Swap rate received	Swap rate paid
Cash flow hedge	Cross currency and interest rate swap	349	15	497	1:1	6 June 2029	32.66	4.82%	4.99%
		182	3	116	1:1	5 November 2026	33.00	2.00% - 2.75%	2.46% - 2.55%
		148	2	77	1:1	5 April 2027	33.75	2.09%	2.88% - 3.26%
		30	1	20	1:1	5 April 2029	33.60	2.69%	3.68%
		171	6	206	1:1	5 April 2032	33.50	3.05%	4.05% - 4.16%

Separate financial statements									
31 December 2023									
	Hedging instrument		Carrying amount of hedging instrument						
Type of hedge	Derivative	Total contractual amount (Million US Dollar)	Unit: Million US Dollar	Unit: Million Baht	Hedge ratio	Maturity date	Contractual exchange rate	Swap rate received	Swap rate paid
Cash flow hedge	Cross currency and interest rate swap	349	6	215	1:1	6 June 2029	32.66	4.82%	4.99%
		182	2	76	1:1	5 November 2026	33.00	2.00% - 2.75%	2.46% - 2.60%
	Forward foreign exchange contracts with resettable options	600	(14)	(478)	1:1	January - October 2024	35.87	-	-

Separate financial statements									
31 December 2022									
	Hedging instrument		Carrying amount of hedging instrument						
Type of hedge	Derivative	Total contractual amount (Million US Dollar)	Unit: Million US Dollar	Unit: Million Baht	Hedge ratio	Maturity date	Contractual exchange rate	Swap rate received	Swap rate paid
Cash flow hedge	Cross currency and interest rate swap	349	15	497	1:1	6 June 2029	32.66	4.82%	4.99%
		182	3	116	1:1	5 November 2026	33.00	2.00% - 2.75%	2.46% - 2.55%

Sensitivity analysis

As shown in the table above, the Group is primarily exposed to changes in US Dollar and Baht exchange rates. The sensitivity of profit or loss to changes in the exchange rates arises mainly from financial assets and financial liabilities denominated in foreign currency other than the entity's functional currency and the impact on profit before income tax. If the Group determines the exchange rate as at 31 December 2023 and 2022 to be changed by 10% and holding all other variables constant, the impact on profit before income tax of the Group will be as follows:

	Consolidated financial statements	
	Unit: Million US Dollar	Unit: Million Baht
2023		
Baht to US Dollar exchange rate		
- Increase 10%	(12)	(410)
- Decrease 10%	12	410

	Consolidated financial statements	
	Unit: Million US Dollar	Unit: Million Baht
2022		
Baht to US Dollar exchange rate		
- Increase 10%	36	1,258
- Decrease 10%	(36)	(1,258)

	Separate financial statements	
	Unit: Million US Dollar	Unit: Million Baht
2023		
Baht to US Dollar exchange rate	(1)	(23)
- Increase 10%	1	23
- Decrease 10%		

	Separate financial statements	
	Unit: Million US Dollar	Unit: Million Baht
2022		
Baht to US Dollar exchange rate		
- Increase 10%	57	1,973
- Decrease 10%	(57)	(1,973)

b) Interest rate risk

Interest rate risk is the risk of changes in market value of interest rate which affect to the cash flow from assets and liabilities at variable rates. Therefore, the borrowing at variable rates is the cause of the Group's interest rate risk. The Group's policy is to maintain an appropriate proportion of its borrowings at fixed rates and variable rates considering the Group's business operation. In doing so, the Group maintains its fixed interest rate borrowings not less than 80%. The Group also considers costs, market conditions, and acceptable risk before entering into the financial instrument to manage interest rate risk.

Following interest rate benchmark reform, there are cessations in several benchmark interest rates including LIBOR, which is applied by the Group as part of the variable rate calculation. The Group had monitored and managed the transition to alternative benchmark rates for loan agreements and financial instruments. As a result, the uncertainty does not significantly impact the Group.

The exposure of the Group's borrowings to changes in interest rate of the borrowings at the end of the reporting period are as follows:

	Consolidated financial statements					
	31 December 2023			31 December 2022		
	Unit: Million US Dollar	Unit: Million Baht	% of total borrowings	Unit: Million US Dollar	Unit: Million Baht	% of total borrowings
Fixed rate borrowings	2,610	89,325	94	2,636	91,102	94
Fixed rate borrowings - repricing 1 - 5 years	175	5,995	6	173	5,993	6
	2,785	95,320	100	2,809	97,095	100

	Separate financial statements					
	31 December 2023			31 December 2022		
	Unit: Million US Dollar	Unit: Million Baht	% of total borrowings	Unit: Million US Dollar	Unit: Million Baht	% of total borrowings
Fixed rate borrowings	333	11,395	66	330	11,394	66
Fixed rate borrowings - repricing 1 - 5 years	175	5,995	34	173	5,993	34
	508	17,390	100	503	17,387	100

The percentage of total borrowings represented the proportion of borrowings that are currently at variable rates and fixed rates in relation to the total amount of borrowings. An analysis by maturities is provided in Note 25.

c) Price risk

Exposure

The Group's exposure to price risk arises from petroleum product prices because the Group's selling price of petroleum products is reference to the world's crude oil prices, which are fluctuated subject to various factors beyond its control.

Fluctuations in the world's crude oil prices directly affect the prices of the Group's crude oil and condensate, while the prices of natural gas, which is the main product of the Group, change in the same direction with the reference oil prices and other factors in the gas price formula. Natural gas prices have adjusted periods that reflect actual price delayed by every 3 to 21 months (lag time) depending on each contract. The natural gas price will move corresponding to lower volatility compared to the prices of crude oil and condensate.

The Group has managed the price risk by analysing the impact of the level of oil price changes to revenue, cash flow and net profit of the Group annually. The risk mitigation plan is reviewed by the Risk Management Committee and the Board of Directors in order to be used as the Group's operation framework.

As at 31 December 2023, the Group entered into oil price hedging derivatives for the year 2024 totalling 3.62 million barrel (2022: the Group entered into oil price hedging derivatives for the year 2023 totalling 3.3 million barrel which is the part of total oil price hedging derivatives for the year 2024).

Sensitivity analysis

The changes in oil price, holding all other variables constant, will impact fair value of oil price hedging derivative as at 31 December 2023 and 2022 as follows:

	Consolidated financial statements	
	Unit: Million US Dollar	Unit: Million Baht
2023		
Price per barrel		
- Increase 1 US Dollar	(1)	(40)
- Decrease 1 US Dollar	1	40

	Consolidated financial statements	
	Unit: Million US Dollar	Unit: Million Baht
2022		
Price per barrel		
- Increase 1 US Dollar	(1)	(40)
- Decrease 1 US Dollar	1	37

6.1.2 Credit risk

a) Risk management

The Group's policy to manage its credit risk is to enter into transactions with the customers who have good credit profiles. The majority of sales is made with PTT Public Company Limited, the parent company. In addition, the Group carefully assesses and regularly reviews the credit profiles of its customers.

The Group places deposits with the banks which are rated at investment grade level. The Group regularly assesses credit quality and stability of these banks by taking into account of their credit rating, investment portfolio and other financial ratios which demonstrate their performance and the ability to control their business risks, such as non-performing loan to total loan ratio. These factors are used to manage risks and to consider the amount of bank deposit limit in order to ensure that deposits are well-diversified and to avoid concentration risks with individual bank together with the consideration yields and acceptable risk in each time interval.

Before entering into financial derivative contracts, the Group has assessed the financial position and credit worthiness, including setting up credit exposure limit, of counterparty bank in the same way as when the Group assesses banks before placing deposit as described above. Currently all banks in which the Group has entered into financial derivative contracts are rated at investment grade level. In addition, the Group has adjusted, based on the timing and type of transactions, the outstanding balance of each financial derivative contract made with banks to reflect the risk-adjusted exposure and has diversified transactions to avoid concentration risks with individual bank together with the costs, consideration yields and risks arising in each interval.

b) Impairment of financial assets

The Group has following financial assets that are subject to the expected credit loss model as follows:

- Cash and cash equivalents
- Short-term investments
- Trade and other receivables
- Other current assets
- Short-term loans to a related party
- Long-term loans to a related party
- Other non-current financial assets
- Other non-current assets

Management consider that impairment loss of financial assets mentioned above are immaterial.

6.1.3 Liquidity risk

Liquidity risk is the risk that suitable sources of funding for the Group's business activities may not be available. The Group's contractual maturity of liabilities and interest, including the derivative contracts are as follows:

a) Maturity of financial liabilities

The tables below analyse the maturity of financial liabilities grouping based on their contractual maturities. The amounts disclosed are the contractual undiscounted cash flows as at 31 December 2023 and 2022.

	Consolidated financial statements				
	Unit: Million US Dollar				
	Within 1 year	1 - 5 years	Over 5 years	Total	Total carrying amount
2023					
Trade and other payables	1,425	-	-	1,425	1,425
Other current liabilities	166	-	-	166	166
Lease liabilities	300	477	141	918	868
Contingent considerations from business acquisition	1	-	-	1	1
Debentures - fixed interest rate					
Principal	-	865	1,946	2,811	2,785
Interest expense *	106	391	1,162	1,659	14
Cross currency and interest rate swap - net **	1	4	6	11	1
Forward foreign exchange contracts - net **	64	-	-	64	42

	Consolidated financial statements				
	Unit: Million US Dollar				
	Within 1 year	1 - 5 years	Over 5 years	Total	Total carrying amount
2022					
Trade and other payables	1,514	-	-	1,514	1,514
Other current liabilities	74	-	-	74	74
Lease liabilities	322	578	197	1,097	1,024
Contingent considerations from business acquisition	-	1	-	1	1
Debentures - fixed interest rate					
Principal	-	818	2,022	2,840	2,809
Interest expense *	108	424	1,338	1,870	13
Forward foreign exchange contracts - net **	71	-	-	71	53

	Consolidated financial statements				
	Unit: Million Baht				
	Within 1 year	1 - 5 years	Over 5 years	Total	Total carrying amount
2023					
Trade and other payables	48,767	-	-	48,767	48,767
Other current liabilities	5,693	-	-	5,693	5,693
Lease liabilities	10,283	16,308	4,826	31,417	29,719
Contingent considerations from business acquisition	26	-	-	26	26
Debentures - fixed interest rate					
Principal	-	29,612	66,590	96,202	95,320
Interest expense *	3,635	13,384	39,751	56,770	471
Cross currency and interest rate swap - net **	36	145	188	369	27
Forward foreign exchange contracts - net **	2,207	-	-	2,207	1,448

	Consolidated financial statements				
	Unit: Million Baht				
	Within 1 year	1 - 5 years	Over 5 years	Total	Total carrying amount
2022					
Trade and other payables	52,303	-	-	52,303	52,303
Other current liabilities	2,570	-	-	2,570	2,570
Lease liabilities	11,143	19,983	6,797	37,923	35,384
Contingent considerations from business acquisition	25	25	-	50	50
Debentures - fixed interest rate					
Principal	-	28,281	69,898	98,179	97,095
Interest expense *	3,745	14,660	46,245	64,650	462
Forward foreign exchange contracts - net **	2,445	-	-	2,445	1,833

	Separate financial statements				
	Unit: Million US Dollar				
	Within 1 year	1 - 5 years	Over 5 years	Total	Total carrying amount
2023					
Trade and other payables	303	-	-	303	303
Other current liabilities	13	-	-	13	13
Lease liabilities	36	33	1	70	66
Debentures - fixed interest rate					
Principal	-	175	333	508	508
Interest expense *	20	73	8	101	3
Forward foreign exchange contracts - net **	42	-	-	42	21

	Separate financial statements				
	Unit: Million US Dollar				
	Within 1 year	1 - 5 years	Over 5 years	Total	Total carrying amount
2022					
Trade and other payables	380	-	-	380	380
Other current liabilities	57	-	-	57	57
Lease liabilities	32	19	1	52	50
Debentures - fixed interest rate					
Principal	-	173	330	503	503
Interest expense *	19	76	24	119	2
Forward foreign exchange contracts - net **	64	-	-	64	44

	Separate financial statements				
	Unit: Million Baht				
	Within 1 year	1 - 5 years	Over 5 years	Total	Total carrying amount
2023					
Trade and other payables	10,369	-	-	10,369	10,369
Other current liabilities	442	-	-	442	442
Lease liabilities	1,226	1,115	38	2,379	2,274
Debentures - fixed interest rate					
Principal	-	6,000	11,400	17,400	17,390
Interest expense *	684	2,498	275	3,457	90
Forward foreign exchange contracts - net **	1,437	-	-	1,437	708

	Separate financial statements				
	Unit: Million Baht				
	Within 1 year	1 - 5 years	Over 5 years	Total	Total carrying amount
2022					
Trade and other payables	13,138	-	-	13,138	13,138
Other current liabilities	1,986	-	-	1,986	1,986
Lease liabilities	1,102	648	44	1,794	1,748
Debentures - fixed interest rate					
Principal	-	6,000	11,400	17,400	17,387
Interest expense *	669	2,633	824	4,126	75
Forward foreign exchange contracts - net **	2,203	-	-	2,203	1,523

The major assumptions for the data presented in the table above are that all the interest expenses are calculated based on the nominal interest rate and there is no change in aggregate principal amounts of loans other than repayment at scheduled maturity.

- Thai Baht liabilities were equivalent to US Dollar at the closing rate at the date respective statement of financial position.

* Interest paid represents the interest payment due within year.

** Derivatives were presented at the net amount between cash inflow and cash outflow.

As at 31 December, the Company has commitments from the guarantees of debentures and loans of its subsidiaries as disclosed in Note 36.3. The maturity date of obligations follows the maturity of loan agreements, debentures and loans of subsidiaries.

b) Financing arrangements

The Group manages its liquidity risks by preparing cash flow forecasts and adjusting financial forecasts on a regular basis, entering into financing program, issuing short-term debt securities in order to access Thailand's capital market, as well as entering into credit facilities with financial institutions with the interest rate agreed in advance.

As at 31 December 2023 and 2022, the outstanding principal amount and undrawn facilities are summarised below.

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	Credit limit	Undrawn amount	Credit limit	Undrawn amount
2023				
Committed credit facility	575	575	19,689	19,689
Uncommitted credit facility	279	279	9,544	9,544

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	Credit limit	Undrawn amount	Credit limit	Undrawn amount
2022				
Committed credit facility	574	574	19,825	19,825
Uncommitted credit facility	281	281	9,708	9,708

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	Credit limit	Undrawn amount	Credit limit	Undrawn amount
2023				
Committed credit facility	175	175	6,000	6,000
Uncommitted credit facility	269	269	9,190	9,190

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	Credit limit	Undrawn amount	Credit limit	Undrawn amount
2022				
Committed credit facility	174	174	6,000	6,000
Uncommitted credit facility	266	266	9,190	9,190

Thai Baht credit facility is translated to US Dollar using the closing rate at the date respective statement of financial position.

The Company's International Credit Rating is comparable with the Sovereign Rating of Thailand and the National Credit Rating is at the AAA. As a result, the Company can access to sources of funds for long-term loans at the interest rate approximate the market interest rate. For the years 2023 and 2022, the Company's credit ratings as assigned by prominent credit rating agencies are as follows:

	2023		2022	
	Foreign Currency	Domestic Currency	Foreign Currency	Domestic Currency
Rating Agency				
Moody's	Baa1	Baa1	Baa1	Baa1
Standard and Poor's	BBB+	BBB+	BBB+	BBB+
Fitch Ratings	BBB+	-	BBB+	-
TRIS Rating (National Rating)	-	AAA	-	AAA

6.2 Capital management

6.2.1 Risk management

Capital Risk Management

The Group manages capital to keep financial strength comparable with the leading companies in the same industry, alignment with the business strategy, economy, market positioning and finance cost as well as impact to the financial ratio and credit rating of the Company and providing the ultimate returns to shareholders and benefits to other stakeholders.

7 Derivatives and hedge accounting

Book value of derivatives as at 31 December 2023 and 2022 are disclosed in Note 10.

7.1 Classification of derivative financial instruments

Derivatives are only used for economic hedging purposes, not for speculative investments. The Group adopts hedge accounting for some derivatives which meet the condition of cash flow hedge instruments and determines the hedge ratio at 1:1 considering the relationship of the relevant transactions and risk factors between hedged items and hedging instruments. However, where derivatives do not meet the hedge accounting criteria, they are classified as 'held for trading' for accounting purposes and are accounted for at fair value through profit or loss.

The fair value of a hedging derivative is presented as current or non-current following the maturity of related hedged items.

7.2 Hedge effectiveness

Hedge effectiveness is determined at the inception of the hedge relationship, and through periodic effectiveness assessments, to ensure that an economic relationship exists between the hedged items and hedging instruments.

Foreign exchange risk

For cross currency and interest rate swap, the Group enters into hedging transaction where the critical terms of the hedging instrument match exactly with the terms of the hedged item. The Group therefore performs a qualitative assessment of effectiveness. If changes in circumstances affect the terms of the hedged item such that the critical terms no longer match exactly with the critical terms of the hedging instrument, the Group uses the hypothetical derivative method to assess effectiveness.

In hedging of foreign currency on cross currency and interest rate swap, ineffectiveness may arise if there are changes in the credit risk of the derivative counterparty, a reduction in value of the hedged items, or a significant change in components of cross currency and interest rate swap.

7.3 Cash flow hedge reserve

Hedging reserve includes costs of hedging and cash flow hedge reserve. The cash flow hedge reserve is used to recognise the effective portion of gains or losses on changes in fair value of derivatives that are qualified for hedge accounting.

The Group has hedging reserve presented in other comprehensive income comprising financial instruments as follows:

	Consolidated financial statements							
	Unit: Million US Dollar				Unit: Million Baht			
	Cost of hedging reserve	Spot component of currency forwards	Intrinsic value of option	Total	Cost of hedging reserve	Spot component of currency forwards	Intrinsic value of option	Total
As at 1 January 2023	25	24	-	49	941	994	-	1,935
Changes in fair value of hedging instruments recognised in OCI	-	(22)	-	(22)	-	(810)	-	(810)
Costs of hedging deferred and recognised in OCI	(16)	-	-	(16)	(545)	-	-	(545)
Reclassified from OCI to profit or loss								
- Gain on foreign exchange rate	-	1	-	1	-	46	-	46
Deferred tax	2	9	-	11	64	327	-	391
As at 31 December 2023	11	12	-	23	460	557	-	1,017

	Consolidated financial statements							
	Unit: Million US Dollar				Unit: Million Baht			
	Cost of hedging reserve	Spot component of currency forwards	Intrinsic value of option	Total	Cost of hedging reserve	Spot component of currency forwards	Intrinsic value of option	Total
As at 1 January 2022	10	(13)	2	(1)	425	(354)	38	109
Changes in fair value of hedging instruments recognised in OCI	-	51	(2)	49	-	1,846	(49)	1,797
Costs of hedging deferred and recognised in OCI	18	-	-	18	645	-	-	645
Reclassified from OCI to profit or loss								
- Loss on foreign exchange rate	-	(4)	-	(4)	-	(160)	-	(160)
Deferred tax	(3)	(10)	-	(13)	(129)	(338)	11	(456)
As at 31 December 2022	25	24	-	49	941	994	-	1,935

	Separate financial statements					
	Unit: Million US Dollar			Unit: Million Baht		
	Cost of hedging reserve	Spot component of currency forwards	Total	Cost of hedging reserve	Spot component of currency forwards	Total
As at 1 January 2023	13	22	35	459	811	1,270
Changes in fair value of hedging instruments recognised in OCI	-	(16)	(16)	-	(518)	(518)
Costs of hedging deferred and recognised in OCI	(8)	-	(8)	(289)	-	(289)
Reclassified from OCI to profit or loss						
- Gain on foreign exchange rate	-	1	1	-	37	37
Deferred tax	-	7	7	(17)	254	237
As at 31 December 2023	5	14	19	153	584	737

	Separate financial statements					
	Unit: Million US Dollar			Unit: Million Baht		
	Cost of hedging reserve	Spot component of currency forwards	Total	Cost of hedging reserve	Spot component of currency forwards	Total
As at 1 January 2022	11	(11)	-	378	(353)	25
Changes in fair value of hedging instruments recognised in OCI	-	24	24	-	838	838
Costs of hedging deferred and recognised in OCI	3	-	3	101	-	101
Reclassified from OCI to profit or loss						
- Gain on foreign exchange rate	-	17	17	-	618	618
Deferred tax	(1)	(8)	(9)	(20)	(292)	(312)
As at 31 December 2022	13	22	35	459	811	1,270

7.4 Amounts recognised in profit or loss

In addition to the amounts reclassified from hedge reserve as disclosed in Note 7.3, the following amounts relating to derivatives were recognised in profit or loss:

	Consolidated financial statements	
	Unit: Million US Dollar	
For the years ended 31 December	2023	2022
Net gain (loss) on derivatives that do not qualify for hedge accounting, presented in loss on remeasuring of financial instruments	34	(125)

	Consolidated financial statements	
	Unit: Million Baht	
For the years ended 31 December	2023	2022
Net gain (loss) on derivatives that do not qualify for hedge accounting, presented in loss on remeasuring of financial instruments	1,133	(3,817)

	Separate financial statements	
	Unit: Million US Dollar	
For the years ended 31 December	2023	2022
Net gain on derivatives that do not qualify for hedge accounting, presented in gain (loss) on remeasuring of financial instruments	43	1

	Separate financial statements	
	Unit: Million Baht	
For the years ended 31 December	2023	2022
Net gain on derivatives that do not qualify for hedge accounting, presented in gain (loss) on remeasuring of financial instruments	1,446	26

8 Critical accounting estimates and judgements

Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

8.1 Impairment of goodwill

In assessing the impairment of goodwill, the Group estimates using the discounted future cash flows which are based on management's key assumptions in relation to selling price using the future oil price, estimated future production volume based on a proved and probable reserves and gross margin rate. These assumptions are based on management's judgment and past experience as well as the future prediction that is believed to be reasonable in the present situation. Changes in the information or new noticeable information may lead to the change in the assumptions and the discount rate for the estimation of the discounted future cash flows. The assumption of selling price is determined from the short-term oil price based on forward oil price curve and long-term oil price based on demand and supply of oil in the world market.

