

# Jera

エネルギーを新しい時代へ

## FY2020 Investors Meeting

(Note) The company's fiscal year (FY) is from April 1 to March 31 of the following year in this material.  
FY2020 denotes the period from April 1,2020 to March 31,2021.

**JERA Co., Inc.**

May 20, 2021

# Outline of Financial Results

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## Consolidated Statement of Income

(Unit: Billion Yen)

|  | FY2020(A) | FY2019(B) | Change(A-B) | Rate of Change(%) |
|--|-----------|-----------|-------------|-------------------|
| Operating revenue<br>(Net sales)               | 2,730.1   | 3,280.0   | (549.8)     | (16.8)            |
| Operating income                               | 249.4     | 167.0     | 82.4        | 49.4              |
| Ordinary income                                | 244.1     | 174.4     | 69.7        | 40.0              |
| Net income attributable to<br>owners of parent | 157.8     | 168.5     | (10.6)      | (6.3)             |

## Consolidated Balance Sheet

(Unit: Billion Yen)

|                                       | FY2020(A) | FY2019(B) | Change(A-B) | Rate of Change(%) |
|---------------------------------------|-----------|-----------|-------------|-------------------|
| Assets                                | 4,090.8   | 4,035.3   | 55.5        | 1.4               |
| Liabilities                           | 2,328.7   | 2,434.0   | (105.2)     | (4.3)             |
| Net assets                            | 1,762.1   | 1,601.2   | 160.8       | 10.0              |
| Outstanding interest-<br>bearing debt | 1,613.2   | 1,505.9   | 107.3       | 7.1               |
| Equity ratio (%)                      | 41.2      | 38.2      | 3.0         |                   |

# Key Points of Financial Results

## 【Operating Revenue】

- Operating revenue **decreased by 549.8 billion yen (16.8%) from the previous consolidated fiscal year to 2,730.1 billion yen** primarily due to a decrease of electrical energy sold in domestic thermal power generation and gas supply business, in addition to a decline in income unit price resulting from a decline in natural resource prices.

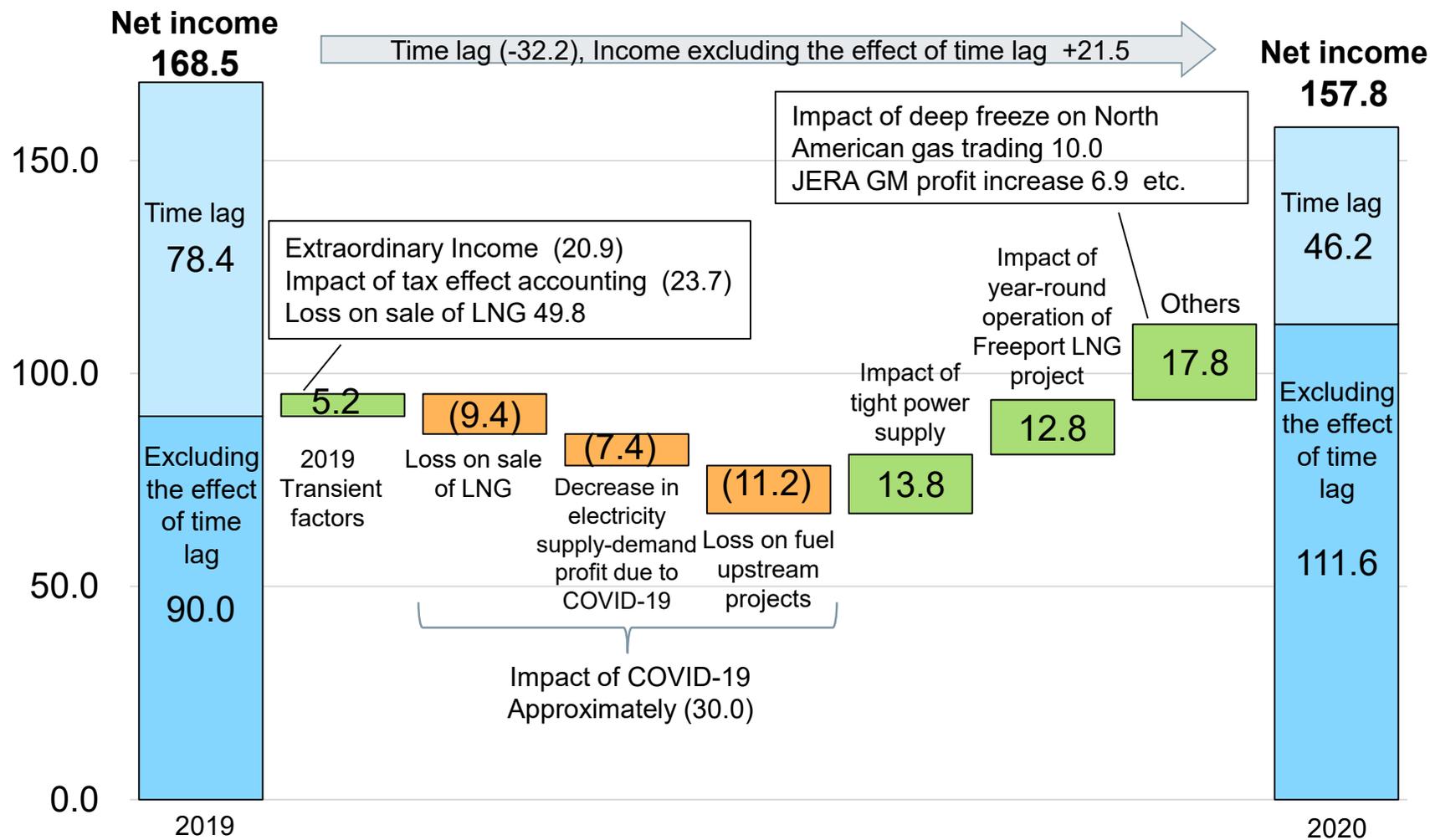
## 【Net Income】

- Net income **decreased by 10.6 billion yen (6.3%) from the previous consolidated fiscal year to 157.8 billion yen** due to a decrease of a gain incurred by fuel cost adjustment system time lag into income (-32.2 billion yen) and an increase of an income excluding the effect of time lag (+21.5 billion yen).
- Net income excluding the effect of time lag increased due to the impact of tight power supply in Japan and the impact of deep freeze on North American gas trading in this winter in addition to the impact of year-round operation of Freeport LNG project, despite the negative impact of COVID-19.

# Consolidated Net Income

## 【Various factors of Consolidated net income】

(Unit : Billion Yen)



\* Figures are after-tax amounts.

## (Note) Impact of tight power supply

- In response to the tight power supply situation in this winter, we had managed maximally by following emergency measures.
  - Maximum implementation of additional LNG procurement (spot procurement)
    - \*In response to a decline in LNG inventories caused by a significant increase in electricity demand, we procured approx. 3 million tons of spot LNG from November 2020 to February 2021 in addition, which was an unprecedented scale. Moreover, we realized urgent procurement with a short delivery time of two weeks (usually 1.5~2 months) from order to arrival.
  - Adjustment of LNG inventory levels through ship allocation adjustments and mitigation of restrictions on LNG thermal power generation
    - \*Flexible ship allocation adjustment among 8 LNG terminals. Maintaining the level of inventory that fluctuates day to day and providing maximum kWh even when power generation was suppressed.
  - Maintained fuel stocks appropriately with identifying the lower limit of operation in order to minimize the mitigation of restrictions on LNG thermal power generation and to ensure stable power supply.
    - \*Careful tank level management enabled maximum utilization of inventory by identifying the lower limit. Minimized the amount of suppression.
  - Increased power operation of coal-fired thermal power generation
    - \*Accurately implemented increased power operation exceeding the rated output (Tokyo area: approx. 2.44 million kWh/day, Chubu area: approx. 0.73 million kWh/day)
- Although fuel costs increased due to additional procurement of LNG (spot procurement), an income increased due to an increase in sales prices, etc., exceeded an increase in fuel costs, as a result, income increased.

