

## **FY2023 2nd Quarter (April 1-September 30) Financial Statements**

### **JERA Co., Inc.**

- **Condensed Quarterly Consolidated Statement of Profit or Loss**
- **Condensed Quarterly Consolidated Statement of Financial Position**
- **Condensed Quarterly Consolidated Statement of Cash Flows**

Condensed Quarterly Consolidated Statement of Profit or Loss  
(From April 1, 2023 to Sep 30, 2023)

(Unit: Millions of yen)

| Item                                                                    | Amount      |
|-------------------------------------------------------------------------|-------------|
| Revenue                                                                 | 2,097,343   |
| Cost of sales                                                           | (1,621,696) |
| Gross profit                                                            | 475,647     |
| Selling, general and administrative expenses                            | (86,713)    |
| Other income                                                            | 3,615       |
| Other expenses                                                          | (2,766)     |
| Share of profit (loss) of investments accounted for using equity method | 37,986      |
| Operating profit                                                        | 427,768     |
| Finance income                                                          | 37,678      |
| Finance costs                                                           | (41,947)    |
| Profit before tax                                                       | 423,499     |
| Income tax expense                                                      | (87,523)    |
| Profit for the period                                                   | 335,976     |
| Profit for the period attributable to                                   |             |
| Owners of parent                                                        | 291,262     |
| Non-controlling interests                                               | 44,714      |
| Profit for the period                                                   | 335,976     |

Condensed Quarterly Consolidated Statement of Financial Position  
(As of Sep 30, 2023)

(Unit: Millions of yen)

| Item                                          | Amount    | Item                                          | Amount    |
|-----------------------------------------------|-----------|-----------------------------------------------|-----------|
| Assets                                        |           | Liabilities and equity                        |           |
| Current assets                                |           | Liabilities                                   |           |
| Cash and cash equivalents                     | 1,654,064 | Current liabilities                           |           |
| Trade and other receivables                   | 675,092   | Trade and other payables                      | 717,819   |
| Inventories                                   | 337,768   | Bonds and borrowings                          | 722,277   |
| Derivative assets                             | 1,316,275 | Lease liabilities                             | 63,371    |
| Other financial assets                        | 134,341   | Derivative liabilities                        | 1,173,068 |
| Other current assets                          | 78,831    | Other financial liabilities                   | 92,585    |
| Total current assets                          | 4,196,374 | Other current liabilities                     | 215,334   |
| Non-current assets                            |           | Total current liabilities                     | 2,984,457 |
| Property, plant and equipment                 | 2,720,083 | Non-current liabilities                       |           |
| Right-of-use assets                           | 332,270   | Bonds and borrowings                          | 2,743,176 |
| Goodwill and intangible assets                | 187,932   | Lease liabilities                             | 294,401   |
| Investments accounted for using equity method | 1,320,959 | Derivative liabilities                        | 311,276   |
| Derivative assets                             | 379,176   | Other financial liabilities                   | 222,055   |
| Other financial assets                        | 153,404   | Deferred tax liabilities                      | 55,590    |
| Deferred tax assets                           | 82,937    | Other non-current liabilities                 | 157,116   |
| Other non-current assets                      | 20,498    | Total non-current liabilities                 | 3,783,616 |
| Total non-current assets                      | 5,197,262 | Total liabilities                             | 6,768,074 |
|                                               |           | Equity                                        |           |
|                                               |           | Share capital                                 | 100,000   |
|                                               |           | Capital surplus                               | 1,182,125 |
|                                               |           | Other equity instruments                      | 199,392   |
|                                               |           | Retained earnings                             | 608,529   |
|                                               |           | Other components of equity                    | 514,312   |
|                                               |           | Total equity attributable to owners of parent | 2,604,360 |
|                                               |           | Non-controlling interests                     | 21,201    |
|                                               |           | Total equity                                  | 2,625,562 |
| Total assets                                  | 9,393,637 | Total liabilities and equity                  | 9,393,637 |

**Condensed Quarterly Consolidated Statement of Cash Flows**  
(From April 1, 2023 to September 30, 2023)

(Unit: Millions of yen)

| Item                                                                             | Amount    |
|----------------------------------------------------------------------------------|-----------|
| Cash flows from operating activities                                             |           |
| Profit before tax                                                                | 423,499   |
| Depreciation and amortization                                                    | 132,729   |
| Finance income and finance costs                                                 | (5,575)   |
| Share of loss (profit) of investments accounted for using equity method          | (37,986)  |
| Decrease (increase) in trade and other receivables                               | 350,300   |
| Decrease (increase) in inventories                                               | 120,022   |
| Increase (decrease) in trade and other payables                                  | 26,606    |
| Increase (decrease) in derivative assets and derivative liabilities              | 50,959    |
| Decrease (increase) in other financial assets                                    | (32)      |
| Increase (decrease) in other financial liabilities                               | (95,520)  |
| Other                                                                            | 32,644    |
| Subtotal                                                                         | 997,648   |
| Dividends received                                                               | 8,601     |
| Interest received                                                                | 22,289    |
| Interest paid                                                                    | (20,169)  |
| Income taxes refund (paid)                                                       | (13,650)  |
| Cash flows from operating activities                                             | 994,718   |
| Cash flows from investing activities                                             |           |
| Purchase of property, plant and equipment                                        | (123,821) |
| Proceeds from sale of property, plant and equipment                              | 5,675     |
| Purchase of intangible assets                                                    | (2,995)   |
| Purchase of investment securities                                                | (57,837)  |
| Proceeds from sale of investment securities                                      | 7,123     |
| Purchase of shares of subsidiaries resulting in change in scope of consolidation | (239,280) |
| Other                                                                            | 826       |
| Cash flows from investing activities                                             | (410,308) |
| Cash flows from financing activities                                             |           |
| Net increase (decrease) in short-term borrowings                                 | (179,039) |
| Net increase (decrease) in commercial paper                                      | (79,000)  |
| Proceeds from long-term borrowings                                               | 108,462   |
| Repayments of long-term borrowings                                               | (214,698) |
| Proceeds from issuance of bonds                                                  | 69,793    |
| Repayments of lease liabilities                                                  | (36,230)  |
| Dividends paid                                                                   | -         |
| Dividends paid to non-controlling interests                                      | (63,582)  |
| Distributions to holders of other equity instruments                             | (3,013)   |
| Proceeds from issuance of other equity instruments                               | -         |
| Other                                                                            | 6,487     |
| Cash flows from financing activities                                             | (390,820) |
| Effect of exchange rate changes on cash and cash equivalents                     | 99,568    |
| Net increase (decrease) in cash and cash equivalents                             | 293,158   |
| Cash and cash equivalents at beginning of period                                 | 1,360,906 |
| Cash and cash equivalents at end of period                                       | 1,654,064 |



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# FY2023 Second Quarter Investors Meeting

(Note1) The company's fiscal year (FY) is from April 1 to March 31 of the following year in this material.

“2Q” refers to the period from April 1 to September 30.

(Note2) The Company has voluntarily adopted International Financial Reporting Standards (IFRS) from the consolidated financial statements for the fiscal year ended March 31, 2023 (FY2022).

Therefore, the following pages and thereafter have been prepared in accordance with IFRS.

## JERA Co., Inc.

October 27, 2023

# Outline of Financial Results

1

## Consolidated Statement of Profit or Loss

(Unit: Billion Yen)

|                                                          | 2023/2Q(A) | 2022/2Q(B) | Change(A-B) | Rate of Change(%) |
|----------------------------------------------------------|------------|------------|-------------|-------------------|
| Revenue (Net sales)                                      | 2,097.3    | 1,943.4    | 153.8       | 7.9               |
| Operating profit / loss                                  | 427.7      | -182.5     | 610.3       | -                 |
| Quarterly profit / loss attributable to owners of parent | 291.2      | -214.1     | 505.3       | -                 |
| <Reference><br>Quarterly profit excluding time lag       | 75.3       | 150.1      | -74.8       | -49.8             |

## Consolidated Statement of Financial Position

(Unit: Billion Yen)

|             | As of<br>Sep 30,2023(A) | As of Mar<br>31,2022(B) | Change(A-B) | Rate of Change(%) |
|-------------|-------------------------|-------------------------|-------------|-------------------|
| Assets      | 9,393.6                 | 9,172.3                 | 221.2       | 2.4               |
| Liabilities | 6,768.0                 | 7,132.6                 | -364.5      | -5.1              |
| Equity      | 2,625.5                 | 2,039.7                 | 585.8       | 28.7              |

# Key Points of Financial Results

## 【Revenue】

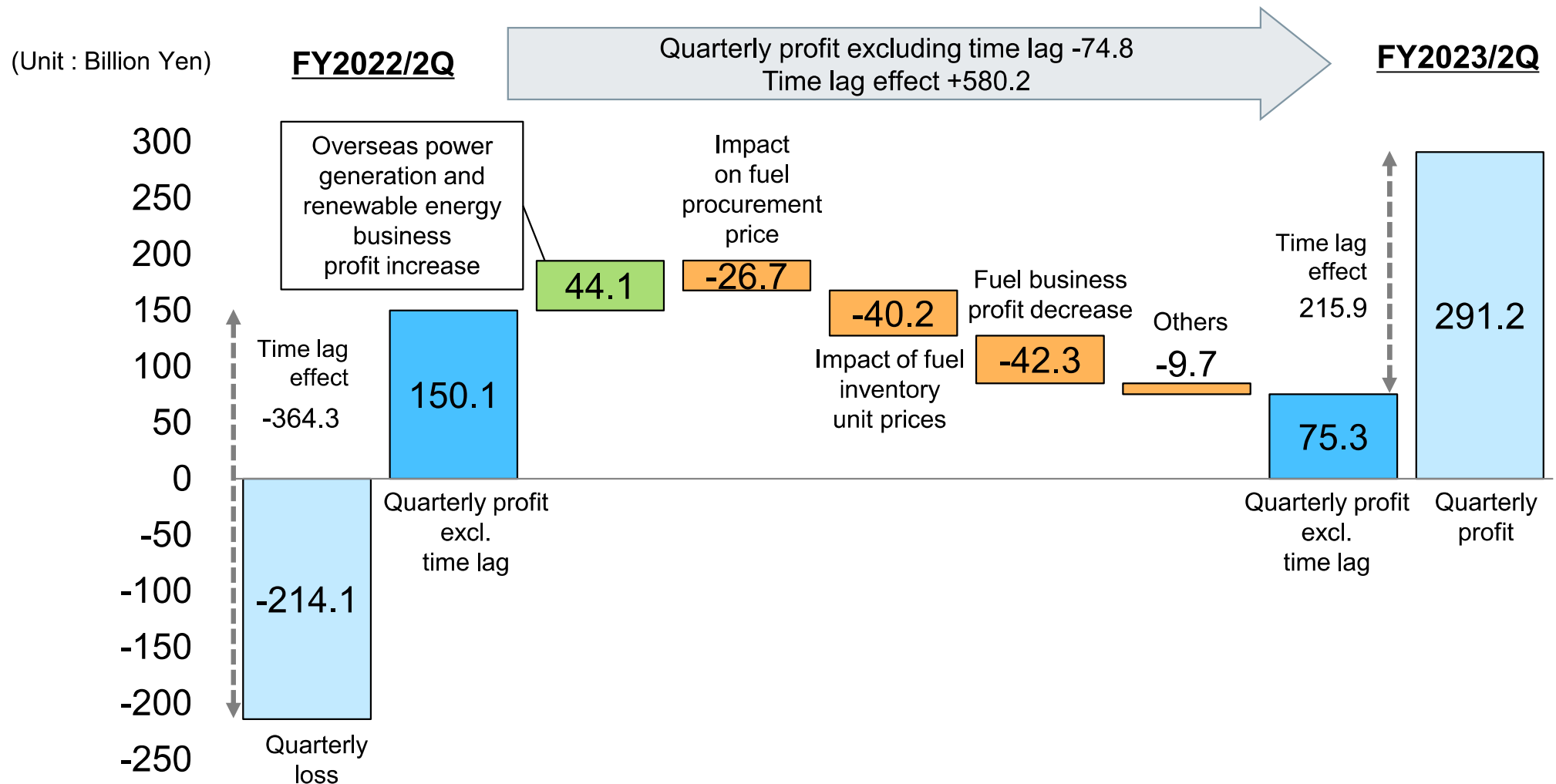
- **Revenue increased by 153.8 billion yen (up 7.9%) from the same period last year to 2,097.3 billion yen.**

## 【Quarterly profit/loss】

- **Quarterly profit/loss increased by 505.3 billion yen from the same period last year -214.1 billion yen and rose to profit of 291.2 billion yen.**
  - The effect of time lag shifted from losses to gains.  
(+580.2 billion yen [-364.3 billion yen to 215.9 billion yen])
  - Quarterly profit excluding time lag decreased.  
(-74.8 billion yen [150.1 billion yen to 75.3 billion yen])
- Quarterly profit excluding time lag decreased due to the impact on fuel procurement price, the impact of fuel inventory unit prices, and the decrease in profit from fuel business, while the profit from overseas power generation and renewable energy business increased.

