



エネルギーを新しい時代へ

FY2022 Third Quarter Consolidated Financial Results

(Note) The company's fiscal year (FY) is from April 1 to March 31 of the following year in this material.
"3Q" refers to the period from April 1 to December 31.

JERA Co., Inc.

January 30, 2023

Outline of Financial Results

Consolidated Statement of Income

(Unit: Billion Yen)

| | 2022/3Q(A) | 2021/3Q(B) | Change(A-B) | Rate of Change(%) |
|---|------------|------------|-------------|-------------------|
| Operating revenue (Net sales) | 6,078.9 | 2,853.7 | 3,225.1 | 113.0 |
| Operating income / loss | -45.9 | 79.3 | -125.3 | — |
| Ordinary income / loss | -97.2 | 55.7 | -152.9 | — |
| Quarterly net income / loss attributable to owners of parent | -100.2 | 18.4 | -118.7 | — |
| <Reference>Net income excluding time lag | 298.4 | 228.3 | 70.1 | 30.7 |

Consolidated Balance Sheet

(Unit: Billion Yen)

| | As of Dec 31, 2022(A) | As of Mar 31, 2022(B) | Change(A-B) | Rate of Change(%) |
|-----------------------|--------------------------|--------------------------|-------------|-------------------|
| Assets | 10,218.5 | 8,722.1 | 1,496.3 | 17.2 |
| Liabilities | 8,109.1 | 6,747.8 | 1,361.2 | 20.2 |
| Net assets | 2,109.4 | 1,974.3 | 135.0 | 6.8 |
| Interest-bearing debt | 3,722.4 | 2,646.5 | 1,075.8 | 40.7 |
| Net DER (%) | 1.63 | 1.18 | 0.45 | |

Key Points of Financial Results

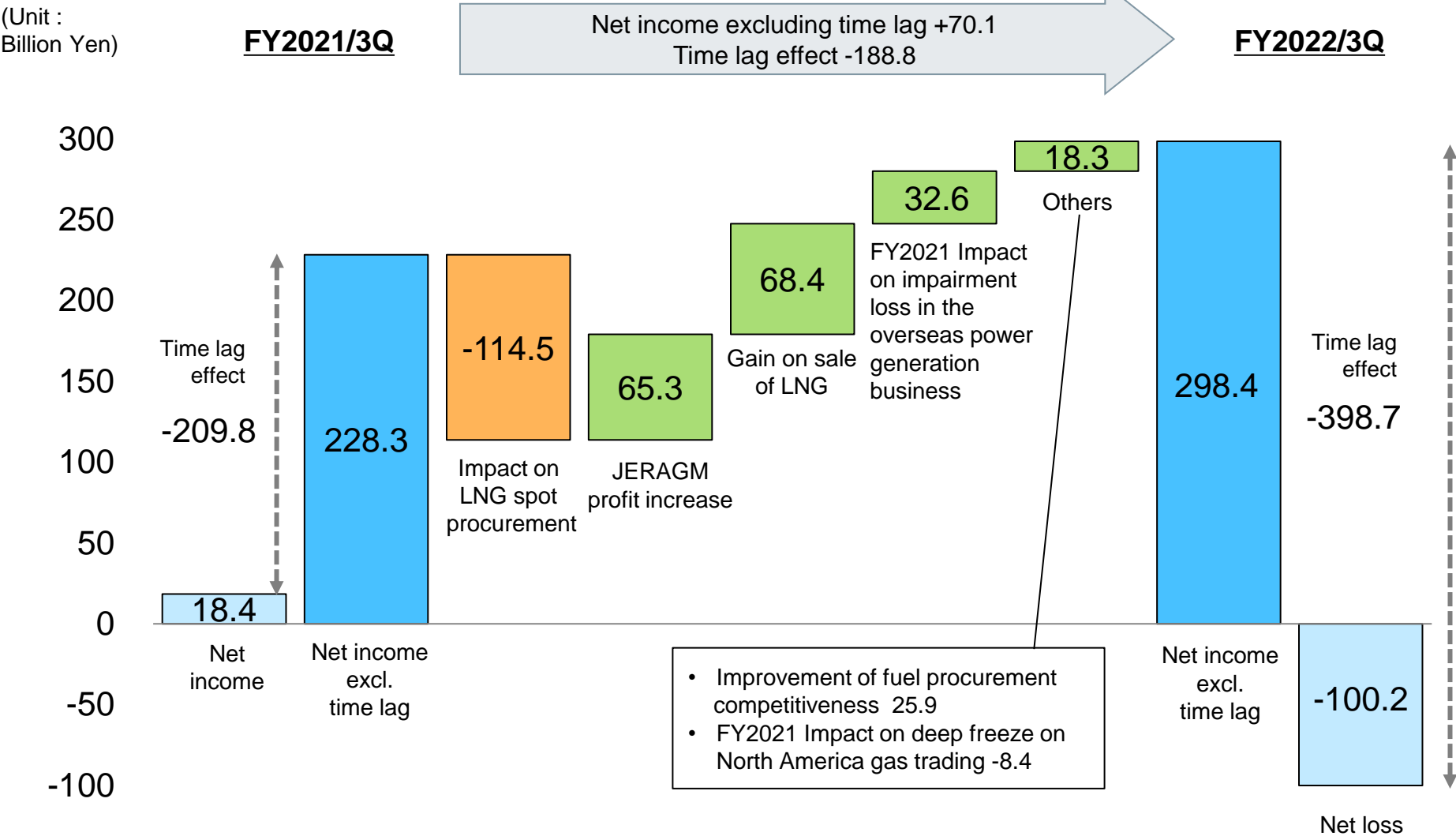
【Operating Revenue】

- Operating revenue **increased by 3,225.1 billion yen (up 113.0%) to 6,078.9 billion yen** mainly due to an increase in electrical energy sold and an increase in sales of JERA Global Markets Pte. Ltd. (JERAGM) .

【Net income】

- Net income / loss **decreased by 118.7 billion yen from the same period last year 18.4 billion yen and fell into net loss of 100.2 billion yen.**
 - The losses from time lag significantly increased.
(-188.8 billion yen [-209.8 billion yen to -398.7 billion yen])
 - Net income excluding time lag increased.
(+70.1 billion yen [228.3 billion yen to 298.4 billion yen])
- Net income excluding time lag increased mainly due to utilization of optimization function of JERAGM, etc., despite the impact of high LNG spot prices (-114.5 billion yen).

Change Factors of Consolidated Net Income / Loss



Note: Figures are after-tax amounts.

Consolidated Statement of Income

(Unit: Billion Yen)

| | 2022/3Q(A) | 2021/3Q(B) | Change(A-B) | Main Factors of Changes |
|--|------------|------------|-------------|--|
| Operating revenue (Net sales) | 6,078.9 | 2,853.7 | 3,225.1 | <ul style="list-style-type: none"> • Increase of electrical energy sold • Increase in sales of JERAGM |
| Operating expenses | 6,124.8 | 2,774.3 | 3,350.4 | <ul style="list-style-type: none"> • Increase of fuel costs • Increase in costs of JERAGM |
| Operating income / loss | -45.9 | 79.3 | -125.3 | |
| Non-operating income | 34.2 | 7.9 | 26.2 | |
| Non-operating expenses | 85.5 | 31.6 | 53.9 | <ul style="list-style-type: none"> • Exchange loss +53.3 • Increase of interest paid +15.3 |
| Ordinary income / loss | -97.2 | 55.7 | -152.9 | <ul style="list-style-type: none"> • Increase of time lag loss -262.3(-291.4 → -553.8) • Increase of income excluding time lag +109.3(347.1 → 456.5) |
| Extraordinary income | - | 23.5 | -23.5 | |
| Extraordinary loss | - | 22.8 | -22.8 | |
| Income taxes, etc. | -51.9 | -8.7 | -43.1 | |
| Quarterly net income attributable to non-controlling Interests | 54.9 | 46.7 | 8.2 | |
| Quarterly net income / loss attributable to owners of parent | -100.2 | 18.4 | -118.7 | |

Key Elements

| | 2022/3Q(A) | 2021/3Q(B) | Change(A-B) |
|--|------------|------------|-------------|
| Electrical Energy Sold(TWh) | 191.4 | 183.2 | 8.2 |
| Crude Oil Prices(JCC) (dollar/barrel) | 107.9 | 74.0 | 33.9 |
| Foreign Exchange Rate (yen/dollar) | 136.5 | 111.1 | 25.4 |

Note: Crude Oil Prices(JCC) for FY2022/3Q is tentative.

