

Jera

エネルギーを新しい時代へ

FY2021 Second Quarter Investors Meeting

(Note) 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.

JERA Co., Inc.

November, 2021

Outline of Financial Results

1

Consolidated Statement of Income

(Unit: Billion Yen)

	2021/2Q(A)	2020/2Q(B)	Change(A-B)	Rate of Change(%)
Operating revenue (Net sales)	1,590.8	1,252.5	338.3	27.0
Operating income	111.7	158.5	(46.8)	(29.5)
Ordinary income	84.3	162.9	(78.6)	(48.2)
Quarterly net income attributable to owners of parent	43.8	108.9	(65.0)	(59.7)
<Reference>Income excluding time lag	134.8	(3.8)	138.7	

Consolidated Balance Sheet

(Unit: Billion Yen)

	As of Sep.30,2021(A)	As of Mar.31,2021(B)	Change(A-B)	Rate of Change(%)
Assets	6,598.3	4,090.8	2,507.4	61.3
Liabilities	4,752.0	2,328.7	2,423.2	104.1
Net assets	1,846.3	1,762.1	84.1	4.8
Outstanding interest- bearing debt	1,778.9	1,613.2	165.6	10.3
Equity ratio (%)	26.6	41.2	(14.6)	

Key Points of Financial Results

【Operating Revenue】

- Sales increased by 338.3 billion yen (up 27.0%) to 1,590.8 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 fell by 65.0 billion yen (down 59.7%) to 43.8 billion yen.
Net income decreased due to the shift from gains to losses of time lag (- 203.7 billion yen [112.7 billion yen to - 90.9 billion yen]) despite a substantial increase in net income excluding the effect of time lag (+ 138.7 billion yen).
- Net income excluding the effect of time lag increased by 138.7 billion yen to ¥134.8 billion yen.
Despite an impairment loss (-32.3 billion yen) in the overseas power generation business, net income substantially increased due to the rebound from the COVID-19 negative impact in the same period of the previous year (+ 29.8 billion yen), an increase in profit of JERAGM (+ 48.8 billion yen) and impact of fuel inventory unit prices (+20.3 billion yen).

*Equity ratio

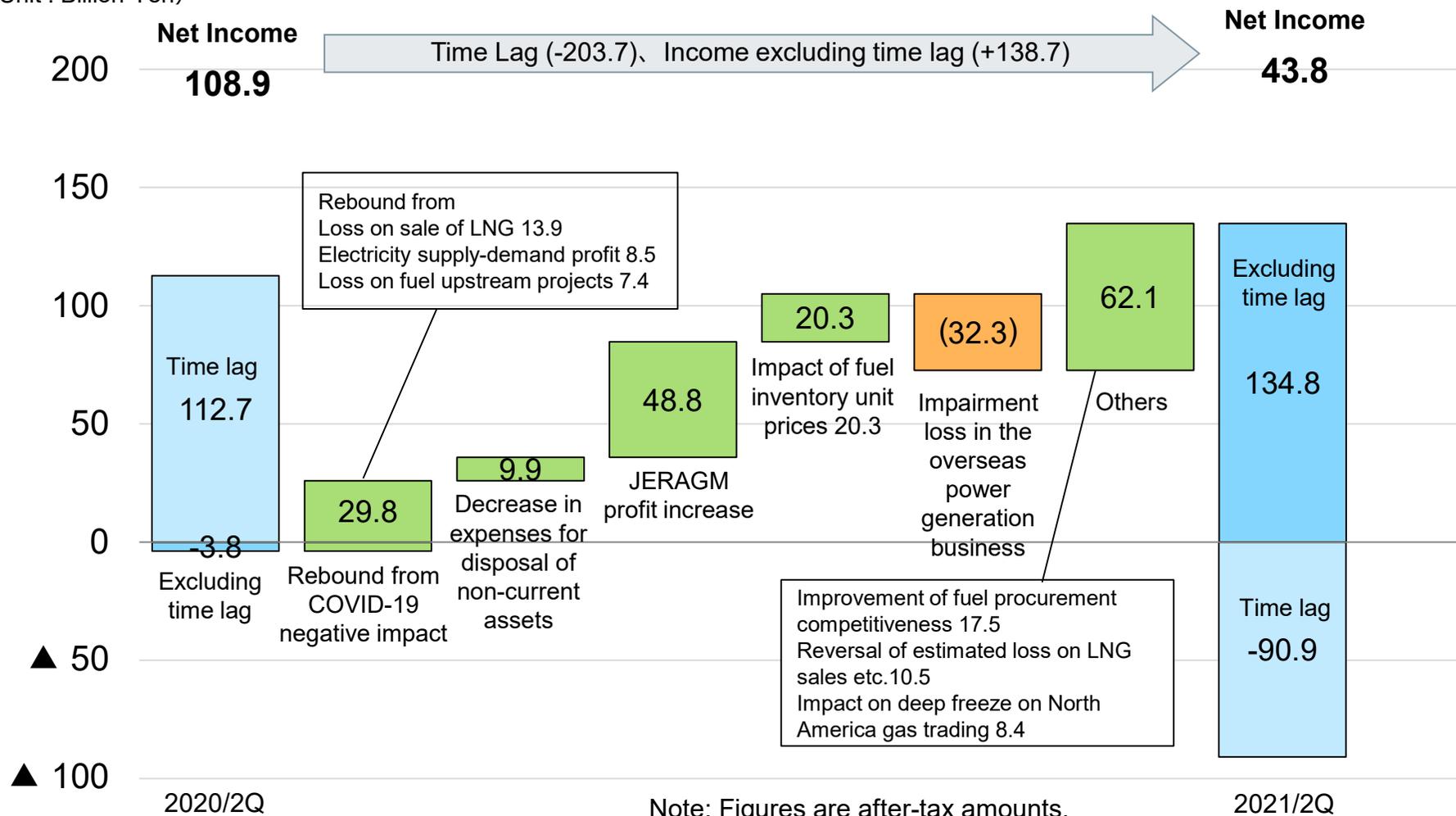
- JERAGM engaged in fuel trading makes contracts for both procurement and sales as physical and financial transactions* and the fair value of the outstanding all contracts are reported as assets “derivative securities” and liabilities “derivative obligations” in the statement of financial position. While significant changes in fair value due to a spike of fuel index prices have led to huge increases in both derivative asset and liabilities in JERAGM, the risk capacity has not declined substantially. If such derivative securities and obligations in JERAGM are offset, the equity ratio in JERA would be approximately 40%.

*Singapore Financial Reporting Standard

Consolidated Net Income

【Various factors of Consolidated net income】

(Unit : Billion Yen)



Consolidated Income/Expenditure Comparison

(Unit: Billion Yen)

	2021/2Q(A)	2020/2Q(B)	Change(A-B)	Main Factors of Changes
Operating revenue (Net sales)	1,590.8	1,252.5	338.3	<ul style="list-style-type: none"> • Increase of electrical energy sold • Increase in sales of JERAGM
Operating expenses	1,479.1	1,093.9	385.1	<ul style="list-style-type: none"> • Increase of fuel costs • Increase in costs of JERAGM
Operating income	111.7	158.5	(46.8)	
Non-operating income	5.3	10.0	(4.6)	
Non-operating expenses	32.7	5.6	27.1	<ul style="list-style-type: none"> • Share of loss of entities accounted for using equity method 26.5
Ordinary income	84.3	162.9	(78.6)	<ul style="list-style-type: none"> • Decrease of time lag income -283.0 (156.6 → -126.3) • Increase of income excluding time lag +204.4 (6.3 → 201.6)
Extraordinary loss	—	5.7	(5.7)	
Income taxes, etc.	11.8	40.6	(28.8)	
Quarterly net income attributable to non-controlling Interests	28.6	7.6	20.9	
Quarterly net income attributable to owners of parent	43.8	108.9	(65.0)	

Key Elements of Income and Expenditure

	2021/2Q(A)	2020/2Q(B)	Change(A-B)
Electrical Energy Sold(TWh)	118.3	109.9	8.4
Crude Oil Prices(JCC) (dollar/barrel)	70.3	36.5	33.8
Foreign Exchange Rate (yen/dollar)	109.8	106.9	2.9

Note: Crude Oil Prices(JCC) for 2021/2Q is tentative.