# Change Factors of Quarterly Consolidated Profit/Loss

- Quarterly profit excluding time lag decreased due to the impact on fuel procurement price, the impact of fuel inventory unit prices, and the decrease in profit from the fuel business, while profit from the overseas power generation and renewable energy business increased.



Note: Figures are after-tax.

# Consolidated Statement of profit or loss

(Unit: Billion Yen)

|                                                            | 2023/2Q(A) | 2022/2Q(B) | Change(A-B) | Main Factors of Changes                                                                                                          |
|------------------------------------------------------------|------------|------------|-------------|----------------------------------------------------------------------------------------------------------------------------------|
| Revenue<br>(Net sales)                                     | 2,097.3    | 1,943.4    | 153.8       | • Due to the decrease of elimination amount (factor for the revenue decrease) between JERA and JERAGM                            |
| Operating expenses                                         | 1,708.4    | 2,107.6    | -399.1      | • Decrease of fuel costs                                                                                                         |
| Other operating income/ loss                               | 38.8       | -18.4      | 57.2        | • Decrease of exchange loss +32.8<br>• Increase of share of profit / loss of investments accounted for using equity method +23.0 |
| Operating profit / loss                                    | 427.7      | -182.5     | 610.3       |                                                                                                                                  |
| Financial income                                           | 37.6       | 5.4        | 32.2        | • Increase of interest received +22.3                                                                                            |
| Financial costs                                            | 41.9       | 105.6      | -63.6       | • Decrease of exchange loss -64.9                                                                                                |
| Profit / loss before tax                                   | 423.4      | -282.7     | 706.2       | • Decrease of time lag effect +805.8 (-506.0 → 299.8)<br>• Decrease of profit excluding time lag -99.6 (223.2 → 123.6)           |
| Income tax expense                                         | 87.5       | -94.8      | 182.3       |                                                                                                                                  |
| Quarterly profit attributable to non-controlling Interests | 44.7       | 26.1       | 18.5        |                                                                                                                                  |
| Quarterly profit / loss attributable to owners of parent   | 291.2      | -214.1     | 505.3       |                                                                                                                                  |



# Key Elements

|                                       | 2023/2Q(A) | 2022/2Q(B) | Change(A-B) |
|---------------------------------------|------------|------------|-------------|
| Electrical Energy Sold (TWh)          | 115.4      | 127.8      | -12.4       |
| Crude Oil Prices(JCC) (dollar/barrel) | 83.5       | 111.9      | -28.4       |
| Foreign Exchange Rate (yen/dollar)    | 141.0      | 134.0      | 7.0         |

Note: Crude Oil Prices(JCC) for 2023/2Q is tentative.

# Consolidated Statement of Financial Position

(Unit: Billion Yen)

|                                               | As of Sep<br>30,2023(A) | As of Mar<br>31,2022(B) | Change(A-<br>B) | Main Factors of Changes                                                                                 |
|-----------------------------------------------|-------------------------|-------------------------|-----------------|---------------------------------------------------------------------------------------------------------|
| Cash and cash equivalents                     | 1,654.0                 | 1,360.9                 | 293.1           | • Increase in JERA, etc.                                                                                |
| Property, plant and equipment                 | 2,720.0                 | 2,387.8                 | 332.2           | • Increase of acquisition of Parkwind, etc.                                                             |
| Investments accounted for using equity method | 1,320.9                 | 1,112.7                 | 208.1           | • Increase of acquisition of GPI, etc.                                                                  |
| Others                                        | 3,698.5                 | 4,310.8                 | -612.2          | • Decrease of accounts receivable trade -254.8<br>• Decrease of derivative assets (JERAGM, etc.) -305.2 |
| <b>Assets</b>                                 | <b>9,393.6</b>          | <b>9,172.3</b>          | <b>221.2</b>    |                                                                                                         |
| Interest-bearing liabilities                  | 3,465.4                 | 3,510.8                 | -45.3           | • Borrowings -410.0<br>• Commercial Paper -79.0<br>• Corporate Bonds +74.7                              |
| Others                                        | 3,302.6                 | 3,621.8                 | -319.2          | • Decrease of derivative liabilities (JERAGM, etc.) -443.4                                              |
| <b>Liabilities</b>                            | <b>6,768.0</b>          | <b>7,132.6</b>          | <b>-364.5</b>   |                                                                                                         |
| Equity attributable to owners of parent       | 2,604.3                 | 2,022.8                 | 581.4           | • Profit +291.2<br>• Foreign currency translation adjustments +172.7                                    |
| Non-controlling interests                     | 21.2                    | 16.8                    | 4.3             |                                                                                                         |
| <b>Equity</b>                                 | <b>2,625.5</b>          | <b>2,039.7</b>          | <b>585.8</b>    |                                                                                                         |

# Consolidated Statement of Cash Flows

7

(Unit: Billion Yen)

|                                                                             |                                              | 2023/2Q(A) | 2022/2Q(B) | Change(A-B) |
|-----------------------------------------------------------------------------|----------------------------------------------|------------|------------|-------------|
| Operating cash flow                                                         |                                              | 994.7      | -717.7     | 1,712.4     |
| Investment cash flow                                                        | Purchase of property, plant, and equipment   | -123.8     | -188.0     | 64.2        |
|                                                                             | Purchase of investment securities            | -57.8      | -9.4       | -48.3       |
|                                                                             | Others                                       | -228.6     | -28.0      | -200.5      |
|                                                                             |                                              | -410.3     | -225.5     | -184.7      |
| Free cash flows                                                             |                                              | 584.4      | -943.3     | 1,527.7     |
| Financial cash flow                                                         | Increase (decrease) in interest-bearing debt | -294.4     | 908.2      | -1,202.7    |
|                                                                             | Dividends paid *1                            | 0          | -83.1      | 83.1        |
|                                                                             | Others                                       | -96.3      | -48.7      | -47.5       |
|                                                                             |                                              | -390.8     | 776.4      | -1,167.2    |
| Increase (decrease )in cash and cash equivalents (minus indicates decrease) |                                              | 293.1      | -135.9     | 429.0       |

\*1 Excluding Dividends paid to non-controlling interests

# Segment Information

(Unit: Billion Yen)

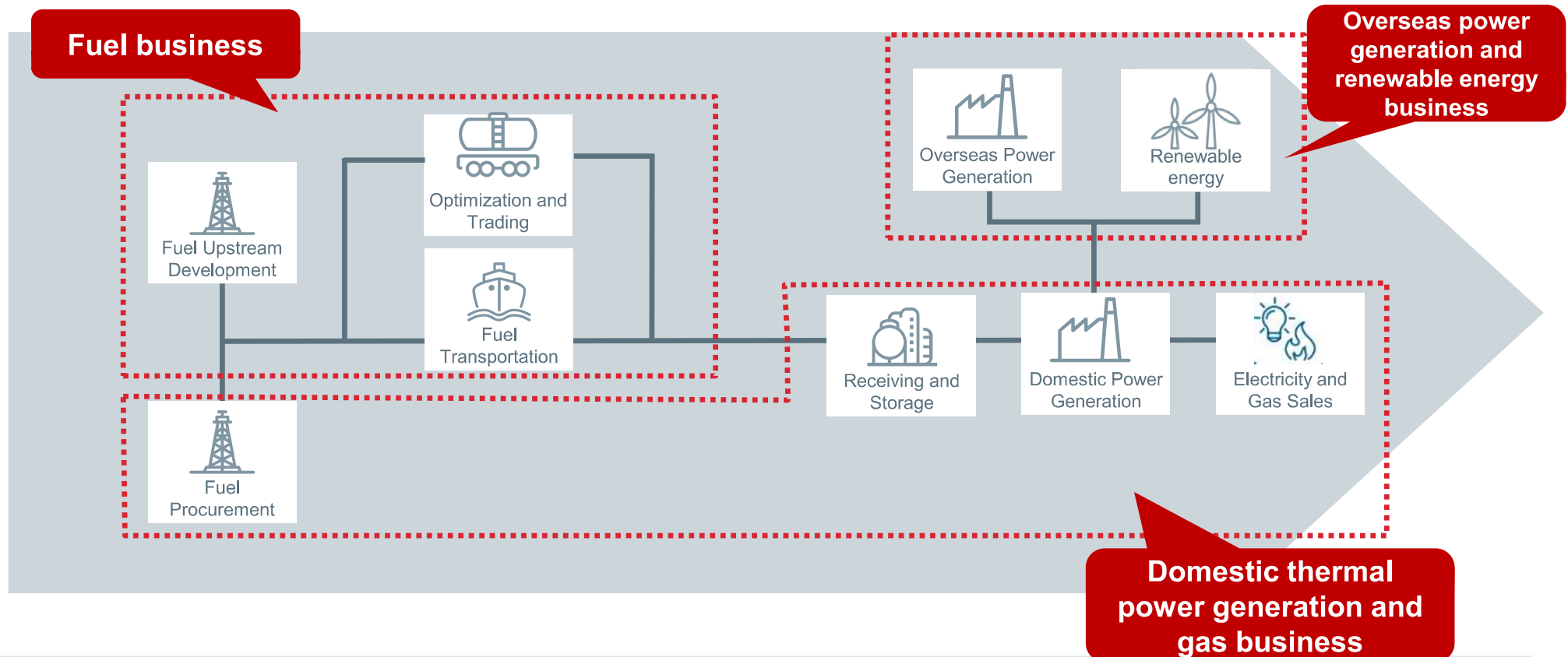
|                                                | 2023/2Q(A) |                  | 2022/2Q(B) |                   | Change(A-B) |                   | Main Factors of Changes in Profit / Loss                                                                                    |
|------------------------------------------------|------------|------------------|------------|-------------------|-------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------|
|                                                | Revenue    | Profit / Loss    | Revenue    | Profit / Loss     | Revenue     | Profit / Loss     |                                                                                                                             |
| Fuel                                           | 242.4      | 75.3             | 386.5      | 117.6             | -144.0      | -42.3             | •Profit decrease in JERAGM, etc.                                                                                            |
| Overseas power generation and renewable energy | 18.6       | 33.4             | 2.2        | -10.6             | 16.4        | 44.1              | •Gain on reversal of impairment loss in Formosa 2 +19.6<br>•Profit increase in overseas IPPs +24.5                          |
| Domestic thermal power generation and gas      | 2,275.5    | 186.1<br>-29.7※2 | 2,616.0    | -163.9<br>200.3※2 | -340.5      | 350.0<br>-230.1※2 | • Impact on fuel procurement price -26.7<br>•Impact of fuel inventory unit prices -40.2<br>• Gain/loss on sale of LNG -62.0 |
| Adjustments※1                                  | -439.3     | -3.6             | -1,061.3   | -157.2            | 622.0       | 153.6             | •Elimination of unfulfilled fuel contracts +92.5                                                                            |
| Consolidated                                   | 2,097.3    | 291.2<br>75.3※2  | 1,943.4    | -214.1<br>150.1※2 | 153.8       | 505.3<br>-74.8※2  |                                                                                                                             |

※1 : “Adjustments” includes headquarter expenses and consolidation adjustments such as intersegment eliminations

※2 : Excluding the effect of time lag

# (Reference) : JERA's Value Chain and Segment

- JERA owns the entire supply chains for fuel and thermal power generation, from fuel upstream business (development of gas fields) to transportation and storage (fuel terminal operation) to power generation and wholesaling.
- We have three business segments; "Fuel business" for investment in fuel upstream, transportation and trading business, "Overseas power generation and renewable energy business" for investment in overseas power generation and domestic and overseas renewable energy business, and "Domestic thermal power generation and gas business" for sales of electricity and gas in Japan.