8.2 Estimation of petroleum reserves

Petroleum reserves are key elements in the Group's investment decision-making process. They are also important elements in testing for impairment. Changes in proved reserves will also affect the present value of the net cash flows and depreciation calculated using the unit-of-production method.

Proved reserves are the quantities of petroleum that are demonstrated with reasonable certainty to be commercially producible in future years from known reservoirs under existing economic and operating conditions including government rules and regulations. The proved reserves have to be examined and assessed annually by the Group's geologists and reservoir engineers.

9 Segment and revenue information

	Consolidated financial statements									
	Unit: Million US Dollar									
	Exploration and production							Others	Intercompany elimination	Total
	Southeast Asia									
For the year ended 31 December 2023	Thailand	Other Southeast Asia	Middle East	Australia	America	Africa	Others			
Revenues - Third parties	302	1,221	607	-	-	-	38	19	-	2,187
- Related parties	4,890	1,033	557	-	-	279	-	37	(344)	6,452
Other income	83	3	1	-	-	24	-	144	(167)	88
Gain on disposal of participating interests	-	-	-	73	-	-	-	-	-	73
Interest income	2	11	4	-	-	11	-	1	-	29
Total revenues	5,277	2,268	1,169	73	-	314	38	201	(511)	8,829
Operating expenses	802	625	85	-	-	34	13	67	(401)	1,225
Exploration expenses	5	22	9	51	6	1	-	-	-	94
Administrative expenses	71	64	11	1	2	15	1	108	(113)	160
Petroleum royalties	397	29	-	-	-	24	-	-	-	450
Depreciation, depletion and amortisation	1,412	546	256	-	-	58	13	10	(2)	2,293
Gain (loss) on foreign exchange rates	(14)	(1)	-	(1)	-	1	1	-	-	(14)
Finance costs	130	34	6	-	-	2	-	1	-	173
Share of profit of associates and joint ventures	-	-	(16)	-	-	-	-	(27)	-	(43)
Impairment loss on assets and goodwill	-	-	-	-	-	120	-	-	-	120
Total expenses	2,803	1,319	351	51	8	255	28	159	(516)	4,458
Segment profit (loss)	2,474	949	818	22	(8)	59	10	42	5	4,371
Depreciation - general										(42)
Administrative expenses										(327)
Operating profit										4,002
Other income, net										57
Interest income										123
Finance costs										(121)
Gain on foreign exchange rates										34
Loss on remeasuring financial instruments										(56)
Profit before income taxes										4,039
Income tax - Project	(866)	(280)	(595)	-	-	(65)	(5)	(2)		(1,813)
- Group										(18)
Profit (loss) for the year	1,608	669	223	22	(8)	(6)	5	40		2,208

	Consolidated financial statements									
	Unit: Million Baht									
	Exploration and production							Others	Intercompany elimination	Total
	Southeast Asia									
For the year ended 31 December 2023	Thailand	Other Southeast Asia	Middle East	Australia	America	Africa	Others			
Revenues - Third parties	10,542	42,632	21,082	-	-	-	1,331	654	-	76,241
- Related parties	170,115	35,945	19,373	-	-	9,717	-	1,273	(11,970)	224,453
Other income	2,862	113	23	1	-	852	-	5,032	(5,832)	3,051
Gain on disposal of participating interests	-	-	-	2,548	-	13	-	-	-	2,561
Interest income	55	377	155	4	1	384	10	44	(2)	1,028
Total revenues	183,574	79,067	40,633	2,553	1	10,966	1,341	7,003	(17,804)	307,334
Operating expenses	27,873	21,771	2,961	-	-	1,203	468	2,333	(13,945)	42,664
Exploration expenses	184	774	327	1,798	210	16	-	-	-	3,309
Administrative expenses	2,474	2,231	387	43	69	512	52	3,742	(3,950)	5,560
Petroleum royalties	13,777	1,003	-	-	-	852	-	-	-	15,632
Depreciation, depletion and amortisation	49,182	19,049	8,895	3	-	2,022	447	353	(73)	79,878
Gain (loss) on foreign exchange rates	(456)	(23)	1	(31)	-	25	10	(1)	-	(475)
Finance costs	4,528	1,206	206	-	-	94	7	15	(18)	6,038
Share of profit of associates and joint ventures	-	-	(554)	-	-	-	-	(923)	-	(1,477)
Impairment loss on assets and goodwill	-	-	-	-	-	4,255	-	-	-	4,255
Total expenses	97,562	46,011	12,223	1,813	279	8,979	984	5,519	(17,986)	155,384
Segment profit (loss)	86,012	33,056	28,410	740	(278)	1,987	357	1,484	182	151,950
Depreciation - general										(1,444)
Administrative expenses										(11,419)
Operating profit										139,087
Other income, net										1,981
Interest income										4,276
Finance costs										(4,205)
Gain on foreign exchange rates										1,151
Loss on remeasuring financial instruments										(1,881)
Profit before income taxes										140,409
Income tax - Project	(30,074)	(9,766)	(20,687)	-	-	(2,284)	(170)	(77)		(63,058)
- Group										(646)
Profit (loss) for the year	55,938	23,290	7,723	740	(278)	(297)	187	1,407		76,705

	Consolidated financial statements								
	Unit: Million US Dollar								
	Exploration and production							Others	Total
	Southeast Asia								
As at 31 December 2023	Thailand	Other Southeast Asia	Middle East	Australia	America	Africa	Others		
Segment assets	7,743	6,252	3,057	35	74	4,011	215	140	21,527
Investments under equity method	-	-	16	-	-	-	-	269	285
Unallocated assets									4,568
Total assets									26,380
Segment liabilities	5,159	1,820	562	-	1	711	53	55	8,361
Unallocated liabilities									3,426
Total liabilities									11,787
Capital expenditures	2,440	588	143	-	1	139	19	60	3,390

	Consolidated financial statements								
	Unit: Million Baht								
	Exploration and production							Others	Total
	Southeast Asia								
As at 31 December 2023	Thailand	Other Southeast Asia	Middle East	Australia	America	Africa	Others		
Segment assets	264,982	213,987	104,618	1,202	2,519	137,270	7,376	4,776	736,730
Investments under equity method	-	-	560	-	-	-	-	9,208	9,768
Unallocated assets									156,323
Total assets									902,821
Segment liabilities	176,560	62,268	19,214	13	49	24,327	1,828	1,889	286,148
Unallocated liabilities									117,230
Total liabilities									403,378
Capital expenditures	84,859	20,456	4,985	-	33	4,840	652	2,082	117,907

	Consolidated financial statements									
	Unit: Million US Dollar									
	Exploration and production							Others	Intercompany elimination	Total
	Southeast Asia									
For the year ended 31 December 2022	Thailand	Other Southeast Asia	Middle East	Australia	America	Africa	Others			
Revenues - Third parties	283	1,542	429	-	-	-	50	70	-	2,374
- Related parties	5,369	1,060	811	-	-	160	-	-	(353)	7,047
Other income	110	2	72	-	-	14	-	134	(180)	152
Interest income	-	3	1	-	-	10	-	-	-	14
Total revenues	5,762	2,607	1,313	-	-	184	50	204	(533)	9,587
Operating expenses	674	672	86	-	-	17	13	67	(419)	1,110
Exploration expenses	4	4	28	31	5	-	-	-	-	72
Administrative expenses	63	96	12	132	5	10	2	104	(114)	310
Petroleum royalties	596	78	-	-	-	14	-	-	-	688
Depreciation, depletion and amortisation	1,399	608	261	-	-	36	15	9	(4)	2,324
Loss on foreign exchange rates	54	10	-	2	5	-	-	-	-	71
Finance costs	65	23	5	-	-	2	-	-	-	95
Share of profit of associates and joint ventures	-	-	(19)	(1)	-	-	-	-	-	(20)
Impairment loss on assets and goodwill	-	-	-	-	95	205	-	-	-	300
Total expenses	2,855	1,491	373	164	110	284	30	180	(537)	4,950
Segment profit (loss)	2,907	1,116	940	(164)	(110)	(100)	20	24	4	4,637
Depreciation - general										(39)
Administrative expenses										(268)
Operating profit										4,330
Other income, net										43
Interest income										30
Finance costs										(139)
Loss on foreign exchange rates										(20)
Loss on remeasuring financial instruments										(184)
Profit before income taxes										4,060
Income tax - Project	(1,064)	(333)	(648)	-	-	(67)	(8)	(13)		(2,133)
- Group										72
Profit (loss) for the year	1,843	783	292	(164)	(110)	(167)	12	11		1,999

	Consolidated financial statements									
	Unit: Million Baht									
	Exploration and production							Others	Intercompany elimination	Total
	Southeast Asia									
For the year ended 31 December 2022	Thailand	Other Southeast Asia	Middle East	Australia	America	Africa	Others			
Revenues - Third parties	9,964	54,187	15,108	-	-	-	1,745	2,465	-	83,469
- Related parties	188,739	37,368	28,470	-	-	5,742	-	-	(12,438)	247,881
Other income	3,918	85	2,639	4	-	509	-	4,693	(6,363)	5,485
Interest income	11	125	21	-	-	327	4	9	-	497
Total revenues	202,632	91,765	46,238	4	-	6,578	1,749	7,167	(18,801)	337,332
Operating expenses	23,787	23,630	3,035	-	-	609	449	2,367	(14,785)	39,092
Exploration expenses	152	130	976	1,105	181	7	-	-	-	2,551
Administrative expenses	2,203	3,345	433	4,817	172	366	73	3,647	(4,015)	11,041
Petroleum royalties	20,891	2,750	-	-	-	497	-	-	-	24,138
Depreciation, depletion and amortisation	49,332	21,353	9,138	6	-	1,271	521	302	(130)	81,793
Loss (gain) on foreign exchange rates	1,933	380	-	54	161	(12)	5	9	-	2,530
Finance costs	2,291	820	170	-	-	55	4	7	(4)	3,343
Share of (profit) loss of associates and joint ventures	-	-	(657)	(23)	-	-	-	12	-	(668)
Impairment loss on assets and goodwill	-	-	-	-	3,517	7,136	-	-	-	10,653
Total expenses	100,589	52,408	13,095	5,959	4,031	9,929	1,052	6,344	(18,934)	174,473
Segment profit (loss)	102,043	39,357	33,143	(5,955)	(4,031)	(3,351)	697	823	133	162,859
Depreciation - general										(1,375)
Administrative expenses										(9,345)
Operating profit										152,139
Other income, net										1,500
Interest income										1,069
Finance costs										(4,875)
Loss on foreign exchange rates										(748)
Loss on remeasuring financial instruments										(5,889)
Profit before income taxes										143,196
Income tax - Project	(37,320)	(11,654)	(22,793)	-	-	(2,346)	(295)	(464)		(74,872)
- Group										2,577
Profit (loss) for the year	64,723	27,703	10,350	(5,955)	(4,031)	(5,697)	402	359		70,901

	Consolidated financial statements								
	Unit: Million US Dollar								
	Exploration and production							Others	Total
	Southeast Asia								
As at 31 December 2022	Thailand	Other Southeast Asia	Middle East	Australia	America	Africa	Others		
Segment assets	7,294	6,127	3,229	272	72	4,001	222	144	21,361
Investments under equity method	-	-	33	-	-	-	-	245	278
Unallocated assets									3,529
Total assets									25,168
Segment liabilities	5,250	1,875	589	132	2	643	64	54	8,609
Unallocated liabilities									3,044
Total liabilities									11,653
Capital expenditures	2,814	543	182	-	1	156	11	88	3,795

	Consolidated financial statements								
	Unit: Million Baht								
	Exploration and production							Others	Total
	Southeast Asia								
As at 31 December 2022	Thailand	Other Southeast Asia	Middle East	Australia	America	Africa	Others		
Segment assets	252,107	211,768	111,587	9,393	2,498	138,300	7,660	4,968	738,281
Investments under equity method	-	-	1,149	-	-	-	-	8,445	9,594
Unallocated assets									121,989
Total assets									869,864
Segment liabilities	181,473	64,796	20,350	4,551	66	22,211	2,234	1,863	297,544
Unallocated liabilities									105,200
Total liabilities									402,744
Capital expenditures	98,453	18,984	6,347	-	51	5,452	372	3,092	132,751

The Group is organised into the following business segments:

- Exploration and production: The Group operates in oil and gas exploration and production both domestically and overseas including gas transportation pipeline in overseas, either as an operator or as a joint venture partner with international oil and gas companies. Most domestic projects are located in the Gulf of Thailand. Overseas projects are located in Southeast Asia, Middle East, Australia, America, Africa and others.
- The Group's other operations consist mainly of investments in related business associated with the Group's strategy, and other operations. These do not constitute a separately reportable segment.

For the year ended 31 December 2023, the Group has one major customer from revenues under the exploration and production segment, representing 66% of total revenues from sales. (For the year ended 31 December 2022, the Group has one major customer from revenues under the exploration and production segment, representing 70% of total revenues from sales.) The mentioned revenue is presented in Note 16 (a) under the topic transactions with parent company.

10 Fair value

10.1 Fair value estimation

The following tables present financial assets and liabilities recognised by their fair value hierarchy.

	Consolidated financial statements							
	Unit: Million US Dollar							
	Level 1		Level 2		Level 3		Total	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Assets								
Financial derivative assets								
Derivatives assets used for hedging								
- Cross currency and interest rate swap	-	-	11	27	-	-	11	27
Derivatives assets measured at fair value through profit or loss								
- Oil price hedge	-	-	19	14	-	-	19	14
- Forward foreign exchange contracts	-	-	-	2	-	-	-	2
Other financial assets								
Financial assets measured at fair value through profit or loss								
- Investment in debt instruments	-	1	-	-	2	-	2	1
Financial assets measured at fair value through other comprehensive								
- Investment in equity instruments	1	1	-	-	-	-	1	1
Other non-current assets								
Assets measured at fair value through profit or loss								
- Contingent consideration from disposal of participating interest	-	-	-	-	61	-	61	-
- Pension scheme investments from joint operation	69	76	-	-	-	-	69	76
Total assets	70	78	30	43	63	-	163	121

	Consolidated financial statements							
	Unit: Million US Dollar							
	Level 1		Level 2		Level 3		Total	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Liabilities								
Financial derivative liabilities								
Derivatives liabilities used for hedging								
- Forward foreign exchange contracts	-	-	23	-	-	-	23	-
- Cross currency and interest rate swap	-	-	1	-	-	-	1	-
Derivatives liabilities measured at fair value through profit or loss								
- Forward foreign exchange contracts	-	-	19	53	-	-	19	53
Other current liabilities								
Financial liabilities measured at fair value through profit or loss								
- Contingent considerations from business acquisition	-	-	-	-	-	-	-	-
Other non-current liabilities								
Financial liabilities measured at fair value through profit or loss								
- Contingent considerations from business acquisition	-	-	-	-	1	1	1	1
Total liabilities	-	-	43	53	1	1	44	54

	Consolidated financial statements							
	Unit: Million Baht							
	Level 1		Level 2		Level 3		Total	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Assets								
Financial derivative assets								
Derivatives assets used for hedging								
- Cross currency and interest rate swap	-	-	371	917	-	-	371	917
Derivatives assets measured at fair value through profit or loss								
- Oil price hedge	-	-	659	508	-	-	659	508
- Forward foreign exchange contracts	-	-	-	53	-	-	-	53
Other financial assets								
Financial assets measured at fair value through profit or loss								
- Investment in debt instruments	6	29	-	-	77	-	83	29
Financial assets measured at fair value through other comprehensive income								
- Investment in equity instruments	29	26	-	-	1	1	30	27
Other non-current assets								
Assets measured at fair value through profit or loss								
- Contingent consideration from disposal of participating interest	-	-	-	-	2,083	-	2,083	-
- Pension scheme investments from joint operation	2,372	2,626	-	-	-	-	2,372	2,626
Total assets	2,407	2,681	1,030	1,478	2,161	1	5,598	4,160

	Consolidated financial statements							
	Unit: Million Baht							
	Level 1		Level 2		Level 3		Total	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Liabilities								
Financial derivative liabilities								
Derivatives liabilities used for hedging								
- Forward foreign exchange contracts	-	-	774	-	-	-	774	-
- Cross currency and interest rate swap	-	-	27	-	-	-	27	-
Derivatives liabilities measured at fair value through profit or loss								
- Forward foreign exchange contracts	-	-	674	1,833	-	-	674	1,833
Other current liabilities								
Financial liabilities measured at fair value through profit or loss								
- Contingent considerations from business acquisition	-	-	-	-	-	25	-	25
Other non-current liabilities								
Financial liabilities measured at fair value through profit or loss								
- Contingent considerations from business acquisition	-	-	-	-	26	25	26	25
Total liabilities	-	-	1,475	1,833	26	50	1,501	1,883

	Separate financial statements							
	Unit: Million US Dollar							
	Level 1		Level 2		Level 3		Total	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Assets								
Financial derivative assets								
Derivatives assets used for hedging								
- Cross currency and interest rate swap	-	-	8	18	-	-	8	18
Other financial assets								
Financial assets measured at fair value through profit or loss								
- Investment in debt instruments	-	-	-	-	-	-	-	-
Financial assets measured at fair value through other comprehensive income								
- Investment in equity instruments	-	-	-	-	-	-	-	-
Total assets	-	-	8	18	-	-	8	18
Liabilities								
Financial derivative liabilities								
Derivatives liabilities used for hedging								
- Forward foreign exchange contracts	-	-	14	-	-	-	14	-
Derivatives liabilities measured at fair value through profit or loss								
- Forward foreign exchange contracts	-	-	7	44	-	-	7	44
Total liabilities	-	-	21	44	-	-	21	44

	Separate financial statements							
	Unit: Million Baht							
	Level 1		Level 2		Level 3		Total	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Assets								
Financial derivative assets								
Derivatives assets used for hedging								
- Cross currency and interest rate swap	-	-	291	613	-	-	291	613
Other financial assets								
Financial assets measured at fair value through profit or loss								
- Investment in debt instruments	6	6	-	-	-	-	6	6
Financial assets measured at fair value through other comprehensive income								
- Investment in equity instruments	-	-	-	-	1	1	1	1
Total assets	6	6	291	613	1	1	298	620
Liabilities								
Financial derivative liabilities								
Derivatives liabilities used for hedging								
- Forward foreign exchange contracts	-	-	478	-	-	-	478	-
Derivatives liabilities measured at fair value through profit or loss								
- Forward foreign exchange contracts	-	-	230	1,523	-	-	230	1,523
Total liabilities	-	-	708	1,523	-	-	708	1,523

The valuation of financial assets and financial liabilities fair value is based on accounting policy disclosed in Note 5.8 Financial assets and Note 5.19 Financial liabilities.

Transfer between fair value hierarchy

The Group has no transaction transfer between Level 1, Level 2, and Level 3 of the fair value hierarchy during the year.

10.2 Fair value valuation techniques

Fair values are categorised into hierarchy based on inputs used as follows:

10.2.1 Valuation techniques used to derive level 1 fair values

The fair value of financial instruments is based on quoted prices of each asset or liability by reference of active markets.

10.2.2 Valuation techniques used to derive level 2 fair values

The fair value of financial instruments is determined using valuation techniques which significantly use observable data and, as little as possible, the Group specific estimates.

Valuation techniques used to derive level 2 fair values of financial derivatives are as follows:

- Oil price hedge comprises oil price swaps and options. The fair value of oil price swaps is assessed based on the price level calculated using the market price of future contracts. The fair value of oil price options is calculated using premium which requires various variable factors, such as the price level of swap, timing of exercise, and price volatility etc.
- The fair value of forward contracts, including forward foreign exchange contracts with resettable option, are calculated using forward foreign exchange rates that are quoted in an active market for the forward contract portion. The fair value of resettable option is assessed based on various variable factors, such as future forward foreign exchange rate, the market value of swap price, timing of exercise, and foreign exchange rate volatility etc.

- The fair value of cross currency and interest rate swaps including Memorandum of Understanding on Cross Currency Swap (MOU) in relation to interest rate adjustment with financial institutions, is calculated using forward interest rates derived from the yield curves in an observable interest market and forward foreign exchange rates that are quoted in an active market including assessing the possibilities of interest rate adjustment according to MOU.

10.2.3 Valuation techniques used to derive level 3 fair values

The fair value of financial instruments is measured using unobservable inputs in which the Group uses discounted cash flows method to derive level 3 fair value.