Consolidated Balance Sheet

(Unit: Billion Yen)

	As of Sep. 30, 2021(A)	As of Mar. 31, 2021(B)	Change(A-B)	Main Factors of Changes
Cash and deposits	486.8	616.1	(129.2)	
Property, plant and equipment	2,119.4	2,010.0	109.4	• Progress in replacing domestic thermal power plants
Investment securities	549.3	559.4	(10.0)	
Others	3,442.6	905.3	2,537.3	• Increase in derivative securities (JERAGM, etc.) +2,216.2
Assets	6,598.3	4,090.8	2,507.4	
Outstanding interest-bearing debt	1,778.9	1,613.2	165.6	• Borrowings +165.6(Subsidiaries +161.1)
Others	2,973.1	715.4	2,257.6	• Increase in derivative obligations (JERAGM, etc.) +2,188.1
Liabilities	4,752.0	2,328.7	2,423.2	
Shareholders' equity	1,707.4	1,696.9	10.4	• Dividends paid -33.4 • Quarterly net income +43.8
Others	138.8	65.1	73.6	• Foreign currency translation adjustments +40.6
Net Assets	1,846.3	1,762.1	84.1	
Equity ratio (%)	26.6	41.2	(14.6)	• Decrease in the ratio mainly due to an increase in both derivative securities and obligations

Consolidated Cash Flows

(Unit: Billion Yen)

		2021/2Q(A)	2020/2Q(B)	Change(A-B)
Cash flows from operating activities		(12.8)	196.6	(209.5)
Cash flows from investing activities	Purchase of non-current assets	(190.9)	(116.0)	(74.8)
	Purchase of investment securities	(0.9)	(2.6)	1.7
	Others	(36.8)	(4.3)	(32.4)
		(228.6)	(123.1)	(105.5)
Free cash flows		(241.5)	73.4	(315.0)
Cash flows from financing activities	Net increase/decrease in outstanding interest-bearing debt	159.3	34.9	124.3
	Dividends paid *1	(33.4)	(27.0)	(6.4)
	Others	(12.0)	16.6	(28.7)
		113.9	24.6	89.2
Net increase/decrease in cash and cash equivalents (parenthesis indicates decrease)		(120.0)	93.5	(213.6)

*1 Excluding Dividends paid to non-controlling interests

Segment Information

(Unit: Billion Yen)

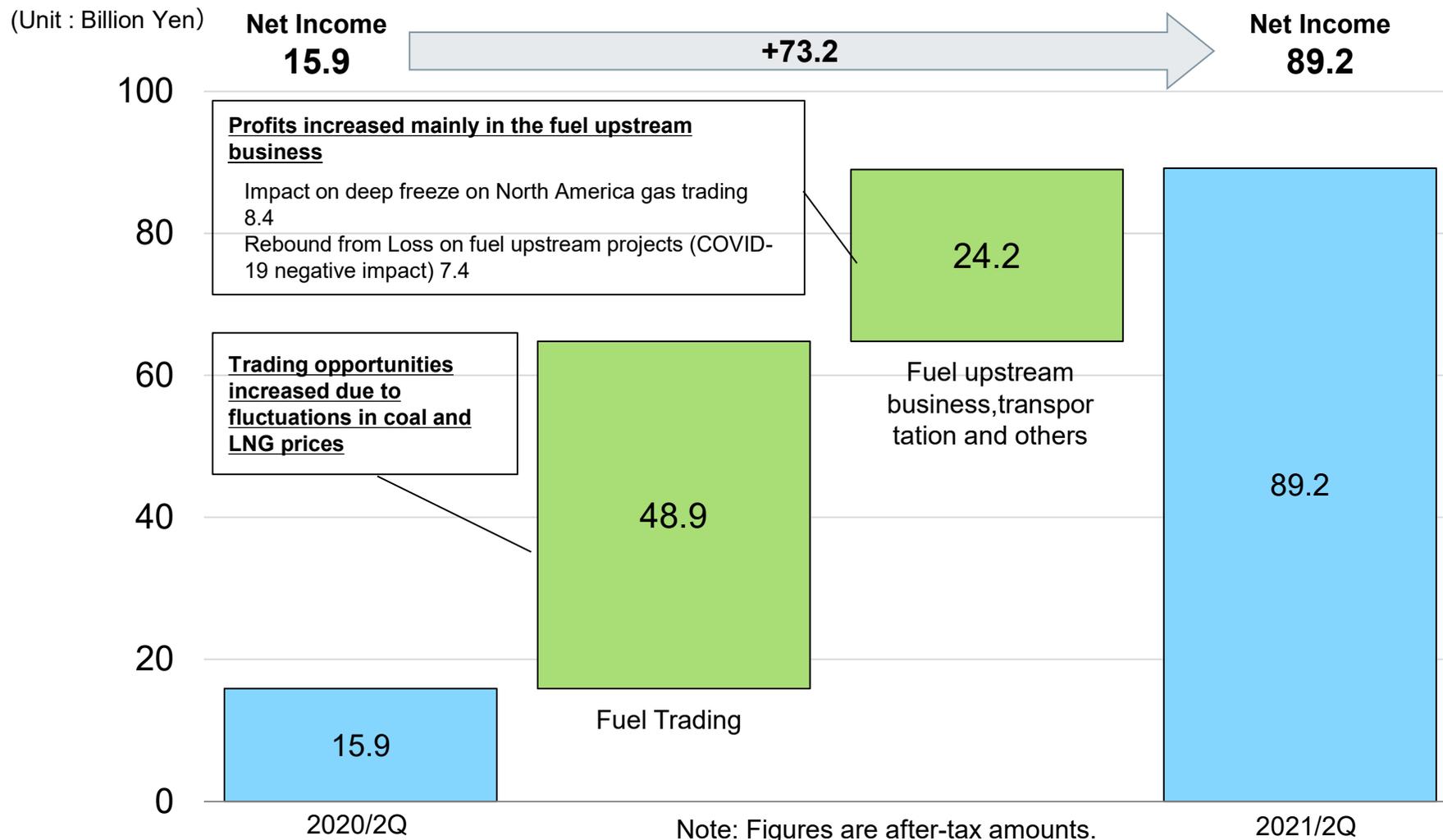
	2021/2Q(A)		2020/2Q(B)		Change(A-B)		Main Factors of Changes in Net Income
	Operating Revenue	Net Income	Operating Revenue	Net Income	Operating Revenue	Net Income	
Fuel related*1	956.4	89.2	365.5	15.9	590.8	73.2	<ul style="list-style-type: none"> JERAGM Profit Increased +48.8 Impact on deep freeze on North America gas trading +8.4 Rebound from COVID-19 negative impact +7.4
Overseas power generation	1.5	(33.0)	1.0	0.1	0.4	(33.2)	<ul style="list-style-type: none"> Impairment loss in Formosa 2 -32.3
Domestic thermal power generation and gas supply	1,188.9	17.0 108.0*2	1,167.4	108.2 (4.4)*2	21.5	(91.2) 112.5*2	<ul style="list-style-type: none"> Rebound from COVID-19 negative impact +22.4 Decrease in expenses for disposal of non-current assets +9.9 Impact of fuel inventory unit prices +20.3 Improvement of fuel procurement competitiveness +17.5 Reversal of estimated loss on LNG sales etc. +10.5
Adjustments	(556.0)	(29.3)	(281.5)	(15.5)	(274.5)	(13.8)	
Consolidated	1,590.8	43.8 134.8*2	1,252.5	108.9 (3.8)*2	338.3	(65.0) 138.7*2	