Consolidated Balance Sheet

(Unit: Billion Yen)

| | As of Dec 31,2022(A) | As of Mar 31,2022(B) | Change(A-B) | Main Factors of Changes |
|--------------------------------------|-------------------------|-------------------------|-------------|--|
| Cash and deposits | 602.8 | 514.3 | 88.5 | |
| Property, plant and equipment | 2,402.2 | 2,173.8 | 228.3 | • Progress in replacing domestic thermal power plants, etc. |
| Investment securities | 1,273.3 | 1,026.5 | 246.8 | |
| Others | 5,940.0 | 5,007.4 | 932.5 | • Increase of accounts receivable-trade, etc. |
| Assets | 10,218.5 | 8,722.1 | 1,496.3 | |
| Interest-bearing debt | 3,722.4 | 2,646.5 | 1,075.8 | • Borrowings +912.5 (Subsidiaries +322.0) • Commercial Paper -126.0 • Corporate Bonds +289.4 |
| Others | 4,386.6 | 4,101.2 | 285.4 | • Increase of accounts payable-trade, etc. |
| Liabilities | 8,109.1 | 6,747.8 | 1,361.2 | |
| Shareholders' equity | 1,504.7 | 1,688.1 | -183.3 | • Dividends paid -83.1 • Quarterly net income / loss -100.2 |
| Others | 604.6 | 286.2 | 318.4 | • Foreign currency translation adjustments +234.1 |
| Net Assets | 2,109.4 | 1,974.3 | 135.0 | |

Status of Management Targets (Financial Soundness)

- Net DER had continued to deteriorate due to rising interest-bearing debt, but has recently improved slightly
- Continue to adhere to financial discipline in order to achieve the management target of 1.0x Net DER or less in FY2025

| | 2021/4Q | 2022/2Q | 2022/3Q |
|---------------------|--|--|---|
| Net DER | 1.18 Increase in debt mainly due to the expansion of time lag losses | 1.66 Decrease in net debt due to the increase of cash | 1.63 1.34 Excluding temporary factor (increase in debt from time lag losses this FY) |
| Equity Ratio | 20.7% Increase of JERAGM derivative assets due to the rising resource price | 15.0% Decrease of JERAGM derivative assets | 18.7% 25% Assume JERAGM derivative assets at the level before the hike of resource price (March 2021) |

Segment Information

(Unit: Billion Yen)

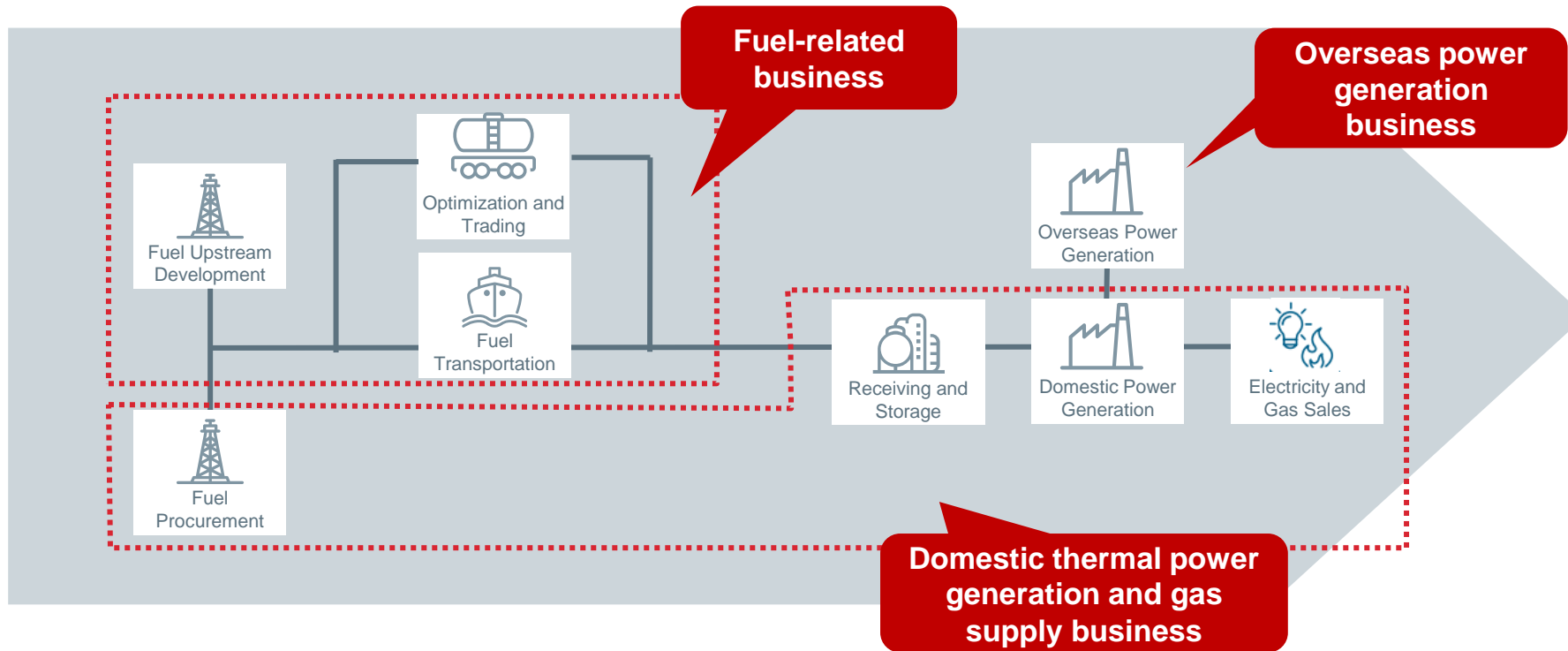
| | 2022/3Q (A) | | 2021/3Q (B) | | Change (A-B) | | Main Factors of Changes in Net Income |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|---|
| | Operating Revenue | Net Income / Loss | Operating Revenue | Net Income / Loss | Operating Revenue | Net Income / Loss | |
| Fuel Related *1 | 4,461.4 | 161.7 | 1,980.2 | 117.6 | 2,481.1 | 44.0 | <ul style="list-style-type: none"> •JERAGM profit increase +65.3 •(2021) Deep freeze on North America gas trading -8.4 |
| Overseas Power Generation | 3.3 | -5.6 | 2.4 | -10.9 | 0.9 | 5.3 | <ul style="list-style-type: none"> •(2021) Impairment loss in Formosa 2 +32.6 •Loss of gain on divestiture of the overseas projects -14.0 •Overseas IPP projects profit decrease -6.8 |
| Domestic Thermal Power Generation and Gas Supply | 4,419.3 | -161.1 237.5*2 | 2,031.8 | -59.9 149.9*2 | 2,387.5 | -101.2 87.6*2 | <ul style="list-style-type: none"> •Impact on LNG spot procurement -114.5 •Gain on sales of LNG +68.4 •Improvement of fuel procurement competitiveness +25.9 •Impact of fuel inventory unit prices +14.4 •(2021) Impairment loss +16.4 |
| Adjustments | -2,805.1 | -95.1 | -1,160.7 | -28.2 | -1,644.4 | -66.8 | |
| Consolidated | 6,078.9 | -100.2 298.4*2 | 2,853.7 | 18.4 228.3*2 | 3,225.1 | -118.7 70.1*2 | |

*1 Fuel upstream, transportation and trading

*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-related business" for investment in fuel upstream, transportation and trading business, "Overseas power generation business" for investment in overseas power generation business, and "Domestic thermal power generation and gas supply business" for sales of electricity and gas in Japan.



Forecast for FY2022

- Net Income / loss is expected to be 100 billion yen, +300 billion yen and income excluding time lag to be 300 billion yen, +200 billion yen from previous announcement due to the improvement of the LNG procurement environment in terms of price and other factors compared to the previous announcement in Q2 2022, although resource prices stay at higher level than usual.

(Unit: Billion Yen)

| | Current Forecast(A) | Previous Forecast(B) | Change(A-B) | Rate of Change(%) |
|--|---------------------|----------------------|---------------|-------------------|
| Net Income / loss attributable to owners of parent | 100.0 | -200.0 | Approx. 300.0 | - |
| Time lag effect | -200.0 | -300.0 | Approx. 100.0 | - |
| Income excluding time lag | 300.0 | 100.0 | Approx. 200.0 | 200.0 |

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

(Unit: Billion Yen)

| | Current Forecast(A) | FY2021 Result(B) | Change(A-B) | Rate of Change(%) |
|--|---------------------|------------------|--------------|-------------------|
| Net Income / loss attributable to owners of parent | 100.0 | 24.6 | Approx. 75.4 | 306.5 |
| Time lag effect | -200.0 | -252.4 | Approx. 52.4 | - |
| Income excluding time lag | 300.0 | 277.0 | Approx. 23.0 | 8.3 |

*The forecast for FY2022 reflects the adoption of International Financial Reporting Standards (IFRS).

【Key data】

| | Current Forecast | 4th Quarter of FY2022 | Previous Forecast | 【Reference】 FY2021 Result |
|---------------------------------------|------------------|-----------------------|-------------------|------------------------------|
| Crude Oil Prices(JCC) (dollar/barrel) | Approx. 102 | Approx. 82 | Approx. 101 | 77.1 |
| Foreign Exchange Rate (yen/dollar) | Approx. 136 | Approx. 135 | Approx. 139 | 112.4 |

Voluntary Adoption of International Financial Reporting Standards (IFRS)

- JERA plans to voluntarily adopt International Financial Reporting Standards ("IFRS") in place of the existing Japan GAAP from the consolidated financial statements for the annual reporting of FY2022, for the purpose of improving the international comparability of financial information in the capital markets and enhancing communication with investors and other stakeholders.
- Disclosure under IFRS is scheduled to start from FY2022 (fiscal year ending March 31, 2023) annual closing, and the disclosure schedule for the adoption of IFRS is as follows.