Changes in level 3 fair value of financial instruments for the years ended as at 31 December 2023 and 2022 are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar			
	Financial assets measured at fair value through profit or loss	Financial assets measured at fair value through comprehensive income	Contingent consideration from disposal of participating interest	Contingent considerations from business acquisition
Opening balance as at 1 January 2022	-	-	-	72
Increase	-	-	-	-
Changes recognised in profit or loss	-	-	-	(71)
Closing balance as at 31 December 2022	-	-	-	(1)
Increase	3	-	61	-
Changes recognised in profit or loss	(1)	-	-	-
Closing balance as at 31 December 2023	2	-	61	(1)

	Consolidated financial statements			
	Unit: Million Baht			
	Financial assets measured at fair value through profit or loss	Financial assets measured at fair value through comprehensive income	Contingent consideration from disposal of participating interest	Contingent considerations from business acquisition
Opening balance as at 1 January 2022	-	1	-	(2,412)
Increase	-	-	-	(3)
Changes recognised in profit or loss	-	-	-	2,478
Currency translation differences	-	-	-	(113)
Closing balance as at 31 December 2022	-	1	-	(50)
Increase	97	-	2,083	25
Changes recognised in profit or loss	(20)	-	-	1
Closing balance as at 31 December 2023	**77**	**1**	**2,083**	**(26)**

During 2022, the contingent consideration in a business acquisition of Block 61 Sultanate of Oman (Oman Block 61) was changed due to possibilities in relation to conditions as specified in sale and purchase agreement (SPA). The Group recognised such changes in contingent consideration in the consolidated statement of income.

During 2023, the contingent consideration from disposal of participating interest in petroleum retention lease AC/RL7 as disclosed in Note 2.

	Separate financial statements
	Unit: Million US Dollar
	Financial assets measured at fair value through other comprehensive income
Opening balance as at 1 January 2022	-
Changes recognised in other comprehensive income	-
Closing balance as at 31 December 2022	-
Changes recognised in other comprehensive income	-
Closing balance as at 31 December 2023	-

	Separate financial statements
	Unit: Million Baht
	Financial assets measured at fair value through other comprehensive income
Opening balance as at 1 January 2022	1
Changes recognised in other comprehensive income	-
Closing balance as at 31 December 2022	1
Changes recognised in other comprehensive income	-
Closing balance as at 31 December 2023	1

The following table summarises the quantitative information about the significant unobservable inputs used in level 3 fair value measurements.

	Fair value				Unobservable inputs		
	Unit: Million US Dollar		Unit: Million Baht			Inputs	
	2023	2022	2023	2022		2023	2022
Financial assets measured at fair value through profit or loss	2	-	77	-	Risk-adjusted discount rate	20.00%	-
Contingent consideration from disposal of participating interest	61	-	2,083	-	Risk-adjusted discount rate	6.00%	-
Contingent consideration in a business combination	1	1	26	50	Risk-adjusted discount rate	2.80%	2.75% - 2.80%

The following table presents the relationship of unobservable inputs to fair value:

	Unobservable input	Movement	Change in fair value	
			Increase in assumption	Decrease in assumption
			2023	2023
Financial assets measured at fair value through profit or loss	Risk-adjusted discount rate	1.00%	Decrease by 0.05%	Increase by 0.05%
Contingent consideration from disposal of participating interest	Risk-adjusted discount rate	1.00%	Decrease by 3.41%	Increase by 3.53%
Contingent consideration in a business combination	Risk-adjusted discount rate	1.00%	Decrease by 0.16%	Increase by 0.16%

The Group's valuation processes

Significant unobservable input of fair value hierarchy level 3 is risk adjusted discount rate. It is estimated based on the Group's cost of debt and assumptions relating to possibilities in accordance to conditions as specified in sale and purchase agreement (SPA).

The fair values of investments in unquoted equity, classified as financial assets and measured at fair value through comprehensive income, were assessed based on business plan and market conditions. Management considers that the book value of the financial assets approximates their fair value.

The following figures presented fair value and book value of financial assets and financial liabilities for each category, but not include transaction which has a book value similar to fair value.

The details of fair values of long-term loans receivables and long-term liabilities as at 31 December 2023 and 2022 calculated by using the discounted cash flow based on a discount rate of borrowing with similar terms are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar			
	Book value		Fair value	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Unsecured and unsubordinated debentures	2,785	2,809	2,683	2,567

	Consolidated financial statements			
	Unit: Million Baht			
	Book value		Fair value	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Unsecured and unsubordinated debentures	95,320	97,095	91,822	88,723

	Separate financial statements			
	Unit: Million US Dollar			
	Book value		Fair value	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Long-term loans to related parties	6,983	6,983	6,973	7,479
Unsecured and unsubordinated debentures	508	503	532	537

	Separate financial statements			
	Unit: Million Baht			
	Book value		Fair value	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Long-term loans to related parties	238,975	241,343	238,639	258,501
Unsecured and unsubordinated debentures	17,390	17,387	18,208	18,570

Book value of long-term loans to related parties and unsecured and unsubordinated debentures is measured at amortised cost.

The fair value of debentures in Thai Baht is calculated using the reference price in the secondary market of Thai Bond Market Association that are quoted in an active market and classified as level 2 fair value.

The fair value of debentures in US Dollar is calculated using the reference observable price in the secondary market of foreign bond that is quoted in an active market and classified as level 2 fair value.

The fair value of long-term loans to related parties is calculated by the discounted cash flow method using the reference discount rate in the market and classified as level 3 fair value.

The fair values of the following financial assets and liabilities approximate their book values.

The book value of long-term loans approximates their fair value, since their interest rates are close to market rate.

Consolidated financial statements	Separate financial statements
Financial assets	**Financial assets**
• Cash and cash equivalents	• Cash and cash equivalents
• Short-term investments	• Short-term investments
• Trade and other receivables	• Trade and other receivables
• Other current assets	• Other current assets
• Loans to related parties	• Other non-current assets
• Other non-current financial assets	
• Other non-current assets	
Financial liabilities	**Financial liabilities**
• Trade and other payables	• Trade and other payables
• Lease liabilities	• Short-term loans from related parties
• Other current liabilities	• Lease liabilities
	• Other current liabilities

Book value of the above financial assets and liabilities is measured at amortised cost.

11 Cash and cash equivalents

Cash and cash equivalents are comprised:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Cash and bank deposits	2,021	2,069	69,143	71,503
Cash equivalents				
Fixed deposits with banks	1,762	1,114	60,310	38,501
Treasury bills due not over than 3 months	35	-	1,199	-
Money market funds	201	356	6,890	12,320
Total cash and cash equivalents	4,019	3,539	137,542	122,324

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Cash and bank deposits	258	253	8,844	8,749
Cash equivalents				
Fixed deposits with banks	545	581	18,659	20,056
Money market funds	151	356	5,150	12,320
Total cash and cash equivalents	954	1,190	32,653	41,125

12 Short-term investments

Short-term investments are comprised:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Fixed deposits	200	-	6,845	-
Total short-term investments	200	-	6,845	-

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Fixed deposits	200	-	6,845	-
Total short-term investments	200	-	6,845	-

13 Trade and other receivables

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Trade receivables (Note 16)	1,124	996	38,462	34,439
Other receivables, net	695	224	23,779	7,727
Total trade and other receivables, net	1,819	1,220	62,241	42,166

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Trade receivables (Note 16)	370	409	12,659	14,141
Other receivables, net	480	402	16,432	13,889
Total trade and other receivables, net	850	811	29,091	28,030

Aging of trade receivables can be analysed as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Not yet due	1,078	964	36,898	33,325
Over due				
- Up to 3 months	21	6	710	221
- Over 3 months but not over 6 months	-	-	5	-
- Over 6 months but not over 12 months	-	1	3	26
- Over 12 months	25	25	846	867
Total	1,124	996	38,462	34,439

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Not yet due	346	384	11,831	13,275
Over due				
- Up to 3 months	-	-	-	-
- Over 3 months but not over 6 months	-	-	-	-
- Over 6 months but not over 12 months	-	-	-	-
- Over 12 months	24	25	828	866
Total	370	409	12,659	14,141

Due to the short-term nature of the current receivables, their carrying amounts are considered to be the same as their fair values.

14 Other current financial assets

Other current financial assets are comprised investments in fixed income fund. The movements of other current financial assets for the years ended 31 December are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Opening book value	1	-	23	-
Increase	57	226	1,984	7,915
Decrease	(59)	(223)	(2,051)	(7,826)
Foreign exchange differences	1	(2)	44	(66)
Closing book value	-	1	-	23

Other current financial assets above are financial assets at fair value through profit or loss (FVPL). The Group's exposure on credit risk is related to investment in debt measured at FVPL. The ultimate risk at the end of reporting period is equivalent to the book value of the investments.

15 Inventories

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Inventory	58	40	1,986	1,368
Materials and supplies	564	537	19,317	18,569
	622	577	21,303	19,937
Less Allowance for slow moving and obsolete	(11)	(24)	(389)	(822)
Total	611	553	20,914	19,115

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Inventory	13	11	422	391
Materials and supplies	85	108	2,917	3,745
	98	119	3,339	4,136
Less Allowance for slow moving and obsolete	(2)	(11)	(69)	(414)
Total	96	108	3,270	3,722

16 Significant transactions with related parties

Individuals or entities that directly, or indirectly through one or more intermediaries, control, or are controlled by, or are under common control with, the Company, including holding companies, subsidiaries and fellow subsidiaries are related parties of the Company. Individuals and associates owning, directly or indirectly, an interest in the voting power of the Company that gives them significant influence over the enterprise, key management personnel, directors and close members of the family of these individuals and companies associated with these individuals also constitute related parties.

In considering each possible related party relationship, the Company's attention is directed to the substance of the relationship, and not merely the legal form.

PTT Public Company Limited, a company registered in Thailand, is the major shareholder of the Company and holds in proportion of 63.79% of the shareholding interest. The general public hold the remaining shares.

Other related parties are entities that are contractual by the Company's major shareholder.

The pricing policies for transactions between parent company, subsidiaries, associates, joint ventures, joint operations and related parties are as follows:

- Sales are set based on the sale agreements.
- Interest income is calculated using weighted average cost of debt plus profit markup.
- Other income is calculated based on rate in the agreement.
- Dividend income is approved by shareholders of subsidiaries, associates and joint ventures.
- The prices of purchases and services charged are in accordance with the conditions in the agreement.
- Rental expenses are set based on price in the agreement.
- Other expenses comprise management and service fees charged to the parent company, subsidiaries and related parties for rendering the management services in the normal course of business. The fees are based on the service costs plus profit markup, and gain and loss on oil price hedge is calculated based on rate in the agreement.

Significant transactions with related parties are summarised as follows:

a) Transactions with related parties

Transactions with related parties for the years ended 31 December are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Parent company				
Revenue from sales	5,580	6,498	194,090	227,961
Other income	12	7	406	231
Purchase and other expenses	4	5	148	179
Associates				
Interest income	-	-	13	1
Other income	1	1	22	38
Dividend income	3	4	103	119
Rental and service expenses	74	59	2,578	2,058
Purchase and other expenses	-	-	1	2
Joint ventures				
Dividend income	50	58	1,734	2,014
Other related parties				
Revenue from sales	873	549	30,363	19,920
Interest income	-	-	-	13
Other income	7	2	253	72
Purchase and other expenses	124	100	4,324	3,513

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Parent company				
Revenue from sales	2,264	3,621	78,432	126,935
Other income	2	2	52	64
Purchase and other expenses	4	5	134	163
Subsidiaries				
Other income	158	141	5,508	4,949
Interest income	394	334	13,702	11,667
Dividend income	71	133	2,479	4,713
Associates				
Other income	1	1	33	48
Dividend income	3	3	103	97
Rental and service expenses	67	38	2,339	1,317
Other related parties				
Revenue from sales	212	74	7,392	2,697
Other income	-	-	14	12
Purchase and other expenses	4	10	128	351

b) Account receivable - related party

Account receivable - related party is comprised:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Parent company	768	676	26,269	23,360

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Parent company	329	377	11,275	13,033

c) Short-term loans to a related party

Short-term loans to a related party are comprised:

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Joint venture	8	1	258	46

The Group has provided the unsecured loan in US Dollar to the joint venture and the interest rates for the year ended 31 December 2023 were 1.20% - 7.25% per annum (2022: interest rate was 7% per annum).

d) Long-term loans to related parties

Long-term loans to related parties are comprised:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Joint venture	-	-	15	15

The Group has provided the unsecured loan in Thai Baht to the joint venture and the interest rates for the year ended 31 December 2023 were 6.85% - 8.10% per annum (2022: interest rates were 6.25% - 6.85% per annum).

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Subsidiary	6,983	6,983	238,975	241,343

The Company has provided the unsecured loan in US Dollar to the subsidiary and the interest rate for the year ended 31 December 2023 was 5.56% per annum (2022: interest rate was 4.74% per annum). The borrower shall make the repayment notice within this loan term which is over than 1 year.

The movements of the long-term loans to related parties for the years are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Balance as at 1 January	-	42	15	1,387
Increase	-	-	-	15
Decrease	-	(42)	-	(1,452)
Currency translation differences	-	-	-	65
Balance as at 31 December	-	-	15	15

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Balance as at 1 January	6,983	6,441	241,343	215,252
Increase	-	542	-	18,961
Currency translation differences	-	-	(2,368)	7,130
Balance as at 31 December	6,983	6,983	238,975	241,343

Loans to related parties

Loans to related parties measured at amortised cost are considered to have low credit risk. The expected credit loss in the following 12 months and lifetime expected credit losses of the loans from increasing in credit risk is insignificant.

e) Short-term loans from a related party

Short-term loans from a related party are comprised:

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Subsidiary	494	512	16,901	17,682

The Group has a unsecured loan from a subsidiary in Thai Baht and the interest rates for the year ended 31 December 2023 were 2.00% - 5.32% per annum (2022: interest rate were 2.00% - 3.80% per annum).

f) Director and executive management fees of the Group

Director and executive management fees of the Group for the years ended 31 December are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Short-term benefits	8	7	267	244
Post-employment and other long-term benefits	-	-	13	8
	8	7	280	252

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Short-term benefits	8	7	266	244
Post-employment and other long-term benefits	-	-	13	8
	8	7	279	252

17 Investments in subsidiaries, associates, joint ventures and joint operations

The amounts of investments recognised in the statement of financial position are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Investments in associates	134	116	4,591	3,987
Investments in joint ventures	151	162	5,177	5,607
Total	285	278	9,768	9,594

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Investments in associates	3,210	3,198	109,876	110,539
Investments in joint ventures	26	26	875	884
Total	3,236	3,224	110,751	111,423

17.1 Investments in subsidiaries

Changes of investments in subsidiaries during the years are as follows:

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
For the years ended 31 December	2023	2022	2023	2022
Opening book value	3,198	2,485	110,539	83,041
Increase in investments	12	713	428	24,960
Currency translation differences	-	-	(1,091)	2,538
Closing book value	3,210	3,198	109,876	110,539

Direct investments

On 15 May 2023, PTTEP Energy Holding (Thailand) Company Limited (PTTEP EH), a subsidiary of the Company, increased its authorised share capital amounting to Baht 13.74 million by issuing of 0.14 million new ordinary shares at a par value of Baht 100 each. The Company paid the share subscription according to the Company's shareholding portion with an amount equivalent to US Dollar 0.4 million.

On 19 December 2023, PTTEP EH increased its authorised share capital amounting to Baht 428.39 million by issuing of 4.28 million new ordinary shares at a par value of Baht 100 each. The Company paid the share subscription according to the Company's shareholding portion with an amount equivalent to US Dollar 11.91 million.

Indirect investments

On 10 January 2023, AI and Robotics Ventures Company Limited (ARV), a subsidiary of the Group, established Bind Systems Company Limited (BIND) with a registered capital of Baht 5 million. The registered capital comprises 0.5 million ordinary shares at a par value of Baht 10 each. ARV holds 100% interest in BIND. Its registered shares were fully paid with an amount equivalent to US Dollar 0.14 million. The Group classifies the investment in BIND as an investment in a subsidiary.

On 10 January 2023, ARV established Bedrock Analytics Company Limited (Bedrock) with a registered capital of Baht 5 million. The registered capital comprises 0.5 million ordinary shares at a par value of Baht 10 each. ARV holds 100% interest in Bedrock. Its registered shares were fully paid with an amount equivalent to US Dollar 0.14 million. The Group classifies the investment in Bedrock as an investment in a subsidiary.

On 10 January 2023, Rovula (Thailand) Co., Ltd. (Rovula), a subsidiary of the Group, established S2 Robotics Company Limited (S2) with a registered capital of Baht 1 million. The registered capital comprises 0.01 million ordinary shares at a par value of Baht 100 each. Rovula holds 100% interest in S2. Its registered shares were fully paid with an amount equivalent to US Dollar 0.03 million. The Group classifies the investment in S2 as an investment in a subsidiary.

On 25 May 2023, S2 increased its authorised share capital and additional investor participated in. As a result, the Group's shareholding interest in S2 decreased from 100% to 85.13%. S2 is still a subsidiary of the Group.

On 6 June 2023, Varuna (Thailand) Company Limited (Varuna), a subsidiary of the Group, increased its authorised share capital and additional investors participated in. As a result, the Group's shareholding interest in Varuna decreased from 100% to 92.75%. Later on 15 August 2023, Varuna decreased its authorised share capital amounting to Baht 134.57 million by reducing of 13.46 million ordinary shares. As a result, the Group's shareholding interest in Varuna decreased to 90%. Varuna is still a subsidiary of the Group.

On 11 December 2023, FutureTech Energy Ventures Co., Ltd. (FTEV), a subsidiary of the Group, established FutureTech SG Pte. Ltd. (FSG) with a registered capital of US Dollar 0.05 million. The registered capital comprises 0.05 million ordinary shares at a par value of US Dollar 1 each. FTEV holds 100% interest in FSG. Its registered shares were unpaid. The Group classifies the investment in FSG as an investment in a subsidiary.

Details of investments in subsidiaries of the Company are as follows:

List of subsidiaries	Country of incorporation	Type of business	Participating interest (%) (including direct holding)		Participating interest (%) (including indirect holding)		Separate financial statements (Cost method)			
							Unit: Million US Dollar		Unit: Million Baht	
			31 December 2023	31 December 2022	31 December 2023	31 December 2022	31 December 2023	31 December 2022	31 December 2023	31 December 2022
PTTEP International Limited (PTTEPI)	Thailand	Petroleum	100	100	-	-	516	516	17,672	17,847
PTTEP Services Limited (PTTEP Services)	Thailand	Human resource support	25	25	75	75	-	-	3	3
PTTEP Siam Limited (PTTEP Siam)	Thailand	Petroleum	51	51	49	49	100	100	3,415	3,449
PTTEP Offshore Investment Company Limited (PTTEPO)	Cayman Islands	Petroleum	75	75	25	25	-	-	-	-
PTTEP HK Holding Limited (PTTEP HK)	Hong Kong	Petroleum	25	25	75	75	484	484	16,564	16,728
PTTEP Treasury Center Company Limited (PTTEP TC)	Thailand	Treasury center for the Group's business	25	25	75	75	-	-	3	3
PTTEP Energy Holding (Thailand) Company Limited (PTTEP EH)	Thailand	Petroleum	100	100	-	-	2,110	2,098	72,219	72,509

Indirect subsidiaries of the Company for the consolidated financial statements are as follows:

List of subsidiaries	Country of incorporation	Type of business	Participating interest (%) (including indirect holding)	
			31 December 2023	31 December 2022
PTTEP Business Center Company Limited (PTTEP BC)	Thailand	Petroleum	100	100
PTTEP Energy Development Company Limited (PTTEP ED)	Thailand	Petroleum	100	100
EP-Tech Ventures Holding Company Limited (EP-Tech)	Thailand	Petroleum related technology	100	100
AI and Robotics Ventures Company Limited (ARV)	Thailand	Technology	100	100
PTTEP Southwest Vietnam Company Limited (PTTEP SV)	Cayman Islands	Petroleum	100	100
PTTEP Kim Long Vietnam Company Limited (PTTEP KV)	Cayman Islands	Petroleum	100	100
PTTEP Hoang-Long Company Limited (PTTEP HL)	Cayman Islands	Petroleum	100	100
PTTEP Hoan-Vu Company Limited (PTTEP HV)	Cayman Islands	Petroleum	100	100
PTTEP Algeria Company Limited (PTTEP AG)	Cayman Islands	Petroleum	100	100
PTTEP Holding Company Limited (PTTEPH)	Cayman Islands	Petroleum	100	100
PTTEP Indonesia Company Limited (PTTEP ID)	Cayman Islands	Petroleum	100	100
PTTEP Africa Investment Limited (PTTEP AI)	Cayman Islands	Petroleum	100	100
PTTEP Australia Pty Ltd (PTTEP AU) [1]	Commonwealth of Australia	Petroleum	-	100
PTTEP Australia Offshore Pty Ltd (PTTEP AO) [1]	Commonwealth of Australia	Petroleum	-	100
PTTEP South Asia Limited (PTTEP SA)	Cayman Islands	Petroleum	100	100
PTTEP Australia Perth Pty Ltd (PTTEP AP)	Commonwealth of Australia	Petroleum	100	100
PTTEP Australia Browse Basin Pty Ltd (PTTEP AB)	Commonwealth of Australia	Petroleum	100	100
PTTEP Australia Timor Sea Pty Ltd (PTTEP AT)	Commonwealth of Australia	Petroleum	100	100
PTTEP Australasia (Operations) Pty Ltd (PTTEP AAO)	Commonwealth of Australia	Petroleum	100	100
PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEP AAA)	Commonwealth of Australia	Petroleum	100	100
PTTEP Australasia (Staff) Pty Ltd (PTTEP AAS)	Commonwealth of Australia	Petroleum	100	100