# FY2023 Forecast

- Profit excluding time lag is expected to be around 150 billion yen, while time lag profit is projected to be 200 billion yen based on the current fuel price trends, with a total profit of around 350 billion yen.
- Results may fluctuate due to changing trends in fuel markets and other factors.
- No change from the previous forecast announced in FY2023/1Q.

(Unit: Billion Yen)

|                       | Current Forecast(A) | Previous Forecast(B) | Change (A-B) | Rate of Change (%) |
|-----------------------|---------------------|----------------------|--------------|--------------------|
| Profit                | 350.0               | 350.0                | -            | -                  |
| Time lag effect       | 200.0               | 200.0                | -            | -                  |
| Profit excl. time lag | 150.0               | 150.0                | -            | -                  |

【Reference : Comparison with the previous year's result】

(Unit: Billion Yen)

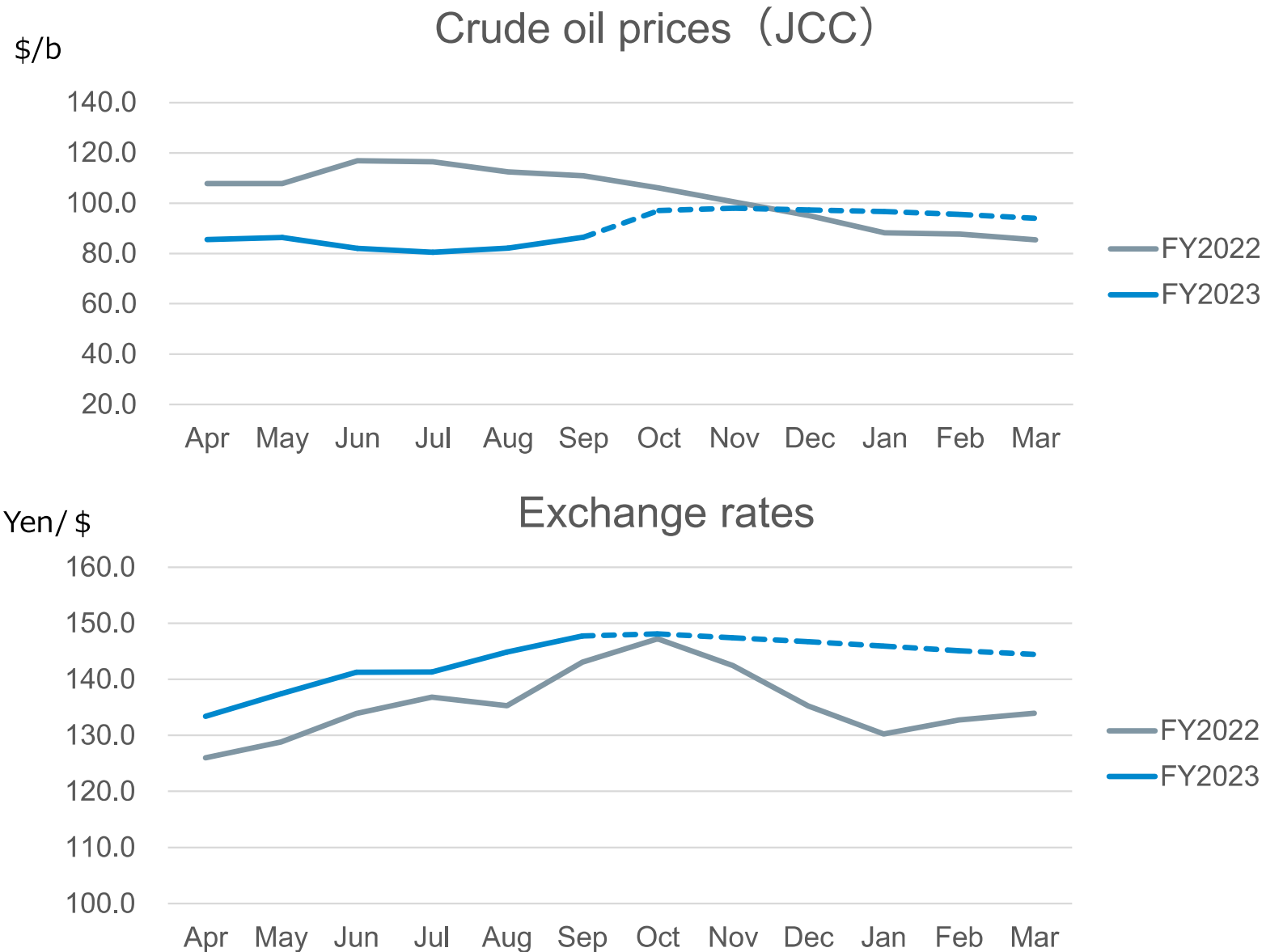
|                       | Current Forecast(A) | FY2022 Result(B) | Change (A-B)  | Rate of Change (%) |
|-----------------------|---------------------|------------------|---------------|--------------------|
| Profit                | 350.0               | 17.8             | Approx. 330.0 | 1,866.3            |
| Time lag effect       | 200.0               | -182.4           | Approx. 380.0 | -                  |
| Profit excl. time lag | 150.0               | 200.3            | Approx. -50.0 | -25.1              |

【Key Data】

|                                          | Current Forecast | (Of these, from Oct onwards) | Previous Forecast | 【Reference】<br>FY2022 Result |
|------------------------------------------|------------------|------------------------------|-------------------|------------------------------|
| Crude oil prices(JCC)<br>(dollar/barrel) | Approx. 90       | Approx.96                    | Approx.79         | 102.7                        |
| Foreign exchange rate<br>(yen/dollar)    | Approx.144       | Approx.146                   | Approx.140        | 135.5                        |