Disclosure schedule for IFRS adoption (planned)

| Accounting Period | | Disclosed Materials | Accounting Standard |
|-------------------|-----------------|---|---------------------|
| FY2022 | 3rd Quarter | Quarterly report, Presentation for financial results | Japan GAAP |
| | Annual | Annual Securities Report, Consolidated financial statements, Presentation for financial results | IFRS |
| FY2023 | 1st-3rd Quarter | Quarterly report, Presentation for financial results | IFRS |
| | Annual | Annual Securities Report, Consolidated financial statements, Presentation for financial results | |

Appendix

Trends in crude oil price and exchange rates

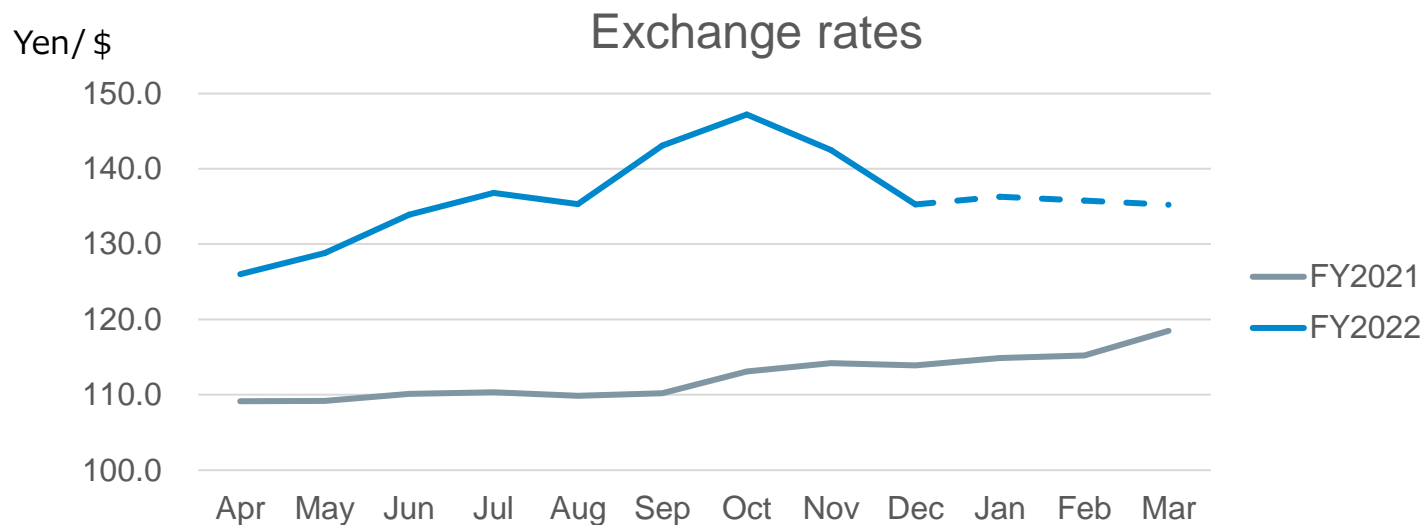
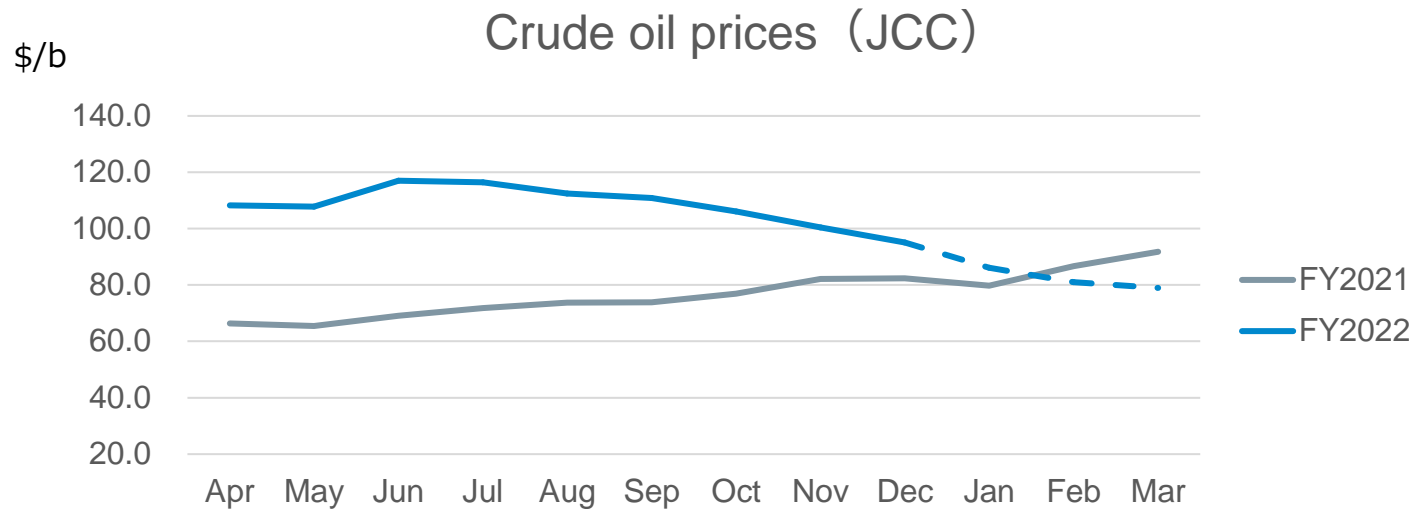
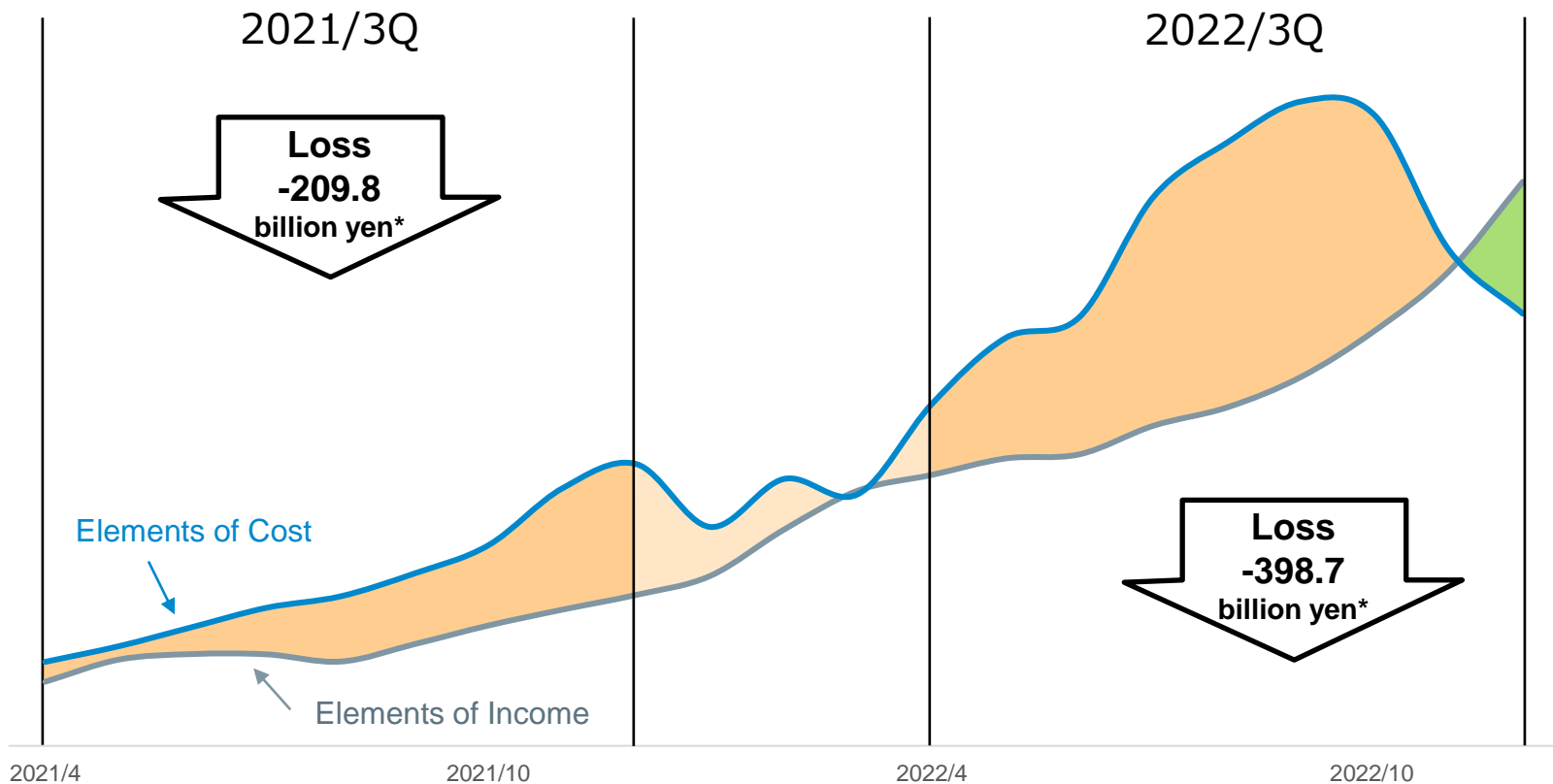