List of subsidiaries	Country of incorporation	Type of business	Participating interest (%) (including indirect holding)	
			31 December 2023	31 December 2022
PTTEP International Holding Company Limited (PTTEP IH)	Cayman Islands	Petroleum	100	100
PTTEP Southwest Vietnam Pipeline Company Limited (PTTEP SVPC)	Cayman Islands	Gas pipeline transportation	100	100
PTTEP Netherland Holding Limited (PTTEP NL)	Cayman Islands	Petroleum	100	100
JV Marine Limited (JV Marine)	Cayman Islands	Petroleum	100	100
PTTEP South Mandar Limited (PTTEP SMD) [2]	Cayman Islands	Petroleum	-	100
PTTEP Malunda Limted (PTTEP ML)	Cayman Islands	Petroleum	100	100
PTTEP Netherlands Coöperatie U.A. (PTTEP NC)	Netherlands	Petroleum	100	100
PTTEP Canada Limited (PTTEP CA)	Canada	Petroleum	100	100
PTTEP Canada International Finance Limited (PTTEP CIF) [3]	Canada	Investment funding for the Group's business	-	100
Cove Energy Limited (Cove)	United Kingdom of Great Britain and Northern Ireland	Petroleum	100	100
Cove Energy East Africa Limited (CEEAL)	Republic of Cyprus	Petroleum	100	100
PTTEP Mozambique Area 1 Limited (PTTEP MZA1)	Republic of Cyprus	Petroleum	100	100
PTTEP Netherlands Holding Coöperatie U.A. (PTTEP NH)	Netherlands	Petroleum	100	100
PTTEP Brazil Investment B.V. (PTTEP BI)	Netherlands	Petroleum	100	100
PTTEP Brazil Investments in Oil and Gas Exploration and Production Limitada (PTTEP BL) [4]	Federative Republic of Brazil	Petroleum	-	100
Sinphuhorm Holdings Limited (SHL)	Cayman Islands	Petroleum	100	100
PTTEP SP Limited (PTTEP SP)	United Kingdom of Great Britain and Northern Ireland	Petroleum	100	100
PTTEP G7 Limited (PTTEP G7) [5]	Thailand	Petroleum	-	100
PTTEP HK Offshore Limited (PTTEP HKO)	Hong Kong	Petroleum	100	100
PTTEP MENA Limited (PTTEP MENA)	Hong Kong	Petroleum	100	100
PTTEP Mexico E&P Limited, S. de R.L. de C.V. (PTTEP MEP)	Mexico	Petroleum	100	100
PTTEP Sabah Oil Limited (PTTEP SBO)	Bahamas	Petroleum	100	100
PTTEP Sarawak Oil Limited (PTTEP SKO)	Bahamas	Petroleum	100	100

List of subsidiaries	Country of incorporation	Type of business	Participating interest (%) (including indirect holding)	
			31 December 2023	31 December 2022
PTTEP Group Holding B.V. (PGH)	Netherlands	Petroleum	100	100
PTTEP (Kazakhstan) Corporation (PKC)	Cayman Islands	Petroleum	100	100
PTTEP (Angola) Corporation (PANG)	Cayman Islands	Petroleum	100	100
Partex (Brazil) Corporation (PBC) [6]	Cayman Islands	Petroleum	-	100
PTTEP Gas Corporation (PGC)	Republic of Panama	Petroleum	100	100
Partex Services Corporation (PSC)	Republic of Panama	Human resource support	100	100
PTTEP Oman E&P Corporation (POC)	Republic of Panama	Petroleum	100	100
Asia Power and Transportation SG Holding PTE. LTD. (APT)	Singapore	Petroleum related business	100	100
Delta Gas Transportation SG Holding PTE. LTD. (DGH)	Singapore	Gas pipeline transportation	100	100
Delta Gas Transportation Limited (DGT)	Republic of the Union of Myanmar	Gas pipeline transportation	100	100
Rovula (Thailand) Company Limited (Rovula)	Thailand	Technology	100	100
Skyller Solutions Company Limited (Skyller)	Thailand	Technology	100	100
Varuna (Thailand) Company Limited (Varuna)	Thailand	Technology	90	100
Cariva (Thailand) Company Limited (Cariva)	Thailand	Technology	100	100
FutureTech Energy Ventures Company Limited (FTEV)	Thailand	Renewable energy and related new business	100	100
FutureTech Solar (Thailand) Company Limited (FST)	Thailand	Solar power	100	100
Xplor Ventures Company Limited. (XPV)	Thailand	Technology and innovation	100	100
Bind Systems Company Limited (BIND)	Thailand	Technology	100	-
Bedrock Analytics Company Limited (Bedrock)	Thailand	Technology	100	-
S2 Robotics Company Limited (S2)	Thailand	Technology	85.13	-
FutureTech SG Pte. Ltd. (FSG)	Singapore	Renewable energy and related new business	100	-

[1] On 3 March 2023, PTTEP Australia Pty Ltd (PTTEP AU) and PTTEP Australia Offshore Pty Ltd (PTTEP AO), subsidiaries of the Group, completed the dissolution and liquidation.

[2] On 29 December 2023, PTTEP South Mandar Limited (PTTEP SMD), a subsidiary of the Group, received the approval for dissolution from the registrar.

[3] On 31 December 2023, PTTEP Canada International Finance Limited (PTTEP CIF), a subsidiary of the Group, received the approval for dissolution from the registrar.

[4] On 31 August 2022, PTTEP Netherlands Holding Coöperatie U.A. (PTTEP NH) and PTTEP Brazil Investment B.V. (PTTEP BI), subsidiaries of the Group, entered into a Sale and Purchase Agreement (SPA) to sell their investments in PTTEP Brazil Investments in Oil and Gas Exploration and Production Limitada (PTTEP BL), which is a subsidiary of the Group registered in Federative Republic of Brazil, to Ubuntu Engenharia e Serviços Ltda. The sale was completed on 23 February 2023.

[5] On 4 November 2022, PTTEP G7 Limited (PTTEP G7), a subsidiary of the Group, has registered for the dissolution with the Ministry of Commerce and the liquidation was completed on 31 August 2023.

[6] On 29 March 2023, Partex (Brazil) Corporation (PBC), a subsidiary of the Group, received the approval for dissolution from the registrar.

17.2 Investments in associates

Changes of investments in associates during the years are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
For the years ended 31 December	2023	2022	2023	2022
Opening book value	116	221	3,987	7,382
Share of net profit after income taxes	10	11	350	377
Dividends received	(3)	(4)	(103)	(119)
Share of other comprehensive income (expenses)				
- Remeasurement of employee benefits	-	-	-	7
- Measurement of financial assets	-	-	-	9
- Currency difference arising from translation of financial statements of associates	1	(2)	31	(92)
Increase in investments	10	17	372	577
Disposal of investment	-	(127)	-	(4,451)
Currency translation differences	-	-	(46)	297
Closing book value	134	116	4,591	3,987

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
For the years ended 31 December	2023	2022	2023	2022
Opening book value	26	26	884	855
Currency translation differences	-	-	(9)	29
Closing book value	26	26	875	884

On 15 May 2023, MoZ LNG1 Holding Company Ltd (HoldCo), an associate of the Group, increased its authorised share capital amounting to US Dollar 60.31 million by issuing of 60.31 million new ordinary shares at a par value of US Dollar 1 each. The Group paid the share subscription according to the Group's shareholding portion amounting to US Dollar 5.13 million.

On 30 November 2023, HoldCo increased its authorised share capital amounting to US Dollar 60.44 million by issuing of 60.44 million new ordinary shares at a par value of US Dollar 1 each. The Group paid the share subscription according to the Group's shareholding portion with an amount equivalent to US Dollar 5.14 million.

On 14 December 2023, FutureTech Energy Ventures Co., Ltd. (FTEV), a subsidiary of the Group, and its joint partners, established Hydrogen Duqm LLC (HDL) with a registered capital of Omani Rial 1.5 million. The registered capital comprises 1.5 million ordinary shares at a par value of Omani Rial 1 each. FTEV holds 11% interest in HDL. Its registered shares were unpaid. The Group classifies the investment in HDL as an investment in an associate. This investment aligns with the Group's strategy to expand into the clean energy business.

Details of investments in associates of the Group and the Company are as follows:

List of associates [1, 2]	Country of incorporation	Type of business	Participating interest (%) (including indirect holding)		Consolidated financial statements (Equity method)			
					Unit: Million US Dollar		Unit: Million Baht	
			31 December 2023	31 December 2022	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Energy Complex Company Limited (Energy Complex)	Thailand	Property rental services	50	50	75	69	2,579	2,367
PTT Digital Solutions Company Limited (PTT Digital)	Thailand	Information technology and communication services	20	20	22	19	751	658
PTTEP AP Group's Associates [3]	Commonwealth of Australia	Air base services	50	50	-	-	-	-
Leismer Aerodrome Limited (LAL)	Canada	Air transportation	32	32	-	-	-	-
MoZ LNG1 Holding Company Ltd (HoldCo) [4]	United Arab Emirates	Petroleum	8.5	8.5	36	28	1,246	962
Gas Investments and Services Company Limited (GISCO) [4]	Bermuda	Investment funding, technology, and human resource support	5	5	-	-	-	-
Hydrogen Duqm LLC (HDL) [4]	Sultanate of Oman	Renewable energy and related new business	11	-	-	-	15	-

List of associates [1, 2]	Country of incorporation	Type of business	Participating interest (%) (including indirect holding)		Consolidated financial statements (Cost method)			
					Unit: Million US Dollar		Unit: Million Baht	
			31 December 2023	31 December 2022	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Energy Complex Company Limited (Energy Complex)	Thailand	Property rental services	50	50	25	25	848	857
PTT Digital Solutions Company Limited (PTT Digital)	Thailand	Information technology and communication services	20	20	1	1	27	27

[1] All investments in associates have been assessed as immaterial to the Group.

[2] The Group has no contingent liabilities with participating interest in associates.

[3] PTTEP AP's Group Associates are North Kimberley Airport Pty Ltd and Troughton Island Pty Ltd.

[4] The Group has significant influence over these companies due to its contractual rights to appoint directors, but not to the point of having joint control.

Individually immaterial associates

The Group has interests in a number of individually immaterial associates that are accounted for using equity method as follows:

	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Aggregate carrying amount of share of individually immaterial associates	134	116	4,591	3,987

	Unit: Million US Dollar		Unit: Million Baht	
For the years ended 31 December	2023	2022	2023	2022
Aggregate amounts of the Group's share of associates:				
Profit from continuing operations	10	11	350	377
Other comprehensive income	1	(2)	31	(76)
Total comprehensive income for the year	11	9	381	301

17.3 Investments in Joint Ventures

Changes of investments in Joint Ventures during the years are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
For the years ended 31 December	2023	2022	2023	2022
Opening book value	162	210	5,607	7,026
Share of net profit after income taxes	33	9	1,127	290
Dividends received	(50)	(58)	(1,734)	(2,014)
Share of other comprehensive income				
- Currency differences arising from translation of financial statements of joint ventures	-	-	1	-
Increase in investments	6	1	211	40
Currency translation differences	-	-	(35)	265
Closing book value	151	162	5,177	5,607

On 24 August 2023, Skyller Solutions Company Limited (Skyller), a subsidiary of the Group, co-established NILA Solutions Company Limited (NILA) with a registered capital of Baht 20 million. The registered capital comprises 0.20 million ordinary shares at a par value of Baht 100 each. Skyller holds 50% interest in NILA. The Group paid the share subscription according to the Group's shareholding portion with an amount equivalent to US Dollar 0.29 million. The Group classifies the investment in NILA as an investment in a joint venture.

On 14 December 2023, Varuna (Thailand) Company Limited (Varuna), a subsidiary of the Group, co-invested in Green Aranya Co., Ltd. (GARY) with a registered capital of Baht 33.33 million. Varuna holds 10% interest in Gary. Its registered shares were fully paid with an amount equivalent to US Dollar 5.62 million. The Group classifies the investment in Gary as an investment in a joint venture. This investment aligns with the Group's strategy to expand into the clean energy business.

Details of investments in joint ventures of the Group are as follows;

List of joint ventures [1, 2, 3]	Country of incorporation	Type of business	Participating interest (%) (including indirect holding)		Consolidated financial statements (Equity method)			
					Unit: Million US Dollar		Unit: Million Baht	
			31 December 2023	31 December 2022	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Erawan 2 FSO PTE. Ltd. (Erawan 2 FSO PTE.)	Singapore	FSO rental services	13.11	13.11	29	32	997	1,117
APICO LLC (APICO)	United States of America	Petroleum	72.8215	72.8215	97	95	3,326	3,285
Oman LNG LLC (OLNG)	Sultanate of Oman	Petroleum	2	2	16	33	560	1,149
ATI Technologies Company Limited (ATI)[4]	Thailand	Technology	45	50	-	-	-	-
ZeaQuest Company Limited (ZeaQuest)	Thailand	Technology	50	50	2	1	61	23
AeroSky Solutions Co., Ltd. (AeroSky)	Thailand	Technology	33	33	-	-	1	4
B-MED X Company Limited (B-MED X)	Thailand	Technology	50	50	-	-	5	10
SkyVIV Company Limited (SKYVIV)	Thailand	Technology	23.2	23.2	1	1	17	19
NILA Solutions Company Limited (NILA)	Thailand	Technology	50	-	-	-	10	-
Green Aranya Company Limited (GARY)	Thailand	Technology	9	-	6	-	200	-

[1] All investments in joint ventures have been assessed as immaterial to the Group.

[2] The Group has no contingent liabilities with participating interests in joint ventures.

[3] The Group has joint control over these companies because shareholder agreements assigned the structure of the business operation and strategic, operating and financing decisions which required unanimous consent from all parties.

[4] From the change in the ordinary shares of Varuna (Thailand) Company Limited (Varuna), a subsidiary of the Group, as disclosed in Note 17.1 to the financial statements. As a result, the Group's shareholding interest in ATI decreased to 45%.

Individually immaterial joint ventures

The Group has investments in a number of individually immaterial joint ventures that are accounted for using equity method as follows:

	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Aggregate carrying amount of share of individually immaterial joint ventures	151	162	5,177	5,607

	Unit: Million US Dollar		Unit: Million Baht	
For the years ended 31 December	2023	2022	2023	2022
Aggregate amounts of the Group's share of joint ventures:				
Profit from continuing operations	33	9	1,127	290
Other comprehensive income	-	-	1	-
Total comprehensive income for the year	33	9	1,128	290

17.4 Investments in Joint Operations

Details of investments in joint operations of the Group are as follows;

List of joint operations [1]	Country of incorporation	Type of business	Participating interest (%) (including indirect holding)	
			31 December 2023	31 December 2022
Carigali - PTTEPI Operating Company Sdn Bhd. (CPOC)	Malaysia	Petroleum	50	50
Moattama Gas Transportation Company Limited (MGTC)	Bermuda	Gas pipeline transportation	37.0842	37.0842
Yadana Suboo Company Limited (YS) [2]	Republic of the Union of Myanmar	Community enterprise	-	37.0842
Taninthayi Pipeline Company LLC (TPC) [3]	Cayman Islands	Gas pipeline transportation	-	19.3178
Orange Energy Limited (Orange)	Thailand	Petroleum	53.9496	53.9496
B8/32 Partners Limited (B8/32 Partners)	Thailand	Petroleum	25.0009	25.0009
Hoang Long Joint Operating Company (HL JOC)	Socialist Republic of Vietnam	Petroleum	28.5	28.5
Hoan-Vu Joint Operating Company (HV JOC)	Socialist Republic of Vietnam	Petroleum	25	25
Groupement Bir Seba (GBRS)	People's Democratic Republic of Algeria	Petroleum	35	35
Andaman Transportation Limited (ATL)	Cayman Islands	Gas pipeline transportation	80	80
Natuna 2 B.V. (Natuna)	Netherlands	Petroleum	50	50
Petroleum Development Oman LLC (PDO)	Sultanate of Oman	Petroleum	2	2
Abu Dhabi Gas Industries Limited (AGP)	United Arab Emirates	Petroleum	2	2
Private Oil Holdings Oman Limited (POHOL)	United Kingdom of Great Britain and Northern Ireland	Petroleum	5	5
Petroleum Development Oman Services LLC (PDO-S)	Sultanate of Oman	Petroleum	1.9998	1.9998
Groupement Hassi Bir Rekaiz (GHBR)	People's Democratic Republic of Algeria	Petroleum	49	49

[1] The Group has joint control over these companies because shareholder agreements assigned the structure of the business operation and strategic, operating and financing decisions which required unanimous consent from all parties.

[2] On 22 December 2023, Yadana Suboo Company Limited (YS), a joint operation of the Group, completed the dissolution and liquidation.

[3] On 29 April 2022, PTTEP Offshore Investment Company Limited (PTTEPO), subsidiary of the Company, notified its intention to withdraw from Taninthayi Pipeline Company LLC (TPC), with participating interest 19.32%. The withdrawal was effective on 31 May 2023.

17.5 Exploration and Production Projects

Details of exploration and production projects operated by the Group comprise of the projects which the Group had joint control and control. The projects with control are the projects that the Group has 100% participating interest.

Project	Country	Operator	Participating interest (%)	
			31 December 2023	31 December 2022
PTT Exploration and Production Public Company Limited				
Bongkot [1]	Thailand	PTT Exploration and Production Public Company Limited	66.6667	66.6667
Arthit	Thailand	PTT Exploration and Production Public Company Limited	80	80
Contract 4 (B12/27)	Thailand	Chevron Thailand Exploration and Production, Ltd.	45	45
Sinphuhorm (E5 North)	Thailand	PTTEP SP Limited	20	20
S1	Thailand	PTTEP Siam Limited	25	25
Contract 3 (B10, B11, B12 and B13) [2]	Thailand	Chevron Thailand Exploration and Production, Ltd.	5	5
E5	Thailand	ExxonMobil Exploration and Production Khorat Inc.	20	20
Algeria Hassi Bir Rekaiz	People's Democratic Republic of Algeria	Groupement Hassi Bir Rekaiz	49	49

Project	Country	Operator	Participating interest (%)	
			31 December 2023	31 December 2022
PTTEP International Limited (PTTEPI)				
Yadana	Republic of the Union of Myanmar	PTTEP International Limited	37.0842	37.0842
Yetagun [3]	Republic of the Union of Myanmar	Gulf Petroleum Myanmar Company Limited	-	19.31784
PTTEP 1	Thailand	PTTEP International Limited	100	100
G4/43	Thailand	Chevron Offshore (Thailand) Ltd	21.375	21.375
G9/43	Thailand - Kingdom of Cambodia	PTTEP International Limited	100	100
L22/43	Thailand	PTTEP International Limited	100	100
L53/43 and L54/43	Thailand	PTTEP International Limited	100	100
G4/48	Thailand	Chevron Pattani, Ltd.	5	5
Bongkot (G12/48)	Thailand	PTTEP International Limited	66.6667	66.6667
Contract 4 (G7/50)	Thailand	Chevron Pattani, Ltd.	60	60
Arthit (G8/50)	Thailand	PTTEP International Limited	80	80
Zawtika	Republic of the Union of Myanmar	PTTEP International Limited	80	80
Myanmar M3	Republic of the Union of Myanmar	PTTEP International Limited	100	100
MTJDA	Thailand - Malaysia	Carigali-PTTEPI Operating Company Sdn Bhd.	50	50
PTTEP Offshore Investment Company Limited (PTTEPO)				
B8/32 and 9A [4]	Thailand	Chevron Offshore (Thailand) Ltd.	25.001	25.001
PTTEP Southwest Vietnam Company Limited (PTTEP SV)				
Vietnam 52/97	Socialist Republic of Vietnam	Vietnam Oil and Gas Group	7	7

Project	Country	Operator	Participating interest (%)	
			31 December 2023	31 December 2022
PTTEP Kim Long Vietnam Company Limited (PTTEP KV)				
Vietnam B and 48/95	Socialist Republic of Vietnam	Vietnam Oil and Gas Group	8.5	8.5
PTTEP Hoang-Long Company Limited (PTTEP HL)				
Vietnam 16-1	Socialist Republic of Vietnam	Hoang Long Joint Operating Company	28.5	28.5
PTTEP Hoan-Vu Company Limited (PTTEP HV)				
Vietnam 9-2	Socialist Republic of Vietnam	Hoan-Vu Joint Operating Company	25	25
PTTEP Algeria Company Limited (PTTEP AG)				
Algeria 433a and 416b	People's Democratic Republic of Algeria	Groupement Bir Seba	35	35
PTTEP Siam Limited (PTTEP Siam)				
Sinphuhorm (EU-1)	Thailand	PTTEP SP Limited	20	20
B6/27 [5]	Thailand	PTTEP Siam Limited	100	100
S1	Thailand	PTTEP Siam Limited	75	75
PTTEP Canada Limited (PTTEP CA)				
Mariana Oil Sands [6]	Canada	PTTEP Canada Limited	-	100
PTTEP Australia Perth Pty Ltd (PTTEP AP)				
PTTEP Australasia *	Commonwealth of Australia			