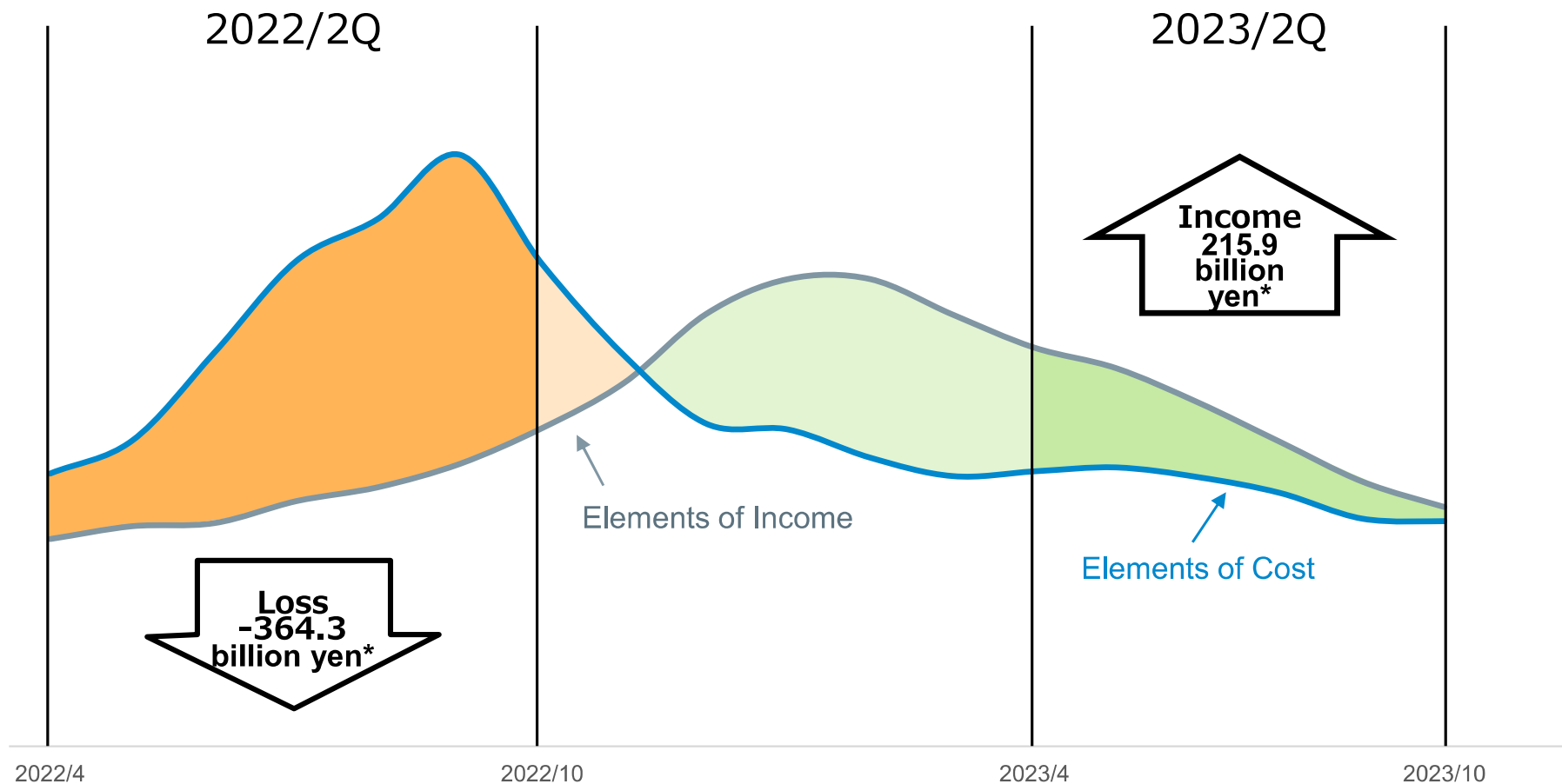
# Appendix

# Trends in crude oil price and exchange rates



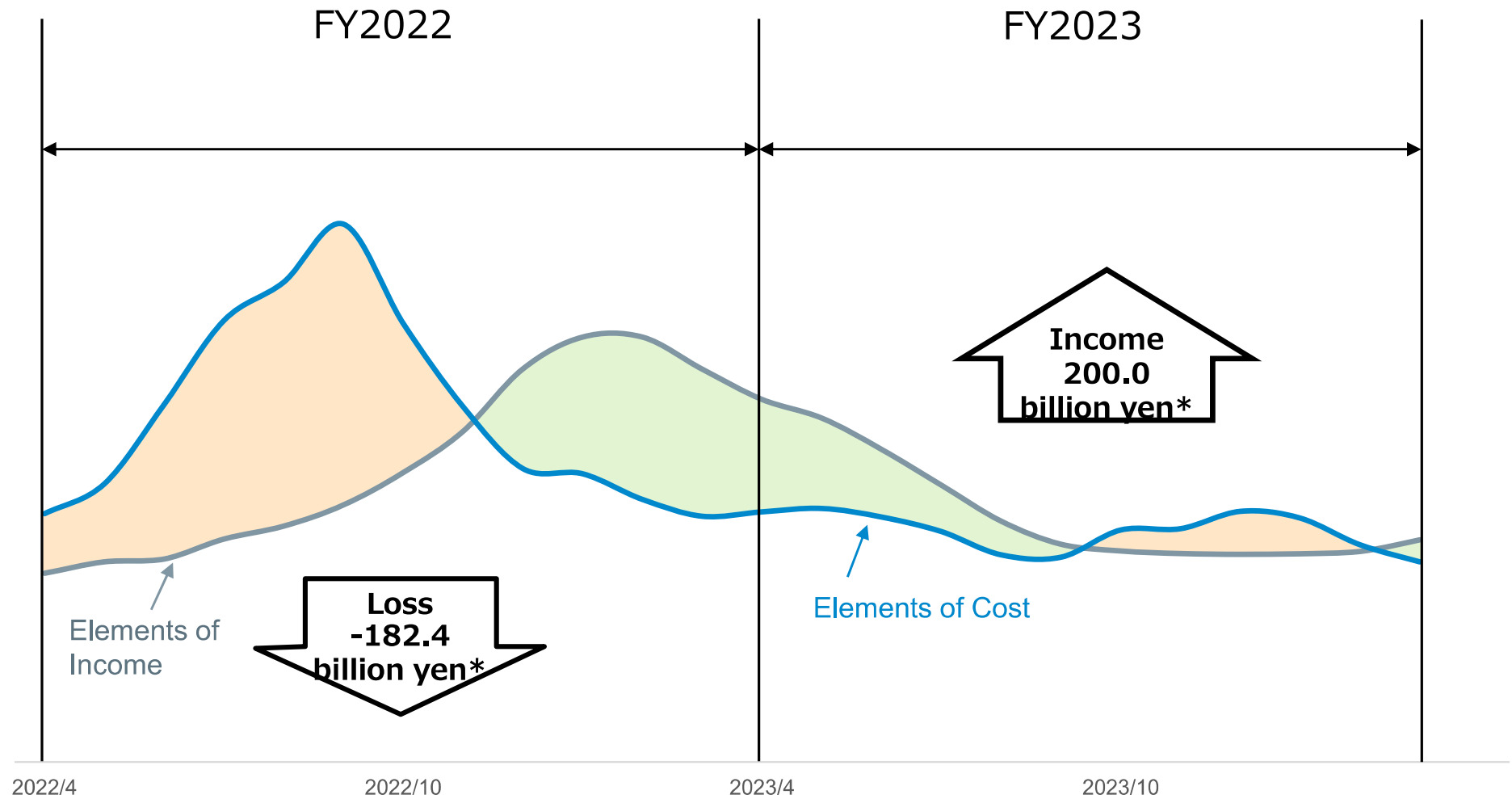
# Image of Time Lag (2022/2Q – 2023/2Q)

- Time lag is profits and losses due to the time difference between changes in fuel prices and their reflection in sales prices.
- The impact on profits and losses will be neutral in the medium to long term.



\* Figures are after-tax amounts.

# Image of Time Lag (FY2022 – FY2023)



\* Figures are after-tax amounts.

# Electrical Energy Sold and Electrical Power Generated

## 【Electrical Energy Sold(TWh)】

|        | Apr to Jun | Jul to Sep | Oct to Dec | Jan to Mar | Total |
|--------|------------|------------|------------|------------|-------|
| FY2023 | 48.1       | 67.3       |            |            | 115.4 |
| FY2022 | 57.9       | 69.9       | 63.6       | 63.7       | 255.1 |

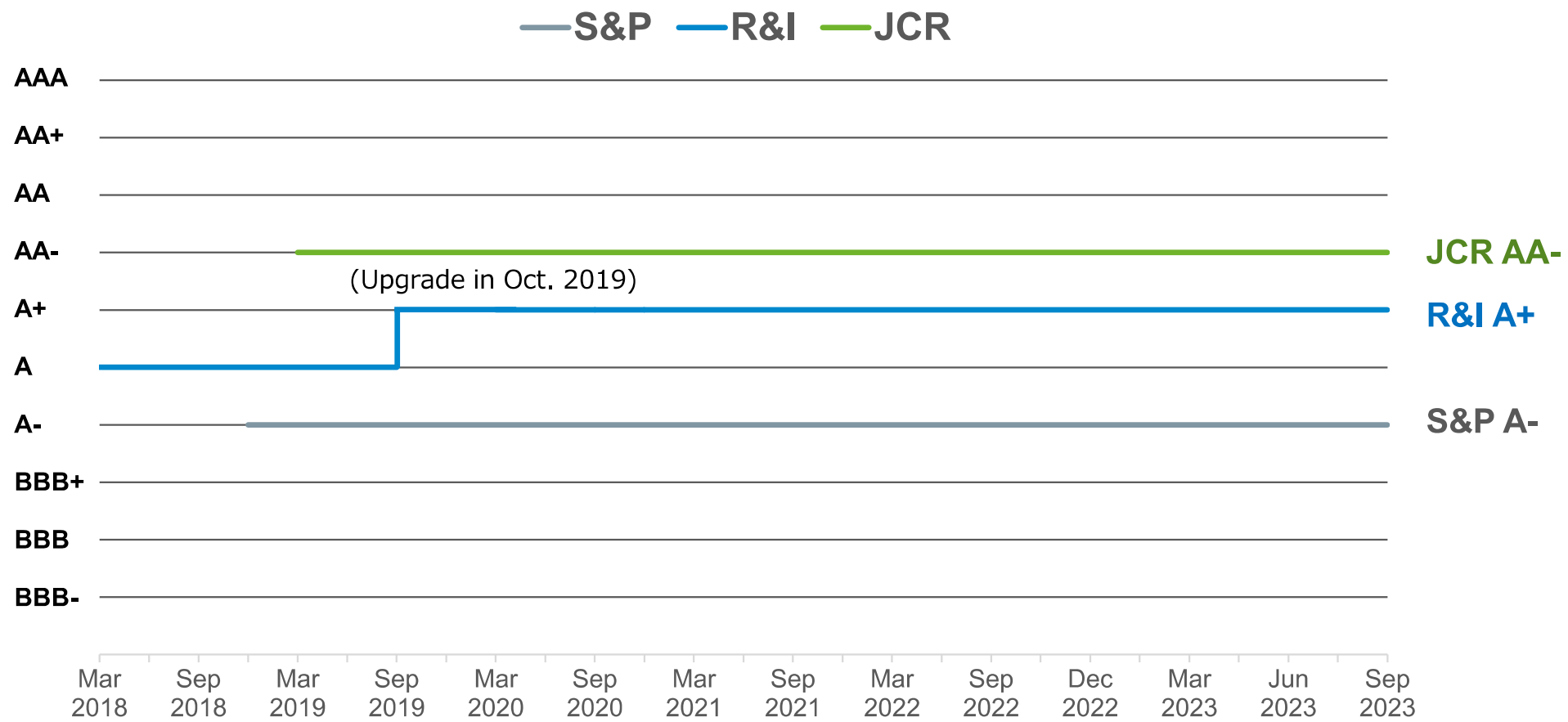
## 【Electrical Power Generated(TWh)】

|        |        | Apr to Jun | Jul to Sep | Oct to Dec | Jan to Mar | Total       |
|--------|--------|------------|------------|------------|------------|-------------|
| FY2023 |        | 47.5       | 66.2       |            |            | 113.6       |
|        | LNG    | 36.2 (76%) | 48.8 (74%) |            |            | 85.0 (74%)  |
|        | Coal   | 11.2 (24%) | 17.2 (26%) |            |            | 28.4 (25%)  |
|        | Others | 0 (0%)     | 0.1 (0%)   |            |            | 0.2 (0%)    |
| FY2022 |        | 52.8       | 63.5       | 58.0       | 60.8       | 235.1       |
|        | LNG    | 41.7 (79%) | 47.0 (74%) | 43.9 (76%) | 45.8 (75%) | 178.4 (76%) |
|        | Coal   | 11.2 (21%) | 16.5 (26%) | 14.0 (24%) | 15.0 (25%) | 56.7 (24%)  |
|        | Others | 0 (0%)     | 0 (0%)     | 0 (0%)     | 0 (0%)     | 0 (0%)      |

\*The total may not match due to rounding.

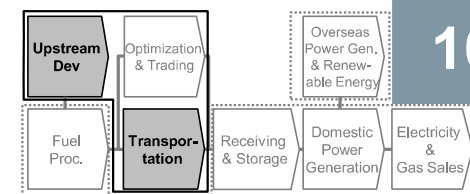


## 【 Issuer Credit ratings history 】



**Reference:**  
**Overview and topics of  
each segment**

# Fuel Business: Fuel Upstream / Transportation Business



16

- Participating in LNG upstream projects by leveraging one of the world's largest LNG transaction volume (FY2022: Approximately 35 million tons\*), we secure stable LNG sources and acquire the information related to procurement and the market trend. Additionally, We own fuel carriers that contribute to highly consistent, flexible, and competitive fuel supply.

\*JERA Group as a whole

## Fuel Upstream Project

| Project Name                     | Country       | LNG Production / Liquefaction Capability                                          | Investment Ratio *1           |
|----------------------------------|---------------|-----------------------------------------------------------------------------------|-------------------------------|
| Darwin LNG Project               | Australia     | Approx. 3.7 million tons/year                                                     | 6.132%                        |
| Gorgon LNG Project               |               | Approx. 15.6 million tons/year                                                    | 0.417%                        |
| Ichthys LNG Project              |               | Approx. 8.9 million tons/year                                                     | 0.735%                        |
| Wheatstone LNG Project           |               | Approx. 8.9 million tons/year                                                     | Gas field: 10%, LNG plant: 8% |
| Barossa gas field Project        |               | LNG production and liquefaction capacity is the same scale as Darwin LNG Project. | 12.5%                         |
| Freeport LNG Project (Train1)    | United States | Approx. 5.15 million tons/year                                                    | 25%                           |
| Freeport LNG Development, L.P.*2 |               | Approx. 15.45 million tons/year*3 for all three lines                             | 25.7%                         |