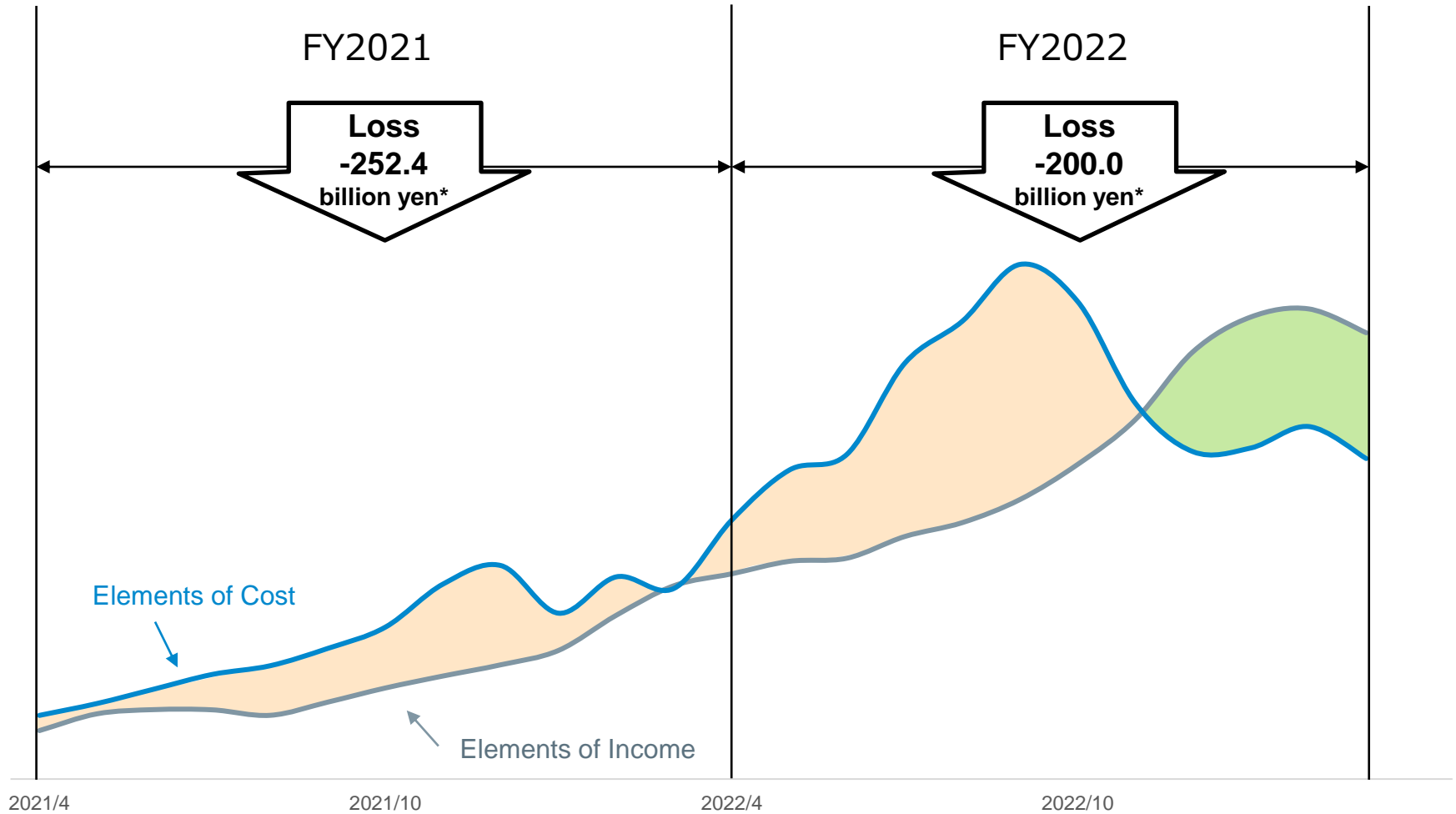
Image of Time Lag (2021/3Q – 2022/3Q)

- 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 (FY2021 – FY2022)



* 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 |
|---------------|------------|------------|------------|------------|-------|
| FY2022 | 57.9 | 69.9 | 63.6 | | 191.4 |
| FY2021 | 53.7 | 64.6 | 64.9 | 72.3 | 255.5 |

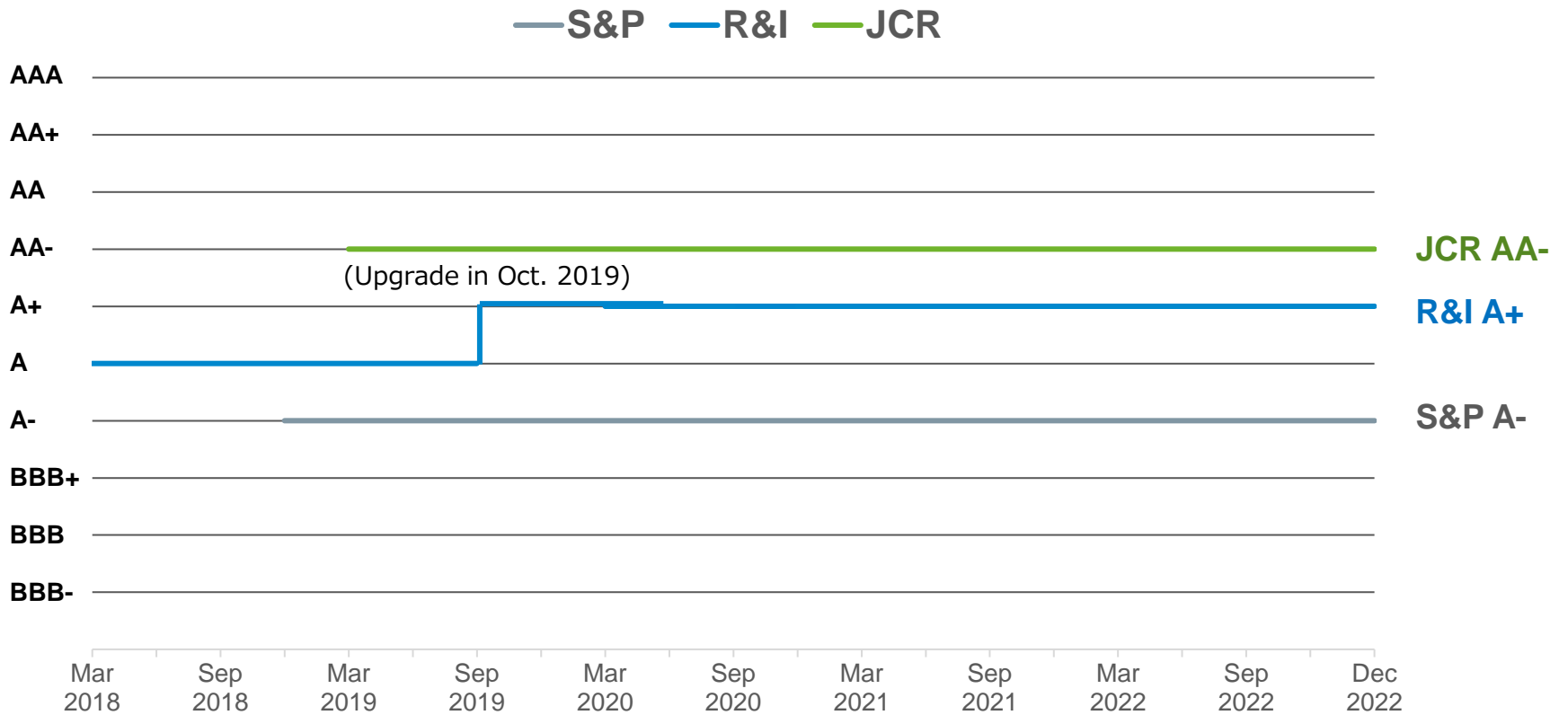
【Electrical Power Generated(TWh)】

| | Apr to Jun | Jul to Sep | Oct to Dec | Jan to Mar | Total |
|---------------|------------|------------|------------|------------|-------------|
| FY2022 | 52.8 | 63.5 | 58.0 | | 174.3 |
| LNG | 41.7 (79%) | 47.0 (74%) | 43.9 (76%) | | 132.6 (76%) |
| Coal | 11.2 (21%) | 16.5 (26%) | 14.0 (24%) | | 41.7 (24%) |
| Others | 0 (0%) | 0 (0%) | 0 (0%) | | 0 (0%) |
| FY2021 | 53.4 | 61.7 | 62.3 | 69.9 | 247.3 |
| LNG | 41.2 (77%) | 46.8 (76%) | 48.4 (78%) | 55.8 (80%) | 192.3 (78%) |
| Coal | 12.2 (23%) | 14.9 (24%) | 13.8 (22%) | 14.1 (20%) | 55.0 (22%) |
| Others | 0 (0%) | 0 (0%) | 0 (0%) | 0% (0%) | 0 (0%) |

*The total may not match due to rounding.

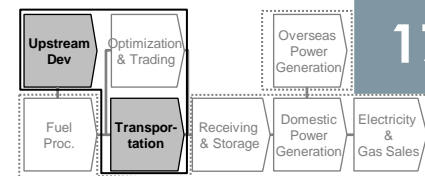
Credit Ratings

【 Issuer Credit ratings history 】



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

Fuel-related Business: Overview of Fuel-related Business



[Fuel Upstream / Fuel Transportation Business]

- By leveraging the world’s largest LNG transaction volume (FY2021: Approximately 37 million tons*) and participating in LNG upstream projects, we acquire Equity LNG and information that contributes to procurement and trading. Additionally, our ownership of upstream interests and fuel carriers contributes to our highly consistent, flexible, and competitive fuel supply.