Block	Operator	Participating interest (%)	
		31 December 2023	31 December 2022
* Details of operators and participating interests in PTTEP Australasia Project are as follows:			
AC/RL7 [7]	PTTEP Australasia (Ashmore Cartier) Pty Ltd	-	100
AC/RL12	PTTEP Australasia (Ashmore Cartier) Pty Ltd	100	100
AC/P54 [8]	PTTEP Australasia (Ashmore Cartier) Pty Ltd	-	100
AC/RL10 [9]	PTTEP Australia Timor Sea Pty Ltd	-	90
AC/RL4 [10]	PTTEP Australia Timor Sea Pty Ltd	-	100
AC/RL6 [11]	PTTEP Australia Timor Sea Pty Ltd	-	100

Project	Country	Operator	Participating interest (%)	
			31 December 2023	31 December 2022
PTTEP Mozambique Area 1 Limited (PTTEP MZA1)				
Mozambique Area 1	Republic of Mozambique	TotalEnergies EP Mozambique Area 1 Limitada	8.5	8.5
Natuna 2 B.V. (Natuna)				
Natuna Sea A	Republic of Indonesia	Premier Oil Natuna Sea BV	11.5	11.5
PTTEP Brazil Investments in Oil and Gas Exploration and Production Limitada (PTTEP BL)				
Barreirinhas AP1 [12]	Federative Republic of Brazil	Shell Brasil Petroleo Ltda.	-	25
Brazil BM-ES-23 [12]	Federative Republic of Brazil	Petróleo Brasileiro S.A. (Petrobas)	-	20
PTTEP SP Limited (PTTEP SP)				
Contract 4 (B12/27)	Thailand	Chevron Thailand Exploration and Production Ltd.	15	15
Sinphuhorm (E5 North and EU-1)	Thailand	PTTEP SP Limited	35	35

Project	Country	Operator	Participating interest (%)	
			31 December 2023	31 December 2022
PTTEP HK Offshore Limited (PTTEP HKO)				
Malaysia SK410B	Malaysia	PTTEP HK Offshore Limited	42.5	42.5
Malaysia SK417	Malaysia	PTTEP HK Offshore Limited	80	80
Malaysia SK438	Malaysia	PTTEP HK Offshore Limited	80	80
Malaysia PM407	Malaysia	PTTEP HK Offshore Limited	55	55
Malaysia PM415 [13]	Malaysia	PTTEP HK Offshore Limited	-	70
Malaysia SB412	Malaysia	PTTEP HK Offshore Limited	60	60
PTTEP Mexico E&P Limited, S. de R.L. de C.V. (PTTEP MEP)				
Mexico block 12 (2.4) [14]	Mexico	PC Carigali Mexico Operations, S.A. de C.V.	20	20
Mexico block 29 (2.4)	Mexico	Repsol Exploración México, S.A. de C.V.	16.67	16.67
PTTEP Energy Development Company Limited (PTTEP ED)				
G1/61	Thailand	PTTEP Energy Development Company Limited	60	60
G2/61	Thailand	PTTEP Energy Development Company Limited	100	100
G1/65 [15]	Thailand	PTTEP Energy Development Company Limited	100	-
G3/65 [15]	Thailand	PTTEP Energy Development Company Limited	100	-
PTTEP MENA Limited (PTTEP MENA)				
Abu Dhabi Offshore 1	United Arab Emirates	Eni Abu Dhabi B.V.	30	30
Abu Dhabi Offshore 2	United Arab Emirates	Eni Abu Dhabi B.V.	30	30
Oman Onshore Block 12	Sultanate of Oman	TotalEnergies EP Oman Block 12 B.V.	20	20
Abu Dhabi Offshore 3	United Arab Emirates	Eni Abu Dhabi B.V.	30	30
Oman Block 61	Sultanate of Oman	BP Exploration (Epsilon) Limited (BP)	20	20
Sharjah Onshore Area A	United Arab Emirates	Eni Sharjah B.V.	25	25
Sharjah Onshore Area C	United Arab Emirates	Eni Sharjah B.V.	25	25

Project	Country	Operator	Participating interest (%)	
			31 December 2023	31 December 2022
PTTEP Sabah Oil Limited (PTTEP SBO)				
Malaysia Block K **	Malaysia			
Malaysia Block H ***	Malaysia			

** Details of operators and participating interests in Malaysia Block K project are as follows:

Block	Operator	Participating interest (%)	
		31 December 2023	31 December 2022
Kikeh	PTTEP Sabah Oil Limited	56	56
SNP	PTTEP Sabah Oil Limited	22.4	22.4
GK	Sabah Shell Petroleum Co., Ltd.	7.1657292	7.1657292

*** Details of operators and participating interests in Malaysia Block H project are as follows:

Block	Operator	Participating interest (%)	
		31 December 2023	31 December 2022
Rotan	PTTEP Sabah Oil Limited	56	56
Others	PTTEP Sabah Oil Limited	42	42

Project	Country	Operator	Participating interest (%)	
			31 December 2023	31 December 2022
PTTEP Sarawak Oil Limited (PTTEP SKO)				
Malaysia SK314A	Malaysia	PTTEP Sarawak Oil Limited	59.5	59.5
Malaysia SK405B	Malaysia	PTTEP Sarawak Oil Limited	59.5	59.5
Malaysia SK325 [16]	Malaysia	Petronas Carigali Sdn. Bhd.	32.5	-
Malaysia SK309 and SK311 ****	Malaysia			

**** Details of operators and participating interests in Sarawak SK 309 and Sarawak SK 311 projects are as follows:

Block	Operator	Participating interest (%)	
		31 December 2023	31 December 2022
East Patricia	PTTEP Sarawak Oil Limited	42	42
Others	PTTEP Sarawak Oil Limited	59.5	59.5

Project	Country	Operator	Participating interest (%)	
			31 December 2023	31 December 2022
PTTEP Holding Group B.V. (PGH)				
Block 17/06 [17]	Angola	TotalEnergies E&P Angola Block 17.06 (TEPA)	-	2.5
Dunga	Kazakhstan	Dunga Operating GmbH	20	20
Oman Block 6	Sultanate of Oman	Petroleum Development Oman LLC	2	2
Oman Block 53	Sultanate of Oman	Occidental Mukhaizna,LLC	1	1

[1] On 7 March 2023, the concession of Bongkot Project, which the Company holds 66.6667% participating interests, has ended. The Company returned those blocks. However, the concessionaire still has joint obligations for decommissioning until it has been finished as required by the specific laws.

[2] On 23 April 2023, the concession of Contract 3 Project, which the Company holds 5% participating interests, has ended. The Company returned those blocks. However, the concessionaire still has joint obligations for decommissioning until it has been finished as required by the specific laws.

[3] On 29 April 2022, PTTEP International Limited (PTTEPI) notified its intentions to withdraw from Yetagun project, which the Group had the participating interest at 19.32%. This withdrawal was effective on 31 May 2023.

[4] PTTEP Offshore Investment Company Limited (PTTEPO) has shareholding interest in Orange Energy Limited and B8/32 Partners Limited, which hold the project's concession.

[5] On 5 February 2023, the concession of B6/27 Project, which PTTEP Siam Limited (PTTEP Siam), a subsidiary of the Company, holds 100% participating interests, has ended. PTTEP Siam returned those blocks. However, the concessionaire still has joint obligations for decommissioning until it has been finished as required by the specific laws.

[6] On 1 August 2023, PTTEP Canada Limited (PTTEP CA), a subsidiary of the Group, submitted a request to terminate and return the exploration block of Mariana Oil Sands Project in accordance with Canada Government.

[7] On 18 August 2023, PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEP AAA), a subsidiary of the Group, entered into a Sale and Purchase Agreement (SPA) to sell its total interest in petroleum retention lease AC/RL7 to INPEX Cash Maple Pty Ltd and TotalEnergies Exploration Australia Pty Ltd. The transaction was completed on 22 December 2023 as disclosed in Note 2.

[8] PTTEP AAA submitted a request to terminate and return the concession block of AC/P54 Project on 22 December 2022, and received the official approval from the Government of the Commonwealth of Australia on 16 March 2023.

[9] On 27 February 2023, PTTEP Australia Timor Sea Pty Ltd (PTTEP AT), a subsidiary of the Group, received the approval from the Government of the Commonwealth of Australia to transfer the 90% participating interest in AC/RL 10 Project to Bengal Energy Ltd.

[10] On 27 July 2023, PTTEP AT received the approval from the Government of the Commonwealth of Australia to return the concession block of AC/RL 4 which expired on 15 June 2023.

[11] PTTEP AT submitted a request not to extend the concession block of AC/RL 6 Project on 20 December 2022, and received the official approval from the Government of the Commonwealth of Australia on 14 February 2023.

[12] On 31 August 2022, PTTEP Netherlands Holding Holding Coöperatie U.A. (PTTEP NH) and PTTEP Brazil Investment B.V. (PTTEP BI), subsidiaries of the Group, signed a sale and purchase agreement to sell all of the investment in PTTEP Brazil Investments in Oil and Gas Exploration and Production Limitada (PTTEP BL), a subsidiary of the Group, which registered in Federative Republic of Brazil, to Ubuntu Engenharia e Serviços Ltda. The transaction was completed on 23 February 2023.

[13] On 8 November 2023, PTTEP HK Offshore Limited (PTTEP HKO), a subsidiary of the Group, submitted a request to terminate and return 70% of the exploration block of PM415 to Petroliam Nasional Berhad (PETRONAS) after completing the obligations in accordance with the production sharing contract. The termination agreement is effective on 20 March 2023.

[14] On 12 June 2023, Mexico block 12 (2.4) Project has ended the first exploration phase. PTTEP Mexico E&P Limited, S. de R.L. de C.V. (PTTEP MEP), a subsidiary of the Group, holds 20% participation interests in this block. The operator submitted a request to terminate and return the block. The termination will be effective after receiving the official approval from the Government of Mexico.

[15] On 7 March 2023, PTTEP Energy Development Limited (PTTEP ED), a subsidiary of the Group, won the bidding and got the rights for petroleum exploration and production of Exploration Blocks No. G1/65 and G3/65, located in the Gulf of Thailand. PTTEP ED is the operator with a 100% participating interest in both projects. PTTEP ED signed the Production Sharing Contract (PSC) of those two projects on 30 May 2023 with the effective date on 1 June 2023.

[16] On 15 February 2023, PTTEP Sarawak Oil Limited (PTTEP SKO), a subsidiary of the Group, signed a Production Sharing Contract (PSC) with Petroliam Nasional Berhad (PETRONAS), for exploration and production rights of Block SK 325, located in the offshore Sarawak, Malaysia. PTTEP SKO holds a 32.5% participating interest in this Block. The Group classified this investment as an investment in a joint operation.

[17] On 16 December 2022, PTTEP (Angola) Corporation (PANG), a subsidiary of the Group, signed a sale and purchase agreement to sell all of the investment in Block 17/06 in Angola (2.5%) to SOMOIL BLOCO 17/06 (SU), S.A. The sale was completed on 22 December 2023.

For the projects that the Group had joint control, the joint operting agreements assigned the structure of the business operation and strategic, operating and financing decisions which required unanimous consent from all parties.

18 Property, plant and equipment

	Consolidated financial statements				
	Unit: Million US Dollar				
	Exploration and production assets	Pipeline	Others	Assets under construction	Total
As at 1 January 2022					
Cost	31,583	894	153	2,932	35,562
Less Accumulated depreciation	(23,367)	(338)	(105)	-	(23,810)
Less Accumulated impairment	(361)	(11)	-	-	(372)
Net book value	7,855	545	48	2,932	11,380
For the year ended 31 December 2022					
Opening net book value	7,855	545	48	2,932	11,380
Additions	1,751	-	22	1,253	3,026
Disposals and write-off, net	(274)	(12)	(1)	(4)	(291)
Reclassification	579	-	18	(601)	(4)
Reclassification to assets held-for-sale	(10)	-	-	-	(10)
Depreciation charged	(2,184)	(28)	(9)	-	(2,221)
Closing net book value	7,717	505	78	3,580	11,880
As at 31 December 2022					
Cost	31,644	819	188	3,580	36,231
Less Accumulated depreciation	(23,648)	(314)	(110)	-	(24,072)
Less Accumulated impairment *	(279)	-	-	-	(279)
Net book value	7,717	505	78	3,580	11,880

	Consolidated financial statements				
	Unit: Million US Dollar				
	Exploration and production assets	Pipeline	Others	Assets under construction	Total
For the year ended 31 December 2023					
Opening net book value	7,717	505	78	3,580	11,880
Additions	2,291	3	27	738	3,059
Disposals and write-off, net	(5)	-	(1)	(8)	(14)
Reclassification	1,343	-	-	(1,120)	223
Depreciation charged	(2,241)	(29)	(13)	-	(2,283)
Closing net book value	9,105	479	91	3,190	12,865
As at 31 December 2023					
Cost	30,966	822	211	3,190	35,189
Less Accumulated depreciation	(21,582)	(343)	(120)	-	(22,045)
Less Accumulated impairment	(279)	-	-	-	(279)
Net book value	9,105	479	91	3,190	12,865

	Consolidated financial statements				
	Unit: Million Baht				
	Exploration and production assets	Pipeline	Others	Assets under construction	Total
As at 1 January 2022					
Cost	1,055,511	29,878	5,106	97,991	1,188,486
Less Accumulated depreciation	(780,932)	(11,293)	(3,502)	-	(795,727)
Less Accumulated impairment	(12,062)	(390)	-	-	(12,452)
Net book value	262,517	18,195	1,604	97,991	380,307
For the year ended 31 December 2022					
Opening net book value	262,517	18,195	1,604	97,991	380,307
Additions	61,265	12	775	43,830	105,882
Disposals and write-off, net	(9,591)	(426)	(28)	(138)	(10,183)
Reclassification	20,252	-	641	(21,014)	(121)
Reclassification to assets held-for-sale	(345)	-	-	-	(345)
Depreciation charged	(76,876)	(954)	(342)	-	(78,172)
Currency translation differences	9,480	641	39	3,086	13,246
Closing net book value	266,702	17,468	2,689	123,755	410,614
As at 31 December 2022					
Cost	1,093,703	28,314	6,478	123,755	1,252,250
Less Accumulated depreciation	(817,353)	(10,846)	(3,789)	-	(831,988)
Less Accumulated impairment *	(9,648)	-	-	-	(9,648)
Net book value	266,702	17,468	2,689	123,755	410,614

	Consolidated financial statements				
	Unit: Million Baht				
	Exploration and production assets	Pipeline	Others	Assets under construction	Total
For the year ended 31 December 2023					
Opening net book value	266,702	17,468	2,689	123,755	410,614
Additions	79,678	119	928	25,643	106,368
Disposals and write-off, net	(201)	-	(33)	(281)	(515)
Reclassification	46,728	-	7	(38,965)	7,770
Depreciation charged	(77,985)	(1,033)	(447)	-	(79,465)
Currency translation differences	(3,324)	(157)	(25)	(995)	(4,501)
Closing net book value	311,598	16,397	3,119	109,157	440,271
As at 31 December 2023					
Cost	1,059,763	28,153	7,214	109,157	1,204,287
Less Accumulated depreciation	(738,612)	(11,756)	(4,095)	-	(754,463)
Less Accumulated impairment	(9,553)	-	-	-	(9,553)
Net book value	311,598	16,397	3,119	109,157	440,271

* Decrease in accumulated impairment in 2022 was due to withdrawal from Yetagun project and Taninthayi Pipeline Company LLC (TPC).

	Separate financial statements			
	Unit: Million US Dollar			
	Exploration and production assets	Others	Assets under construction	Total
As at 1 January 2022				
Cost	13,628	87	648	14,363
Less Accumulated depreciation	(12,153)	(64)	-	(12,217)
Net book value	1,475	23	648	2,146
For the year ended 31 December 2022				
Opening net book value	1,475	23	648	2,146
Additions	331	9	135	475
Disposals and write-off, net	(168)	-	(1)	(169)
Reclassification	295	17	(312)	-
Depreciation charged	(816)	(5)	-	(821)
Closing net book value	1,117	44	470	1,631
As at 31 December 2022				
Cost	12,573	111	470	13,154
Less Accumulated depreciation	(11,456)	(67)	-	(11,523)
Net book value	1,117	44	470	1,631

	Separate financial statements			
	Unit: Million US Dollar			
	Exploration and production assets	Others	Assets under construction	Total
For the year ended 31 December 2023				
Opening net book value	1,117	44	470	1,631
Additions	257	8	112	377
Disposals and write-off, net	(3)	-	(5)	(8)
Reclassification	218	4	(222)	-
Depreciation charged	(523)	(6)	-	(529)
Closing net book value	1,066	50	355	1,471
As at 31 December 2023				
Cost	8,828	122	355	9,305
Less Accumulated depreciation	(7,762)	(72)	-	(7,834)
Net book value	1,066	50	355	1,471

	Separate financial statements			
	Unit: Million Baht			
	Exploration and production assets	Others	Assets under construction	Total
As at 1 January 2022				
Cost	455,445	2,895	21,667	480,007
Less Accumulated depreciation	(406,156)	(2,117)	-	(408,273)
Net book value	49,289	778	21,667	71,734
For the year ended 31 December 2022				
Opening net book value	49,289	778	21,667	71,734
Additions	11,572	319	4,706	16,597
Disposals and write-off, net	(5,861)	(7)	(35)	(5,903)
Reclassification	10,316	604	(10,920)	-
Depreciation charged	(28,737)	(155)	-	(28,892)
Currency translation differences	2,025	(4)	816	2,837
Closing net book value	38,604	1,535	16,234	56,373
As at 31 December 2022				
Cost	434,566	3,843	16,234	454,643
Less Accumulated depreciation	(395,962)	(2,308)	-	(398,270)
Net book value	38,604	1,535	16,234	56,373

	Separate financial statements			
	Unit: Million Baht			
	Exploration and production assets	Others	Assets under construction	Total
For the year ended 31 December 2023				
Opening net book value	38,604	1,535	16,234	56,373
Additions	8,949	290	3,889	13,128
Disposals and write-off, net	(99)	(6)	(176)	(281)
Reclassification	7,568	145	(7,713)	-
Depreciation charged	(18,051)	(225)	-	(18,276)
Currency translation differences	(494)	(18)	(96)	(608)
Closing net book value	36,477	1,721	12,138	50,336
As at 31 December 2023				
Cost	302,134	4,198	12,138	318,470
Less Accumulated depreciation	(265,657)	(2,477)	-	(268,134)
Net book value	36,477	1,721	12,138	50,336

During the year ended 31 December 2023, the Group reclassified the petroleum reserves that have been found to be technically and commercially producible from exploration and evaluation assets (Note 21) to property, plant and equipment.

As at 31 December 2023 and 2022, the Group has capital expenditure commitments as disclosed in Note 36.1.