*1 Fuel upstream, transportation and trading

*2 Excluding the effect of time lag

Results of Fuel related business

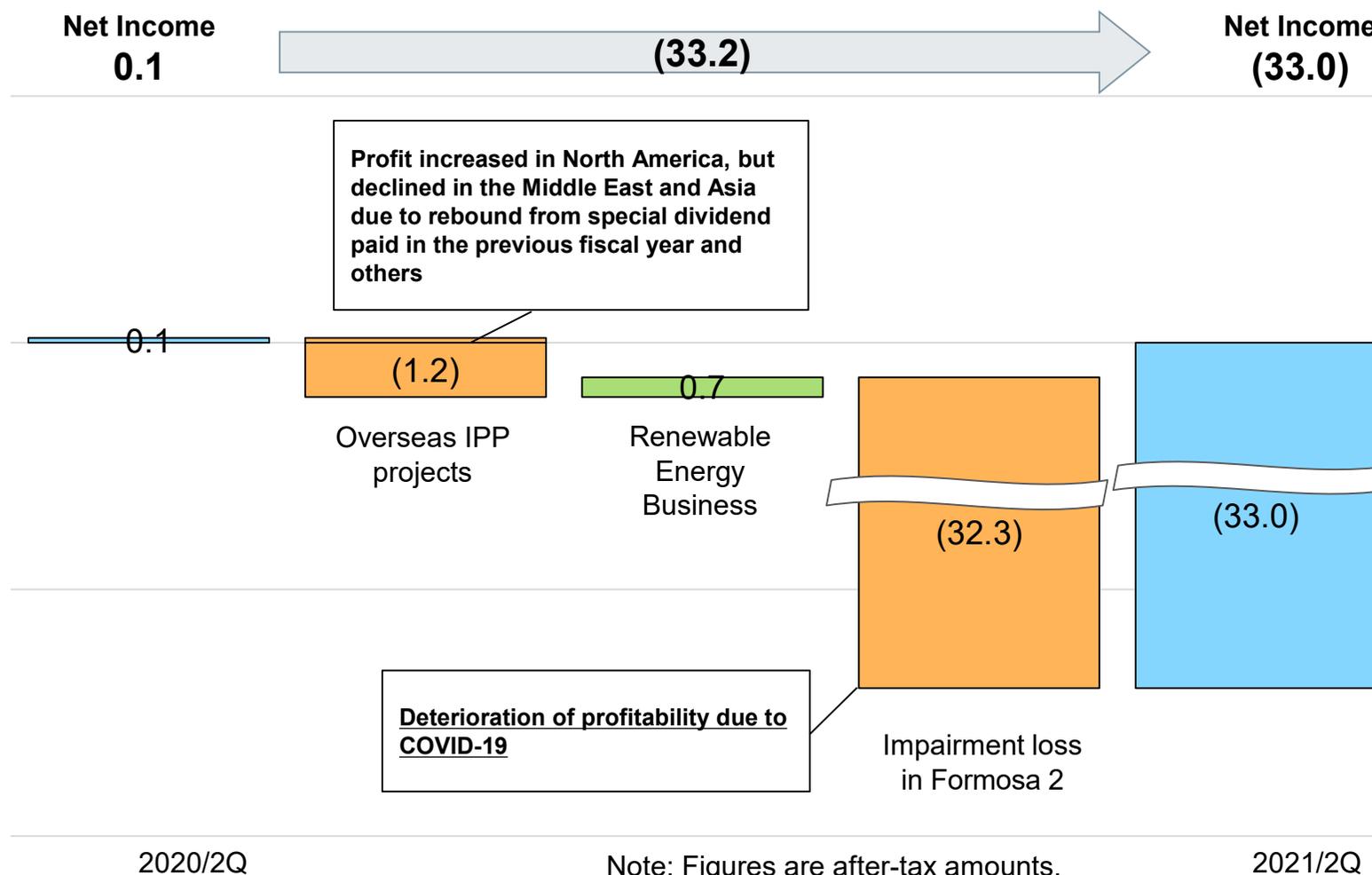
■ Significant increase in fuel trading and upstream business



Results of Overseas power generation business

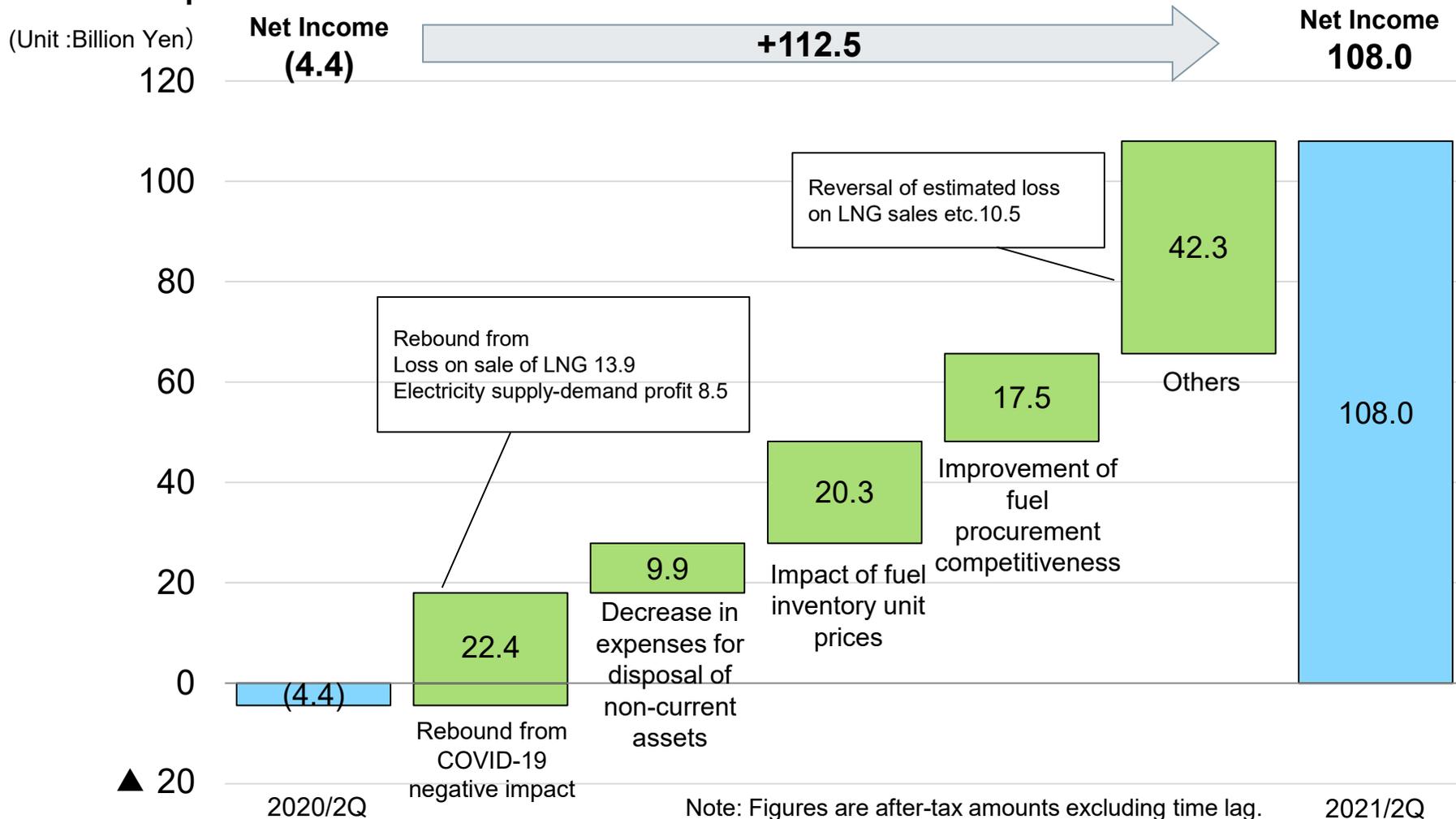
■ Impairment loss in Formosa 2 due to low profitability caused by the COVID-19

(Unit :Billion Yen)