# Consolidated Income/Expenditure Comparison

(Unit: Billion Yen)

|  | FY2020(A) | FY2019(B) | Change(A-B) | Main Factors of Changes  |
|--|-----------|-----------|-------------|--|
| Operating revenue<br>(Net sales)                     | 2,730.1   | 3,280.0   | (549.8)     | <ul style="list-style-type: none"> <li>• Decline in income unit price resulting from a decline in natural resource prices, etc.</li> <li>• Decrease of electrical energy sold</li> </ul> |
| Operating expenses                                   | 2,480.7   | 3,112.9   | (632.2)     | <ul style="list-style-type: none"> <li>• Decrease of fuel costs, etc.</li> </ul>   |
| Operating income                                     | 249.4     | 167.0     | 82.4        |  |
| Non-operating income                                 | 17.5      | 31.1      | (13.5)      | <ul style="list-style-type: none"> <li>• Decrease of equity in earnings of affiliates (15.9) (15.9 → -)</li> </ul>   |
| Non-operating expenses                               | 22.7      | 23.7      | (0.9)       |  |
| Ordinary income                                      | 244.1     | 174.4     | 69.7        | <ul style="list-style-type: none"> <li>• Decrease of time lag income (44.7) (108.9→64.1)</li> <li>• Increase of income excluding the effect of time lag +114.5 (65.5→180.0)</li> </ul>   |
| Extraordinary income                                 | -         | 20.9      | (20.9)      | (2019) Gain on divestiture of the overseas power generation projects   |
| Extraordinary loss                                   | 16.3      | -         | 16.3        | <ul style="list-style-type: none"> <li>• Loss on fuel upstream projects 8.1</li> <li>• Impairment loss of domestic thermal power generation equipment 5.6, etc</li> </ul>                |
| Income taxes, etc.                                   | 54.1      | 14.2      | 39.9        | (2019) Impact of tax effect accounting 23.7  |
| Net income attributable to non-controlling Interests | 15.7      | 12.5      | 3.2         |  |
| Net income attributable to owners of parent          | 157.8     | 168.5     | (10.6)      |  |

## Key Data of Income and Expenditure

|  | FY2020(A) | FY2019(B) | Change(A-B) |
|--|-----------|-----------|-------------|
| Electrical Energy Sold (TWh)           | 246.6     | 265.7     | (19.1)      |
| Crude Oil Prices (JCC) (dollar/barrel) | 43.4      | 67.8      | (24.4)      |
| Foreign Exchange Rate (yen/dollar)     | 106.1     | 108.7     | (2.6)       |

\* Crude Oil Prices(JCC) for FY2020 is tentative.

# Consolidated Balance Sheet

(Unit: Billion Yen)

|                                   | As of Mar 31,<br>2021(A) | As of Mar 31,<br>2020(B) | Change(A-B) | Main Factors of Changes   |
|-----------------------------------|--------------------------|--------------------------|-------------|---|
| <b>Cash and deposits</b>          | 616.1                    | 459.1                    | 156.9       |   |
| Property, plant and equipment     | 2,010.0                  | 1,989.6                  | 20.3        |   |
| <b>Investment securities</b>      | 559.4                    | 613.3                    | (53.9)      |   |
| <b>Others</b>                     | 905.3                    | 973.1                    | (67.8)      | ·Decrease of inventories (21.6), etc.                             |
| <b>Assets</b>                     | 4,090.8                  | 4,035.3                  | 55.5        |   |
| Outstanding interest-bearing debt | 1,613.2                  | 1,505.9                  | 107.3       | ·Borrowings +67.3 (Subsidiaries + 127.3)<br>·Corporate bond +40.0 |
| <b>Others</b>                     | 715.4                    | 928.0                    | (212.6)     | ·Decrease of Accrued income taxes (75.0), etc.                    |
| <b>Liabilities</b>                | 2,328.7                  | 2,434.0                  | (105.2)     |   |
| <b>Shareholders' equity</b>       | 1,696.9                  | 1,566.0                  | 130.8       | ·Dividends paid (27.0)<br>·Net income +157.8                      |
| <b>Others</b>                     | 65.1                     | 35.1                     | 29.9        |   |
| <b>Net Assets</b>                 | 1,762.1                  | 1,601.2                  | 160.8       |   |

# Consolidated Cash Flows

(Unit: Billion Yen)

|   |   | As of Mar 31,<br>2021(A) | As of Mar 31,<br>2020(B) | Change(A-B) |
|---|---|--------------------------|--------------------------|-------------|
| <b>Cash flows from operating activities</b>   |   | 340.8                    | 551.6                    | (210.8)     |
| <b>Cash flows from investing activities</b>   | <b>Purchase of non-current assets</b>         | (241.3)                  | (211.1)                  | (30.1)      |
|   | <b>Purchase of investment securities</b>      | (31.5)                   | (115.7)                  | 84.2        |
|   | <b>Other</b>                                  | 0.8                      | 16.1                     | (15.2)      |
|   |   | (272.0)                  | (310.8)                  | 38.7        |
| <b>Free cash flows</b>  |   | 68.7                     | 240.8                    | (172.0)     |
| <b>Cash flows from financing activities</b>   | <b>Net increase/decrease in loans payable</b> | 103.2                    | (452.2)                  | 555.5       |
|   | <b>Dividends paid *1</b>                      | (27.0)                   | -                        | (27.0)      |
|   | <b>Other</b>                                  | 13.2                     | 0.2                      | 13.0        |
|   |   | 89.5                     | (452.0)                  | 541.5       |
| <b>Net increase/decrease in cash and cash equivalents (parenthesis indicates decrease) *2</b> |   | 159.2                    | 132.8                    | 26.4        |

\*1 Excluding Dividends paid to non-controlling interests

\*2 Including Increase in cash and cash equivalents due to absorption-type demerger (335.0 billion yen) and Increase in cash and cash equivalents due to change in scope of consolidation (11.7 billion yen) in FY2019.

# Segment Information

(Unit: Billion Yen)

|             |   | Fuel- related* | Overseas power generation | Domestic thermal power generation and gas supply | Adjustments | Consolidated     |
|-------------|---|----------------|---------------------------|--|-------------|------------------|
| FY2020(A)   | Operating Revenue                         | 1,076.2        | 2.6                       | 2,391.0  | (739.7)     | 2,730.1          |
|             | Net Income<br><Excluding of the time lag> | 48.0           | (7.6)                     | 152.8<br><106.6>                                 | (35.3)      | 157.8<br><111.6> |
| FY2019(B)   | Operating Revenue                         | 864.7          | 2.1                       | 2,926.7  | (513.6)     | 3,280.0          |
|             | Net Income<br><Excluding of the time lag> | 25.0           | 36.1                      | 135.8<br><57.3>                                  | (28.4)      | 168.5<br><90.0>  |
| Change(A-B) | Operating Revenue                         | 211.4          | 0.4                       | (535.7)  | (226.1)     | (549.8)          |
|             | Net Income<br><Excluding of the time lag> | 22.9           | (43.7)                    | 17.0<br><49.2>                                   | (6.8)       | (10.6)<br><21.6> |

\*Fuel upstream, Transportation, Fuel trading

- Impact of year-round operation of Freeport LNG project 12.8
- Impact of deep freeze on North American gas trading 10.0
- JERA GM profit increase 6.9
- Loss on fuel upstream projects (11.2)

- (2019) Gain on divestiture of the overseas power generation projects (20.9)
- Impairment loss (15.9)

- (2019) Loss on sale of LNG 49.8
- Impact of tight power supply 13.8
- Decrease income due to COVID-19 (Approx. 17.0)  
(Loss on sale of LNG, Decrease in electricity supply-demand profit)

# Forecast for FY2021

## 【Consolidated forecast】

Net income is expected to be 70.0 billion yen. (Net income excluding a gain incurred by fuel cost adjustment system time lag is expected to be 110.0 billion yen, basically on the same level as in the previous year.)

(Unit: Billion Yen)

|  | FY2021 Forecast<br>(A) | FY2020 Results<br>(B) | Change(A-B)    | Rate of<br>Change(%) |
|--|------------------------|-----------------------|----------------|----------------------|
| Net Income attributable<br>to owners of parent | 70.0                   | 157.8                 | (Approx. 88.0) | (55.8)               |
| Breakdown:<br>Time lag                         | (40.0)                 | 46.2                  | (Approx. 86.0) | (186.1)              |
| Income excluding<br>the effect of time lag     | 110.0                  | 111.6                 | (Approx. 2.0)  | (1.8)                |

## 【Key data】

|   | FY2021 Forecast<br>(A) | FY2020 Results<br>(B) |
|---|------------------------|-----------------------|
| Crude Oil Prices (JCC)<br>(dollar/barrel) | Approx. 62             | 43.4                  |
| Foreign Exchange Rate<br>(yen/dollar)     | Approx. 110            | 106.1                 |

# Integration Synergy Effect

- Our target is to generate synergy effects of JPY 100 billion/year within 5 years of Step 3 integration.
- **We generated synergy effects of JPY 45 billion in FY2020** through improved cost competitiveness in domestic thermal power generation and the creation of new profit sources.