19 Right-of-use assets

	Consolidated financial statements		
	Unit: Million US Dollar		
	Exploration and production assets	Others	Total
As at 1 January 2022			
Cost	672	44	716
Less Accumulated amortisation	(186)	(10)	(196)
Net book value	486	34	520
For the year ended 31 December 2022			
Opening net book value	486	34	520
Additions	619	20	639
Decreases	(7)	-	(7)
Reclassification	21	-	21
Agreement modification	7	-	7
Amortisation charged	(190)	(15)	(205)
Closing net book value	936	39	975
As at 31 December 2022			
Cost	1,234	61	1,295
Less Accumulated amortisation	(298)	(22)	(320)
Net book value	936	39	975

	Consolidated financial statements		
	Unit: Million US Dollar		
	Exploration and production assets	Others	Total
For the year ended 31 December 2023			
Opening net book value	936	39	975
Additions	144	3	147
Decreases	(25)	(5)	(30)
Agreement modification	24	-	24
Amortisation charged	(259)	(18)	(277)
Closing net book value	820	19	839
As at 31 December 2023			
Cost	1,292	46	1,338
Less Accumulated amortisation	(472)	(27)	(499)
Net book value	820	19	839

	Consolidated financial statements		
			Unit: Million Baht
	Exploration and production assets	Others	Total
As at 1 January 2022			
Cost	22,459	1,463	23,922
Less Accumulated amortisation	(6,233)	(320)	(6,553)
Net book value	16,226	1,143	17,369
For the year ended 31 December 2022			
Opening net book value	16,226	1,143	17,369
Additions	21,658	697	22,355
Decreases	(254)	(6)	(260)
Reclassification	724	-	724
Agreement modification	240	1	241
Amortisation charged	(6,705)	(514)	(7,219)
Currency translation differences	439	39	478
Closing net book value	32,328	1,360	33,688
As at 31 December 2022			
Cost	42,644	2,113	44,757
Less Accumulated amortisation	(10,316)	(753)	(11,069)
Net book value	32,328	1,360	33,688

	Consolidated financial statements		
			Unit: Million Baht
	Exploration and production assets	Others	Total
For the year ended 31 December 2023			
Opening net book value	32,328	1,360	33,688
Additions	4,996	91	5,087
Decreases	(867)	(159)	(1,026)
Agreement modification	850	(2)	848
Amortisation charged	(9,015)	(623)	(9,638)
Currency translation differences	(247)	(1)	(248)
Closing net book value	28,045	666	28,711
As at 31 December 2023			
Cost	44,200	1,593	45,793
Less Accumulated amortisation	(16,155)	(927)	(17,082)
Net book value	28,045	666	28,711

	Separate financial statements		
	Unit: Million US Dollar		
	Exploration and production assets	Others	Total
As at 1 January 2022			
Cost	55	33	88
Less Accumulated amortisation	(25)	(7)	(32)
Net book value	30	26	56
For the year ended 31 December 2022			
Opening net book value	30	26	56
Additions	11	18	29
Decreases	(2)	-	(2)
Agreement modification	4	-	4
Amortisation charged	(30)	(13)	(43)
Closing net book value	13	31	44
As at 31 December 2022			
Cost	41	50	91
Less Accumulated amortisation	(28)	(19)	(47)
Net book value	13	31	44

	Separate financial statements		
	Unit: Million US Dollar		
	Exploration and production assets	Others	Total
For the year ended 31 December 2023			
Opening net book value	13	31	44
Additions	42	-	42
Decreases	(3)	(4)	(7)
Agreement modification	4	-	4
Amortisation charged	(13)	(16)	(29)
Closing net book value	43	11	54
As at 31 December 2023			
Cost	61	33	94
Less Accumulated amortisation	(18)	(22)	(40)
Net book value	43	11	54

	Separate financial statements		
			Unit: Million Baht
	Exploration and production assets	Others	Total
As at 1 January 2022			
Cost	1,862	1,099	2,961
Less Accumulated amortisation	(844)	(238)	(1,082)
Net book value	1,018	861	1,879
For the year ended 31 December 2022			
Opening net book value	1,018	861	1,879
Additions	381	622	1,003
Decreases	(57)	6	(51)
Agreement modification	153	1	154
Amortisation charged	(1,085)	(448)	(1,533)
Currency translation differences	55	30	85
Closing net book value	465	1,072	1,537
As at 31 December 2022			
Cost	1,445	1,717	3,162
Less Accumulated amortisation	(980)	(645)	(1,625)
Net book value	465	1,072	1,537

	Separate financial statements		
			Unit: Million Baht
	Exploration and production assets	Others	Total
For the year ended 31 December 2023			
Opening net book value	465	1,072	1,537
Additions	1,452	9	1,461
Decreases	(97)	(159)	(256)
Agreement modification	120	(4)	116
Amortisation charged	(468)	(540)	(1,008)
Currency translation differences	(20)	1	(19)
Closing net book value	1,452	379	1,831
As at 31 December 2023			
Cost	2,096	1,132	3,228
Less Accumulated amortisation	(644)	(753)	(1,397)
Net book value	1,452	379	1,831

20 Goodwill

	Consolidated financial statements		Separate financial statements	
	Unit: Million US Dollar	Unit: Million Baht	Unit: Million US Dollar	Unit: Million Baht
As at 1 January 2022				
Cost	2,016	67,381	75	2,512
Less Provision for impairment	(275)	(9,204)	-	-
Net book value	1,741	58,177	75	2,512
For the year ended 31 December 2022				
Opening net book value	1,741	58,177	75	2,512
Reclassification to assets held-for-sale	(2)	(76)	-	-
Allowance for impairment of assets	(190)	(6,611)	-	-
Currency translation differences	-	2,034	-	86
Closing net book value	1,549	53,524	75	2,598
As at 31 December 2022				
Cost	2,014	69,609	75	2,598
Less Provision for impairment	(465)	(16,085)	-	-
Net book value	1,549	53,524	75	2,598
For the year ended 31 December 2023				
Opening net book value	1,549	53,524	75	2,598
Decrease *	(76)	(2,623)	(75)	(2,614)
Allowance for impairment of assets	(120)	(4,255)	-	-
Currency translation differences	-	(335)	-	16
Closing net book value	1,353	46,311	-	-
As at 31 December 2023				
Cost	1,938	66,345	-	-
Less Provision for impairment	(585)	(20,034)	-	-
Net book value	1,353	46,311	-	-

* The decrease of goodwill was due to the project, which has ended during the year.

Goodwill is allocated to the Group's cash-generating units (CGUs).

Goodwill allocation net from impairment presented by the CGUs as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
As at 31 December				
Exploration and production				
Thailand	445	521	15,230	17,988
Other Southeast Asia	454	454	15,541	15,695
Middle East	142	142	4,861	4,909
Africa	251	371	8,583	12,815
Others	44	44	1,500	1,515
Others	17	17	596	602
Total	1,353	1,549	46,311	53,524

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
As at 31 December				
Exploration and production				
Thailand	-	75	-	2,598
Total	-	75	-	2,598

Goodwill impairment testing

The Group tested impairment of goodwill from business acquisition annually, or more frequently if events or changes in circumstances indicate that it might be impaired. The Group compares the carrying amount of the goodwill with the recoverable amount of each cash-generating units which is the higher of the fair value less cost to sell or value-in-use.

An asset or group of assets described as cash-generating unit (CGU) is the smallest identifiable group of assets that generates inflows that are largely independent from the cash flows from other CGUs. The Group considers the CGU at the individual project level assessing the expected future cash flows over the average life of the project with a growth rate along with the industry's information.

The measurements of fair value less cost to sell and value-in-use are based on a proved and probable reserve production profile including other key estimates and assumptions. These include the short-term forward oil price curve, e.g. Brent and Dubai, and the long-term oil price based on global supply and demand. They also include the project management teams estimate of the capital expenditure and operating expenditure approved by management using a constant inflation rate at rate of 2% for periods beyond five years, exchange rates, discount rates, and past industry performance. These estimates and assumptions were consistent with external information sources. The weighted average cost of capital of each project in each region is used as the discount rate for financial estimates.

For the consolidated financial statements, the discount rates for the exploration and production segment are:

- Southeast Asia: 8% - 10% per annum (2022: 7% - 9% per annum)
- Africa: 10% - 11% per annum (2022: 10% - 11% per annum)
- Middle East: 7% - 12% per annum (2022: 8% - 11% per annum)
- others: 11% - 12% per annum (2022: 8% - 9% per annum)

For separate financial statements, the discount rate for the exploration and production segment is:

- Southeast Asia: 9% - 10% per annum (2022: 7% - 9% per annum)

If the discount rate used for goodwill impairment testing of CGUs, which did not recognise any impairment loss in the current year, increases by approximately 0.01% - 6% per annum, there would still be no allowance for goodwill impairment recognised in the consolidated financial statements for the year ended 31 December 2023.

Impairment loss on goodwill

During the year 2023, the Group considered and found that a project in the development phase changed its development plan based on current situation, resulting in a significant delay in its operation. This event was the key indicator that required the Group to do an impairment assessment for this project. The Group found that there was an impairment loss on goodwill.

The Group measured the recoverable amount of assets using fair value less cost to sell, based on a proved and probable reserve production profile including other key estimates and assumptions. These included the short-term forward oil price curve and the long-term oil price based on global supply and demand, the project management team estimate of the capital expenditure and operating expenditure approved by management using the constant inflation rate for periods beyond five years, exchange rates, discount rates, and past industry performance. These estimates and assumptions were consistent with external information sources. The Group used discounted cash flows based on the average life of the project, which are greater than five years, with discount rates ranging from 10% - 11%.

During the year ended 31 December 2023, the Group recognised impairment loss on goodwill in the consolidated statement of income as follows:

	Consolidated financial statements	
	Unit: Million US Dollar	Unit: Million Baht
Impairment loss on goodwill	120	4,255
Total	120	4,255

		Consolidated financial statements		
		Unit: Million US Dollar		
Group of assets	Basis using to identify the recoverable amount	The carrying amount of group of assets before impairment	The carrying amount of group of assets after impairment	Impairment loss
Overseas	Fair value less cost to sell	2,681	2,561	120
			Total	120

		Consolidated financial statements		
				Unit: Million Baht
Group of assets	Basis using to identify the recoverable amount	The carrying amount of group of assets before impairment	The carrying amount of group of assets after impairment	Impairment loss
Overseas	Fair value less cost to sell	91,900	87,645	4,255
			Total	4,255

The amount of impairment loss on goodwill is disclosed in Note 9 Segment and revenue information.

21 Exploration and evaluation assets

	Consolidated financial statements	
	Unit: Million US Dollar	Unit: Million Baht
As at 1 January 2022		
Cost	4,446	148,599
Less Accumulated impairment	(1,325)	(44,286)
Net book value	3,121	104,313
For the year ended 31 December 2022		
Opening net book value	3,121	104,313
Additions	95	3,329
Decreases	(28)	(995)
Reclassification	(17)	(603)
Reclassification to assets held-for-sale [1]	(99)	(3,470)
Currency translation differences	-	3,587
Closing net book value	3,072	106,161

	Consolidated financial statements	
	Unit: Million US Dollar	Unit: Million Baht
As at 31 December 2022		
Cost	4,312	149,032
Less Accumulated impairment	(1,240)	(42,871)
Net book value	3,072	106,161
For the year ended 31 December 2023		
Opening net book value	3,072	106,161
Additions	159	5,531
Decreases	(63)	(2,182)
Decrease from disposal of participating interest (Note 2)	(189)	(6,542)
Reclassification	(223)	(7,770)
Currency translation differences	-	(867)
Closing net book value	2,756	94,331
As at 31 December 2023		
Cost	2,756	94,331
Less Accumulated impairment [2]	-	-
Net book value	2,756	94,331

[1] Sell all of the investment in PTTEP Brazil Investments in Oil and Gas Exploration and Production Limitada (PTTEP BL), completed on 23 February 2023, and from sell all of the investment in Block 17/6 in Angola at 2.5%, completed on 22 December 2023.

[2] Terminate and return all of the exploration block of Mariana Oil Sands Project of PTTEP Canada Limited (PTTEP CA), completed on 1 August 2023.

22 Deferred income taxes

Deferred tax assets and liabilities are comprised:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Deferred tax assets	534	929	18,274	32,125
Deferred tax liabilities	(1,526)	(1,575)	(52,238)	(54,449)
Deferred taxes, net	(992)	(646)	(33,964)	(22,324)

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Deferred tax assets	270	549	9,245	18,958
Deferred tax liabilities	(1)	-	(18)	-
Deferred taxes, net	269	549	9,227	18,958

The movements in deferred tax assets and liabilities during the year are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar			
	As at 1 January 2023	Statement of income	Statement of comprehensive income	As at 31 December 2023
Deferred tax assets				
Decommissioning costs	994	(79)	-	915
Provision for employee benefits	63	1	3	67
Property, plant and equipment and intangible assets	6	(3)	-	3
Loss carried forward	116	(81)	-	35
Financial derivatives	9	2	5	16
Allowance for impairment loss on assets	134	(4)	-	130
Lease liabilities	16	42	-	58
Cost recovery	26	(2)	-	24
Others	116	(40)	-	76
	1,480	(164)	8	1,324
Tax effect of currency translation on tax base	-	-	-	-
	1,480	(164)	8	1,324
Deferred tax liabilities				
Property, plant and equipment and intangible assets	2,031	240	-	2,271
Financial derivatives	2	6	(6)	2
Others	76	(58)	-	18
	2,109	188	(6)	2,291
Tax effect of currency translation on tax base	17	8	-	25
	2,126	196	(6)	2,316
Deferred taxes, net	(646)	(360)	14	(992)

	Consolidated financial statements			
	Unit: Million US Dollar			
	As at 1 January 2022	Statement of income	Statement of comprehensive income	As at 31 December 2022
Deferred tax assets				
Decommissioning costs	1,100	(106)	-	994
Provision for employee benefits	79	(9)	(7)	63
Property, plant and equipment and intangible assets	5	1	-	6
Loss carried forward	235	(119)	-	116
Financial derivatives	7	11	(9)	9
Allowance for impairment loss on assets	128	6	-	134
Lease liabilities	8	8	-	16
Cost recovery	252	(226)	-	26
Others	131	(15)	-	116
	1,945	(449)	(16)	1,480
Tax effect of currency translation on tax base	-	-	-	-
	1,945	(449)	(16)	1,480
Deferred tax liabilities				
Property, plant and equipment and intangible assets	2,113	(82)	-	2,031
Financial derivatives	1	(3)	4	2
Others	15	61	-	76
	2,129	(24)	4	2,109
Tax effect of currency translation on tax base	2	15	-	17
	2,131	(9)	4	2,126
Deferred taxes, net	(186)	(440)	(20)	(646)

	Consolidated financial statements				
	Unit: Million Baht				
	As at 1 January 2023	Statement of income	Statement of comprehensive income	Currency translation differences	As at 31 December 2023
Deferred tax assets					
Decommissioning costs	34,386	(3,058)	-	2	31,330
Provision for employee benefits	2,134	32	96	(26)	2,236
Property, plant and equipment and intangible assets	202	(89)	-	(1)	112
Loss carried forward	4,014	(2,797)	-	(11)	1,206
Financial derivatives	335	49	173	6	563
Allowance for impairment loss on assets	4,649	(279)	-	103	4,473
Lease liabilities	545	1,483	-	(37)	1,991
Cost recovery	904	(71)	-	(9)	824
Others	3,968	(1,411)	-	18	2,575
	51,137	(6,141)	269	45	45,310
Tax effect of currency translation on tax base	-	-	-	-	-
	51,137	(6,141)	269	45	45,310
Deferred tax liabilities					
Property, plant and equipment and intangible assets	70,218	7,767	-	(269)	77,716
Financial derivatives	54	228	(219)	1	64
Others	2,626	(1,969)	-	(14)	643
	72,898	6,026	(219)	(282)	78,423
Tax effect of currency translation on tax base	563	304	-	(16)	851
	73,461	6,330	(219)	(298)	79,274
Deferred taxes, net	(22,324)	(12,471)	488	343	(33,964)

	Consolidated financial statements				
	Unit: Million Baht				
	As at 1 January 2022	Statement of income	Statement of comprehensive income	Currency translation differences	As at 31 December 2022
Deferred tax assets					
Decommissioning costs	36,776	(3,649)	-	1,259	34,386
Provision for employee benefits	2,602	(326)	(235)	93	2,134
Property, plant and equipment and intangible assets	167	30	-	5	202
Loss carried forward	7,854	(4,105)	(14)	279	4,014
Financial derivatives	238	393	(316)	20	335
Allowance for impairment loss on assets	4,286	211	-	152	4,649
Lease liabilities	268	298	-	(21)	545
Cost recovery	8,427	(7,976)	-	453	904
Others	4,352	(484)	-	100	3,968
	64,970	(15,608)	(565)	2,340	51,137
Tax effect of currency translation on tax base	-	-	-	-	-
	64,970	(15,608)	(565)	2,340	51,137
Deferred tax liabilities					
Property, plant and equipment and intangible assets	70,634	(2,726)	-	2,310	70,218
Financial derivatives	12	(93)	140	(5)	54
Others	503	2,144	-	(21)	2,626
	71,149	(675)	140	2,284	72,898
Tax effect of currency translation on tax base	51	526	-	(14)	563
	71,200	(149)	140	2,270	73,461
Deferred taxes, net	(6,230)	(15,459)	(705)	70	(22,324)

	Separate financial statements			
	Unit: Million US Dollar			
	As at 1 January 2023	Statement of income	Statement of comprehensive income	As at 31 December 2023
Deferred tax assets				
Decommissioning costs	531	(112)	-	419
Provision for employee benefits	58	1	2	61
Loss carried forward	52	(52)	-	-
Others	12	(5)	4	11
	653	(168)	6	491
Deferred tax liabilities				
Property, plant and equipment and intangible assets	57	162	-	219
Others	47	(41)	(3)	3
	104	121	(3)	222
Deferred taxes, net	549	(289)	9	269

	Separate financial statements			
	Unit: Million US Dollar			
	As at 1 January 2022	Statement of income	Statement of comprehensive income	As at 31 December 2022
Deferred tax assets				
Decommissioning costs	680	(149)	-	531
Provision for employee benefits	71	(6)	(7)	58
Loss carried forward	131	(79)	-	52
Others	40	(19)	(9)	12
	922	(253)	(16)	653
Deferred tax liabilities				
Property, plant and equipment and intangible assets	132	(75)	-	57
Others	-	47	-	47
	132	(28)	-	104
Deferred taxes, net	790	(225)	(16)	549

	Separate financial statements				
	Unit: Million Baht				
	As at 1 January 2023	Statement of income	Statement of comprehensive income	Currency translation differences	As at 31 December 2023
Deferred tax assets					
Decommissioning costs	18,347	(3,893)	-	(142)	14,312
Provision for employee benefits	1,999	53	91	(23)	2,120
Loss carried forward	1,798	(1,798)	-	-	-
Others	419	(151)	138	(4)	402
	22,563	(5,789)	229	(169)	16,834
Deferred tax liabilities					
Property, plant and equipment and intangible assets	1,958	5,609	-	(74)	7,493
Others	1,647	(1,434)	(99)	-	114
	3,605	4,175	(99)	(74)	7,607
Deferred taxes, net	18,958	(9,964)	328	(95)	9,227

	Separate financial statements				
	Unit: Million Baht				
	As at 1 January 2022	Statement of income	Statement of comprehensive income	Currency translation differences	As at 31 December 2022
Deferred tax assets					
Decommissioning costs	22,721	(5,235)	-	861	18,347
Provision for employee benefits	2,375	(226)	(236)	86	1,999
Loss carried forward	4,387	(2,769)	(14)	194	1,798
Others	1,339	(676)	(311)	67	419
	30,822	(8,906)	(561)	1,208	22,563
Deferred tax liabilities					
Property, plant and equipment and intangible assets	4,398	(2,632)	-	192	1,958
Lease liabilities	20	(20)	-	-	-
Others	3	1,669	-	(25)	1,647
	4,421	(983)	-	167	3,605
Deferred taxes, net	26,401	(7,923)	(561)	1,041	18,958

Deferred income tax assets are recognised for tax loss and carried forwards only to the extent that realisation of the related tax benefit through the future taxable profits is probable. The Group does not recognise deferred tax asset from tax losses of US Dollar 919 million (2022: US Dollar 1,159 million) to carry forward against future taxable income. Some portions of tax losses could be carried forward against future taxable income without expiration invalid and some portions will be expired during 2024 to 2043.

23 Other non-current assets

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Pension scheme investments from joint operation	69	76	2,372	2,626
Contingent consideration from disposal of participating interests	61	-	2,083	-
Advance payment *	36	36	1,227	1,239
Prepaid expenses	13	12	437	397
Others	51	50	1,748	1,747
	230	174	7,867	6,009

* This represents tax prepayment assessed by the Republic of the Union of Myanmar Revenue Department from the privilege of tax exemptions in case of the reinvestment and the transfer of participating interest to the investors for the projects in Republic of the Union of Myanmar. The Group is in process of preparing to appeal the tax assessment case to the Supreme Court's consideration.

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Prepaid expenses	5	2	159	69
Deferred remuneration under agreement	4	6	146	208
Others	17	16	600	568
	26	24	905	845

24 Trade and other payable

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Trade payable	185	158	6,329	5,446
Working capital to co-ventures	12	19	414	640
Account payable - related parties	28	25	976	872
Accrued expenses	1,200	1,312	41,048	45,345
Accrued interest expense	19	18	645	637
	1,444	1,532	49,412	52,940

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Trade payable	18	24	628	810
Account payable - related parties	9	7	307	253
Accrued expenses	276	349	9,434	12,075
Accrued interest expense	7	6	227	198
	310	386	10,596	13,336

25 Debentures and lease liabilities

Debentures and lease liabilities comprised:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Current portion				
Current portion of lease liabilities	281	303	9,612	10,479
	281	303	9,612	10,479
Non-current portion				
Debentures	2,785	2,809	95,320	97,095
Lease liabilities	588	721	20,107	24,905
	3,373	3,530	115,427	122,000
Total debentures and lease liabilities	3,654	3,833	125,039	132,479

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Current portion				
Current portion of lease liabilities	34	31	1,169	1,081
	34	31	1,169	1,081
Non-current portion				
Debentures	508	503	17,390	17,387
Lease liabilities	32	19	1,105	667
	540	522	18,495	18,054
Total debentures and lease liabilities	574	553	19,664	19,135

a) Debentures

The carrying value of unsecured and unsubordinated debentures is comprised:

				Consolidated financial statements			
				Unit: Million US Dollar		Unit: Million Baht	
	Interest rates (% per annum)	Effective interest rates (% per annum)	Maturity date	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Maturity date over 1 years but not exceeding 3 years							
- Debentures of Baht 6,000 million	2.00 - 2.75	2.284	5 November 2026	175	173	5,995	5,993
Maturity date over 3 years but not exceeding 5 years							
- Debentures of US Dollar 500 million	2.587	2.637	10 June 2027	499	499	17,081	17,241
- Debentures of Baht 5,000 million	2.09	2.121	5 April 2027	146	144	4,997	4,996
- Debentures of Baht 1,500 million	2.51	2.576	10 May 2026	44	-	1,498	-
Maturity date over 5 years							
- Debentures of Baht 11,400 million	4.82	4.89	6 June 2029	333	330	11,395	11,394
- Debentures of US Dollar 350 million	2.993	3.064	15 January 2030	328	325	11,242	11,239
- Debentures of US Dollar 490 million	6.35	6.546	12 June 2042	-	488	-	16,856
- Debentures of US Dollar 600 million	3.903	3.959	6 December 2059	598	648	20,460	22,382

				Consolidated financial statements			
				Unit: Million US Dollar		Unit: Million Baht	
	Interest rates (% per annum)	Effective interest rates (% per annum)	Maturity date	31 December 2023	31 December 2022	31 December 2023	31 December 2022
- Debentures of Baht 1,000 million	2.69	2.725	5 April 2029	29	29	999	999
- Debentures of Baht 6,000 million	3.05	3.084	5 April 2032	175	173	5,995	5,995
- Debentures of US Dollar 458.11 million	6.35	6.467	12 June 2042	458	-	15,658	-
Total carrying value				2,785	2,809	95,320	97,095

				Separate financial statements			
				Unit: Million US Dollar		Unit: Million Baht	
	Interest rates (% per annum)	Effective interest rates (% per annum)	Maturity date	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Maturity date over 1 years but not exceeding 3 years							
- Debentures of Baht 6,000 million	2.00 - 2.75	2.284	5 November 2026	175	173	5,995	5,993
Maturity date over 5 years							
- Debentures of Baht 11,400 million	4.82	4.89	6 June 2029	333	330	11,395	11,394
Total carrying value				508	503	17,390	17,387

The fair values of debentures as at 31 December 2023 and 2022 are disclosed in Note 10.2.3.