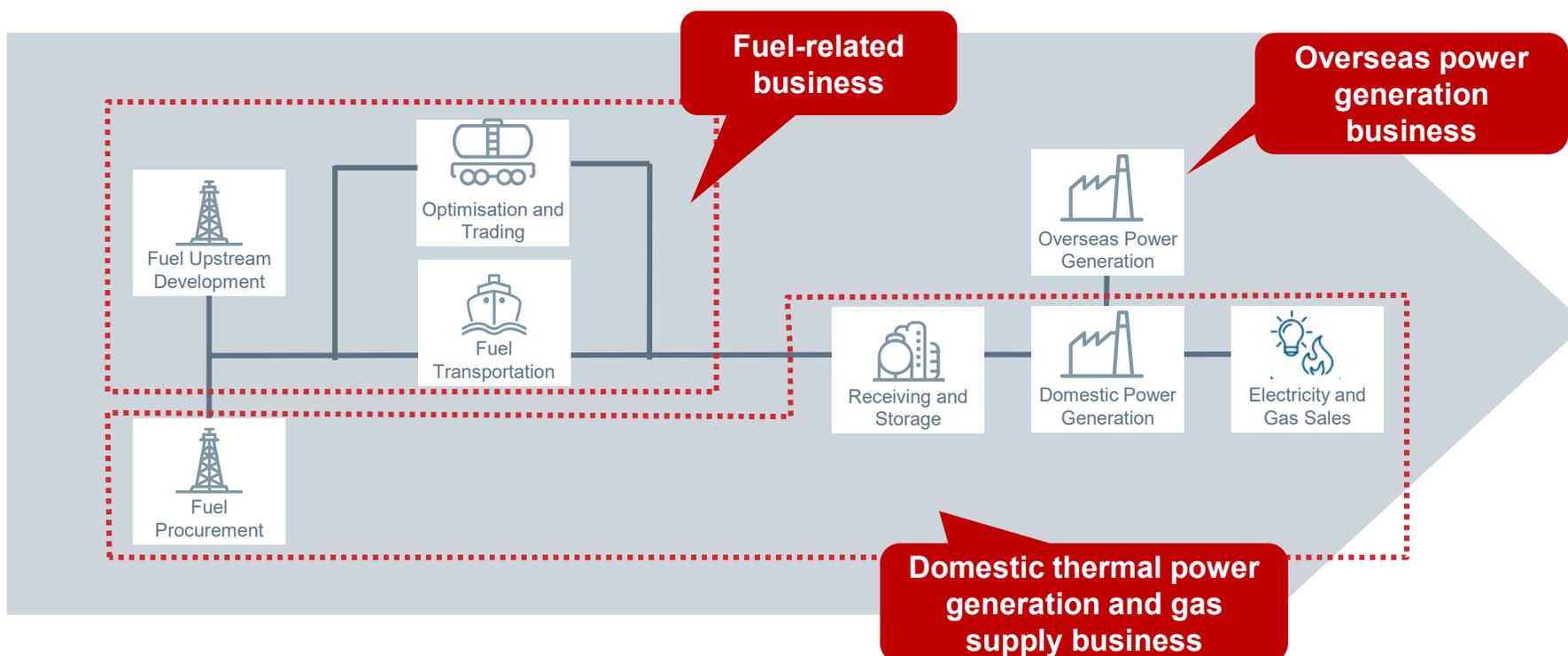
Results of Domestic thermal power generation and gas supply business

- A sharp increase in profit excluding time lag due to factors such as rebound from COVID-19 negative impact, impact of fuel inventory unit prices and the improvement of fuel procurement competitiveness



Reference: JERA's Value Chain and Segment Division

- 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.
- JERA has 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 FY2021

【Consolidated forecast】

Revised net income forecast down to 0 billion yen due to an increase in net loss from time lag, and net income excluding time lag to 150.0 billion yen due to the strong performance of JERAGM.

(Unit: Billion Yen)

	Current Forecast(A)	Previous Forecast(B)	Change(A-B)	Rate of Change(%)
Net Income attributable to owners of parent	0	40.0	(Approx. 40.0)	-
Breakdown: Time lag	(150.0)	(80.0)	(Approx. 70.0)	-
Income excluding time lag	150.0	120.0	Approx.30.0	25.0

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

(Unit: Billion Yen)

	Current Forecast(A)	FY2020 Result(B)	Change(A-B)	Rate of Change(%)
Net Income attributable to owners of parent	0	157.8	(Approx. 158.0)	-
Breakdown: Time lag	(150.0)	46.2	(Approx. 196.0)	-
Income excluding time lag	150.0	111.6	Approx. 38.0	34.1

【Key data】

	Current Forecast	Second half of FY2021	Previous Forecast	【Reference】 FY2020 Result
Crude Oil Prices(JCC) (dollar/barrel)	Approx. 73	Approx. 75	Approx. 72	43.4
Foreign Exchange Rate (yen/dollar)	Approx. 110	Approx. 110	Approx. 110	106.1

Appendix

(Reference) Sensitivity to net income of crude oil price and exchange rate

【Domestic thermal power generation and gas supply business】

(Unit: Billion Yen)

Crude oil Prices (Increase in 1 \$/b)		Impact on Second half Net Income
Timing of Change	3Q (Oct, 2021-)	-3.0
	4Q (Jan, 2022-)	-

(Unit: Billion Yen)

Foreign Exchange Rate (1Yen depreciation against dollar)		Impact on Second half Net Income
Timing of Change	3Q (Oct, 2021-)	-3.0
	4Q (Jan, 2022-)	-3.0

【Fuel-related, Overseas power generation business】

(Unit: Billion Yen)

Crude oil Prices (Increase in 1 \$/b)		Impact on Second half Net Income
Timing of Change	Second half	+0.2

(Unit: Billion Yen)

Foreign Exchange Rate (1Yen depreciation against dollar)		Impact on Second half Net Income
Timing of Change	Second half	+0.3