*JERA Group as a whole

Upstream Project

| Project Name | Address | LNG production / liquefaction capability | JERA’s stake *1 |
|----------------------------------|---------------|---|-------------------------------|
| Darwin LNG Project | Australia | Approx. 3.7 million tons/year | 6.132% |
| Gorgon LNG Project | Australia | Approx. 15.6 million tons/year | 0.417% |
| Ichthys LNG Project | Australia | Approx. 8.9 million tons/year | 0.735% |
| Wheatstone LNG Project | Australia | Approx. 8.9 million tons/year | Gas field: 10%, LNG plant: 8% |
| Freeport LNG Project(Train1) | United States | Approx. 5.15 million tons/year | 25% |
| Freeport LNG Development, L.P.*2 | United States | 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 which JERA invests in

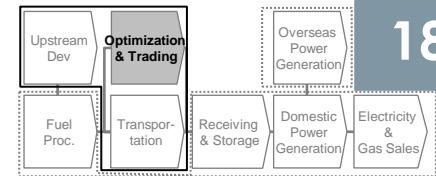
*2 Freeport LNG Project Management Company

*3 Including 5.15 million tons/year from Train 1

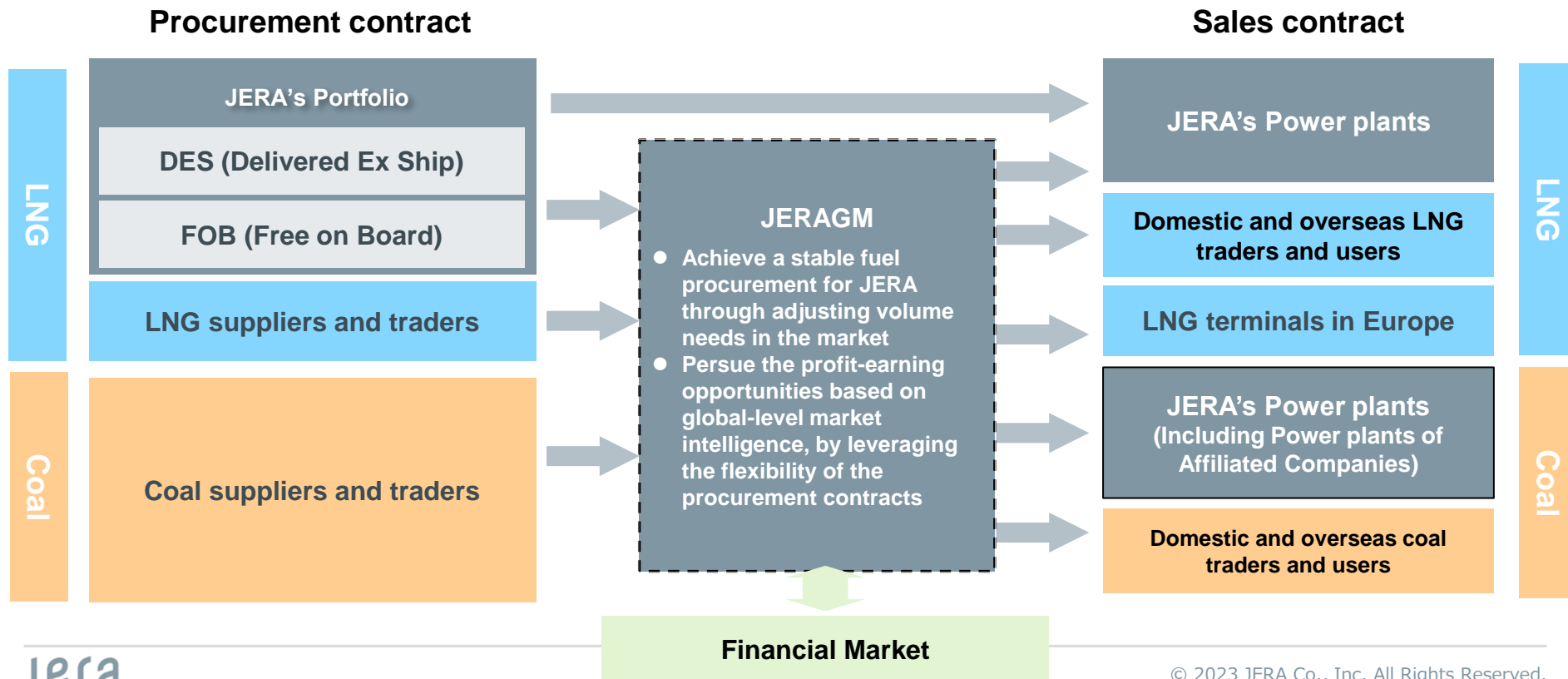
- Additionally, we invested in the following project.
- The project is brownfield projects and development risks are limited. We will strive to secure and stably supply competitive LNG by fully leveraging the knowledge and expertise we have accumulated through our LNG value chain business.

| Project Name | Address | LNG production / liquefaction capability | JERA’s stake |
|---------------------------|-----------|---|--------------|
| Barossa gas field Project | Australia | LNG production and liquefaction capacity is the same scale as Darwin LNG Project. | 12.5% |

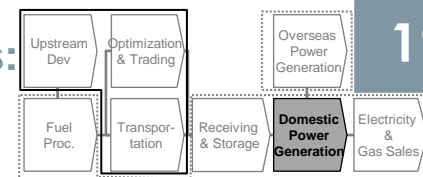
Fuel-related Business: Trading Business



- In addition to the Singapore headquarters, JERAGM has offices in the United Kingdom, the Netherlands, the United States, and Japan, and approximately 300 employees engage in asset-backed trading.
- Utilizing a global trading network, JERAGM meets the world's largest demand for LNG and coal in 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 and by expanding transaction volume.
(FY2022 3Q : Net income 153.1 billion yen)
- JERAGM trades within the limited volume under the governance of the Board of Directors elected by shareholders.

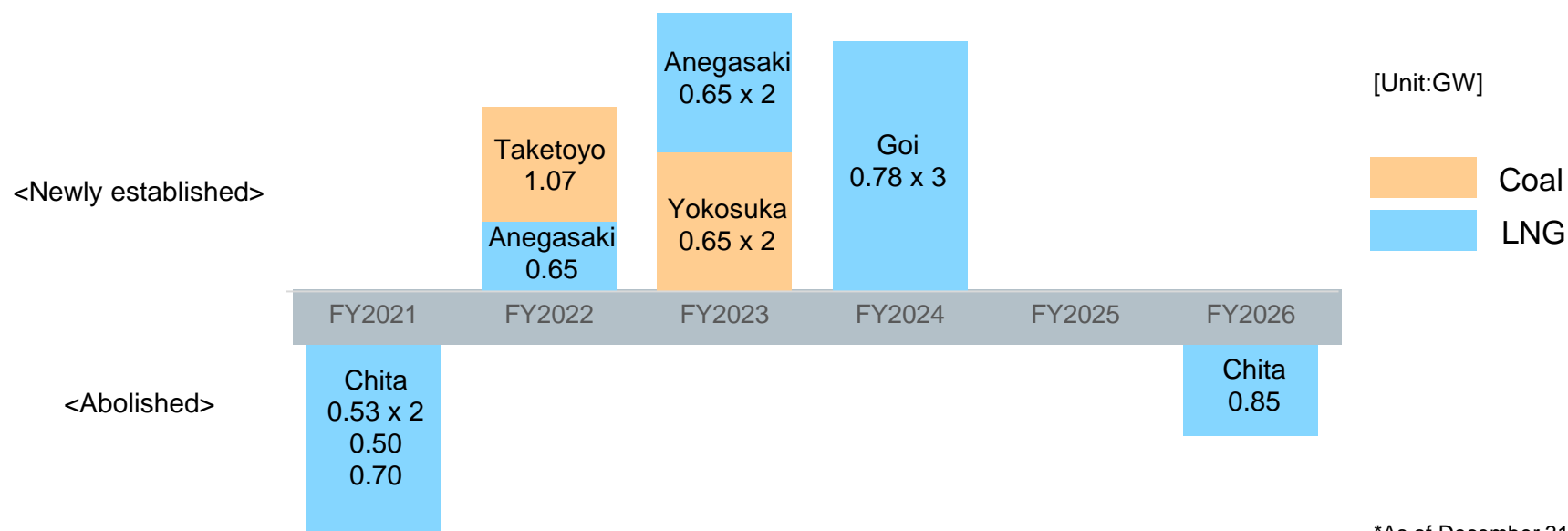


Domestic Thermal Power Generation and Gas Supply Business: Progress of Replacement of Thermal Power Plants in Japan



Replacement Plan

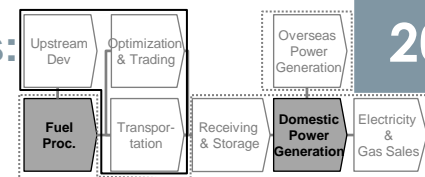
- Shifting to the latest high-efficiency thermal power generation facilities at three locations: Anegasaki, Yokosuka and Goi. Taketoyo Thermal Power Station Unit 5 has already started commercial operation on August 5, 2022.
- Unit 1 to 4 of Chita Thermal Power Station were abolished in FY2021, and Unit 5 is planned to be abolished in FY2026. Construction of Unit 7 and 8 is under consideration (environmental impact assessment has been done).



*As of December 31, 2022

| Development point | Status of development |
|-------------------|--|
| Anegasaki | Full-scale construction started in February 2020. Construction progress: 97% |
| Yokosuka | Full-scale construction started in August 2019. Construction progress: 92% |
| Goi | Full-scale construction started in April 2021. Construction progress: 68% |

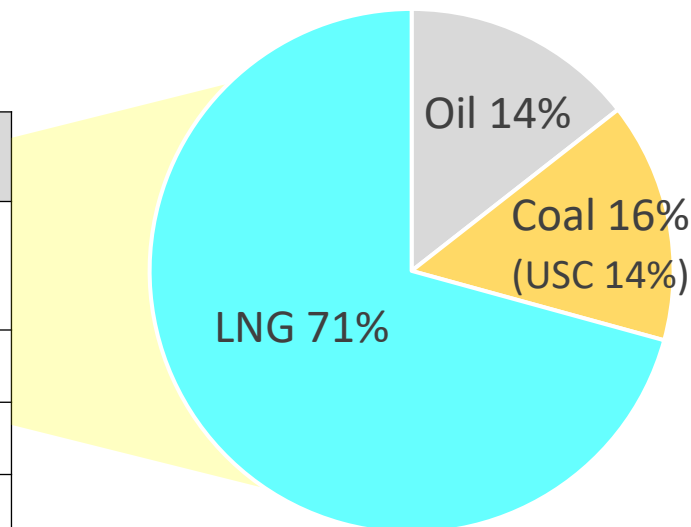
Domestic Thermal Power Generation and Gas Supply Business: Composition of Power Sources



- Our power generation composition is characterized by a large share of LNG, which has low CO₂ emissions.
- In coal, ultra super critical power generation system (USC), which emits comparatively small amount of CO₂, accounts for a large proportion. We will shut down all inefficient coal power plants by 2030*¹.