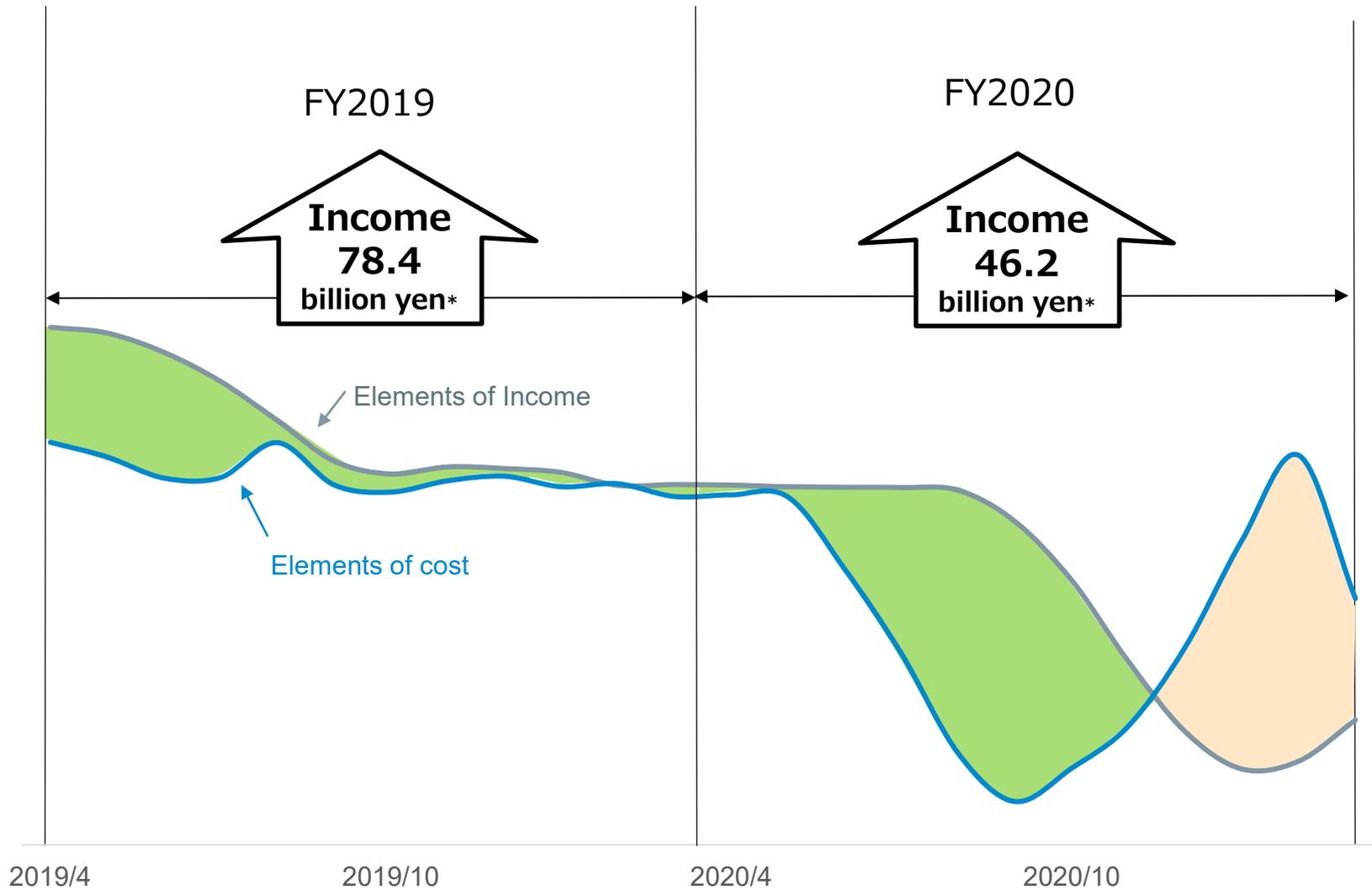
(Unit: Billion Yen)

| 【Integration Synergy Effect】                                       |   |  | FY2019 | FY2020      |
|--|---|--|--------|-------------|
| Improved cost competitiveness in domestic thermal power generation | Reduction in maintenance costs                      | <ul style="list-style-type: none"> <li>✓ Development of best practices in periodic inspections, repairs and materials procurement</li> <li>✓ Utilization of economies of scale in material procurement and outsourcing</li> <li>✓ Development and operation of state-of-the-art methods</li> </ul>   | 15.0   | 25.0        |
|  | Reduction in operation costs                        | <ul style="list-style-type: none"> <li>✓ Development of best practices in fuel procurement and power plant operation</li> <li>✓ Development and operation of state-of-the-art methods</li> </ul>   |        |             |
| Creation of new profit sources                                     | Profits from optimization of the entire value chain | <ul style="list-style-type: none"> <li>✓ Development of global trading business with EDFT based on CEPCO trading know-how and TEPCO business development know-how</li> <li>✓ Realization of huge asset-backed trading that leverages one of the world's largest fuel trading volumes</li> </ul>  | 10.0   | 20.0        |
|  | Profits from expanding business portfolio           | <ul style="list-style-type: none"> <li>✓ Development of projects that take advantage of our increased presence due to becoming, through Step 3 integration, one of the world's leading energy companies</li> <li>✓ Development of projects that package upstream and downstream businesses</li> <li>✓ Leverage both companies' competitive domestic sites and fund-raising capabilities</li> </ul> |        |             |
|  |   |  | 25.0   | <b>45.0</b> |

\*Figures are pre-tax amounts.

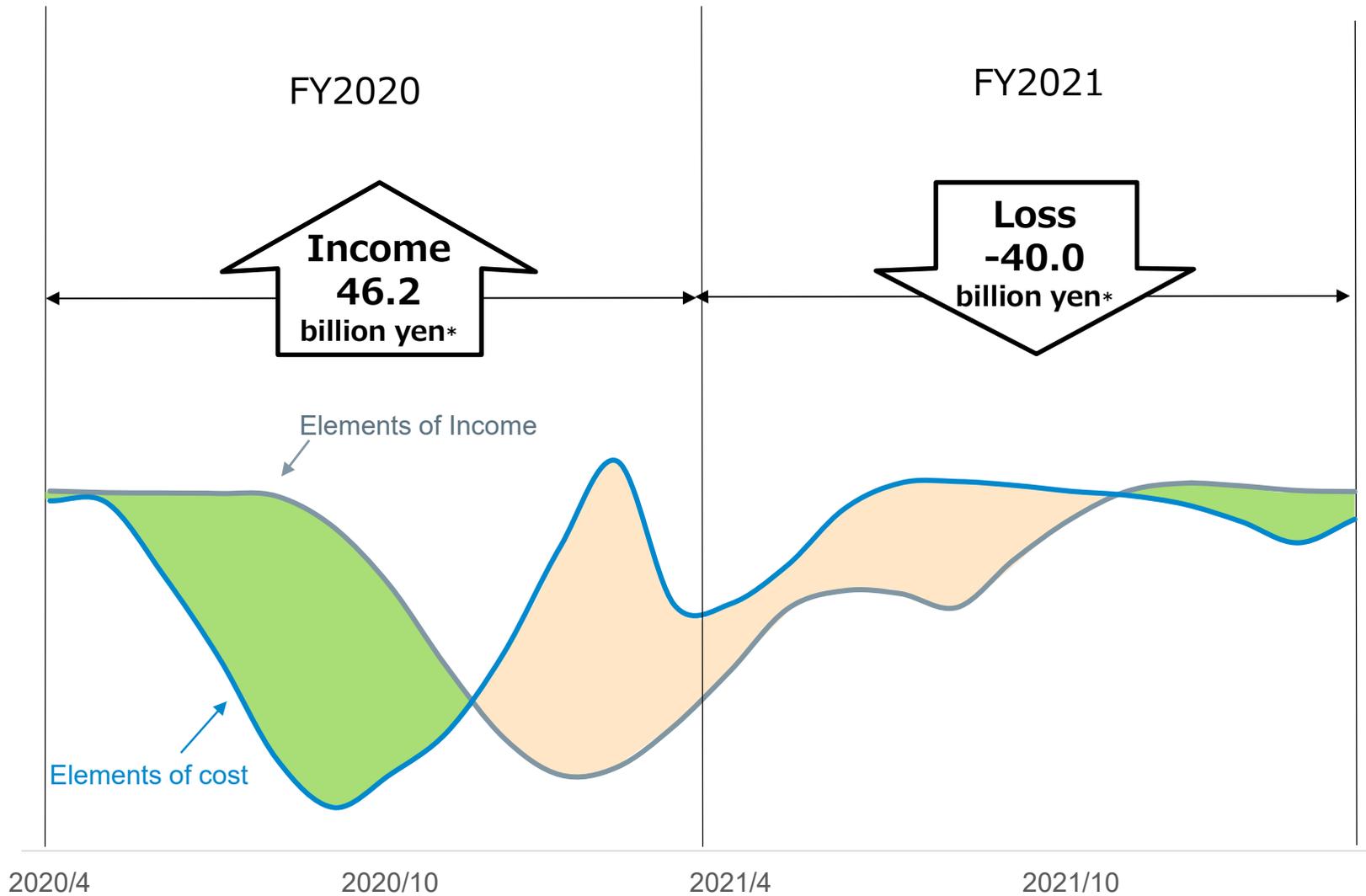
# Appendix: Financial Results

# Image of Time Lag (2019-2020)



\*Figures are after-tax amounts.