(Reference) Trends in crude oil price and exchange rates

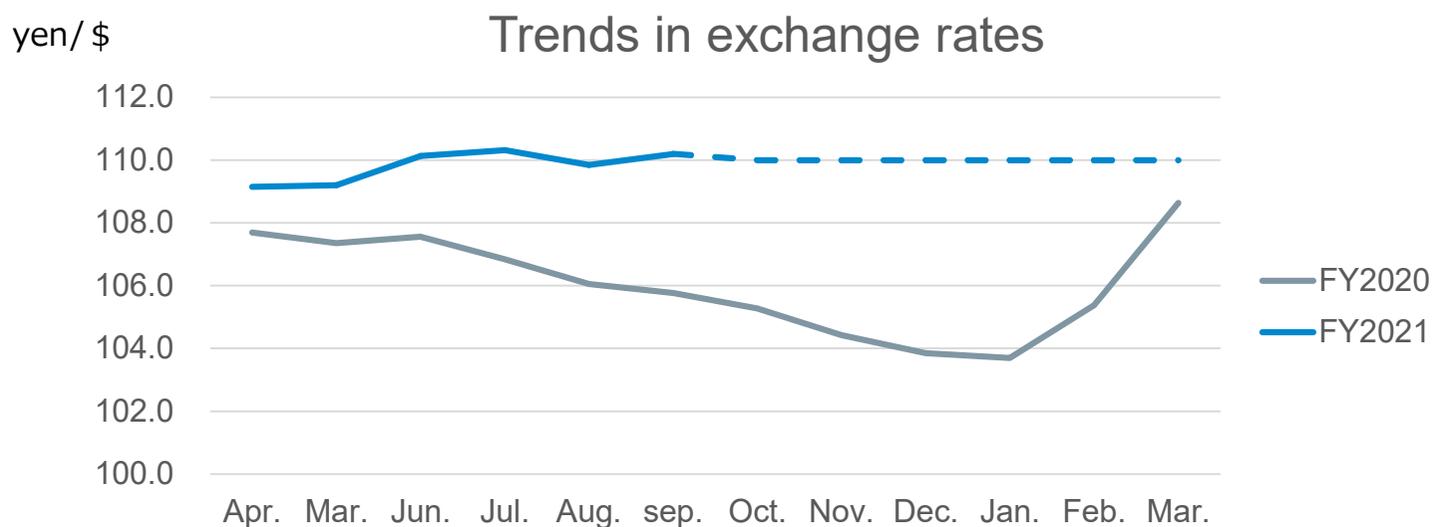
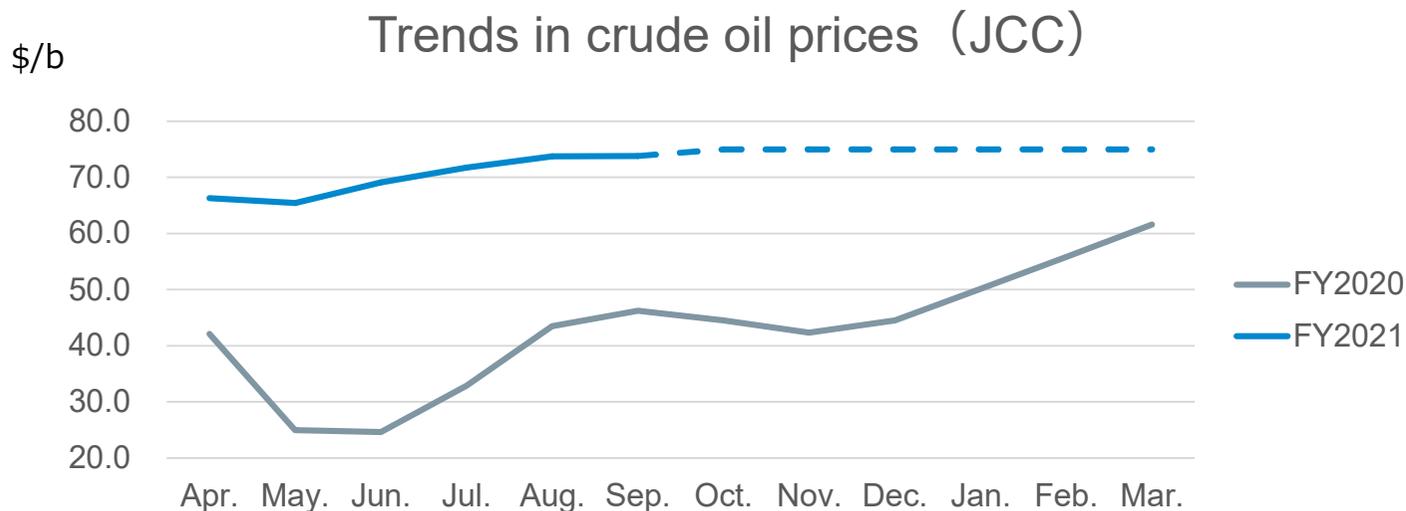
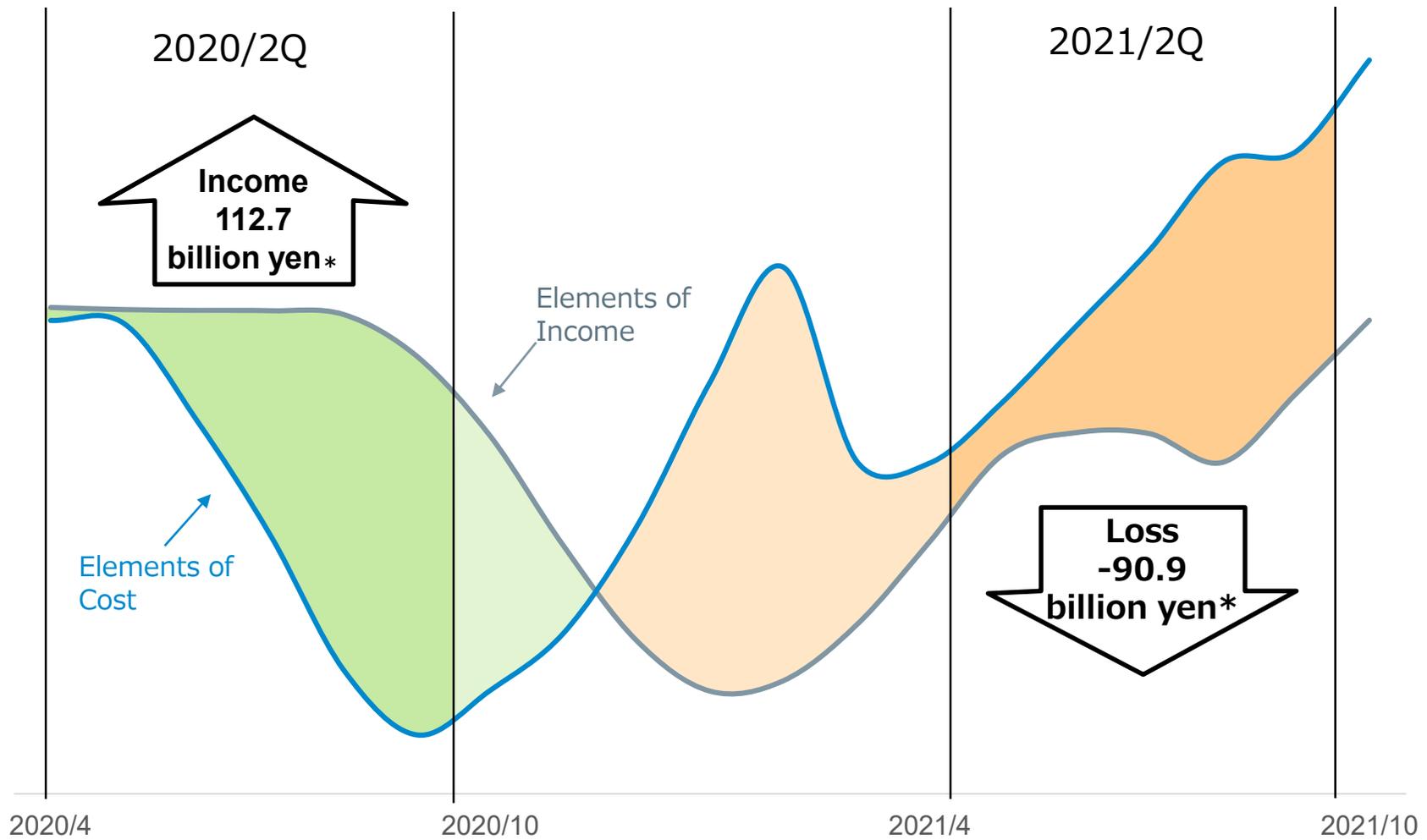
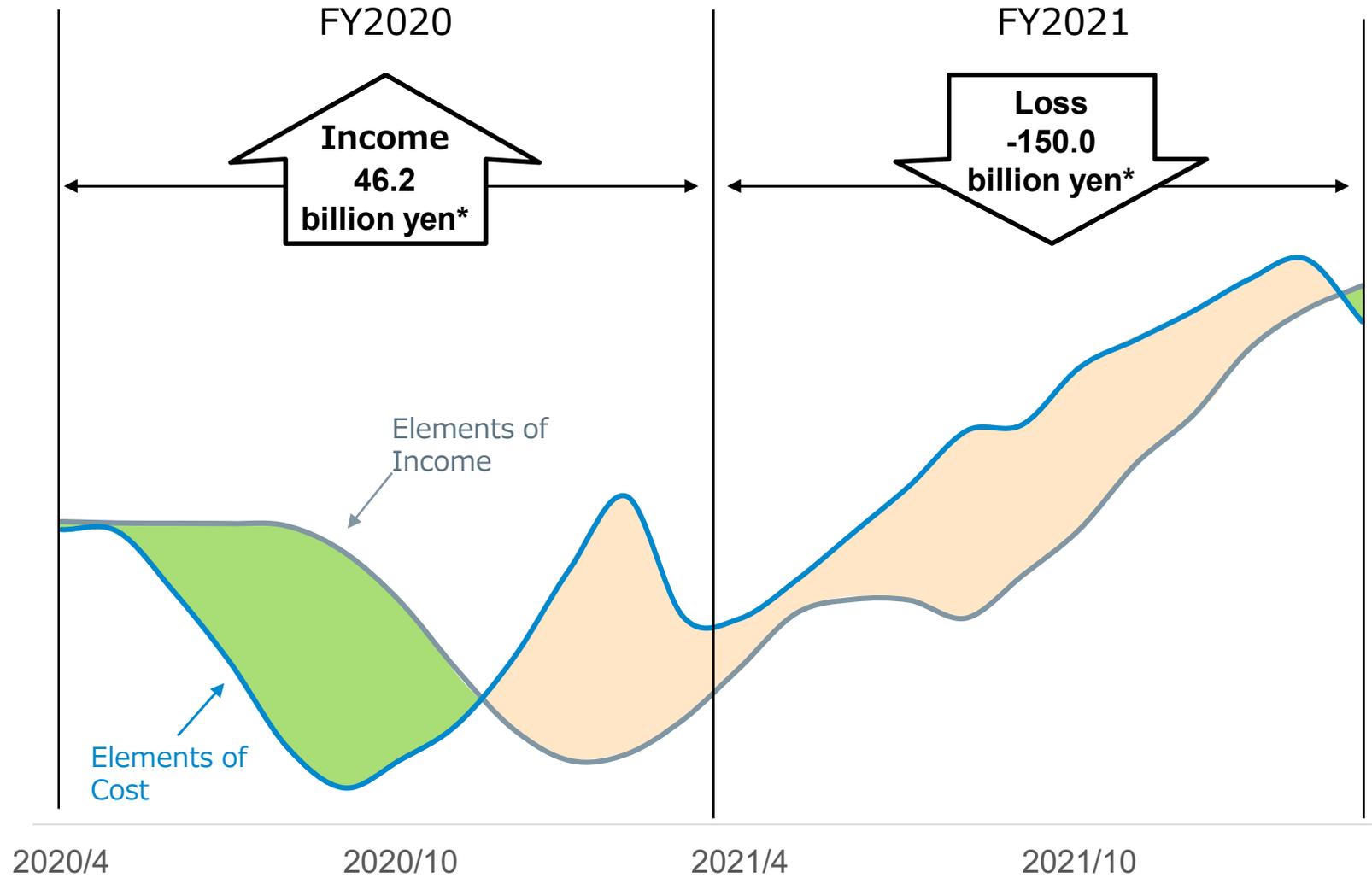