Composition of Power sources*²

| Fuel | Capacity (Generator output) |
|-------------------|--------------------------------|
| Coal (USC) | 10.32 GW (8.92 GW) |
| LNG* ³ | 46.44 GW |
| Oil | 9.00 GW |
| Total | 65.76 GW |



*1 Press release on October 13, 2020 “Towards Zero CO₂ Emissions in 2050”

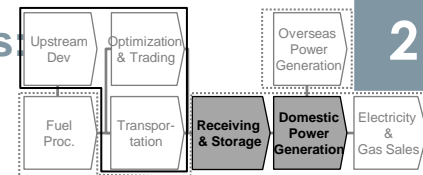
https://www.jera.co.jp/english/information/20201013_539

*2 As of December 31, 2022. Includes capacity under construction.
Excludes capacity of affiliates.

*3 Includes LPG and City Gas.

Domestic Thermal Power Generation and Gas Supply Business

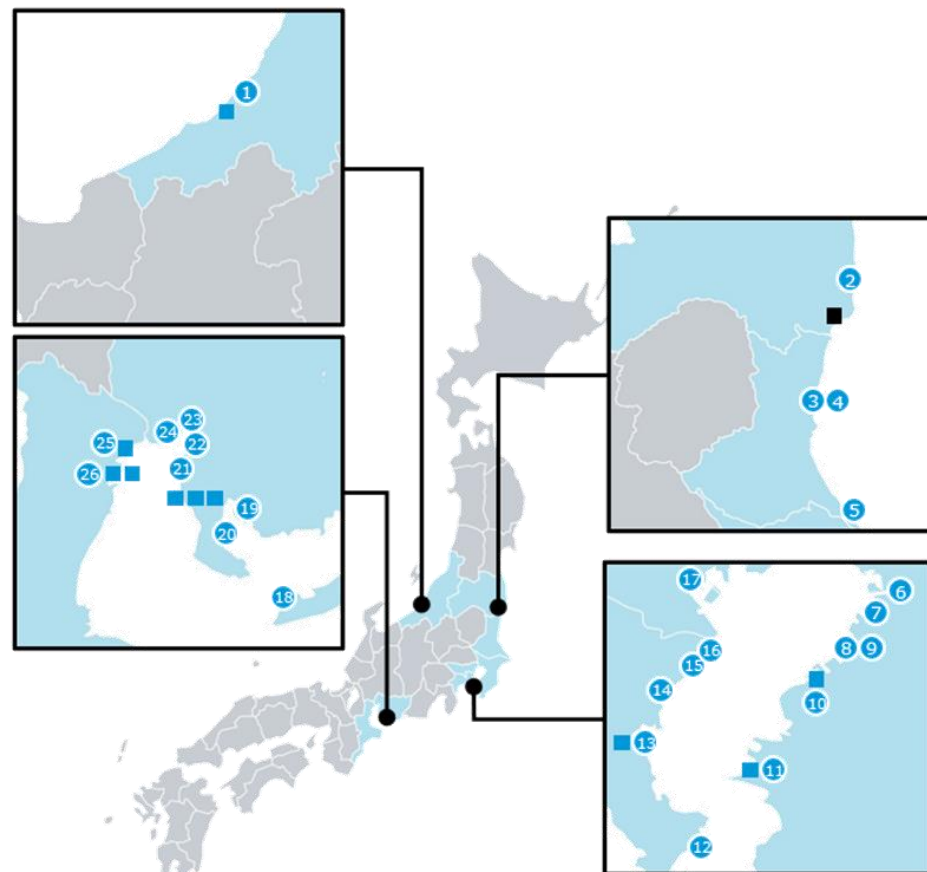
Domestic Thermal Power Plants



List of Thermal Power Plants in Japan¹ (Total output and fuel type listed for each thermal power plant)

As of December 31, 2022

| | | | |
|---|---|----------|-----|
| ① | Joetsu | 2.38 GW | ◆ |
| ② | Hirono | 4.40 GW | ◆◆◆ |
| ③ | Hitachinaka | 2.00 GW | ◆ |
| ④ | Hitachinaka Kyodo <HITACHINAKA GENERATION> | 0.65 GW | ◆ |
| ⑤ | Kashima | 5.66 GW | ◆◆◆ |
| ⑥ | Chiba | 4.38 GW | ◆ |
| ⑦ | Goi <GOI UNITED GENERATION> *Scheduled to start operation in FY2024 | 2.34 GW | ◆ |
| ⑧ | Anegasaki | 1.20 GW | ◆ |
| ⑨ | Anegasaki <JERA Power ANEGASAKI> *Scheduled to start operation in FY2023 | 1.941 GW | ◆ |
| ⑩ | Sodegaura | 3.60 GW | ◆ |
| ⑪ | Futtsu | 5.16 GW | ◆ |
| ⑫ | Yokosuka <JERA Power YOKOSUKA> *Scheduled to start operation in FY2023 | 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> *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 | ◆ |

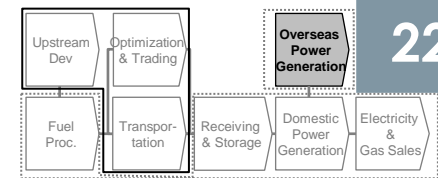


◆ LNG ◆ Coal ◆ Heavy Oil
 ◆ Crude Oil ◆ Utility Gas
 ■ LNG Terminal² ■ Coal Terminal

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

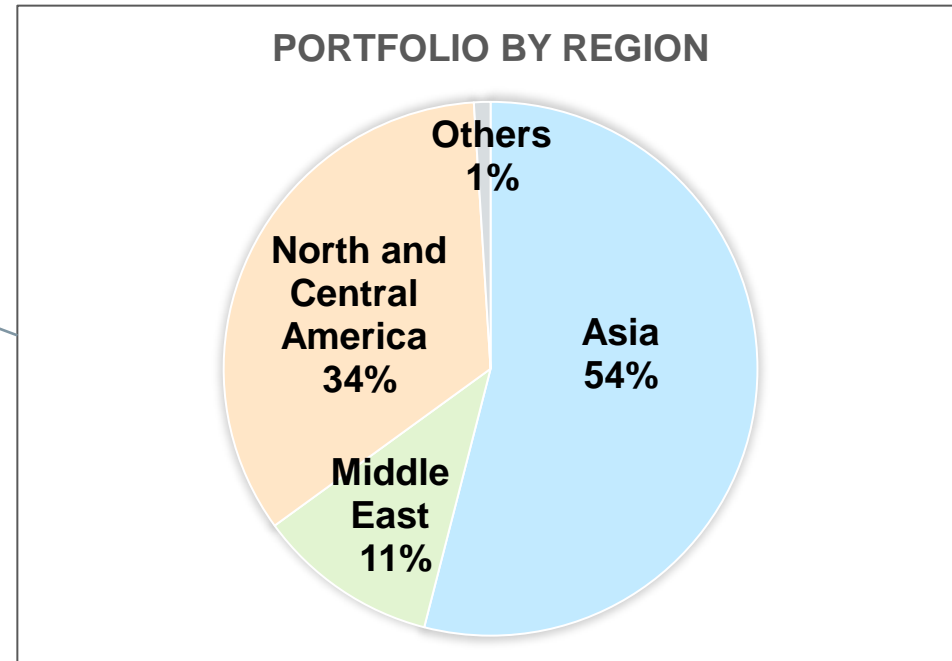
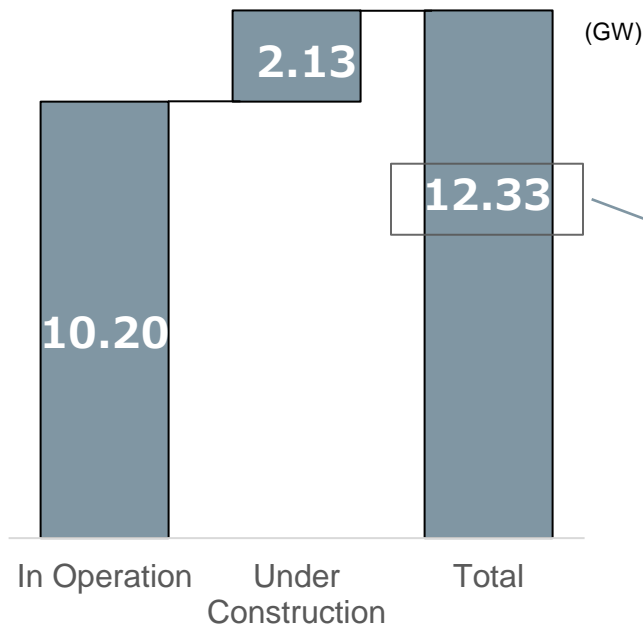
2 Includes jointly operated terminals in the Chita and Yokkaichi areas

Overseas Power Generation Business: Portfolio of Overseas Power Generation Business

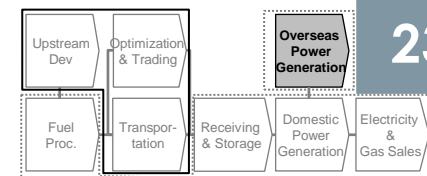


- JERA is expanding its businesses through the experience gained from existing projects around the world. Total capacity of power generation in overseas projects is 12.33 GW (including under construction).
- JERA sold shares in Falcon Gas Thermal Power Co. in Mexico in November 2022, and acquired shares in Brady thermal IPP project in the United States and Gia Lai Electricity Joint Stock Company in Vietnam in December 2022. 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.