# Image of Time Lag (2020-2021)



\*Figures are after-tax amounts.

# Electrical Energy Sold and Electrical Power Generated

## 【Electrical Energy Sold(TWh)】

|               | Apr 1 to Jun 30 | Jul 1 to Sep 30 | Oct 1 to Dec 31 | Jan 1 to Mar 31 | Total |
|---------------|-----------------|-----------------|-----------------|-----------------|-------|
| <b>FY2020</b> | 47.5            | 62.4            | 66.5            | 70.2            | 246.6 |
| <b>FY2019</b> | 59.9            | 71.4            | 66.4            | 68.0            | 265.7 |

## 【Electrical Power Generated(TWh)】

|               | Apr 1 to Jun 30 | Jul 1 to Sep 30 | Oct 1 to Dec 31 | Jan 1 to Mar 31 | Total       |
|---------------|-----------------|-----------------|-----------------|-----------------|-------------|
| <b>FY2020</b> | 47.0            | 61.7            | 66.0            | 70.0            | 244.6       |
| <b>LNG</b>    | 38.4 (82%)      | 52.9 (86%)      | 54.5 (83%)      | 55.7 (80%)      | 201.5 (82%) |
| <b>Coal</b>   | 8.7 (18%)       | 8.8 (14%)       | 11.5 (17%)      | 14.2 (20%)      | 43.2 (18%)  |
| <b>Oil</b>    | 0.0 (0%)        | 0.0 (0%)        | 0.0 (0%)        | 0.0 (0%)        | 0.0 (0%)    |
| <b>FY2019</b> | 59.9            | 71.3            | 66.3            | 67.9            | 265.3       |
| <b>LNG</b>    | 48.6 (81%)      | 57.9 (81%)      | 53.9 (81%)      | 55.1 (81%)      | 215.6 (81%) |
| <b>Coal</b>   | 11.1 (19%)      | 12.6 (18%)      | 12.0 (18%)      | 12.6 (19%)      | 48.4 (18%)  |
| <b>Oil</b>    | 0.1 (0%)        | 0.7 (1%)        | 0.3 (1%)        | 0.1 (0%)        | 1.3 (0%)    |

\*The total may not match due to rounding

# Credit Ratings

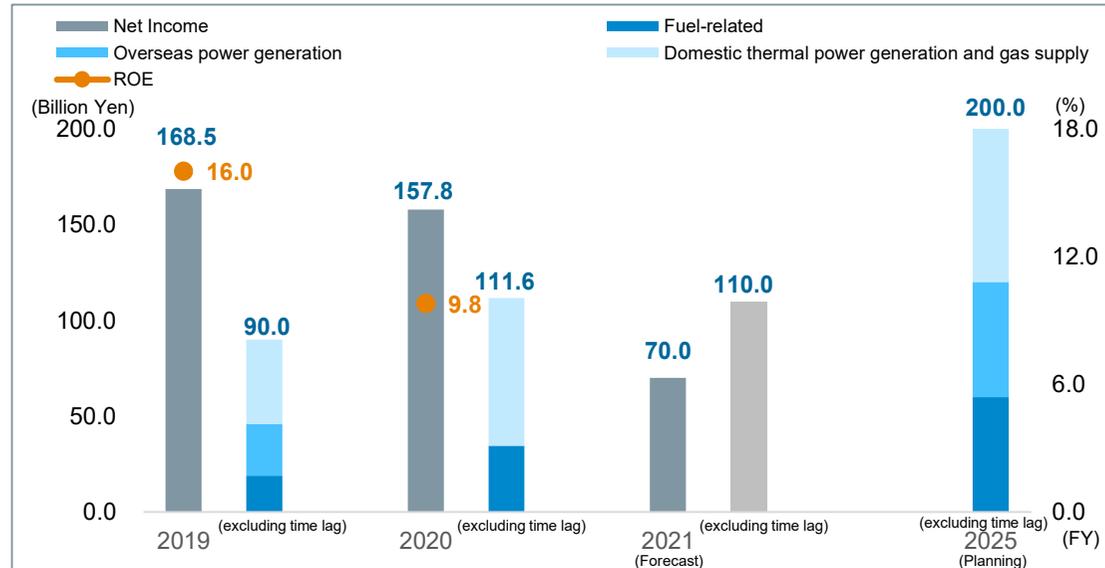
## 【Credit Ratings(long-term)】

| S&P | R&I | JCR |
|-----|-----|-----|
| A-  | A+  | AA- |

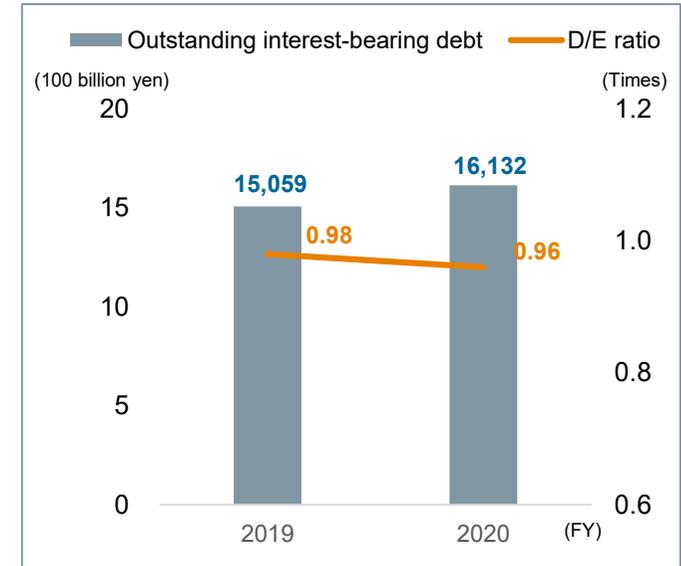
# Appendix: Management Information

# Financial Conditions and Policies

- Net income in FY2019 and FY2020 generally progressed as expected despite transient factors such as loss on LNG sales and the impact of the COVID-19, etc. We are accelerating profit growth and building an optimal business portfolio to achieve net income of 200 billion yen (planning) excluding time lag in FY2025.



\*The amount of net income for each segment is calculated by a percentage excluding consolidated adjustments and differs from the actual amount.



\*D/E ratio = interest-bearing debt/ equity

- In expanding profits and building an optimal business portfolio, the following viewpoints are emphasized.

## [Capital Efficiency]

We strive to further increase of corporate value by conducting strict investment evaluation and investing for growth.

- For investments, we set the cost of capital for each segments, calculate ROIC, and regularly monitor EVA<sup>®\*</sup> after clarifying segment strategies by business and region.
- We monitor the company-wide cost of capital, ROIC, and EVA<sup>®\*</sup> as well. \*Registered trademark of Stern Value Management Ltd.

## [Financial Soundness]

We strive to maintain the sound financial structure by establishing financial discipline based on financial indicators such as D/E ratios and the optimal capital structure.

- We periodically review the optimal capital structure and currently conduct the management of balance sheet with a D/E ratio of approximately 1.0.

# JERA Zero CO<sub>2</sub> Emissions 2050

## JERA Zero CO<sub>2</sub> Emissions 2050

- JERA's mission is to provide cutting-edge solutions to the world's energy issues.
- In order to help achieve a sustainable society, JERA, in the course of carrying out its mission, is taking on the challenge of achieving zero CO<sub>2</sub> emissions\* from its business both in Japan and overseas.

## The Three Approaches of JERA Zero CO<sub>2</sub> Emissions 2050

### 1. Complementarity between Renewable Energy and Zero CO<sub>2</sub> Emission Thermal Power Generation

JERA will achieve Zero CO<sub>2</sub> emissions through a combination of renewable energy and zero CO<sub>2</sub> emission thermal power generation. The adoption of renewable energy is supported by thermal power generation capable of generating electricity regardless of natural conditions. JERA will promote the adoption of greener fuels and pursue thermal power that does not emit CO<sub>2</sub> during power generation.