Image of Time Lag (2020/2Q – 2021/2Q)



* Figures are after-tax amounts.

Image of Time Lag (FY2020 – FY2021)



* 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	2Q (Apr 1 to Sep 30)
FY2021	53.7	64.6	118.3
FY2020	47.5	62.4	109.9

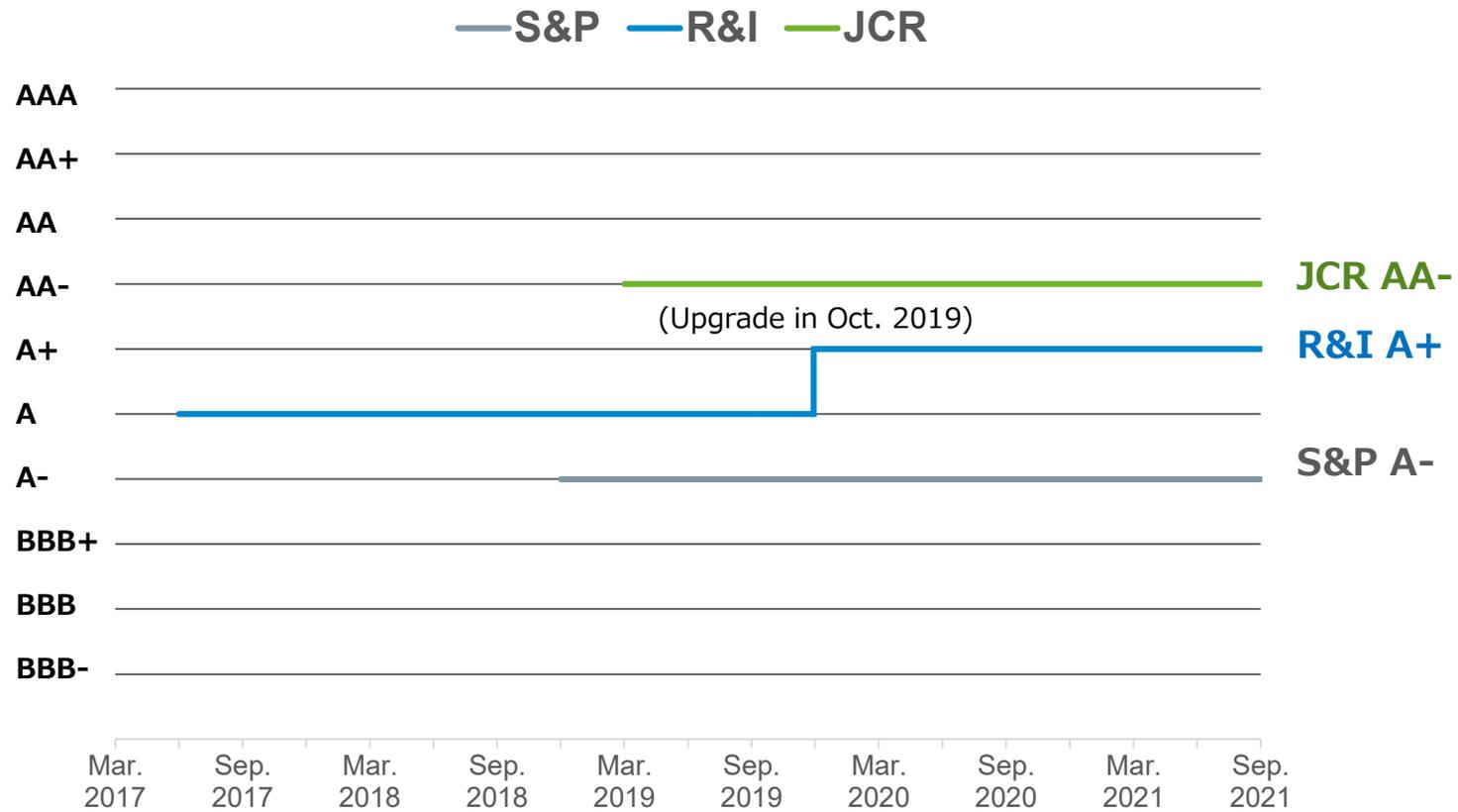
【Electrical Power Generated(TWh)】

	Apr 1 to Jun 30	Jul 1 to Sep 30	2Q (Apr 1 to Sep 30)	
FY2020	53.4	61.7	115.1	
	LNG	41.2 (77%)	46.8 (76%)	88.0 (76%)
	Coal	12.2 (23%)	14.9 (24%)	27.1 (24%)
	Others	0.0 (0%)	0.0 (0%)	0.0 (0%)
FY2020	47.0	61.7	108.7	
	LNG	38.4 (82%)	52.9 (86%)	91.3 (84%)
	Coal	8.7 (18%)	8.8 (14%)	17.4 (16%)
	Others	0.0 (0%)	0.0 (0%)	0.0 (0%)

*The total may not match due to rounding

Credit Ratings

【 Issuer Credit ratings history 】



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Reference:
**Progress of
JERA Zero CO₂ Emissions 2050**

JERA Zero CO₂ Emissions 2050

JERA Zero CO₂ 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 CO₂ emissions* from its business both in Japan and overseas.

The Three Approaches of JERA Zero CO₂ Emissions 2050

1. Complementarity between Renewable Energy and Zero CO₂ Emission Thermal Power Generation

JERA will achieve Zero CO₂ emissions through a combination of renewable energy and zero CO₂ 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 CO₂ during power generation.

2. Establishment of Roadmaps Suitable for Each Country and Region

Zero CO₂ 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.