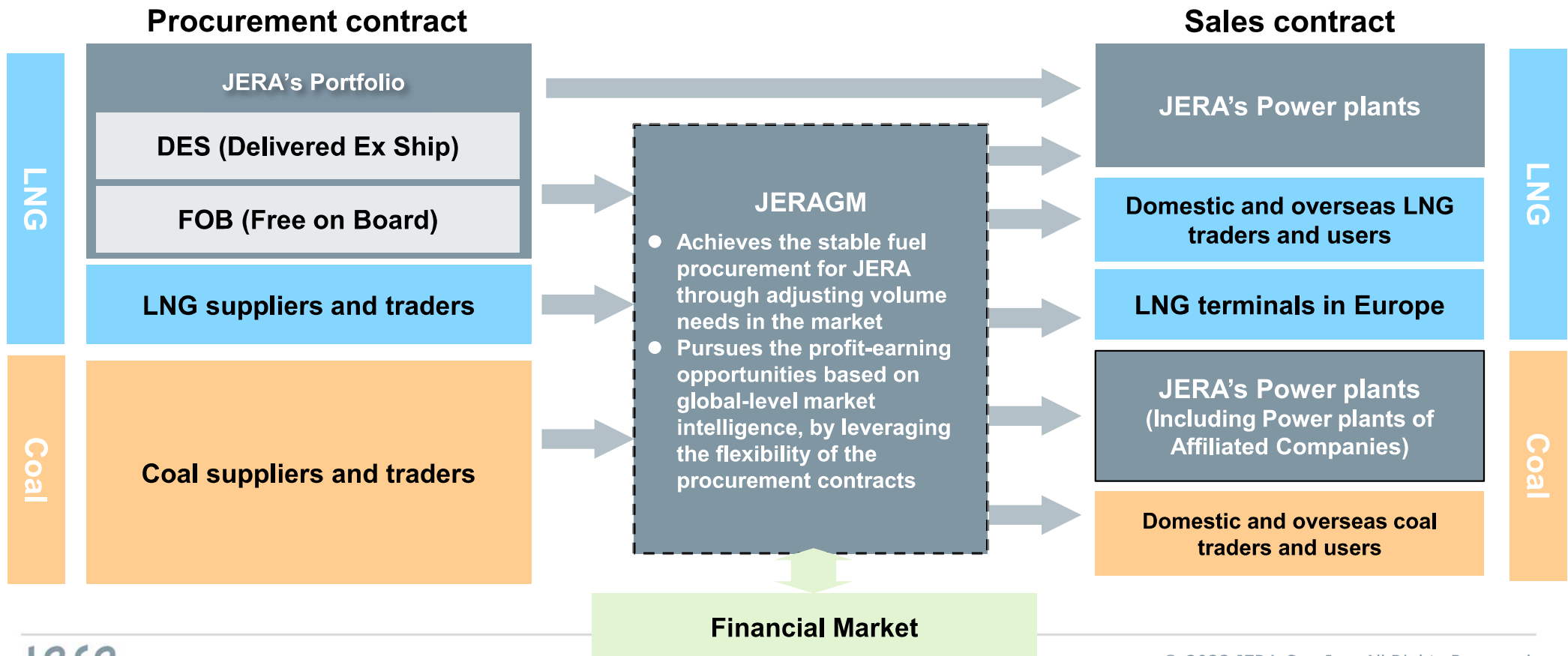
\*1 The stake of Wheatstone LNG Project represents the ratio of shares held through PE Wheatstone in which JERA invests

\*2 Freeport LNG Project Management Company

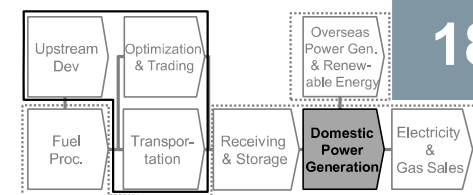
\*3 Including 5.15 million tons/year from Train 1

- In June 2022, a fire incident occurs at the Freeport LNG terminal, shutting down operations at the terminal. In 2023, regulatory approvals for resumption of production were obtained one by one. And production has resumed at all lines.

- In addition to the Singapore headquarters, JERAGM has offices in the United Kingdom, the Netherlands, the United States, and Japan, and holds approximately 300 employees who engage in asset-backed trading.
- Utilizing the global trading network, JERAGM supplies LNG and coal to JERA's domestic power generation business. Leveraging this commercial flow, JERAGM has been able to achieve both the enhancement of supply stability and the expansion of profits by efficiently capturing profit opportunities through transactions with markets and third parties.
- JERAGM trades within the limited volume under the governance of the Board of Directors elected by shareholders.

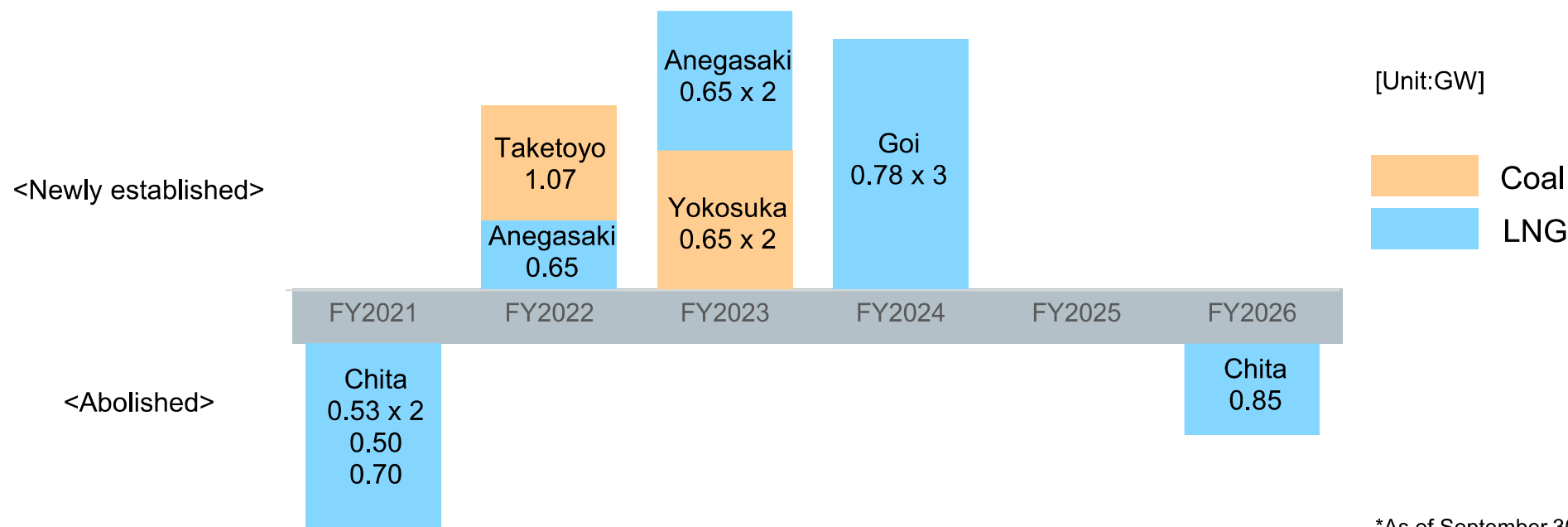


# Domestic Thermal Power and Gas Business: Progress of Replacement of Thermal Power Plants in Japan



18

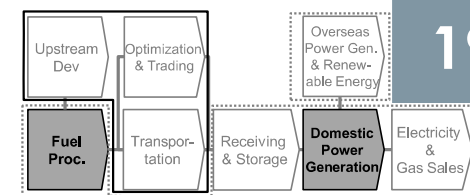
- Replaced with the latest high-efficiency thermal power generation facilities. Following Taketoyo and Anegasaki New Unit 1, Anegasaki New Unit 2 began commercial operation in April, Yokosuka Unit 1 in June, and Anegasaki New Unit 3 in August 2023.
- Construction and commissioning of Yokosuka Unit 2 and Goi Unit 1 to 3 are well underway.
- Unit 1 to 4 of Chita were abolished in FY2021. Unit 5 is planned to be abolished in FY2026 and is being considered for replacement (environmental impact assessment has been conducted).



\*As of September 30, 2023

| Development Point | Status of Development                                                      |
|-------------------|----------------------------------------------------------------------------|
| Yokosuka          | Full-scale construction started in August 2019. Construction progress: 99% |
| Goi               | Full-scale construction started in April 2021. Construction progress: 93%  |

# Domestic Thermal Power and Gas Business: Composition of Power Sources

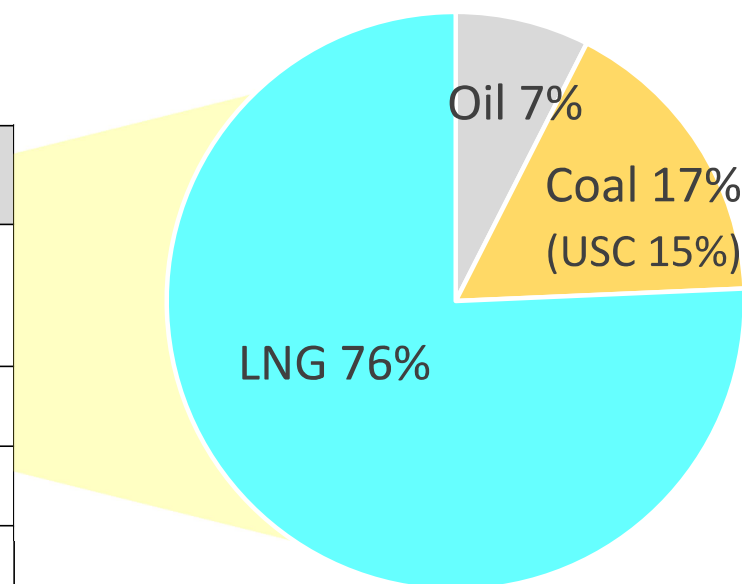


19

- 76% of our power source is LNG, which has low CO<sub>2</sub> emissions.
- In coal, ultra super critical power generation system (USC), which emits comparatively small amount of CO<sub>2</sub>, accounts for a large proportion. We will shut down all inefficient coal power plants by 2030\*<sup>1</sup>.

## Composition of Power Sources\*<sup>2</sup>

| Fuel              | Capacity<br>(Generator output) |
|-------------------|--------------------------------|
| Coal<br>(USC)     | 10.32 GW<br>(8.92 GW)          |
| LNG* <sup>3</sup> | 46.44 GW                       |
| Oil               | 4.60 GW                        |
| Total             | 61.36 GW                       |



\*1 Press release on October 13, 2020 “Towards Zero CO<sub>2</sub> Emissions in 2050”

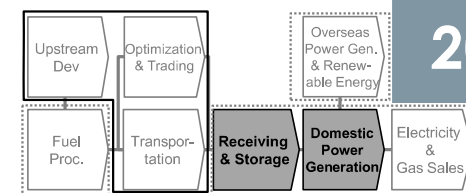
[https://www.jera.co.jp/english/information/20201013\\_539](https://www.jera.co.jp/english/information/20201013_539)

\*2 As of September 30, 2023. Includes capacity under construction.  
Excludes capacity of affiliates.

\*3 Includes LPG and City Gas.