### 2. Establishment of Roadmaps Suitable for Each Country and Region

Zero CO<sub>2</sub> emissions will be achieved by establishing roadmaps that show optimal solutions for each country and region. Since the energy situation is different for each country and region—such as the presence of regional transmission lines or pipelines and the types of renewable energy that could be adopted—JERA will work with stakeholders on a country and regional basis to establish roadmaps. We have developed a roadmap for our business in Japan and will extend this approach to other countries and regions.

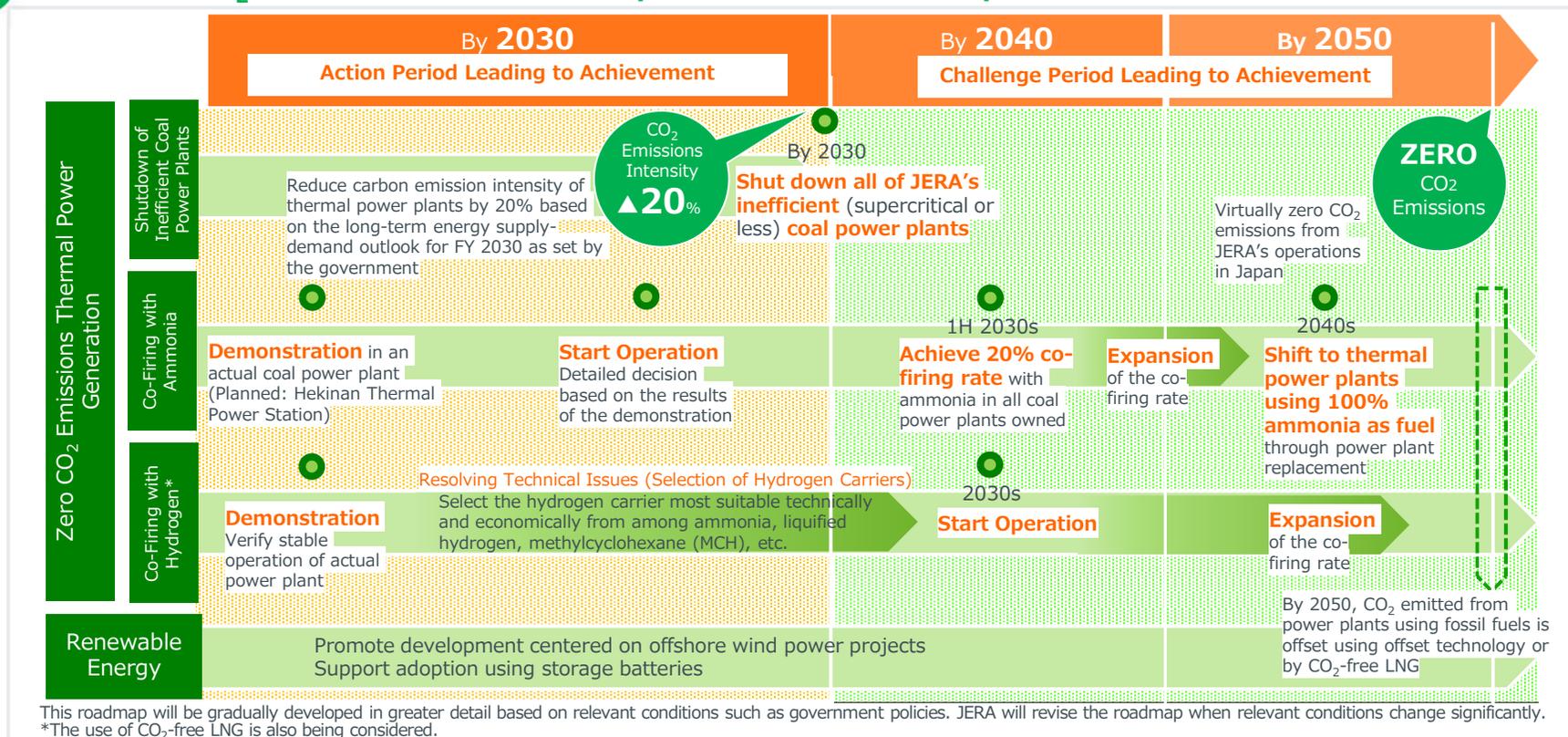
### 3. Smart Transition

Zero CO<sub>2</sub> emissions will be achieved through a combination of technologies that are available and reliable at the time adoption decisions are made, lowering technical risk and smoothing the transition to a green society.

\*"JERA Zero CO<sub>2</sub> Emissions 2050" is premised on steady advances in decarbonization technology, economic rationality, and consistency with government policy. JERA is developing its own decarbonization technologies and taking the initiative to ensure economic rationality.

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

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



## JERA Environmental Target 2030 for its Business in Japan

JERA is actively working to reduce CO<sub>2</sub> emissions. In its domestic operations, JERA will achieve the following by FY2030:

- Shut down all inefficient (supercritical or less) coal power plants and conduct demonstration tests of mixed combustion with ammonia at high-efficiency (ultra-supercritical) coal power plants.
- Promote the development of renewable energy centered on offshore wind power projects and work to further improve the efficiency of LNG thermal power generation.
- Reduce carbon emission intensity of thermal power plants by 20% based on the long-term energy supply-demand outlook for FY 2030 as set by the government.

"JERA Zero CO<sub>2</sub> Emissions 2050 Roadmap for its Business in Japan" and "JERA Environmental Target 2030 for its Business in Japan" are premised on steady advances in decarbonization technology, economic rationality, and consistency with government policy. JERA is developing its own decarbonization technologies and taking the initiative to ensure economic rationality.

## Specific Initiatives: About Zero CO<sub>2</sub> Emissions Thermal Power Generation

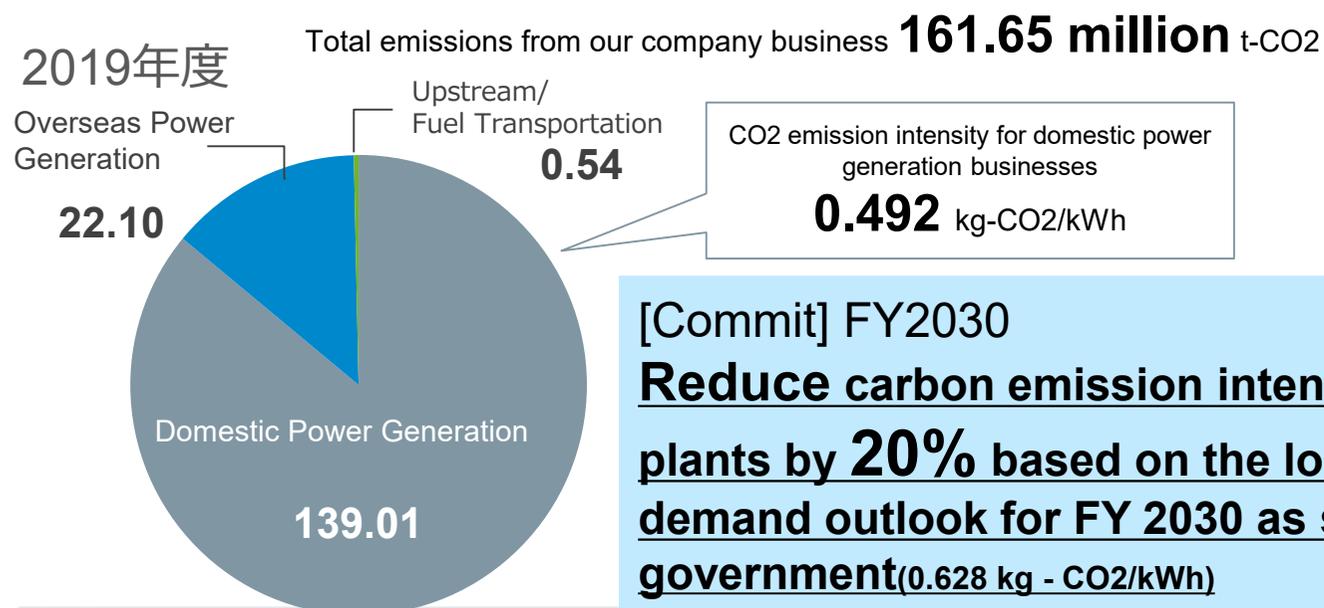
### Ammonia Co-firing Demonstration Project

- With the aim of realizing ammonia mixed combustion in coal-fired thermal power plant, feasibility study related to facility formation, etc. was conducted in FY 2020, and as mixed combustion was expected in terms of facilities, it was decided to proceed to actual power plant demonstration tests. We applied for “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” under NEDO.