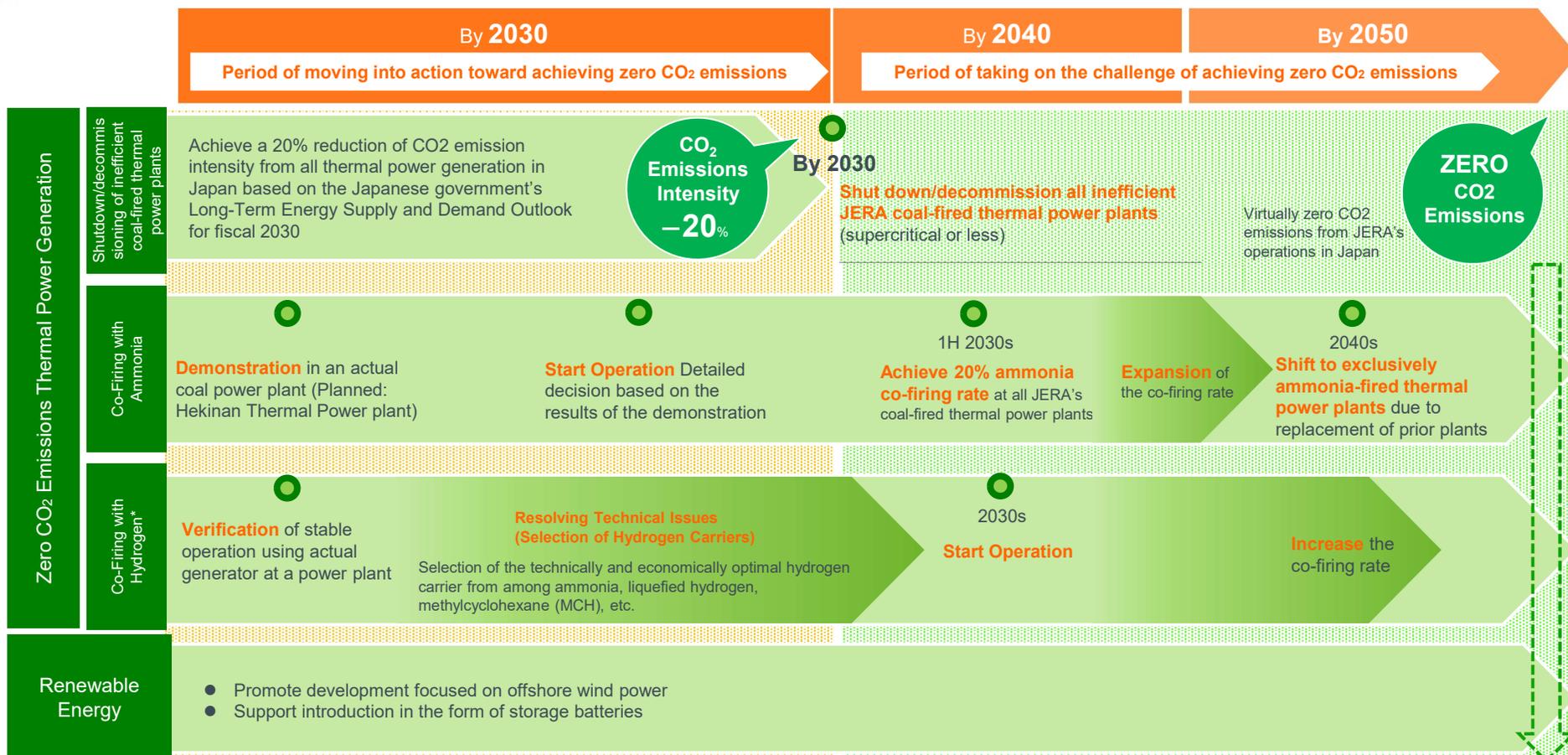
3. Smart Transition

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

JERA Zero CO₂ Emissions 2050 Roadmap for its Business in Japan



This roadmap will be gradually developed in greater detail based on relevant conditions such as government policies. JERA will revise the roadmap when relevant conditions change significantly.

*The use of CO₂-free LNG is also being considered.

CO₂ emitted from power plants that cannot be exclusively ammonia-fired as of 2050 will be offset using offset technology or by CO₂-free LNG

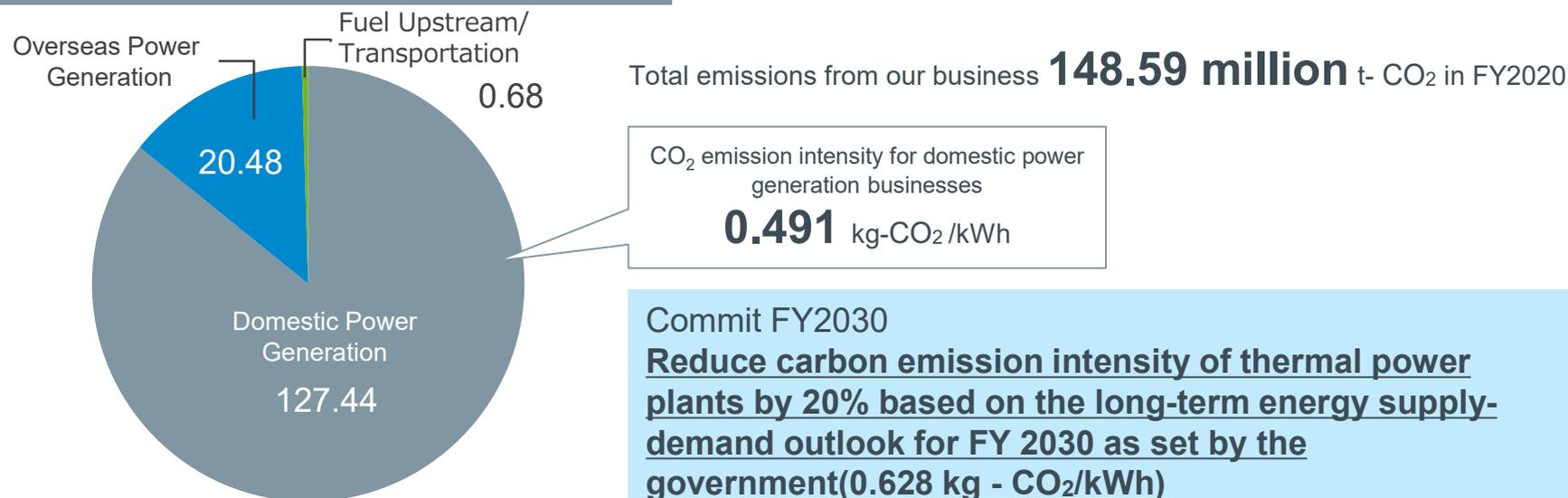
JERA Environmental Target 2030 for its Business in Japan

JERA is actively working to reduce CO₂ emissions. In 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.

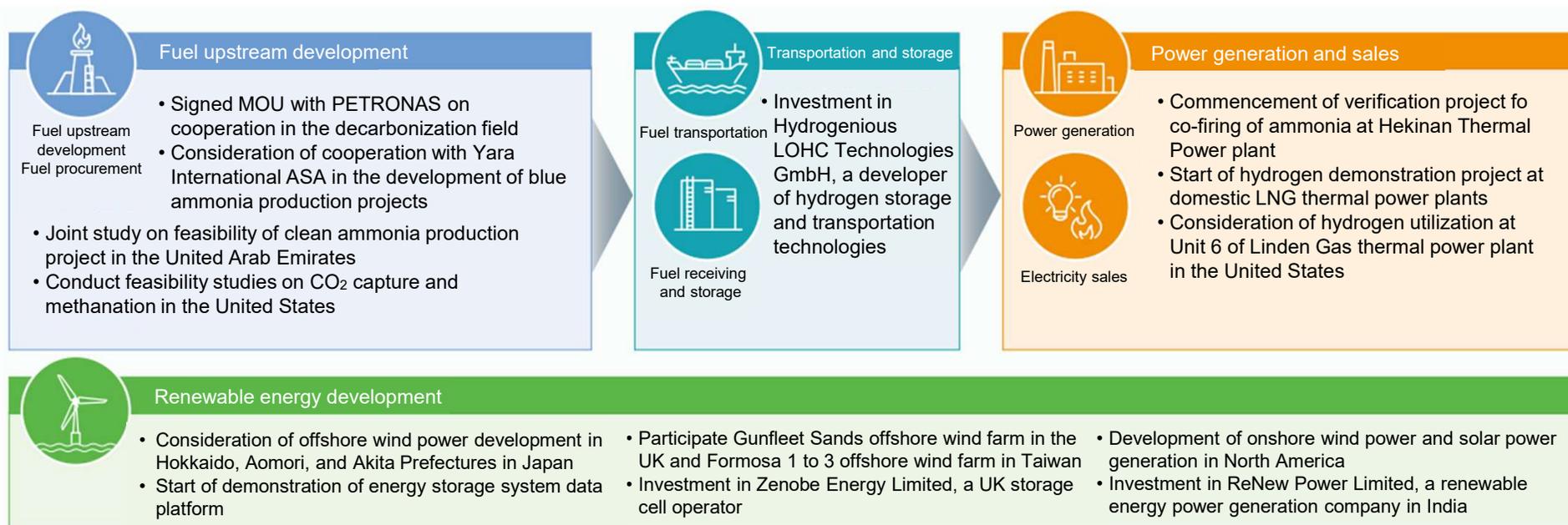
"JERA Environmental Target 2030 for its Business in Japan" are premised on steady advances in decarbonization technology, economic rationality, and consistency with government policy. JERA is developing its own decarbonization technologies and taking the initiative to ensure economic rationality.