# Domestic Thermal Power and Gas Business: Domestic Thermal Power Plants

20

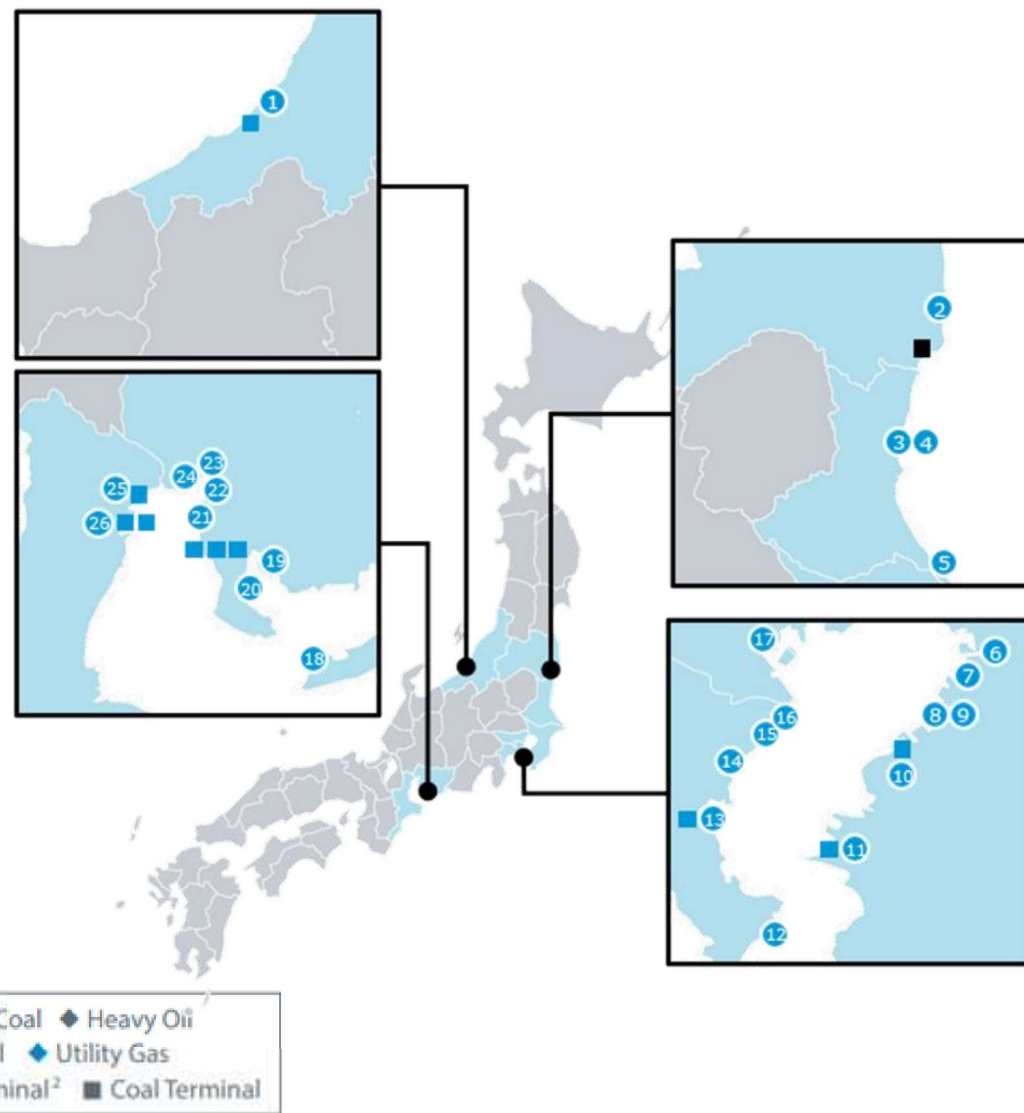


➤ We own nearly half of total thermal power generation capacity in Japan.

## List of Thermal Power Plants in Japan<sup>1</sup>

(Total output and fuel type listed for each thermal power plant)

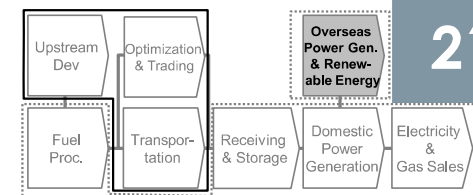
|                                                                                                             |          |     |                                |
|-------------------------------------------------------------------------------------------------------------|----------|-----|--------------------------------|
| ① Joetsu                                                                                                    | 2.38 GW  | ◆   | As of<br>September 30,<br>2023 |
| ② Hirono                                                                                                    | 4.40 GW  | ◆◆◆ |                                |
| ③ Hitachinaka                                                                                               | 2.00 GW  | ◆◆  |                                |
| ④ Hitachinaka Kyodo<br><HITACHINAKA GENERATION>                                                             | 0.65 GW  | ◆◆  |                                |
| ⑤ Kashima                                                                                                   | 1.26 GW  | ◆◆  |                                |
| ⑥ Chiba                                                                                                     | 4.38 GW  | ◆◆  |                                |
| ⑦ Goi <GOI UNITED GENERATION><br>*Scheduled to start operation in FY2024                                    | 2.34 GW  | ◆◆  |                                |
| ⑧ Anegasaki                                                                                                 | 1.20 GW  | ◆◆  |                                |
| ⑨ Anegasaki <JERA Power ANEGASAKI><br>*Started operation in August 2023                                     | 1.941 GW | ◆◆  |                                |
| ⑩ Sodegaura                                                                                                 | 3.60 GW  | ◆◆  |                                |
| ⑪ Futtsu                                                                                                    | 5.16 GW  | ◆◆  |                                |
| ⑫ Yokosuka <JERA Power YOKOSUKA><br>*Scheduled to start operation in phase of<br>0.65GW each from June 2023 | 1.30 GW  | ◆◆  |                                |
| ⑬ Minami-Yokohama                                                                                           | 1.15 GW  | ◆◆  |                                |
| ⑭ Yokohama                                                                                                  | 3.016 GW | ◆◆  |                                |
| ⑮ Higashi-Ohgishima                                                                                         | 2.00 GW  | ◆◆  |                                |
| ⑯ Kawasaki                                                                                                  | 3.42 GW  | ◆◆  |                                |
| ⑰ Shinagawa                                                                                                 | 1.14 GW  | ◆◆  |                                |
| ⑱ Atsumi                                                                                                    | 1.40 GW  | ◆◆◆ |                                |
| ⑲ Hekinan                                                                                                   | 4.10 GW  | ◆◆  |                                |
| ⑳ Taketoyo <JERA Power TAKETOYO><br>*Started operation in August 2022                                       | 1.07 GW  | ◆◆  |                                |
| ㉑ Chita                                                                                                     | 1.708 GW | ◆◆  |                                |
| ㉒ Chita Daini                                                                                               | 1.708 GW | ◆◆  |                                |
| ㉓ Shin-Nagoya                                                                                               | 3.058 GW | ◆◆  |                                |
| ㉔ Nishi-Nagoya                                                                                              | 2.376 GW | ◆◆  |                                |
| ㉕ Kawagoe                                                                                                   | 4.802 GW | ◆◆  |                                |
| ㉖ Yokkaichi                                                                                                 | 0.585 GW | ◆◆  |                                |



<sup>1</sup> Power plant's name <Operator's name>

<sup>2</sup> Includes jointly operated terminals in the Chita and Yokkaichi areas

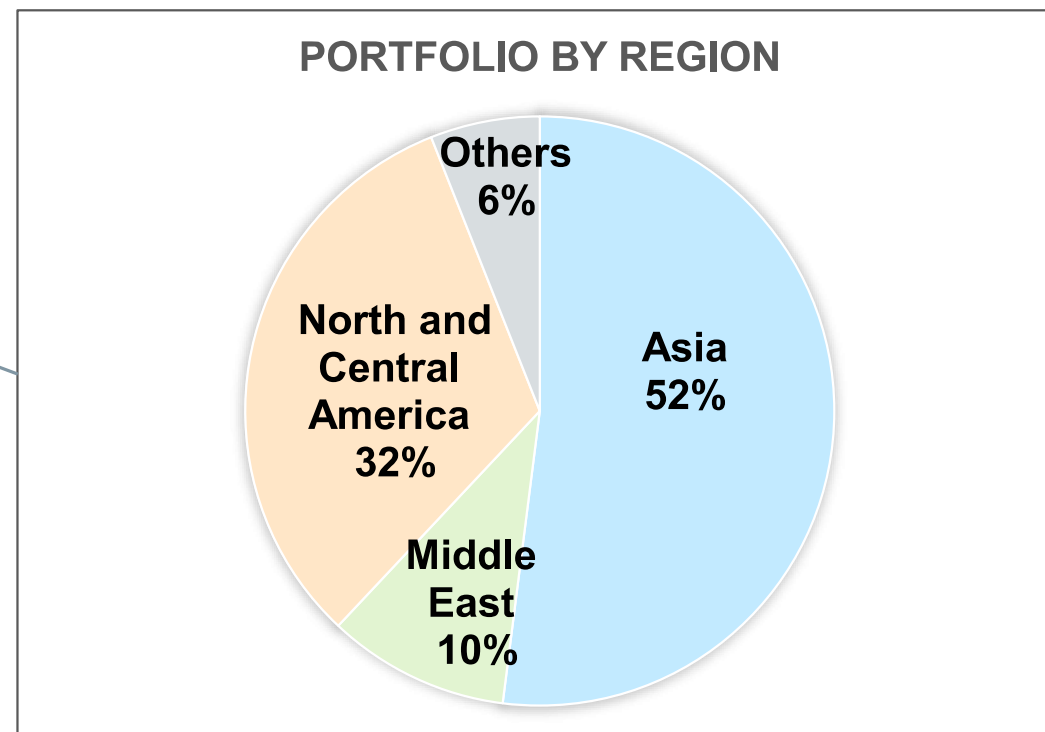
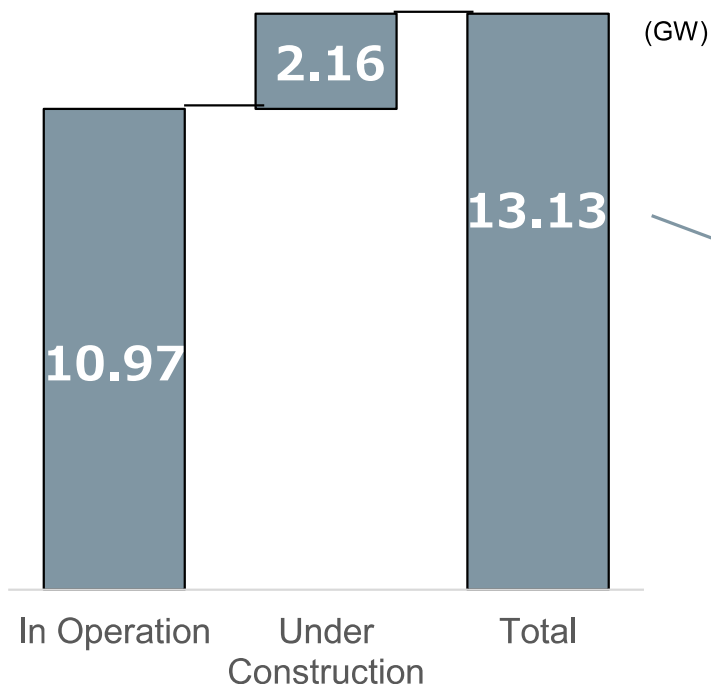
# Overseas Power Generation and Renewable Energy Business: Portfolio of Overseas Power Generation and Renewable Energy Business



21

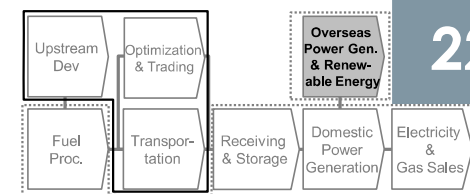
- JERA is expanding its businesses through the experience gained from projects around the world. Total capacity of power generation in overseas projects is 13.13 GW (including under construction).
- JERA aims to secure funds and expand earnings by replacing its portfolio through the sale and reinvestment of assets to achieve an optimal asset structure in line with changes in the business.
- In 2023, JERA transferred its shares in the Formosa 3 offshore wind project. In addition, JERA successfully completed the acquisition of Parkwind NV in Belgium.