Hekinan Thermal Power Station is scheduled to demonstrate mixed combustion of ammonia in an actual plant.

### CO<sub>2</sub> Emissions/ CO<sub>2</sub> Emission Intensity



## Specific Initiatives: Development of Offshore Wind Power

### State of Offshore Wind Development

- We are conducting developments of offshore wind power in Japan at the following four locations.

| Development point  | Power generation output | Status of development  |
|--|-------------------------|--|
| Off the coast of Ishikari Bay, Hokkaido                      | Maximum 520 MW          | • Started environmental impact assessment procedures off the coast of Ishikari Bay, Hokkaido (August 2020).  |
| Off Noshiro City, Mitane Town and Oga City, Akita Prefecture | 415 MW *                | • Formed a consortium with J-Power and Equinol for business development in the general sea area off the coast of Akita Prefecture (September 2020).<br>• Opened "Akita Office" as a base for offshore wind power projects (April 2021).<br>• Currently preparing for bid (May, scheduled). |
| Off Yurihonjo-city, Akita Prefecture                         | 730 MW *                |  |
| Off the city of southern Tsugaru, Aomori Prefecture          | Maximum 600 MW          | • Started environmental impact assessment procedures off the coast of Tsugaru City and Ajigasawa Town, Aomori Prefecture (March 2021).   |

\*Output is publicly offered and differs from our company's planned output.

- We are participating in projects at different stages of development at the same time and accumulating know-how in Taiwan, an advanced country in offshore wind power in Asia.

|           | Capacity                | No. of generators | Commercial operatio          | Business partner              |
|-----------|-------------------------|-------------------|------------------------------|-------------------------------|
| Formosa 1 | 128 MW                  | 22 units          | December 2019 * <sup>1</sup> | Orsted, Macquarie and Swankor |
| Formosa 2 | 376 MW                  | 47 units          | End of 2021 (Scheduled)      | Macquarie and Swankor         |
| Formosa 3 | 2,004 MW * <sup>2</sup> | Undecided         | 2026 to 2030 (Target)        | Macquarie and EnBW            |

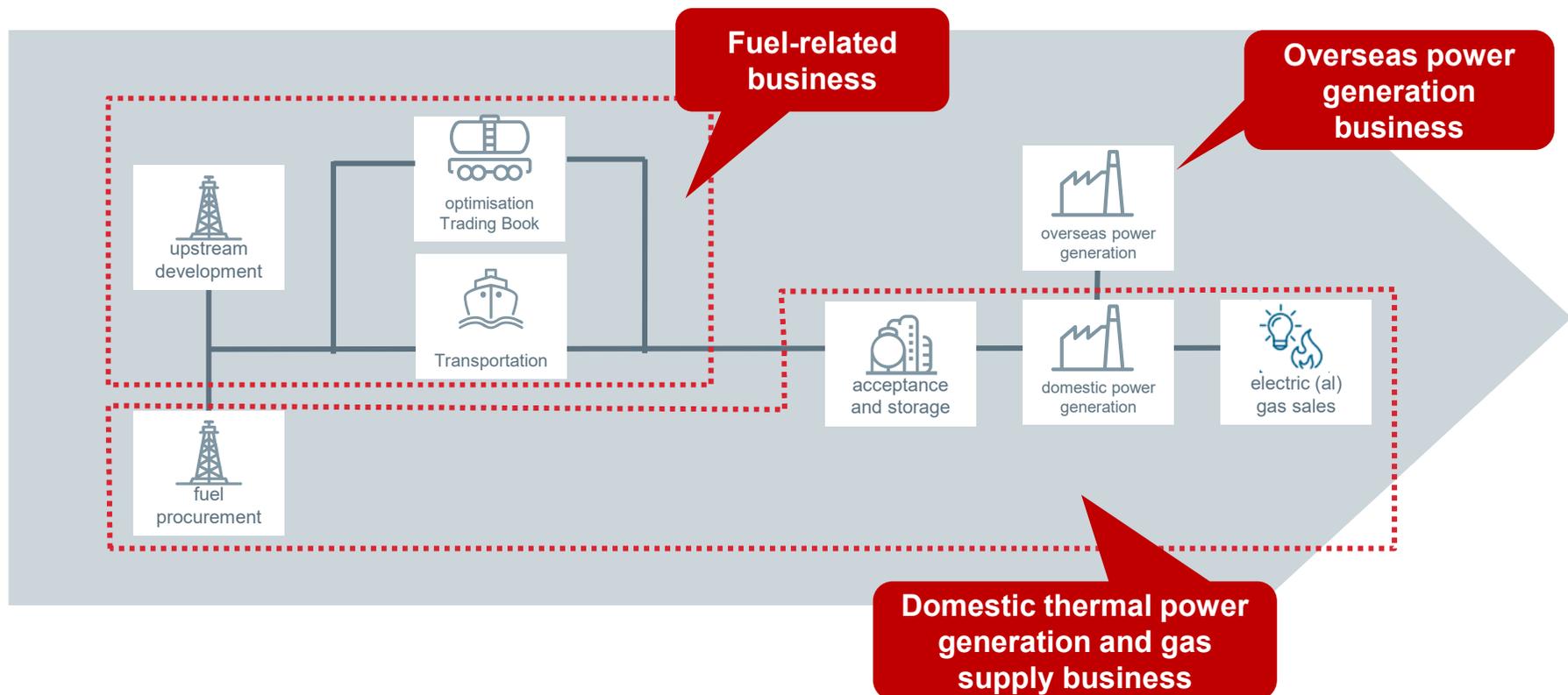
### Status and Targets of Renewable Energy Development



\*<sup>1</sup> 2 units (8 MW) started operation in April 2017 \*<sup>2</sup> Scheduled output \*<sup>3</sup> Including renewable energy development other than domestic offshore wind power

# Value Chain and Segment Division

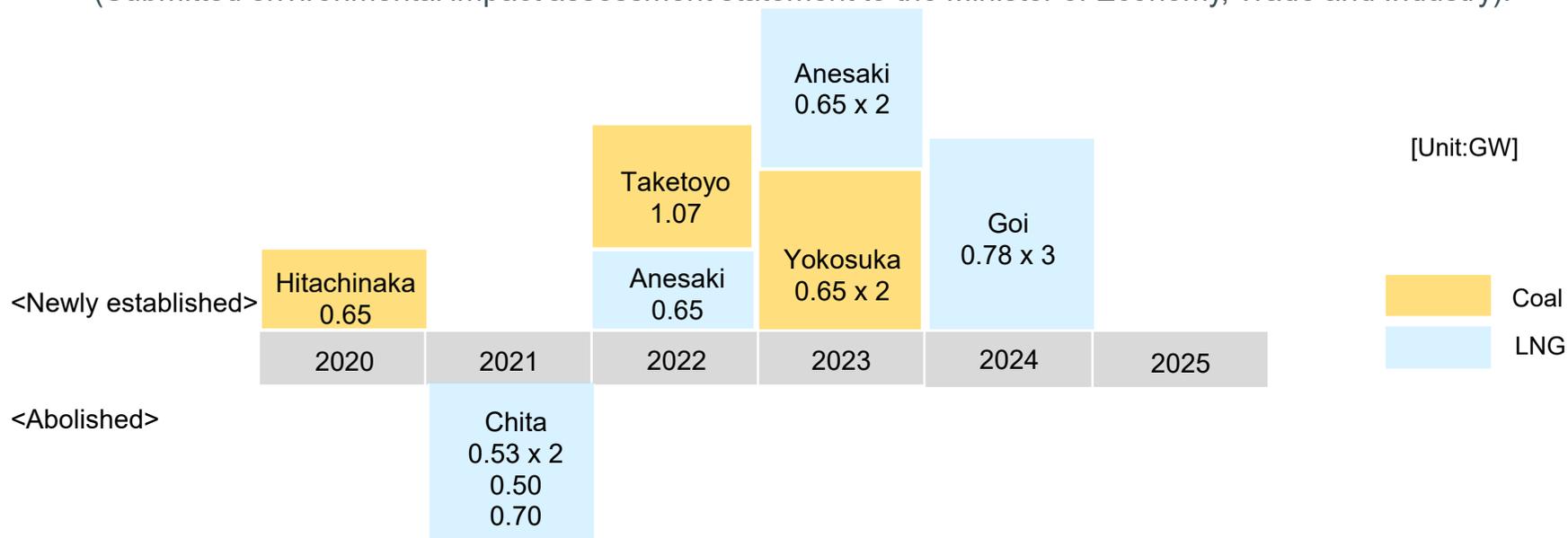
- We own businesses across the entire supply chains for fuel and thermal power, from fuel upstream business (development of gas fields) to fuel transportation and storage (fuel terminal operation) to power generation and wholesaling.
- The business segments are divided as "Fuel-related business" for investment in upstream fuel business, fuel transportation and fuel 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.