The movements of debentures for the years ended 31 December are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Opening net book value	2,809	2,925	97,095	97,738
Cash flows:				
Increase	45	359	1,549	12,547
Repayment of debentures	(82)	(425)	(2,848)	(14,873)
Deferred finance cost	(1)	(1)	(22)	(24)
Non-cash movement:				
Amortisation of deferred finance cost	6	4	218	149
Foreign exchange differences	8	(53)	267	(1,832)
Currency translation differences	-	-	(939)	3,390
Closing net book value	2,785	2,809	95,320	97,095

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Opening net book value	503	520	17,387	17,384
Non-cash movement:				
Amortisation of deferred finance cost	-	-	3	1
Foreign exchange differences	5	(17)	173	(600)
Currency translation differences	-	-	(173)	602
Closing net book value	508	503	17,390	17,387

Repurchase and issuance of debentures

The details of movements of debentures during the year ended 31 December 2023 are as follows:

On 10 May 2023, PTTEP Treasury Center Company Limited (PTTEP TC), a subsidiary of the Company, has completed the issuance of senior guaranteed debentures with a bondholders' representative, for a total of Baht 1,500 million (US Dollar 44.55 million), 3-year tranche, carrying the fixed coupon rates of 2.51% per annum. The debentures is fully guaranteed by the Company.

On 14 June 2023, PTTEP Canada International Finance Limited (PTTEP CIF) repurchased the unsubordinated and unsecured debentures, which will be due in 2042, amounting to US Dollar 31.89 million (Baht 1,109.19 million) from the debentures of US Dollar 490 million (Baht 17,040.93 million) at market price. On 15 June 2023, PTTEP CIF subsequently transferred the remaining debentures of US Dollar 458.11 million (Baht 15,931.74 million) to PTTEP TC. The rights and conditions of these debentures remain unchanged.

On 14 June 2023, PTTEP TC repurchased the unsubordinated and unsecured debentures, which will be due in 2059, amounting to US Dollar 50 million (Baht 1,738.87 million) from US Dollar 650 million (Baht 22,605.31 million) at market price. The remaining debentures is amounting to US Dollar 600 million (Baht 20,866.44 million).

b) Lease liabilities

The movements of lease liabilities for the years ended 31 December are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Opening net book value	1,024	572	35,384	19,153
Cash flows:				
Repayment of lease liabilities	(283)	(197)	(9,859)	(6,915)
Non-cash movements:				
Deferred finance cost	21	18	741	637
Increase of lease liabilities	190	635	6,621	22,216
Decrease of lease liabilities	(102)	(9)	(3,545)	(339)
Agreement modification	18	7	620	234
Foreign exchange differences	1	(2)	18	(66)
Currency translation differences	-	-	(261)	464
Lease liabilities	869	1,024	29,719	35,384
Less current portion of lease liabilities	(281)	(303)	(9,612)	(10,479)
Closing net book value	588	721	20,107	24,905

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Opening net book value	50	60	1,748	2,011
Cash flows:				
Repayment of lease liabilities	(16)	(42)	(562)	(1,481)
Non-cash movements:				
Deferred finance cost	1	1	33	44
Additions of lease liabilities	42	29	1,461	1,008
Decreases of lease liabilities	(14)	(2)	(501)	(58)
Agreement modification	3	4	115	145
Foreign exchange differences	-	-	6	6
Currency translation differences	-	-	(26)	73
Lease liabilities	66	50	2,274	1,748
Less Current portion	(34)	(31)	(1,169)	(1,081)
Closing net book value	32	19	1,105	667

Related leases transaction recognised in the statement of income for the years ended 31 December are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million US Baht	
	2023	2022	2023	2022
Expenses related to short-term lease	15	16	533	564
Expenses related to low-value assets lease	4	5	129	163
Expenses related to variable lease payment, which does not include in lease liabilities	-	-	7	4

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million US Baht	
	2023	2022	2023	2022
Expenses related to short-term lease	2	1	63	36
Expenses related to low-value assets lease	3	4	109	152
Expenses related to variable lease payment, which does not include in lease liabilities	-	-	1	2

26 Provision for decommissioning costs

Provision for decommissioning costs are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Provision for decommissioning costs	3,912	3,114	133,898	107,623
Less Current portion	(60)	(314)	(2,078)	(10,866)
Non-current portion of provision for decommissioning costs	3,852	2,800	131,820	96,757

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Provision for decommissioning costs	942	1,080	32,250	37,336
Less Current portion	(16)	(255)	(560)	(8,821)
Non-current portion of provision for decommissioning costs	926	825	31,690	28,515

The movements of provision for decommissioning costs during the year as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Balance as at 1 January	3,114	2,724	107,623	91,044
Additional provision	942	711	32,762	24,858
Provision used during the year	(300)	(157)	(10,440)	(5,494)
Finance costs	152	76	5,297	2,683
Reversal of provision	(1)	(238)	(29)	(8,340)
Foreign exchange differences	5	(2)	187	(57)
Currency translation differences	-	-	(1,502)	2,929
Balance as at 31 December	3,912	3,114	133,898	107,623

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Balance as at 1 January	1,080	1,310	37,336	43,795
Additional provision	108	1	3,755	30
Provision used during the year	(190)	(153)	(6,609)	(5,364)
Finance costs	43	25	1,496	871
Reversal of provision	(104)	(101)	(3,626)	(3,532)
Foreign exchange differences	5	(2)	187	(57)
Currency translation differences	-	-	(289)	1,593
Balance as at 31 December	942	1,080	32,250	37,336

The Group recognised provision for decommissioning costs of production projects under production sharing contracts. The recognition is in accordance with the related laws and there is a probable possibility of the present obligation. In addition, the Company has paid the decommissioning costs for a portion of the project that had come to the end of concession, resulting in the decrease in provision for decommissioning costs. Approximately 75% and 50% of non-current portion of provision for decommissioning costs in the consolidated and separate financial statements, respectively, will be settled over 5 years.

During the year 2022, the Company had paid the decommissioning cost prepayment to Department of Mineral Fuels for the project that would have reached the end of concession in 2023. This payment was presented as part of other current assets in the statements of financial position as at 31 December 2022. In the year 2023, when the concession ended, the Company offset the decommissioning cost prepayment with the related provision for decommissioning cost.

The Group records a provision for decommissioning costs whenever it is probable that there would be an obligation as a result of a past event and the amount of that obligation is reliably estimated by the Group's engineers and management's judgment. The Group recognises provision for decommissioning costs as part of oil and gas properties, using the discounted present value before tax based on the estimated eventual costs that relate to the removal of the production facilities and amortised based on the unit of production of the proved reserve or the proved developed reserve. The Group recognises an increase that reflects the passage of time from the unwinding discount in each period, as a finance cost in the statements of income.

The provisions are based on the current situation such as regulations, technologies and prices. The actual results could differ from these estimates as future confirming events occur.

27 Provision for remuneration for production bonus and the renewal of petroleum production

Provision for remuneration for production bonus and the renewal of petroleum production is as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Provision for remuneration for production bonus and the renewal of petroleum production	202	237	6,923	8,202
Less Current portion	(43)	(43)	(1,482)	(1,513)
Non-current portion of provision for remuneration for production bonus and the renewal of petroleum production	159	194	5,441	6,689

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Provision for remuneration for the renewal of petroleum production	24	44	824	1,531
Less Current portion	(6)	(22)	(195)	(772)
Non-current portion of provision for remuneration for the renewal of petroleum production	18	22	629	759

Movements of provision for remuneration for production bonus and the renewal of petroleum production during the years are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Balance as at 1 January	237	236	8,202	7,894
Additional provision during the year	6	113	202	3,963
Remuneration paid during the year	(45)	(126)	(1,578)	(4,414)
Finance costs	(1)	-	(26)	13
Reversal of provision	4	9	147	310
Foreign exchange differences	1	5	35	171
Currency translation differences	-	-	(59)	265
Balance as at 31 December	202	237	6,923	8,202

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Balance as at 1 January	44	145	1,531	4,856
Additional provision during the year	1	5	47	186
Remuneration paid during the year	(27)	(109)	(963)	(3,823)
Finance costs	1	1	36	28
Reversal of provision	5	2	177	76
Currency translation differences	-	-	(4)	208
Balance as at 31 December	24	44	824	1,531

The Group recognised provision for remuneration for production bonus and the renewal of petroleum production which has to pay remuneration fee to the Ministry of Energy by using the discounted cash flows based on the significant assumptions, such as sales volume data, accumulate volume of total petroleum production, oil price and discounted rate, etc.

28 Provision for employee benefits

Provision for employee benefits is as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Statement of financial position				
Retirement benefits	195	181	6,660	6,246
Other long-term benefits	12	10	415	349
Liabilities in the statements of financial position	207	191	7,075	6,595
Statement of income				
Retirement benefits	21	19	737	663
Other long-term benefits	3	1	83	48
	24	20	820	711

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Statement of financial position				
Retirement benefits	109	97	3,719	3,362
Other long-term benefits	11	10	396	334
Liabilities in the statements of financial position	120	107	4,115	3,696
Statement of income				
Retirement benefits	9	8	292	302
Other long-term benefits	2	1	80	33
	11	9	372	335

The movements of provision for retirement benefits during the years are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
As at 1 January	181	194	6,246	6,495
Current service cost	13	13	462	444
Interest expense	8	6	275	219
	202	213	6,983	7,158
Loss (gain) from actuarial assumptions	12	(15)	434	(514)
Benefits paid	(7)	(8)	(250)	(303)
Foreign exchange differences	(12)	(8)	(441)	(289)
Currency translation differences	-	(1)	(66)	194
	(7)	(32)	(323)	(912)
As at 31 December	195	181	6,660	6,246

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
As at 1 January	97	111	3,362	3,692
Current service cost	6	6	183	228
Interest expense	3	2	109	74
	106	119	3,654	3,994
Loss (gain) from actuarial assumptions	5	(14)	183	(472)
Benefits paid	(3)	(5)	(115)	(173)
Foreign exchange differences	1	(3)	40	(116)
Currency translation differences	-	-	(43)	129
	3	(22)	65	(632)
As at 31 December	109	97	3,719	3,362

Expenses recognised in the statements of income for the years are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Current service cost	13	13	462	444
Past service cost	-	-	-	-
Interest expense	8	6	275	219
Total	21	19	737	663
Other long-term benefits	3	1	83	48
Expenses recognised in statement of income	24	20	820	711

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Current service cost	6	6	183	228
Interest expense	3	2	109	74
Total	9	8	292	302
Other long-term benefits	2	1	80	33
Expenses recognised in statement of income	11	9	372	335

(Gain) loss from actuarial assumptions recognised in the statements of comprehensive income are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Change in financial assumptions	3	(21)	132	(726)
Change in demographic assumptions	1	-	19	-
Experience adjustment	8	6	283	212
Total	12	(15)	434	(514)

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Change in financial assumptions	3	(18)	124	(626)
Experience adjustment	2	4	59	154
Total	5	(14)	183	(472)

The significant actuarial assumptions used were as follows:

	% per annum	
	2023	2022
Discount rate	2.46 – 6.85	1.37 - 7.26
Inflation rate	2.0	2.0
Turnover rate	0.0 - 15.0	0.0 - 15.0

Sensitivity analysis for each significant assumption used is as follows:

	Increase (Decrease) in impact on defined retirement benefit obligation			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Discount rate				
Increase 1%	(13)	(11)	(434)	(377)
Decrease 1%	15	13	529	451

The above sensitivity analysis is based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. When calculating the sensitivity of the defined benefit obligation to significant actuarial assumptions, the same method has been applied as when calculating the retirement benefits recognised in the statement of financial position.

The methods and types of assumptions used in preparing the sensitivity analysis did not change compared to the previous year.

As at 31 December 2023, the weighted average duration of the defined retirement benefit obligation is 22.1 years (2022: 23 years).

Maturity analysis of undiscounted retirement benefits are as follows:

	Consolidated financial statements		Separate financial statements	
	Unit: Million US Dollar	Unit: Million Baht	Unit: Million US Dollar	Unit: Million Baht
As at 31 December 2023				
Not later than 1 year	7	243	2	82
Over 1 to 5 years	49	1,680	35	1,190
Over 5 to 10 years	72	2,452	46	1,572
Over than 10 years	352	12,059	307	10,501
	480	16,434	390	13,345

29 Share capital

The total number of authorised ordinary shares is 3,969.98 million shares (2022: 3,969.98 million shares) with a par value of Baht 1 each (2022: a par value of Baht 1 each). All authorised ordinary shares are fully paid.

30 Legal reserves

Under the Public Companies Act., B.E. 2535, the Company is required to set aside as a legal reserve at least 5% of its net profit for the year until the reserve is not less than 10% of the authorised ordinary shares capital. The legal reserve is not available for dividend distribution. The Company has already set aside full legal reserve at 10% of the authorised ordinary shares capital.

31 Repayment of subordinated perpetual loan

On 9 June 2023, PTTEP Canada Limited (PTTEP CA), a subsidiary of the Group, repaid a subordinated perpetual loan of US Dollar 487.24 million to PTTEP Canada International Finance Limited (PTTEP CIF), a subsidiary of the Group. Such repayment was an intercompany transaction. However, it resulted in the recognition of foreign exchange differences in the consolidated financial statements of Canadian Dollar 67 million or equivalent to US Dollar 49.41 million (Baht 1,724.75 million).

32 Dividends

On 3 April 2023, the Annual General Meeting of the Shareholder approved payment of a dividend for the year 2022 at the rate of Baht 9.25 per share. The Company made an interim dividend payment for the first half-year operations of 2022 at the rate of Baht 4.25 per share on 26 August 2022, and for the second half-year operations of 2022 at the rate of Baht 5.00 per share, which were paid to shareholders on 24 April 2023.

On 30 January 2024, the Company's Board of Directors endorsed the proposal of dividend payment for the year 2023 at the rate of Baht 9.50 per share. The Company made an interim dividend payment for the first half-year operations of 2023 at the rate of Baht 4.25 per share on 29 August 2023. The remaining is for the second half-year operations of 2023 at the rate of Baht 5.25 per share, which will be paid after receiving approval from the Annual General Meeting of the Shareholders.

33 Expense by nature

Significant expenses by nature of the Group which comprise the expenses based on its participating interest in each project for the years are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Salary, wages and employees' benefits	283	294	9,840	10,235
Repair and maintenance	319	293	11,079	10,247
Exploration well and projects write-off	59	33	2,070	1,178
Geological and geophysical expenses	20	34	688	1,206
Logistics	337	283	11,744	9,888
Utility and information technology	93	75	3,248	2,606
Rental expenses	19	21	669	731

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Salary, wages and employees' benefits	266	259	9,273	9,042
Repair and maintenance	45	53	1,572	1,865
Exploration well and projects write-off	1	1	36	34
Geological and geophysical expenses	-	-	1	1
Logistics	29	73	1,014	2,560
Utility and information technology	69	58	2,401	2,025
Rental expenses	5	5	173	190

34 Income tax expense

Income tax rates for the year ended 31 December 2023 are as follows:

	Tax Rate (%)
Income tax in Thailand	
- Corporate income tax under Revenue Code	Exempt*, 3, 20
- Petroleum income tax on petroleum businesses in Thailand pursuant to Petroleum Income Tax Act, B.E. 2514 and 2532	50
- Petroleum income tax on petroleum business in Thailand pursuant to Petroleum Income Tax Act, B.E. 2560	20
Income tax from the Petroleum business in the Thailand - Malaysia Joint Development Area under the Petroleum Income Tax Act (No.5), B.E. 2541 and Petroleum Income tax in Malaysia	
- From the first to the eighth accounting period	Exempt
- From the ninth to the fifteenth accounting period	10
- From the sixteenth accounting period onwards	20
Income tax in Malaysia	
- Corporate income tax	24
- Petroleum income tax	25, 38
Corporate income tax in the Republic of the Union of Myanmar	22, 25
Corporate income tax in the Socialist Republic of Vietnam	20, 50
Corporate income tax in the Republic of Indonesia	
- Corporate income tax	22
- Income tax from the profit distribution	20
Corporate income tax in the Republic of Singapore	17
Corporate income tax in Hong Kong Special Administrative Region of the People's Republic of China	16.5
Corporate income tax in United Kingdom	19, 25
Corporate income tax in the Kingdom of the Netherlands	19, 25.8
Corporate income tax in the Republic of Cyprus	12.5
Corporate income tax in the Commonwealth of Australia	
- Corporate income tax	30
- Petroleum resource rent tax in the Commonwealth of Australia	40

	Tax Rate (%)
Corporate income tax in the Federative Republic of Brazil	24, 34
Corporate income tax in Canada	23
Corporate income tax in the United Mexican States	30
Corporate income tax in the Republic of Panama	25
Corporate income tax in the People's Democratic Republic of Algeria	
- Corporate income tax	38, 19 - 80
- Petroleum income tax	20 - 70
Income tax in Sultanate of Oman	
- Corporate income tax	15
- Petroleum income tax	55, 80
Corporate income tax in the United Arab Emirates	50, 55
Corporate income tax in the Republic of Kazakhstan	
- Corporate income tax	30
- Income tax from the profit distribution	15
Corporate income tax in the Republic of Mozambique	32
Petroleum income tax in the Republic of Angola	50

* FutureTech Solar (Thailand) Co., Ltd. (FST), a subsidiary of the Group, has received promotional privileges from the Office of the Board of Investment (BOI) issued in respect of the solar power business. Under these privileges, FutureTech Solar has received exemptions from certain taxes and duties as detailed in the certificate.

Income tax expenses for the year ended 31 December comprised:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Current income tax	1,470	1,622	51,233	56,836
Deferred income tax	361	440	12,471	15,459
Total income tax expenses	1,831	2,062	63,704	72,295

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Current income tax	293	574	10,201	20,123
Deferred income tax	288	225	9,964	7,923
Total income tax expenses	581	799	20,165	28,046

The income tax on the Group's profit before income tax differs from the theoretical amount that would arise using the basic tax rate of the home country of the Company are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Profit before income tax	4,039	4,060	140,408	143,196
Tax calculated at a tax rate of 50%	2,020	2,030	70,204	71,598
Tax effect of:				
Loss of the entities not subject to tax	78	205	2,707	7,232
Expenses not deductible for tax purpose	300	312	10,447	11,002
Adjustment in respect of prior year	(17)	6	(582)	190
Results of operations of associates and joint ventures, net of tax	(21)	(10)	(738)	(334)
Tax credit on petroleum royalty	(389)	(576)	(13,514)	(20,330)
Tax credit on foreign corporate income tax	(9)	-	(330)	-
Deferred tax on functional currency	9	15	304	526
Foreign income tax	78	66	2,723	2,342
Difference in tax rate of the Group's operating countries	(216)	14	(7,494)	491
Others	(2)	-	(23)	(422)
Tax charge	1,831	2,062	63,704	72,295

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	2023	2022	2023	2022
Profit before income tax	1,685	2,340	58,515	81,990
Tax calculated at a tax rate of 50%	843	1,170	29,257	40,995
Tax effect of:				
Gain from the entities not subject to tax	(15)	(27)	(516)	(954)
Expenses not deductible for tax purpose	146	222	5,083	7,782
Adjustment in respect of prior year	21	12	729	399
Tax credit on petroleum royalty	(283)	(453)	(9,806)	(15,881)
Foreign income tax	31	18	1,079	636
Tax rate difference impact on profits before tax	(162)	(143)	(5,629)	(4,988)
Others	-	-	(32)	57
Tax charge	581	799	20,165	28,046

35 Earnings per share

Basic earnings per share for the year ended 31 December are calculated as follows:

	Consolidated financial statements			
	Unit: US Dollar		Unit: Baht	
	2023	2022	2023	2022
Profit attributable to equity holders of parent (unit: million)	2,208	1,999	76,706	70,901
Adjustment				
Interest expenses for subordinated capital debentures (unit: million)	-	(4)	-	(145)
Redemption of subordinated capital debentures (unit: million)	-	14	-	490
Foreign exchange difference from repayment of subordinated perpetual loan (unit: million)	(49)	-	(1,725)	-
Income tax for subordinated capital debentures (unit: million)	-	(1)	-	(14)
Profit used to determine basic earnings per share (unit: million)	2,159	2,008	74,981	71,232
Weighted average number of ordinary shares outstanding during the year (million shares)	3,970	3,970	3,970	3,970
Basic earnings per share	0.54	0.51	18.89	17.94

	Separate financial statements			
	Unit: US Dollar		Unit: Baht	
	2023	2022	2023	2022
Profit attributable to equity holders of parent (unit: million)	1,104	1,541	38,350	53,944
Adjustment				
Interest expenses for subordinated capital debentures (unit: million)	-	(4)	-	(145)
Redemption of subordinated capital debentures (unit: million)	-	14	-	490
Income tax for subordinated capital debentures (unit: million)	-	(1)	-	(14)
Profit used to determine basic earnings per share (unit: million)	1,104	1,550	38,350	54,275
Weighted average number of ordinary shares outstanding during the year (million shares)	3,970	3,970	3,970	3,970
Basic earnings per share	0.28	0.39	9.66	13.67

36 Commitments and contingent liabilities

36.1 Contractual commitments

As at 31 December 2023 and 2022, significant contractual commitments contracted but not recognised as liabilities are as follows:

	Consolidated financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Capital commitments	1,778	2,085	60,837	72,079
Other commitments	80	168	2,729	5,797
Total	1,858	2,253	63,566	77,876

	Separate financial statements			
	Unit: Million US Dollar		Unit: Million Baht	
	31 December 2023	31 December 2022	31 December 2023	31 December 2022
Capital commitments	223	227	7,632	7,815
Other commitments	9	8	300	292
Total	232	235	7,932	8,107

36.2 Contingent liabilities

As at 31 December 2023, the Company had contingent liabilities in the form of letters of guarantee with an amount equivalent to US Dollar 496.18 million (Baht 16,980.96 million) for the consolidated financial statements (2022: US Dollar 504.21 million (Baht 17,426.74 million)) and with an amount equivalent to US Dollar 273.60 million (Baht 9,363.35 million) for the separate financial statements (2022: US Dollar 342.46 million (Baht 11,836.32 million)).