< Power generation capacity (As of December 31, 2022) >



Overseas Power Generation Business: List of overseas power generation projects (1)



(As of December 31, 2022)

Investment on Platform Companies* *Companies participating in multiple power generation projects

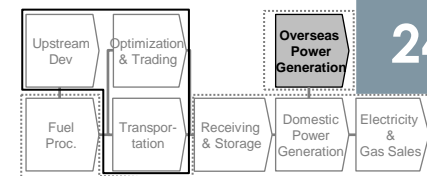
| Country | Project Name | Investment ratio | Capacity | Fuel type | Notes |
|----------------|---|------------------|-----------|------------------------|------------------------------|
| Philippines | TeaM Energy IPP | 25.0%~50.0% | 2,341 MW | Coal | |
| Philippines | Aboitiz Power Corporation | 27% | 4,806 MW | Coal/Oil/ Renewable | Including under construction |
| Thailand | EGCO Corporation | 12.3% | 6,377 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 | 6.8% | 13,369 MW | Solar/Wind/Hydro | Including under construction |
| Bangladesh | Summit Power IPP | 22.0% | 2,418 MW | Gas | Including under construction |
| United Kingdom | Zenobe Battery Storage | 9.9% | 235 MW | - | |

IPP Projects (1/2)

| | | | | | |
|-----------|--|-------------|----------|---------------|------------------------------|
| Taiwan | Chang Bin/Fong Der/Star Buck Gas Thermal IPP | 19.5%~22.7% | 3,060 MW | Gas | Including under construction |
| Taiwan | Formosa 1 Offshore Wind IPP | 32.5% | 128 MW | Offshore Wind | |
| Taiwan | Formosa 2 Offshore Wind IPP | 49.0% | 376 MW | Offshore Wind | Under construction |
| Vietnam | Phu My Gas Thermal IPP | 15.6% | 715 MW | Gas | |
| Indonesia | Cirebon2 Coal Thermal IPP | 10.0% | 1,000 MW | Coal | Under construction |
| Thailand | AT Biopower Rice Husk Biomass Thermal IPP | 26.0% | 20 MW | Biomass | |
| Thailand | Ratchaburi Gas Power Thermal IPP | 15.0% | 1,400 MW | Gas | |

Overseas Power Generation Business:

List of overseas power generation projects (2)



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(As of December 31, 2022)

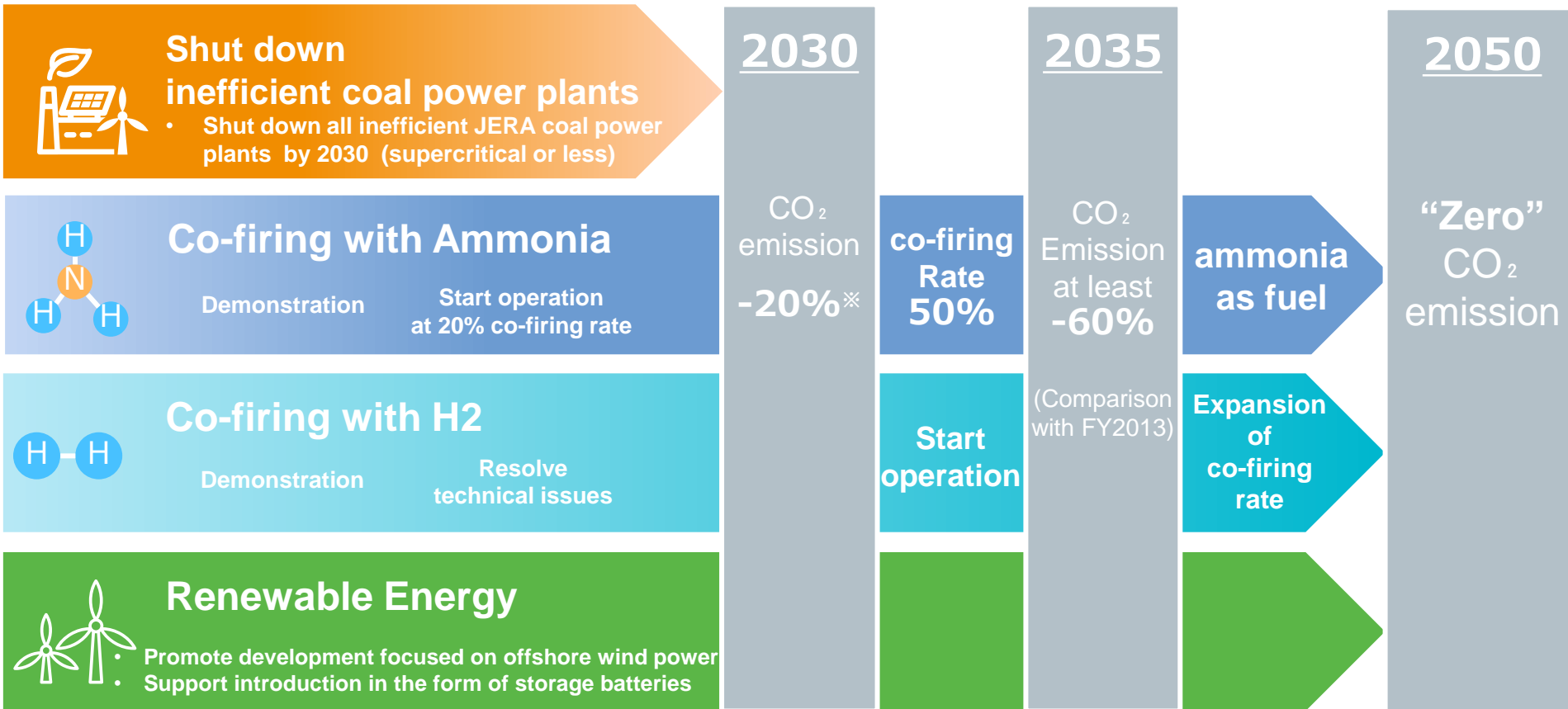
IPP Projects (2/2)

| Country | Project Name | Investment ratio | Capacity | Fuel type | Notes |
|----------------|----------------------------------|------------------|----------|---------------|--------------------|
| Thailand | Solar Power IPP | 49.0% | 31 MW | Solar | |
| Thailand | 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 | |
| Qatar | Ras Laffan C Gas Thermal IWPP | 5.0% | 2,730 MW | Gas | |
| Qatar | Mesaieed Gas Thermal IPP | 10.0% | 2,007 MW | Gas | |
| Qatar | 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 | |
| United States | Carroll County Gas Thermal IPP | 20.0% | 702 MW | Gas | |
| United States | Cricket Valley Gas Thermal IPP | 38.0% | 1,100 MW | Gas | |
| United States | Linden Gas Thermal IPP | 50.0% | 972 MW | Gas | |
| United States | Compass Gas Thermal IPP | 50.0% | 1,123 MW | Gas | |
| United States | Brady Thermal IPP | 100.0% | 1,633 MW | Oil/Gas | |
| United States | 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 CO₂ Emissions 2050**

JERA Zero CO₂ Emissions 2050: Roadmap for its Business in Japan

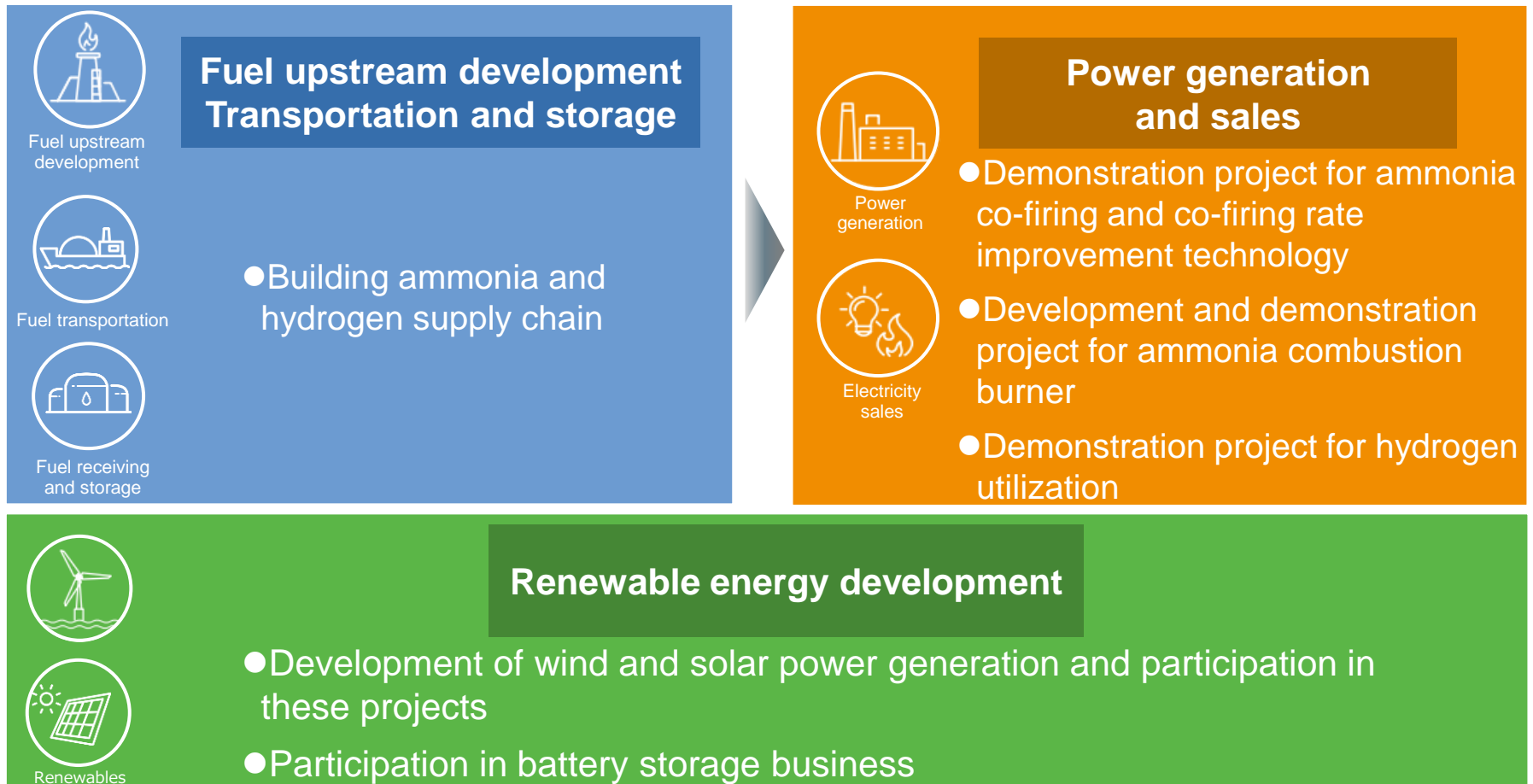
- JERA established “JERA Zero CO₂ Emissions 2050 Roadmap for its Business in Japan”, including four initiatives.