# 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 five locations: Hitachinaka, Anesaki, Taketoyo, Yokosuka, and Goi. Unit 1 of the Hitachinaka Kyodo started operation in January 2021.
- Planning to abolish Unit 1 to 5 of Chita thermal power plans. Construction of Unit 7 and 8 is under consideration (Submitted environmental impact assessment statement to the Minister of Economy, Trade and Industry).



| Development point | Status of development   |
|-------------------|---|
| Anesaki           | Full-scale construction started in February 2020. Construction progress rate of 33% |
| Yokosuka          | Full-scale construction started in August 2019. Construction progress rate of 21%   |
| Goi               | Full-scale construction started in April 2021.                                      |
| Taketoyo          | Full-scale construction started in April 2018. Construction progress rate of 81%    |

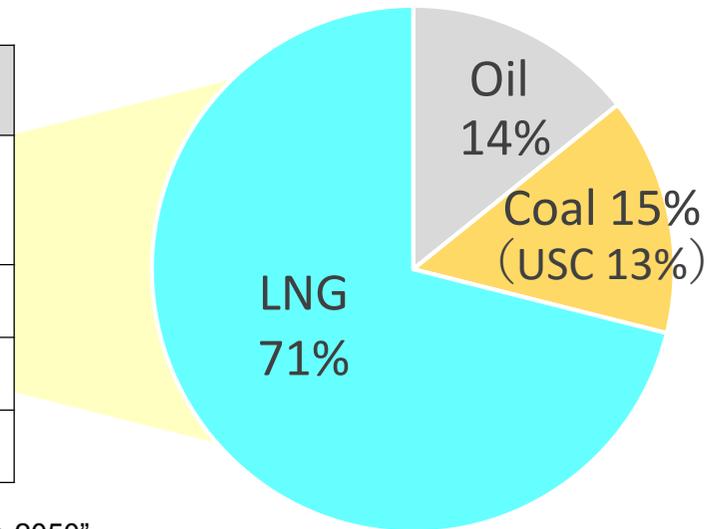
\*As of March 31, 2021

# 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 emits less CO2.
- ✓ In coal, ultra super critical power generation system (USC), which emits comparatively small 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<br>(Generator output) |
|--------------------------------|--------------------------------|
| Coal<br>(USC)                  | 10.32GW<br>(8.92GW)            |
| LNG (Liquefied Natural Gas) *3 | 50.07GW                        |
| Oil                            | 10.05GW                        |
| <b>Total</b>                   | <b>70.44GW</b>                 |



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

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

\*2 As of March 31, 2021. Includes capacity under construction.  
Excludes capacity of affiliates.

\*3 Includes LPG and City Gas.

# Domestic Thermal Power Generation and Gas Supply Business: List of Domestic Thermal Power Plants

## List of Thermal Power Stations<sup>1</sup> (Total output and fuel type listed for each thermal power station)

◆ LNG ◆ Coal ◆ Heavy oil ◆ Crude oil ◆ LPG ◆ Utility gas ■ LNG terminal<sup>2</sup> ■ Coal terminal

|  |          |       |
|--|----------|-------|
| 1 Joetsu   | 2.38 GW  | ◆     |
| 2 Hirono   | 4.4 GW   | ◆◆◆◆  |
| 3 Hitachinaka  | 2 GW     | ◆     |
| Hitachinaka Kyodo  |          |       |
| 4 (Hitachinaka Generation)                                 | 0.65 GW  | ◆     |
| (Started operation in fiscal 2020)                         |          |       |
| 5 Kashima  | 5.66 GW  | ◆◆◆◆◆ |
| 6 Chiba  | 4.38 GW  | ◆     |
| 7 Goi (Goi United Generation) Replacement is being planned |          |       |
| 8 Anegasaki  | 3.6 GW   | ◆◆◆   |
| 9 Anegasaki (JERA Power Anegasaki)                         | 1.941 GW | ◆     |
| (Scheduled to start operation in fiscal 2023)              |          |       |
| 10 Sodegaura   | 3.6 GW   | ◆     |
| 11 Futtsu  | 5.16 GW  | ◆     |
| 12 Yokosuka (JERA Power Yokosuka)                          | 1.3 GW   | ◆     |
| (Scheduled to start operation in fiscal 2023)              |          |       |
| 13 Minami-Yokohama   | 1.15 GW  | ◆     |
| 14 Yokohama  | 3.541 GW | ◆◆◆◆  |
| 15 Higashi-Ogishima  | 2 GW     | ◆     |
| 16 Kawasaki  | 3.42 GW  | ◆     |
| 17 Oi  | 1.05 GW  | ◆     |
| 18 Shinagawa   | 1.14 GW  | ◆     |
| 19 Atsumi  | 1.4 GW   | ◆◆    |
| 20 Hekinan   | 4.1 GW   | ◆     |
| 21 Taketoyo <JERA Power Taketoyo>                          | 1.07 GW  | ◆     |
| (Scheduled to start operation in fiscal 2021)              |          |       |
| 22 Chita   | 3.966 GW | ◆     |
| 23 Chita Daini   | 1.708 GW | ◆     |
| 24 Shin-Nagoya   | 3.058 GW | ◆     |
| 25 Nishi-Nagoya  | 2.376 GW | ◆     |
| 26 Kawagoe   | 4.802 GW | ◆     |
| 27 Yokkaichi   | 0.585 GW | ◆     |

<sup>1</sup> Names of power stations. Names of installers (SPCs) listed in parentheses.

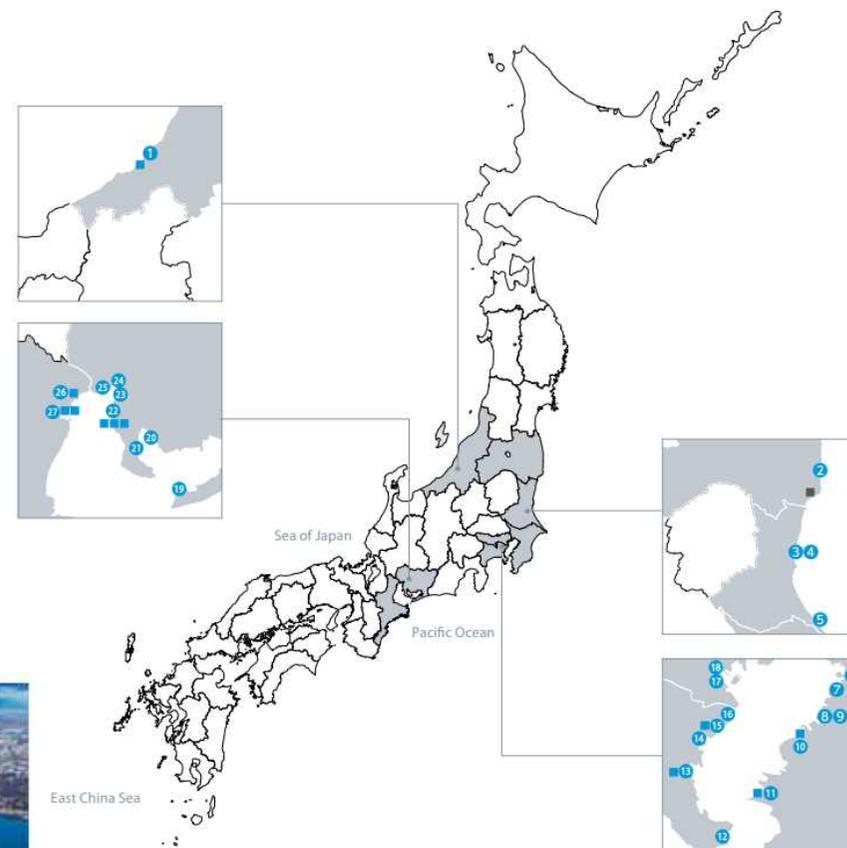
<sup>2</sup> Includes jointly operated terminals in the Chita and Yokkaichi areas.