## < Power Generation Capacity (As of September 2023) >



# Overseas Power Generation and Renewable Energy Business:

## List of Overseas Power Generation / Renewable Energy projects (1)



22

(As of September 30, 2023)

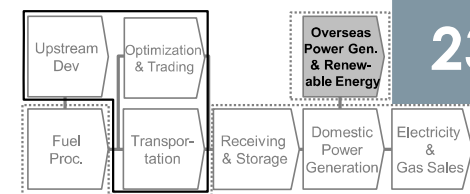
| Investment on Platform Companies* <small>*Companies participating in multiple power generation projects</small> |                                         |                  |           |                    |                              |
|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------|------------------|-----------|--------------------|------------------------------|
| Country                                                                                                         | Project Name                            | Investment ratio | Capacity  | Fuel type          | Notes                        |
| Philippines                                                                                                     | TeaM Energy IPP                         | 25.0%~50.0%      | 2,341 MW  | Coal               |                              |
|                                                                                                                 | Aboitiz Power Corporation               | 27%              | 4,829 MW  | Coal/Oil/Renewable | Including under construction |
| Thailand                                                                                                        | EGCO Corporation                        | 12.3%            | 6,317 MW  | Coal/Gas/Renewable | Including under construction |
| Vietnam                                                                                                         | Gia Lai Electricity Joint Stock Company | 35.1%            | 503 MW    | Solar/Wind/Hydro   | Including under construction |
| India                                                                                                           | ReNew Company                           | 7.3%             | 13,745 MW | Solar/Wind/Hydro   | Including under construction |
| Bangladesh                                                                                                      | Summit Power IPP                        | 22.0%            | 1,883 MW  | Gas                | Including under construction |
| Japan                                                                                                           | Green Power Investment                  | 17.85%           | 112 MW*   | Offshore Wind      | Under construction           |
| United Kingdom                                                                                                  | Zenobe Battery Storage                  | 9.9%             | 235 MW    | -                  | Including under construction |
| Belgium                                                                                                         | Parkwind                                | 100.0%           | 600 MW    | Offshore Wind      | Including under construction |

\*The capacity only includes the offshore wind projects that JERA has agreed with other shareholders to utilize its management assets

| Power Generation / Renewable Energy Projects(1/2) |                                              |             |          |               |                              |
|---------------------------------------------------|----------------------------------------------|-------------|----------|---------------|------------------------------|
| Japan                                             | Solar                                        | 100.0%      | 14.6 MW  | Solar         | Including under construction |
| Taiwan                                            | Chang Bin/Fong Der/Star Buck Gas Thermal IPP | 19.5%~22.7% | 3,060 MW | Gas           | Including under construction |
|                                                   | Formosa 1 Offshore Wind IPP                  | 32.5%       | 128 MW   | Offshore Wind |                              |
|                                                   | Formosa 2 Offshore Wind IPP                  | 49.0%       | 376 MW   | Offshore Wind |                              |
| Vietnam                                           | Phu My Gas Thermal IPP                       | 15.6%       | 715 MW   | Gas           |                              |
| Indonesia                                         | Cirebon2 Coal Thermal IPP                    | 10.0%       | 1,000 MW | Coal          |                              |

# Overseas Power Generation and Renewable Energy Business:

## List of Overseas Power Generation / Renewable Energy projects (2)



23

(As of September 30, 2023)

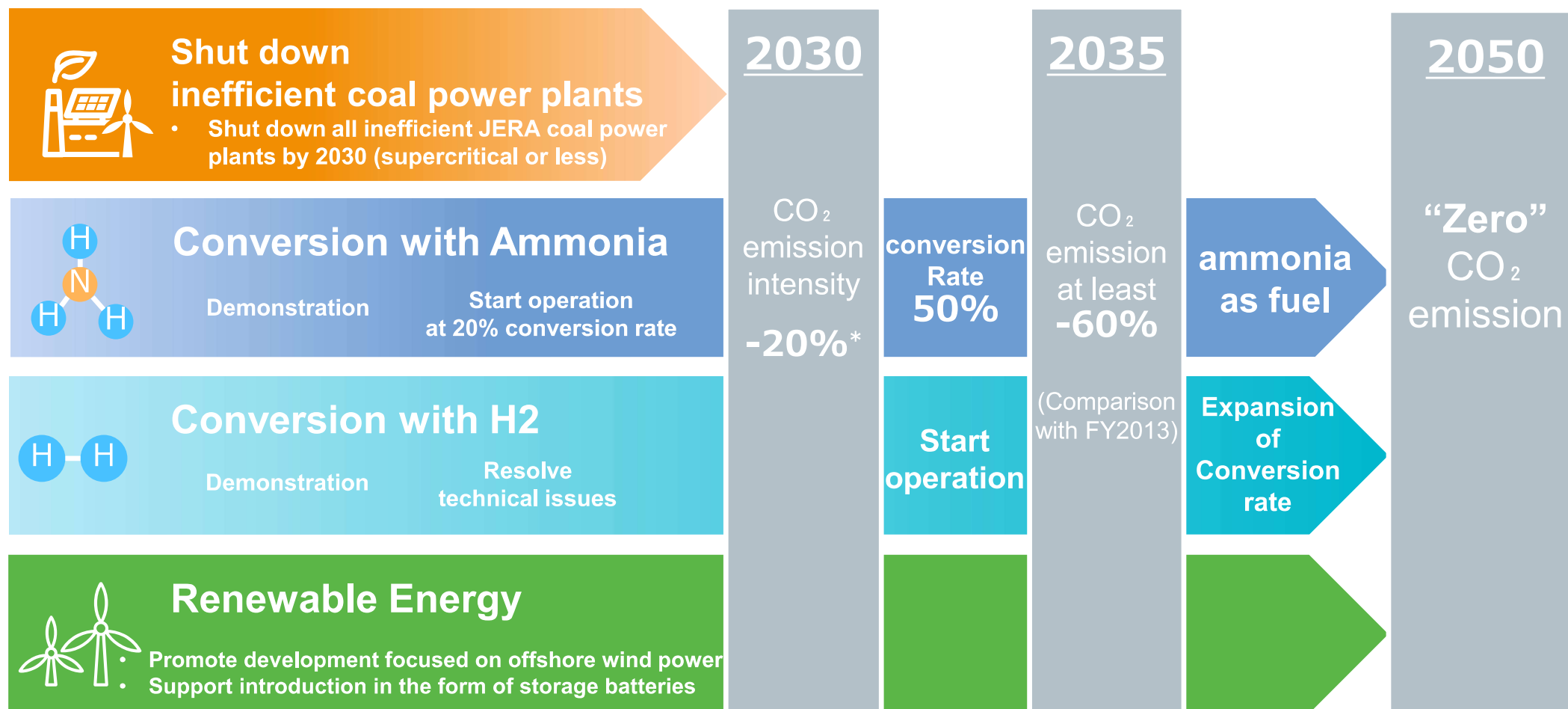
| Power Generation / Renewable Energy Projects(2/2) |                                  |                  |          |               |                    |
|---------------------------------------------------|----------------------------------|------------------|----------|---------------|--------------------|
| Country                                           | Project Name                     | Investment ratio | Capacity | Fuel type     | Notes              |
| Thailand                                          | Ratchaburi Gas Power Thermal IPP | 15.0%            | 1,400 MW | Gas           |                    |
|                                                   | Solar Power IPP                  | 49.0%            | 31 MW    | Solar         |                    |
|                                                   | Wind Power IPP                   | 5.0%             | 180 MW   | Onshore Wind  |                    |
| Bangladesh                                        | Meghnaghat Gas Thermal IPP       | 49.0%            | 718 MW   | Gas           | Under construction |
| UAE                                               | Umm Al Nar Gas Thermal IWPP      | 20.0%            | 1,550 MW | Gas           |                    |
| Qatar                                             | Ras Laffan B Gas Thermal IWPP    | 5.0%             | 1,025 MW | Gas           |                    |
|                                                   | Ras Laffan C Gas Thermal IWPP    | 5.0%             | 2,730 MW | Gas           |                    |
|                                                   | Mesaieed Gas Thermal IPP         | 10.0%            | 2,007 MW | Gas           |                    |
|                                                   | Umm Al Houl Gas Thermal IWPP     | 10.0%            | 2,520 MW | Gas           |                    |
| Oman                                              | Sur Gas Thermal IPP              | 19.5%            | 2,000 MW | Gas           |                    |
| Mexico                                            | Valladolid Gas Thermal IPP       | 50.0%            | 525 MW   | Gas           |                    |
| United States                                     | Tenaska Gas Thermal IPP          | 11.1%~17.5%      | 2,950 MW | Gas           |                    |
|                                                   | Carroll County Gas Thermal IPP   | 20.0%            | 702 MW   | Gas           |                    |
|                                                   | Cricket Valley Gas Thermal IPP   | 38.0%            | 1,100 MW | Gas           |                    |
|                                                   | Linden Gas Thermal IPP           | 50.0%            | 972 MW   | Gas           |                    |
|                                                   | Compass Gas Thermal IPP          | 50.0%            | 1,123 MW | Gas           |                    |
|                                                   | Brady Thermal IPP                | 100.0%           | 1,633 MW | Oil/Gas       |                    |
|                                                   | El Sauz Onshore Wind IPP         | 100.0%           | 302 MW   | Onshore Wind  | Under construction |
| United Kingdom                                    | Gunfleet Sands Offshore Wind IPP | 25.0%            | 173 MW   | Offshore Wind |                    |

**Reference:  
Progress of  
JERA Zero CO<sub>2</sub> Emissions 2050**

# JERA Zero CO<sub>2</sub> Emissions 2050: Roadmap for its Business in Japan

24

- JERA established “JERA Zero CO<sub>2</sub> Emissions 2050 Roadmap for its Business in Japan”, including four initiatives.

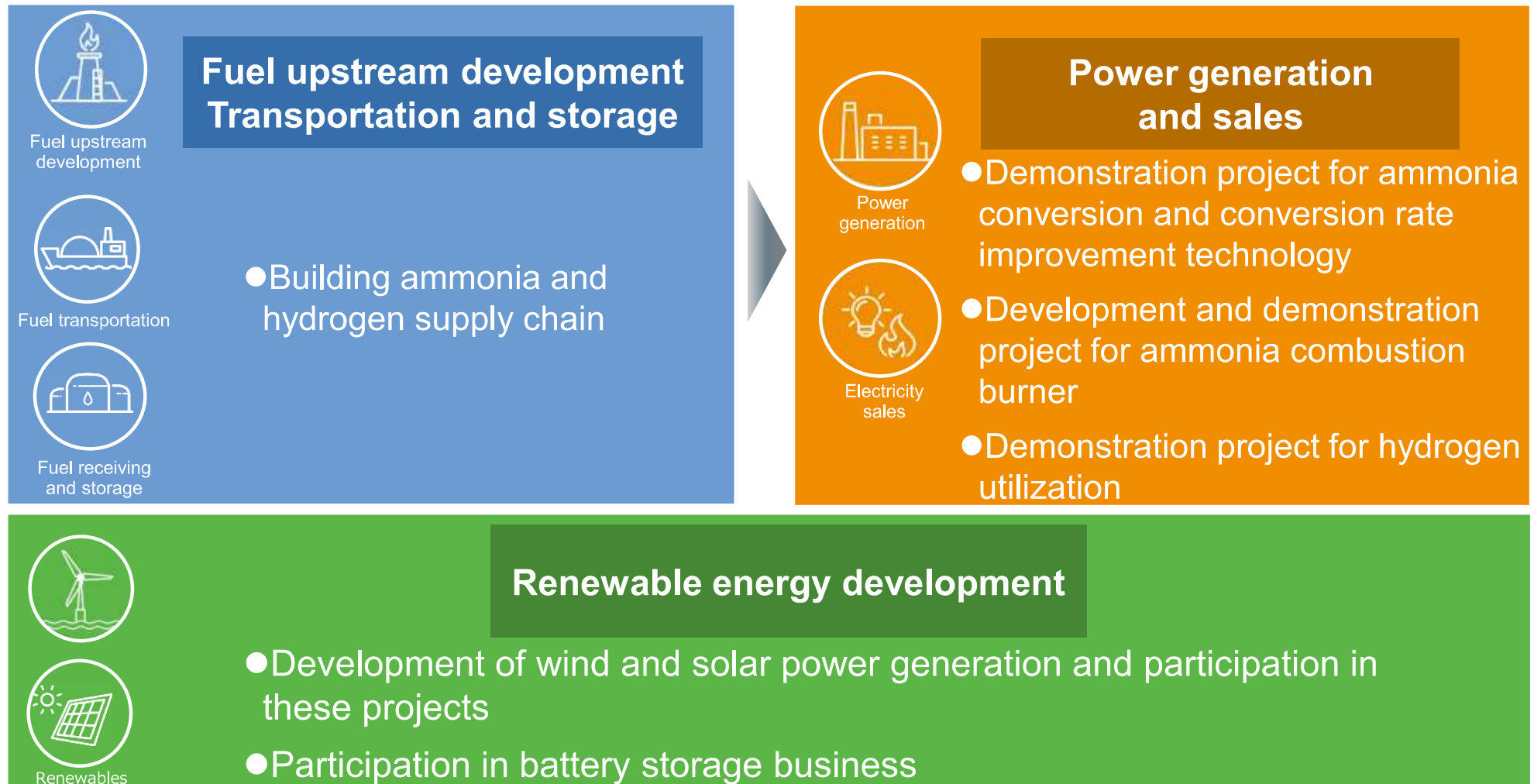


\*Reduce carbon emission intensity of thermal power plants by 20% based on the long-term energy supply-demand outlook for FY2030 as set by the government

## JERA Zero CO2 Emissions 2050:

# Efforts to Achieve Zero CO2 Emissions in JERA's Value Chain

- JERA is participating in business throughout the value chains, from fuel upstream development, transportation, and storage and to the power generation and electricity sales. We are working with many countries and companies around the world to achieve zero emissions at each stage.