36.3 Commitments

Commitment from the guarantee of debentures and loans of subsidiaries

As at 31 December 2023, the Company has commitment to guarantee unsecured and unsubordinated capital debenture of US Dollar 1,908.11 million (2022: US Dollar 1,500 million) and the senior guaranteed debentures with a bondholders' representative of Baht 13,500 million (2022: Baht 12,000 million) for PTTEP Treasury Center Company Limited (PTTEP TC), a subsidiary of the Company.

As at 31 December 2023 and 2022, the Company has commitment to guarantee cross currency swap transactions for PTTEP TC to swap Baht debenture to US Dollar with a guaranteed amount of US Dollar 348.66 million.

As at 31 December 2023 and 2022, the Company has commitment to the guarantee senior debt financing agreements in the form of project finance for a subsidiary of Moz LNG1 Holding Company Ltd (HoldCo) with a US Dollar 14,900 million facility, which is guaranteed by the Company based on the Group's participating interest in HoldCo of 8.5%, which is equivalent to US Dollar 1,266.50 million.

The Company has commitment to guarantee PTTEP TC's US Dollar loan agreement for revolving credit facilities with a financial institution. The total loan facility is in amount of US Dollar 400 million. As at 31 December 2023 and 2022, there is unused credit facilities of US Dollar 400 million.

37 Events occurring after the reporting date

On 2 February 2024, Cariva (Thailand) Co., Ltd. (Cariva), a subsidiary of the Group, called for paid up for the remaining unpaid shares which is 10% of registered capital. The Group paid the share subscription according to the Group's shareholding portion with an amount equivalent to US Dollar 0.54 million.

Supplemental Information on Petroleum Exploration and Production Activities (Unaudited)

(A) PTTEP and Our Subsidiaries' Petroleum Reserves Report as of December 31, 2023

The total Proved Reserves of PTTEP and our subsidiaries as of December 31, 2023 are shown in the attached table. The Proved Reserves are reviewed annually by Company's earth scientists and reservoir engineers to ensure rigorous professional standards. The Proved Reserves are reported on a gross basis, which includes the Company's net working interest and related host country's interest.

Furthermore, in order to improve efficiency, check and balance of the reserves estimation, reporting and disclosure, the company maintains a Reserves Committee which has the following roles and responsibilities:

- Review and endorse the Company's Annual Reserves
- Review and approve Major Changes of Reserves, and Reserves for Newly-Acquired Project
- Ensure that all activities that related to reserves estimation and disclosure of reserves information conform to regulatory and legal requirements as well as to corporate and international standards
- Approve Annual Reserves Audit Plan, appoint Reserves Auditor, as well as approve Reserves Audit Report to ensure compliance with Company's framework and continual process improvement

As of December 31, 2023, the total amount of Proved Reserves of PTTEP Group's projects[1] was 353 million stock-tank barrels (MMSTB) of crude oil and condensate[2] and 6,620 billion standard cubic feet (BSCF) of natural gas or 1,083 million barrels of oil equivalent (MMBOE). The total amount of Proved Reserves in terms of oil equivalent was therefore 1,436 MMBOE.

In 2023, the total production of PTTEP Group[1] was 233 MMBOE, consisting of 60 MMSTB of crude oil and condensate[2] and 1,073 BSCF (173 MMBOE) of natural gas. This was equivalent to the average production rate of 638,319 barrels of oil equivalent per day (BOED) which was approximately 53,075 BOED or 9% increase from the previous year. The increase in production mainly comes from G1/61 production ramp-up to 400 MMSCFD since June 28, 2023. In addition, Block 16 and 17 of Bongkot Concession were expired on 7 March 2023 and has become G2/61 Production Sharing Contract (PSC) since 8 March 2023.

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[1] Include APICO Joint Venture project

[2] Include NGL

PTT Exploration and Production Public Company Limited

Crude Oil and Condensate and Natural Gas Proved Reserves[1]

	Crude Oil and Condensate[2]			Natural Gas			Barrel of Oil Equivalent		
	(Million Barrels)			(Billion Cubic Feet)			(Million Barrels)		
	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total
Company's share of proved reserves of consolidated companies									
As of December 31, 2021	115	242	357	2,944	2,969	5,913	595	745	1,340
1) Revision of previous estimates	13	6	19	173	208	381	41	33	74
2) Improved recovery	1	0	1	1	-	1	1	0	1
3) Extensions and discoveries	32	9	41	859	171	1,030	174	37	211
4) Purchases/Sales of Petroleum in place	3	(0)	3	80	35	115	16	4	20
5) Production	(31)	(25)	(56)	(566)	(402)	(968)	(123)	(89)	(212)
As of December 31, 2022	133	232	365	3,491	2,981	6,472	704	730	1,434
Company's share of proved reserves of consolidated companies									
As of December 31, 2022	133	232	365	3,491	2,981	6,472	704	730	1,434
1) Revision of previous estimates	32	1	33	617	(1)	616	123	1	124
2) Improved recovery	3	0	3	2	-	2	3	0	3
3) Extensions and discoveries	10	3	13	273	278	551	55	46	101
4) Purchases/Sales of Petroleum in place	-	(1)	(1)	-	-	-	-	(1)	(1)
5) Production	(35)	(25)	(60)	(686)	(379)	(1,065)	(146)	(86)	(232)
As of December 31, 2023	**143**	**210**	**353**	**3,697**	**2,879**	**6,576**	**739**	**690**	**1,429**

[1] The Proved Reserves are reported on a gross basis which includes the Company's net working interest and the related host country's interest.

[2] Include Natural Gas Liquids (NGL)

PTT Exploration and Production Public Company Limited

Crude Oil and Condensate and Natural Gas Proved Reserves[1]

	Crude Oil and Condensate[2] (Million Barrels)			Natural Gas (Billion Cubic Feet)			Barrel of Oil Equivalent (Million Barrels)		
	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total
Company's share of proved reserves of equity companies[3]									
As of December 31, 2021	0	-	0	60	-	60	10	-	10
1) Revision of previous estimates	-	-	-	-	-	-	0	-	0
2) Improved recovery	-	-	-	-	-	-	-	-	-
3) Extensions and discoveries	-	-	-	-	-	-	-	-	-
4) Purchases/Sales of Petroleum in place	-	-	-	-	-	-	-	-	-
5) Production	(0)	-	(0)	(9)	-	(9)	(2)	-	(2)
As of December 31, 2022	0	-	0	51	-	51	8	-	8
Company's share of proved reserves of equity companies[3]									
As of December 31, 2022	0	-	0	51	-	51	8	-	8
1) Revision of previous estimates	(0)	-	(0)	1	-	1	0	-	0
2) Improved recovery	-	-	-	-	-	-	-	-	-
3) Extensions and discoveries	-	-	-	-	-	-	-	-	-
4) Purchases/Sales of Petroleum in place	-	-	-	-	-	-	-	-	-
5) Production	(0)	-	(0)	(8)	-	(8)	(1)	-	(1)
As of December 31, 2023	0	-	0	44	-	44	7	-	7
Total Proved Reserves As of December 31, 2023	143	210	353	3,741	2,879	6,620	746	690	1,436

[1] The Proved Reserves are reported on a gross basis which includes the Company's net working interest and the related host country's interest.

[2] Include Natural Gas Liquids (NGL)

[3] Reserves from APICO Joint Venture project

(B) Capitalized Costs Relating to Oil and Gas Producing Activities

Capitalized costs represent cumulative expenditures for proved and unproved properties together with related accumulated depreciation, depletion, amortization, and allowance for impairment loss on assets.

Proved properties include exploration wells, development wells, transportation pipelines, producing facilities, right-of-use assets and decommissioning costs. Unproved properties represent amounts associated with capitalized cost of projects which have not yet found proved reserves.

(Unit: Million US Dollar)	2023	2022
Proved properties	36,238	37,248
Unproved properties	2,756	4,312
Gross capitalized costs	**38,994**	**41,560**
Accumulated depreciation, depletion, amortization, and allowance for impairment	(22,676)	(25,779)
Net capitalized costs	**16,318**	**15,781**

(C) Costs Incurred in Oil and Gas Property Acquisition, Exploration, and Development Activities

Costs incurred in oil and gas property acquisition, exploration and development activities represent amounts both capitalized and charged to expense during the year.

Property acquisition costs include costs to purchase proved and unproved properties.

Exploration costs include geological and geophysical expenses, exploratory drilling cost as well as reservation fee for exploration blocks.

Development costs include costs associated with drilling and equipping development wells, improved recovery systems, facilities for extraction, treating, gathering and storage, producing facilities for existing developed reserves, and costs associated with transportation pipeline.

(Unit: Million US Dollar)	2023			2022		
	Domestic	Foreign	Total	Domestic	Foreign	Total
Acquisition of properties						
- Proved	8	-	8	5	-	5
- Unproved	6	-	6	-	12	12
Exploration costs	59	150	209	13	107	120
Development costs	1,694	605	2,299	1,374	718	2,092
Total	**1,767**	**755**	**2,522**	**1,392**	**837**	**2,229**

(D) Results of Operations for Producing Activities

Results of operations from oil and gas producing activities for the year 2023 and 2022 are shown in the following table.

Operating expenses include lifting costs incurred to operate and maintain productive wells and related equipment.

Exploration expenses consist of geological and geophysical costs, and exploratory well including project cost write off expenses.

Administrative expenses are expenses directly related to oil and gas producing activities.

Depreciation, depletion, and amortization expenses relate to capitalized costs incurred in acquisition, exploration and development activities, transportation pipeline, including amortized decommissioning costs.

Other expenses (income) mainly include impairment loss on assets and goodwill, foreign exchange gains and losses directly related to oil and gas producing activities, gain on disposal of participating interests and other income.

Income tax expenses are based on the results of operations from petroleum producing activities.

General corporate overhead and finance costs are excluded from the results of operations for petroleum producing activities.

(Unit: Million US Dollar)	2023			2022		
	Domestic	Foreign	Total	Domestic	Foreign	Total
Revenues						
Revenues from sales – Related parties	4,890	1,869	6,759	5,369	2,031	7,400
Revenues from sales – Third parties	302	1,866	2,168	283	2,021	2,304
Total revenues from sales	**5,192**	**3,735**	**8,927**	**5,652**	**4,052**	**9,704**
Expenses						
Operating expenses	802	757	1,559	674	788	1,462
Exploration expenses	5	89	94	4	68	72
Administrative expenses	71	94	165	63	257	320
Petroleum royalties	397	53	450	596	92	688
Depreciation, depletion and amortization	1,412	873	2,285	1,399	920	2,319
Other (income) / expenses	(97)	3	(94)	(56)	209	153
Total expenses	**2,590**	**1,869**	**4,459**	**2,680**	**2,334**	**5,014**
Results before income taxes	**2,602**	**1,866**	**4,468**	**2,972**	**1,718**	**4,690**
Income tax expenses	866	945	1,811	1,064	1,056	2,120
Net results of operations	**1,736**	**921**	**2,657**	**1,908**	**662**	**2,570**

(E) Standardized Measure of Discounted Future Net Cash Flows (SMDCF) Relating to the Proved Oil and Gas Reserves

The standardized measure of discounted future net cash flows related to the above proved oil and gas reserves, is computed by applying 12-month average prices* (with consideration of price changes only to the extent provided by contractual arrangements), to the estimated future production of year-end remaining proved oil and gas reserves less estimated future expenditures (based on year-end costs) to be incurred in developing and producing the proved reserves.

Future income taxes are calculated by applying the appropriate year-end statutory tax rates to the future pre-tax net cash flows and deducted by applicable tax deductions or tax credits.

Net Cash flows are discounted using a rate of 10% per year to reflect the estimated timing of the future cash flows.

The estimation of discounted future net cash flow shown below is not intended to represent the fair value of oil and gas properties. The fair value should take into account of several factors, such as probable and possible reserves which may turn into proved reserves in the future, anticipated future oil and gas prices, interest rates, changes in development and production costs and risks associated with future production. Therefore, the fair value will subject to the view and perception of analyst.

* Twelve-month average prices are calculated as the unweighted arithmetic average of the first-day-of-the-month price for each month.

Standardized Measure of Discounted Future Net Cash Flows Relating to Prove Oil and Gas Reserves

(Unit: Million US Dollar)	Domestic		Foreign		Total	
	2023	2022	2023	2022	2023	2022
Future cash inflows	19,515	20,444	27,091	31,528	46,606	51,972
Future production costs	(7,012)	(6,713)	(6,128)	(5,929)	(13,140)	(12,642)
Future development costs	(6,165)	(6,530)	(4,588)	(3,741)	(10,753)	(10,271)
Future income tax expenses	(852)	(1,128)	(4,579)	(6,660)	(5,431)	(7,788)
Future net cash flows	**5,486**	**6,073**	**11,796**	**15,198**	**17,282**	**21,271**
10% annual discount	(1,321)	(1,683)	(6,070)	(7,585)	(7,391)	(9,268)
Standardized measure of discounted future net cash flows (SMDCF) of consolidated companies	**4,165**	**4,390**	**5,726**	**7,613**	**9,891**	**12,003**
SMDCF of equity companies [1]	173	211	-	-	173	211
Total SMDCF	**4,338**	**4,601**	**5,726**	**7,613**	**10,064**	**12,214**

Changes in Standardized Measure of Discounted Future Net Cash Flows Relating to Proved Oil and Gas Reserves

(Unit: Million US Dollar)	2023	2022
Present value at beginning of year of consolidated companies	**12,003**	**8,084**
Sales and transfers of oil and gas produced, net of production costs during period	(7,087)	(7,334)
Development costs incurred during the period	2,541	2,920
Net changes in prices and production costs	(4,497)	12,466
Net changes in development costs	(208)	(1,455)
Extensions, discoveries and improved recovery	1,661	2,132
Revisions of previous quantity estimates	1,243	1,354
Purchases / sales of petroleum in place	0	253
Accretions of discount	1,878	(3,347)
Net changes in income taxes	2,357	(3,070)
Present value at the year end of consolidated companies	**9,891**	**12,003**
Present value at the year end of equity company [1]	173	211
Total Present value at the year end	**10,064**	**12,214**

[1] included investment in APICO Joint Venture project

(F) Other Information

Producing Oil and Gas Wells

The numbers of producing wells[1] as of December 31, 2023 were as follows:

	Oil	Gas
Thailand	1,663	2,565
Overseas:		
Southeast Asia	152	263
Others	15,182	148
Total	16,997	2,976

Definition of producing wells:

- Producing wells: wells which are either currently producing or temporarily closed but exclude water disposal wells or wells which have been plugged & abandoned.
- Producing Oil wells: wells which primarily produce oil, with or without associated gas.
- Producing Gas wells: wells which primarily produce natural gas, with or without associated liquids.

Drilling in Progress of Oil and Gas Wells

The numbers of wells in progress as at December 31, 2023 were as follows:

	Number of Well [1]
Exploratory	
Thailand	1
Overseas:	
Southeast Asia	1
Others	1
Total	3
Development	
Thailand	39
Overseas:	
Southeast Asia	8
Others	2
Total	49

[1] Total number of wells reported at 100% (Gross), not only PTTEP's participating interest

Oil and Gas Wells[1] Drilled Annually in 2023

	Technical Success	Dry Well
Exploratory		
Thailand	9	1
Overseas:		
Southeast Asia	8	-
Others	1	-
Total	18	1

	Productive Well	Dry Well
Development		
Thailand	583	4
Overseas:		
Southeast Asia	36	-
Others	28	-
Total	647	4

[1] Total number of wells reported at 100% (Gross), not only PTTEP's participating interest

Quarterly information in 2023 and 2022 for the consolidated financial statements are as follows:

Unit: Thousand US Dollar

Year 2023	Q4	Q3	Q2	Q1
Revenues				
Revenue from sales	2,201,548	2,192,607	1,923,876	2,193,048
Revenue from pipeline transportation	29,490	30,801	33,595	34,181
Other income				
Gain on foreign exchange rates	25,270	-	8,798	18,966
Gain on remeasuring of financial instruments	-	-	28,538	-
Gain on disposal of participating interests	73,239	-	-	-
Interest income	43,247	36,906	37,334	34,787
Other income	38,242	31,442	41,488	33,373
Total revenues	2,411,036	2,291,756	2,073,629	2,314,355
Expenses				
Operating expenses	280,302	337,237	247,249	360,053
Exploration expenses	62,151	15,426	5,625	10,842
Administrative expenses	167,774	113,153	105,718	100,293
Petroleum royalties	109,240	106,837	93,562	140,516
Depreciation, depletion and amortisation	653,927	629,444	559,716	491,624
Other expenses				
Loss on foreign exchange rates	-	4,905	-	-
Loss on remeasuring of financial instruments	22,457	19,904	-	41,765
Impairment loss on assets and goodwill	120,000	-	-	-
Finance costs	66,244	75,458	75,596	77,159
Total expenses	1,482,095	1,302,364	1,087,466	1,222,252
Share of profit of associates and joint ventures	11,417	9,096	9,623	12,420
Profit before income taxes	940,358	998,488	995,786	1,104,523
Income taxes	(426,247)	(484,442)	(385,423)	(535,276)
Profit for the period	514,111	514,046	610,363	569,247
Profit (loss) attributable to:				
Owners of the parent	514,016	514,102	610,461	569,247
Non-controlling interests	95	(56)	(98)	-
	514,111	514,046	610,363	569,247

Unit: US Dollar

	Q4	Q3	Q2	Q1
Earnings per share				
Basic earnings per share	0.13	0.13	0.14	0.14

Unit: Thousand US Dollar

Year 2022	Q4	Q3	Q2	Q1
Revenues				
Revenue from sales	2,469,448	2,388,305	2,382,536	2,030,275
Revenue from pipeline transportation	44,825	43,021	32,719	30,358
Other income				
Gain on foreign exchange rates	44,568	-	-	-
Gain on remeasuring of financial instruments	-	152,519	8,724	-
Interest income	22,778	11,402	5,587	4,264
Other income	115,607	21,835	39,519	18,173
Total revenues	2,697,226	2,617,082	2,469,085	2,083,070
Expenses				
Operating expenses	321,407	300,286	291,598	196,719
Exploration expenses	7,511	41,497	16,553	6,122
Administrative expenses	292,910	80,444	112,400	92,609
Petroleum royalties	174,009	170,824	178,681	164,209
Depreciation, depletion and amortisation	649,934	631,112	565,330	516,759
Other expenses				
Loss on foreign exchange rates	-	86,591	44,217	4,824
Loss on remeasuring of financial instruments	100,117	-	-	245,612
Impairment loss on assets and goodwill	205,084	94,996	-	-
Finance costs	55,586	62,335	63,694	51,968
Total expenses	1,806,558	1,468,085	1,272,473	1,278,822
Share of profit (loss) of associates and joint ventures	13,510	(17,485)	12,964	10,567
Profit before income taxes	904,178	1,131,512	1,209,576	814,815
Income taxes	(486,965)	(467,916)	(609,835)	(496,785)
Profit for the period	417,213	663,596	599,741	318,030

Unit: US Dollar

	Q4	Q3	Q2	Q1
Earnings per share				
Basic earnings per share	0.11	0.17	0.15	0.08

Petroleum Sales Volume and Average Unit Prices

	2023	2022
Net sales of petroleum (BOED)	462,007	468,130
Average petroleum unit prices		
Average unit prices of crude oil and condensate (USD/BBL)	79.09	94.89
Average unit prices of natural gas (USD/MMBTU)	6.00	6.27
Average unit prices of petroleum (USD/BOE)	48.21	53.39
Lifting cost (USD/BOE)	4.69	4.42



PTT Exploration and Production Public Company Limited
Energy Complex Building A, Floors 19-36
555/1 Vibhavadi Rangsit Road, Chatuchak,
Bangkok 10900, THAILAND
Tel.: +66 (0) 2537 4000
Fax: +66 (0) 2537 4444


www.pttep.com


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