Futtsu Thermal Power Station



Kawagoe Thermal Power Station

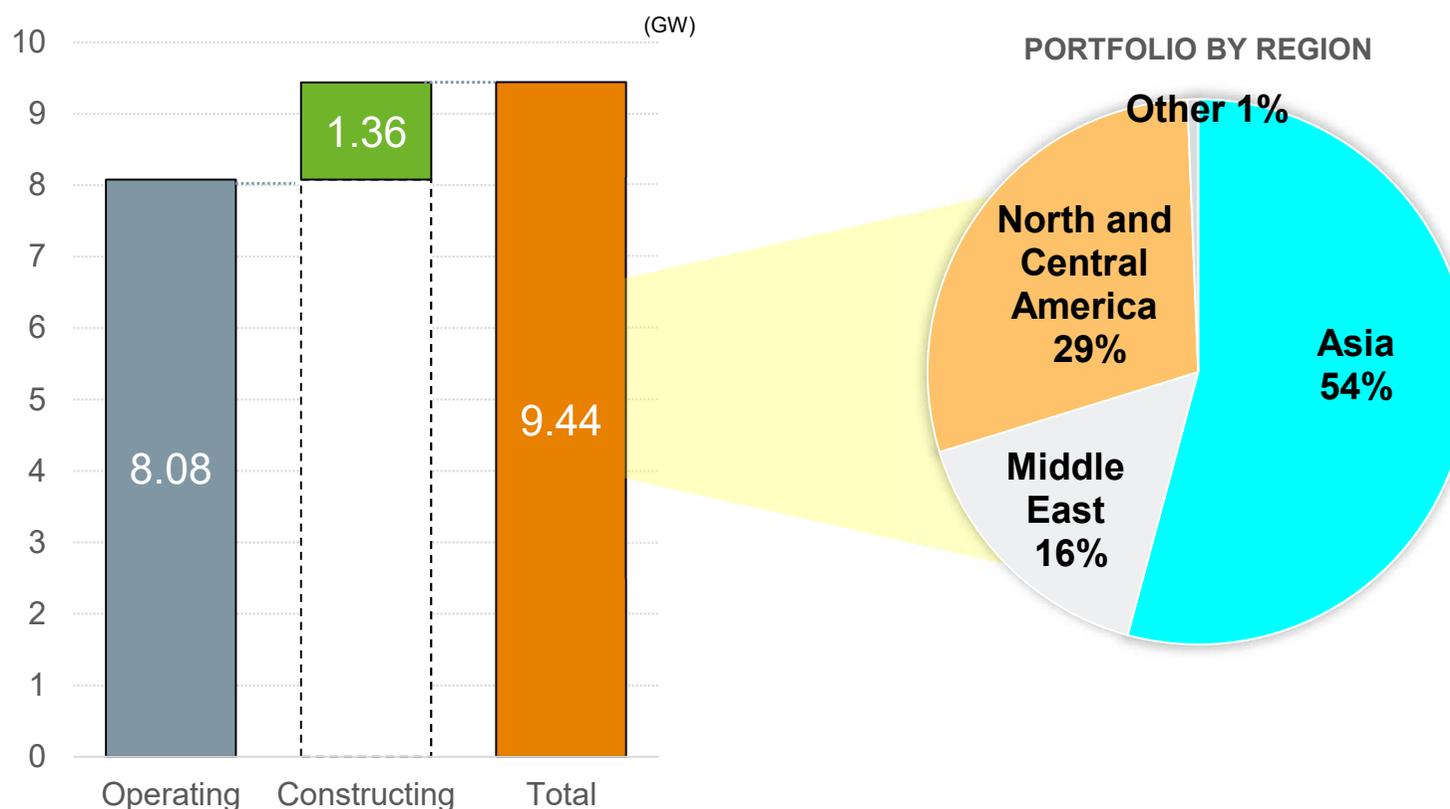


\*As of March 31, 2021

## Overseas Power Generation Business: Portfolio of Overseas Power Generation Business

- We are developing businesses leveraging the experience gained from projects around the world. The capacity of power generation is 9.44 GW (include under construction).
- We aim to expansion of development with strategies tailored to the market needs of each region and build a balanced regional portfolio.

< Power generation capacity (As of March 31, 2021)>



## List of overseas power generation projects (1)

(As of March 31, 2021)

| Country     | Project Name                                 | Investment ratio | Capacity | Fuel type                  | Notes                        |
|-------------|--|------------------|----------|----------------------------|------------------------------|
| Taiwan      | Chang Bin/Fong Der/Star Buck Gas Thermal IPP | 19.5%~22.7%      | 1,960 MW | Gas                        |                              |
| 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   | Paiton Coal Thermal IPP                      | 14.0%            | 2,033 MW | Coal                       |                              |
| Indonesia   | Cirebon2 Coal Thermal IPP                    | 10.0%            | 1,000 MW | Coal                       | Under construction           |
| Philippines | TeaM Energy IPP                              | 10.0%~50.0%      | 3,592 MW | Coal/Gas                   |                              |
| Thailand    | EGCO Corporation                             | 12.3%            | 5,646 MW | Gas/Coal/<br>Renewable     | Including under construction |
| Thailand    | AT Biopower Rice Husk Biomass Thermal IPP    | 34.0%            | 20 MW    | Biomass                    |                              |
| Thailand    | Ratchaburi Gas Power Thermal IPP             | 15.0%            | 1,400 MW | Gas                        |                              |
| Thailand    | Cogeneration Project in Industrial Areas     | 19.0%~23.8%      | 360 MW   | Cogeneration               |                              |
| Thailand    | Solar Power IPP                              | 49.0%            | 31 MW    | Solar Power                |                              |
| Thailand    | Wind Power IPP                               | 5.0%             | 180 MW   | Wind Power                 |                              |
| India       | ReNew Company                                | 8.0%             | 8,451 MW | Solar Power/<br>Wind Power | Including under construction |
| Bangladesh  | Summit Power IPP                             | 22.0%            | 2,419 MW | Gas                        | Including under construction |
| Bangladesh  | Reliance                                     | 49.0%            | 718MW    | Gas                        | Under construction           |

## List of overseas power generation projects (2)

(As of March 31, 2021)

| Country        | Project Name                     | Investment ratio | Capacity | Fuel type       | Notes |
|----------------|----------------------------------|------------------|----------|-----------------|-------|
| UAE            | Umm Al Nar Gas Thermal IWPP      | 20.0%            | 2,200 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             |       |
| Mexico         | Falcon Gas Thermal IPP           | 20.0%            | 2,233 MW | Gas             |       |
| America        | Tenaska Gas Thermal IPP          | 11.1%~17.5%      | 2,950 MW | Gas             |       |
| America        | Carroll County Gas Thermal IPP   | 20.0%            | 702 MW   | Gas             |       |
| America        | Cricket Valley Gas Thermal IPP   | 38.0%            | 1,100 MW | Gas             |       |
| America        | Linden Gas Thermal IPP           | 50.0%            | 972 MW   | Gas             |       |
| America        | Compass Gas Thermal IPP          | 50.0%            | 1,123 MW | Gas             |       |
| United Kingdom | Gunfleet Sands Offshore Wind IPP | 25.0%            | 173 MW   | Offshore Wind   |       |
| United Kingdom | Zenobe Battery Storage           | 9.9%             | 73 MW    | Storage Battery |       |

# Overview of Fuel-related Business

## [Fuel Upstream/ Fuel Transportation Business]

- We are leveraging the world's largest LNG transaction volume (FY2020: Approximately 40 million tons\*) and participating in LNG upstream projects, we acquire information and Equity LNG 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

## Fuel Upstream Project

| Project Name           | Address       | LNG production / liquefaction capability | Our company Investment ratio *  |
|------------------------|---------------|--|---------------------------------|
| Darwin LNG Project     | Australia     | Approximately 3.7 million t/year         | 6.13%                           |
| Gorgon LNG Project     | Australia     | Approximately 15.6 million t/year        | 0.417%                          |
| Ichthys LNG Project    | Australia     | Approximately 8.9 million t/year         | 0.735%                          |
| Wheatstone LNG Project | Australia     | Approximately 8.9 million t/year         | Gas field: 10%<br>LNG plant: 8% |
| Freeport LNG Project   | United States | Approximately 4.64 million t/year        | 25%                             |

\*The ratio of Wheatstone LNG Project represents the ratio of shares held through PE Wheatstone, in which we holds an equity stake.

## [Fuel Trading Business]

- We are leveraging our world class procurement scale and doing asset-back trading.
- With approximately 300 people mainly at JERAGM, which has offices in worldwide including Singapore, the United Kingdom, the Netherlands, the United States and Japan, we work closely together to contribute to the optimization of entire supply chains.