# Efforts towards Zero CO2 Emissions (Ammonia and Hydrogen Supply Chain)

(Announced in the last one year)

| Field                            |        | Business Partners                                                                                                                                        | Contents                                                                                                                                           | Date               |
|----------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Upstream Development /Production |        | ADNOC (UAE)                                                                                                                                              | Consideration of cooperation in the fields of clean hydrogen and ammonia                                                                           | 2023/7             |
|                                  |        | PIF (Saudi Arabia)                                                                                                                                       | Consideration of opportunities for the development including green hydrogen production                                                             | 2023/7             |
|                                  |        | TAQA (UAE)                                                                                                                                               | Consideration of project development in the area of decarbonization, including green hydrogen and ammonia production                               | 2023/2             |
|                                  |        | CF Industries (United States)<br>Yara (Norway)                                                                                                           | Consideration of project development for blue ammonia production and sales & purchase of clean ammonia                                             | 2023/1             |
|                                  |        | Chevron (United States)                                                                                                                                  | Consideration of collaboration on multiple lower carbon opportunities in Asia Pacific region (Australia) and the United States                     | 2022/11            |
| Transportation                   |        | Nippon Yusen / Mitsui O.S.K. Lines                                                                                                                       | Consideration of transporting fuel ammonia for the Hekinan Thermal Power Plant                                                                     | 2022/11            |
| Power Supply / Utilization       | Japan  | Kyushu Electric Power                                                                                                                                    | signed a MOU concerning comprehensive discussions on collaboration aimed at achieving decarbonization and a stable supply of energy supply         | 2023/10            |
|                                  |        | Kyushu Electric Power<br>Chugoku Electric Power<br>Shikoku Electric Power<br>Tohoku Electric Power<br>Hokuriku Electric Power<br>Hokkaido Electric Power | Consideration of cooperation in the adoption of hydrogen and ammonia as fuel for power generation                                                  | 2022/11<br>~2023/6 |
|                                  |        | Mitsui                                                                                                                                                   | Signed an Ammonia Sales and Purchase Agreement for its use in the demonstration project at the Hekinan Thermal Power Station                       | 2023/6             |
|                                  | Europe | Uniper (Germany)                                                                                                                                         | Signed a Heads of Agreement for the sale of low carbon hydrogen/ammonia produced in the US                                                         | 2023/9             |
|                                  |        | EnBW / VNG (Germany)                                                                                                                                     | Consideration of the development of ammonia cracking technology for hydrogen production                                                            | 2023/6             |
|                                  | Asia   | EVN (Vietnam)                                                                                                                                            | Signed a MOU that commits the collaboration to establish a decarbonization roadmap for EVN                                                         | 2023/10            |
|                                  |        | PPT (Thailand)                                                                                                                                           | Consideration of collaboration on initiatives for expanding the supply chain and usage of hydrogen and ammonia towards decarbonization in Thailand | 2023/5             |
|                                  |        | Aboitiz Power (Philippines)                                                                                                                              | Consideration of cooperation in studies to decarbonize business and conversion using ammonia at a coal-fired power plant                           | 2023/2             |
|                                  |        | EGCO (Thailand)                                                                                                                                          | Consideration of cooperation in conversion using ammonia towards decarbonization                                                                   | 2023/1             |
|                                  |        | IHI Asia Pacific (Singapore)                                                                                                                             | Consideration of collaboration on the expansion of ammonia usage in Malaysia                                                                       | 2022/10            |
|                                  |        | Jurong port, MHI-AP (Singapore)                                                                                                                          | Consideration of establishing a 100% ammonia direct combustion power plant in Singapore                                                            | 2022/8             |
| R&D (NEDO's Project)             |        | NIPPON SHOKUBAI<br>Chiyoda Corporation                                                                                                                   | Development of large-scale ammonia cracking catalyst and technology                                                                                | 2023/6             |
|                                  |        | ENEOS                                                                                                                                                    | Construction of hydrogen quality standard system for industrial utilization                                                                        | 2023/6             |

# JERA Zero CO2 Emissions 2050: Efforts towards Zero CO2 Emission(Power Generation)

27

## Initiatives for Ammonia Conversion

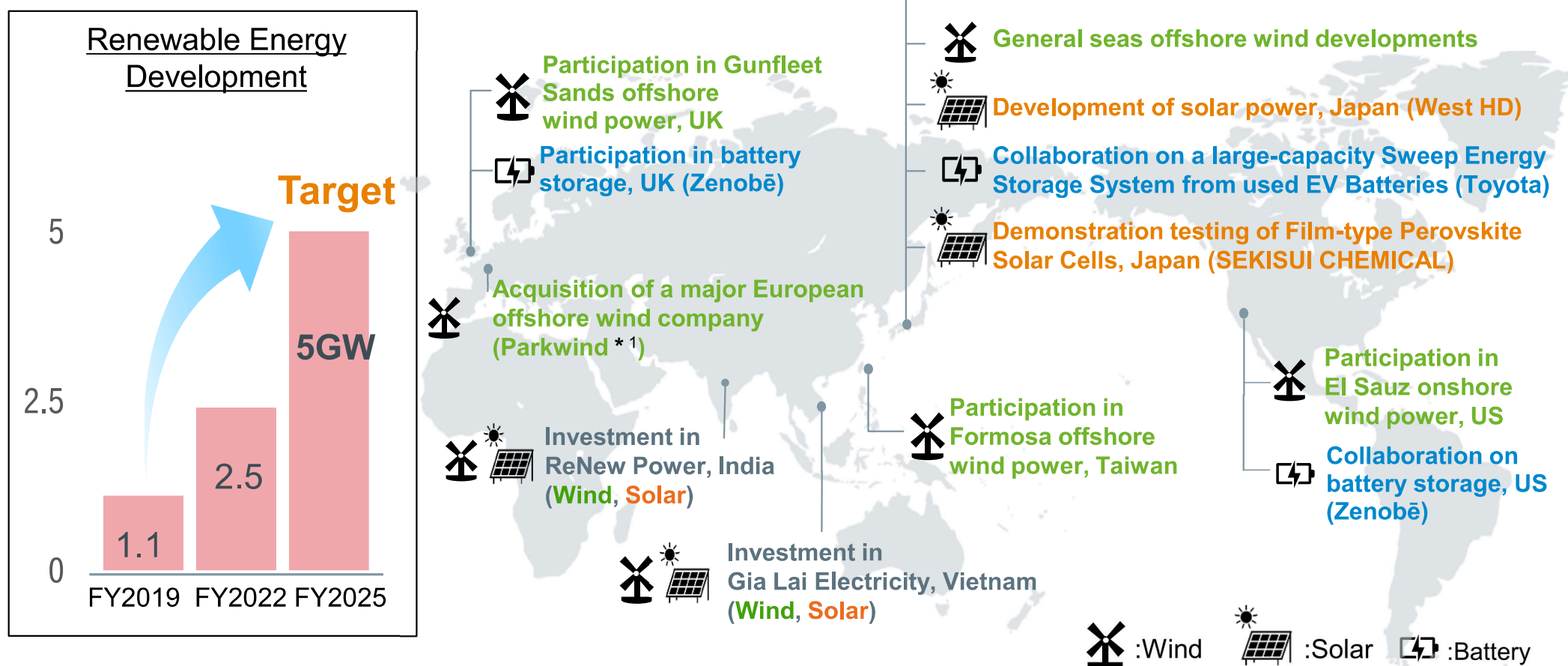
- The following projects have been adopted by NEDO and are currently being implemented.

| Project  | Development of technologies for carbon recycling and next-generation thermal power generation / Research, development and demonstration of ammonia conversion technologies for thermal power generation                                                                                                                                                                                                                                                                               | Green Innovation Fund Program / Establishment of Fuel Ammonia Supply Chains project / Demonstration project to develop technology to increase the ammonia conversion rate at coal-fired boilers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Overview | <ul style="list-style-type: none"> <li>At Hekinan Thermal Power Station Unit 4 (power output: 1 million kW), JERA will aim to achieve <b>20% ammonia conversion by FY2023</b>.</li> <li>In addition, small-scale tests using burners of different materials was conducted at Unit 5 of Hekinan Thermal Power Station (power output: 1 million kW).</li> </ul>  <p>Hekinan Thermal Power Station</p> | <ul style="list-style-type: none"> <li>Ammonia high conversion burners will be implemented in Hekinan Thermal Power Station Units 4 or 5, with the aim of <b>increasing the ammonia conversion rate to 50% or more</b>.</li> <li>JERA will plan to develop a burner capable of 50% or more ammonia conversion by FY2023, and to start 50% or more ammonia conversion in actual equipment by FY2028.</li> <li>JERA will plan to develop an ammonia-fired burner suitable for coal boilers and to demonstrate its operation with actual equipment.</li> <li>We have the plan to develop the burner that can exclusively burn ammonia by FY2024, and verify that two units of different boiler types can <b>convert to ammonia more than 50%</b> by FY2028.</li> </ul> |

## Initiatives for Hydrogen Conversion

- Received notice of acceptance of “Demonstration project related to hydrogen utilization at an LNG thermal power plant in Japan” under Green Innovation Fund program lead by NEDO, and conducted evaluation of operational and environmental characteristics for hydrogen utilization at existing LNG thermal power plants in Japan from FY2021 to FY2028.
- Completed modification of the gas turbine at Linden Gas Thermal Power Station Unit 6 in the United States to enable the use of hydrogen, making possible the conversion of natural gas with hydrogen-containing off-gas generated at the adjacent oil refinery.

- JERA has set a target of 5GW renewable energy development by FY2025, and is widely promoting wind power, solar power, battery storage, etc.



\*1 Parkwind's equity generation capacity in operation and under construction is 0.6GW, equity generation capacity under development is 4.5GW.

\*2 JERA's equity generation capacity is approximately 0.1GW.

## Renewable Energy Development Status

| JERA and Other Major Renewable Energy Operators in Asia                                        | Equity Generation Capacity |
|------------------------------------------------------------------------------------------------|----------------------------|
|  (Japan)      | 3.4 GW*                    |
|  (India)      | 8.0 GW                     |
|  (India)      | 7.7 GW                     |
|  (Korea)     | 5.6 GW                     |
|  (Malaysia) | 3.8 GW                     |
|  (India)    | 3.6 GW                     |

\* JERA's generation capacity is aggregated development basis including capacity of Parkwind and GPI. (as of September 2023)

Source: Compiled by JERA based on each company's website (as of May 2023)

## Future Initiatives

Consolidate renewable energy businesses under a specialized organization to create a global structure