*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.



JERA Zero CO₂ Emissions 2050: Efforts towards Zero CO₂ Emissions (Ammonia and Hydrogen Supply Chain)


- To build supply chains for ammonia and hydrogen, JERA collaborates with leading companies in Japan and overseas. The table below summarizes the details of the collaborations announced in the latest one year.

| | Business Partners | Contents | |
|----------------------------|---|---|--|
| Upstream Transportation | CF Industries (United States) | Concluded MOU for the joint project development and sales & purchase of clean ammonia for the 20% co-firing operations at the Hekinan Thermal Power Plant Unit 4 (January 2023). | |
| | Yara International ASA (Norway) | | |
| | Chevron Corporation (United States) | Signed a Joint Study Agreement to collaborate on multiple lower carbon opportunities, including co-development of lower carbon fuel and hydrogen, and using of liquid organic hydrogen carriers in Asia Pacific region (Australia) and the United States (November 2022). | |
| | Nippon Yusen Kabushiki Kaisha (Japan) Mitsui O.S.K. Lines, Ltd. (Japan) | Concluded MOUs related to cooperation in transporting fuel ammonia, including development of large-volume ammonia carriers and establishment of safe transport systems. (November 2022). | |
| Supply Chain | Japan Kyushu Electric Power Co., Inc. Chugoku Electric Power Co., Inc. Shikoku Electric Power Co., Inc. Tohoku Electric Power Co., Inc. | Concluded MOU to consider collaboration aimed at the adoption of hydrogen and ammonia as fuel for power generation.(The MOU that was signed in April 2022 by JERA, Kyushu Electric, and Chugoku Electric were recently joined by Shikoku Electric and Tohoku Electric) (November 2022). | |
| | | Idemitsu Kosan Co., Ltd. | Concluded MOU stipulating that the two companies will jointly consider establishing a hydrogen supply chain based in the Ise Bay area (June 2022). |
| | ENEOS Corporation JFE Holdings, Inc. | Concluded MOU and begun to discuss in detail the possibility of establishing a hydrogen and ammonia receiving and supply base and developing a supply project at the Keihin Waterfront Area in Kanagawa Prefecture (April 2022). | |
| | Overseas | Electricity Generating Public Company Limited(Thailand) | Concluded MOU on the cooperation in studies to decarbonize EGCO's business and co-firing using ammonia at a coal-fired power plant(January 2023). |
| | | IHI Asia Pacific Pte. Ltd.(Singapore) | Concluded MOU on the expansion of ammonia usage in Malaysia(October 2022). |
| | Uniper Global Commodities S.E. (Germany) Uniper Global Commodities North America L.L.C. (United States) | Concluded MOU on procurement and sale of LNG, and clean ammonia from the United States (September 2022). | |

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

Initiatives for Ammonia Co-firing

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

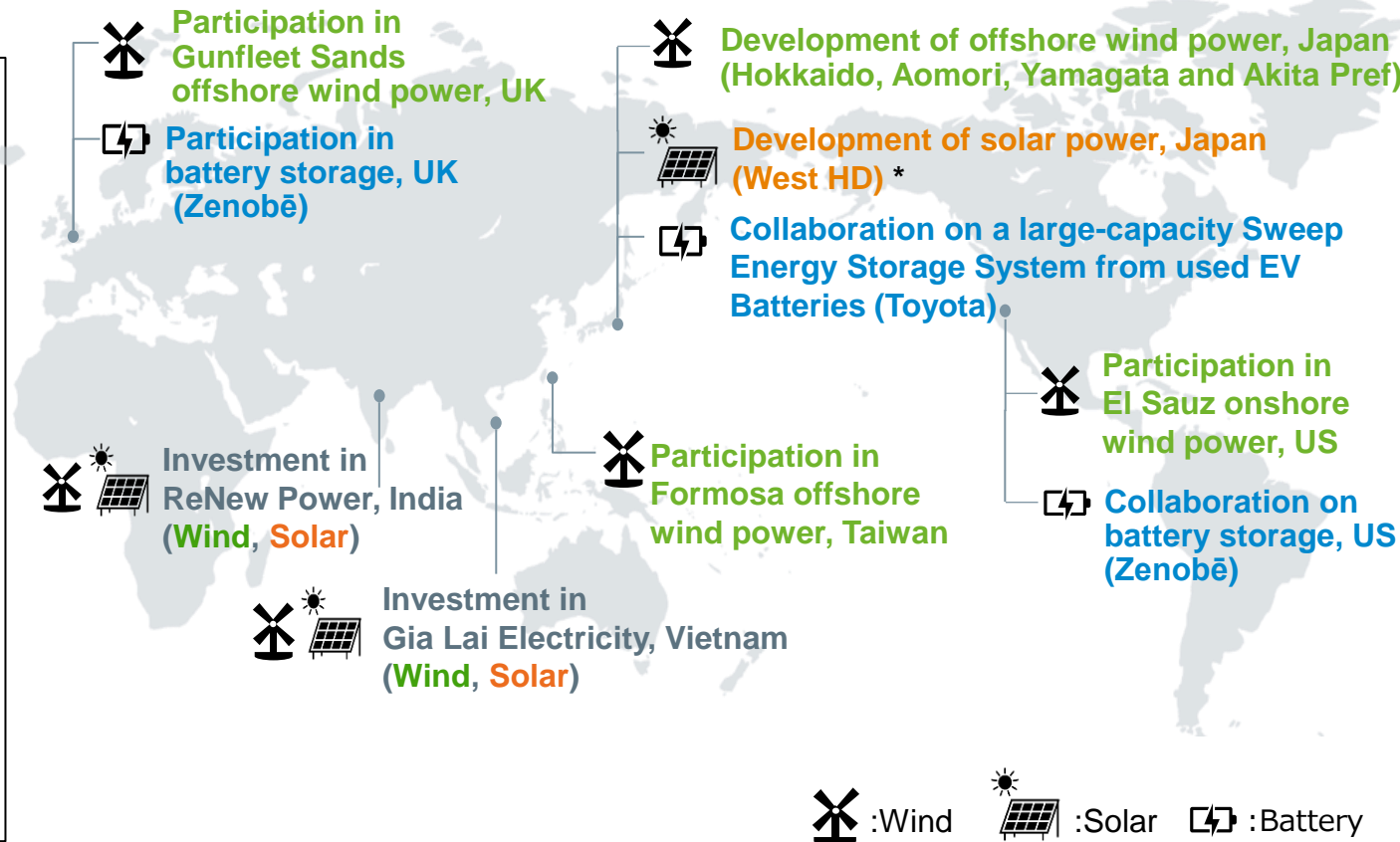
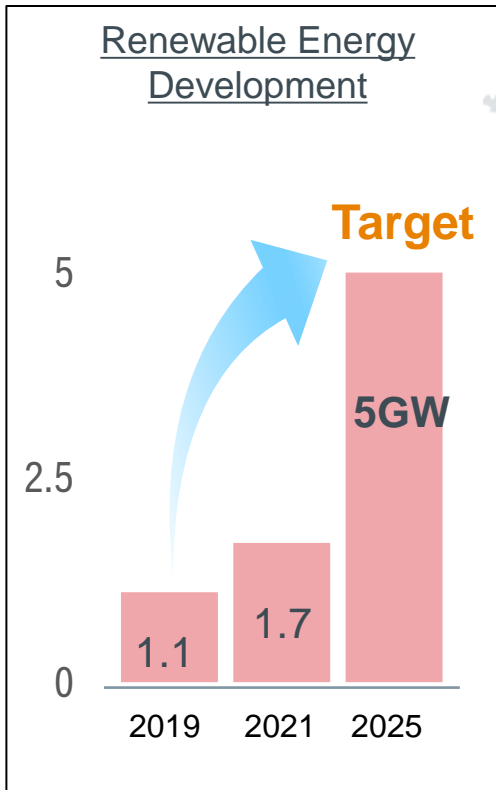
| Project | Development of technologies for carbon recycling and next-generation thermal power generation / Research, development and demonstration of technologies for ammonia co-firing thermal power generation | Green Innovation Fund Program / Establishment of Fuel Ammonia Supply Chains project / Demonstration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

Initiatives for Hydrogen Co-firing

- 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 started evaluation of operational and environmental characteristics for hydrogen utilization at existing LNG thermal power plants in Japan from October 2021 to March 2026.
- Considering the co-firing with hydrogen at Unit 6 of Linden Gas Thermal Power plant in the United States. We remodeled existing gas turbines and started trial operation using fuel gas containing hydrogen.

JERA Zero CO₂ Emissions 2050: Efforts towards Zero CO₂ Emission (Renewable energy development)

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



*In November 2022, the first solar power project has started its operation.