Reference: CO₂ Emissions/ CO₂ Emission Intensity



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.



Activities for Ammonia Co-firing

- "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" program was adopted by NEDO for the introduction of ammonia fuel.
- At Hekinan Thermal Power plant Unit 4 (power output: 1 million kW), JERA plans to achieve 20% co-firing of ammonia by fiscal 2024. In addition, small-scale tests using burners of different materials has been conducted in FY 2021 at Unit 5 of Hekinan (power output: 1 million kW).

Updates on Upstream development, transportation, storage of Ammonia

- Signed MOU with Yara International ASA, a world leader in the production of nitrogen fertilizer, related to cooperation in the ammonia value chain business, including development of a blue ammonia production plant.
- Signed a joint study agreement with the Abu Dhabi National Oil Company (ADNOC) on exploring the commercial potential of clean ammonia production business in the United Arab Emirates (UAE).
- Concluded a MOU with Yara International ASA and Idemitsu Kosan Co., Ltd. to discuss cooperation in expanding the introduction of ammonia in Japan.



Hekinan Thermal Power plant

Activities 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.
- Started evaluation of operational and environmental characteristics for hydrogen utilization at existing LNG thermal power plants in Japan from October 2021 to March 2026.
- Modify the existing gas turbine at Unit 6 of Linden Gas Thermal Power plant in the United States for co-firing with hydrogen and the construction will be completed in 2022.

Updates on Transport and storage of hydrogen

- Investment in Hydrogenious LOHC Technologies GmbH (“Hydrogenious LOHC”) which as a lead investor. Hydrogenious LOHC, which is headquartered in Erlangen, Germany, has been developing hydrogen storage and transportation technology. It possesses unique technology of Liquid Organic Hydrogen Carrier (“LOHC”) as one of hydrogen energy carriers.



Linden Gas Thermal Power plant

JERA Zero CO₂ Emissions 2050: Target of Offshore Wind and Renewable Energy Development

Status of Offshore Wind Development (As of Sep. 2021)

- **JERA is conducting developments of offshore wind power in Japan as follows.**

Development sites	Power generation output	Status of development
Off the coast of Ishikari Bay, Hokkaido	Maximum 520 MW	• Complete procedures for environmental impact assessment.
Off Noshiro City, Mitane Town and Oga City, Akita Prefecture	415 MW *	• Opened "Akita Office" as a base for offshore wind power projects in April 2021. • Established SPC with J-Power and Equinor ASA and submitted bid for development in the open sea off the coast of Akita Prefecture in May 2021.
Off Yurihonjo-city, Akita Prefecture	730 MW *	
Off the city of southern Tsugaru, Aomori Prefecture	Maximum 600 MW	• Complete procedures for environmental impact assessment.

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

- **JERA participates in three offshore wind projects at different stages and accumulating know-how in Taiwan, an advanced country in offshore wind power in Asia.**

	Capacity	No. of generators	Commercial operation	Business partner
Formosa 1	128 MW	22 units	December 2019 * ¹	Orsted, Macquarie and Swankor
Formosa 2	376 MW	47 units	Under construction	Macquarie and Swankor
Formosa 3	2,004 MW * ²	Undecided	2026 to 2030 (Target)	Macquarie and EnBW

*¹ 2 units (8 MW) started operation in April 2017 *² Scheduled output

Status and Targets of Renewable Energy Development

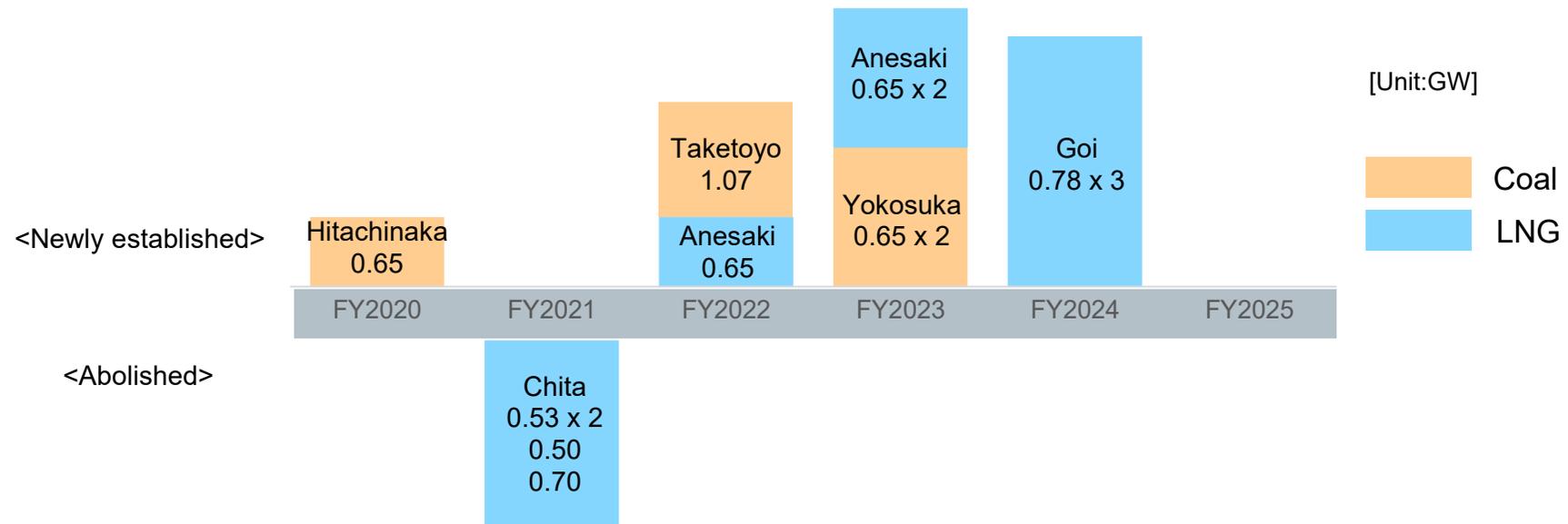


Reference:
**Overview and topics of
each segment**

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 plants. 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 53%
Yokosuka	Full-scale construction started in August 2019. Construction progress rate of 42%
Goi	Full-scale construction started in April 2021. Construction progress rate of 16%
Taketoyo	Full-scale construction started in April 2018. Construction progress rate of 95%

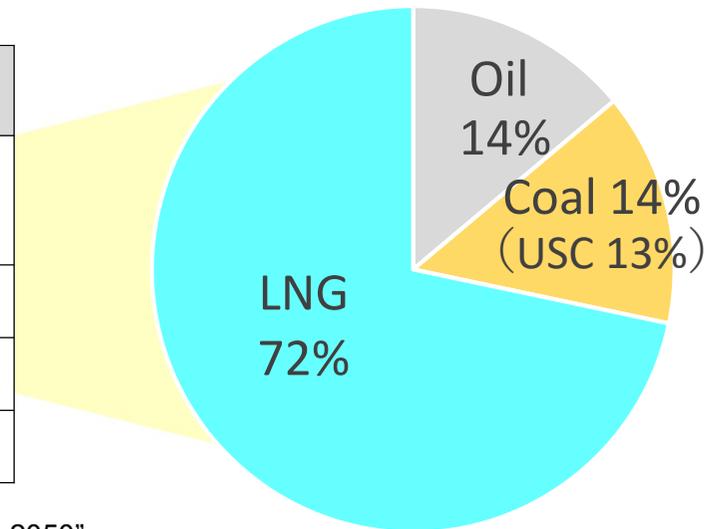
*As of September 30, 2021

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 (Generator output)
Coal (USC)	10.32GW (8.92GW)
LNG* ³	51.63GW
Oil	10.05GW
Total	72.00GW



*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 September 30, 2021. Includes capacity under construction.
Excludes capacity of affiliates.

*3 Includes LPG and City Gas.

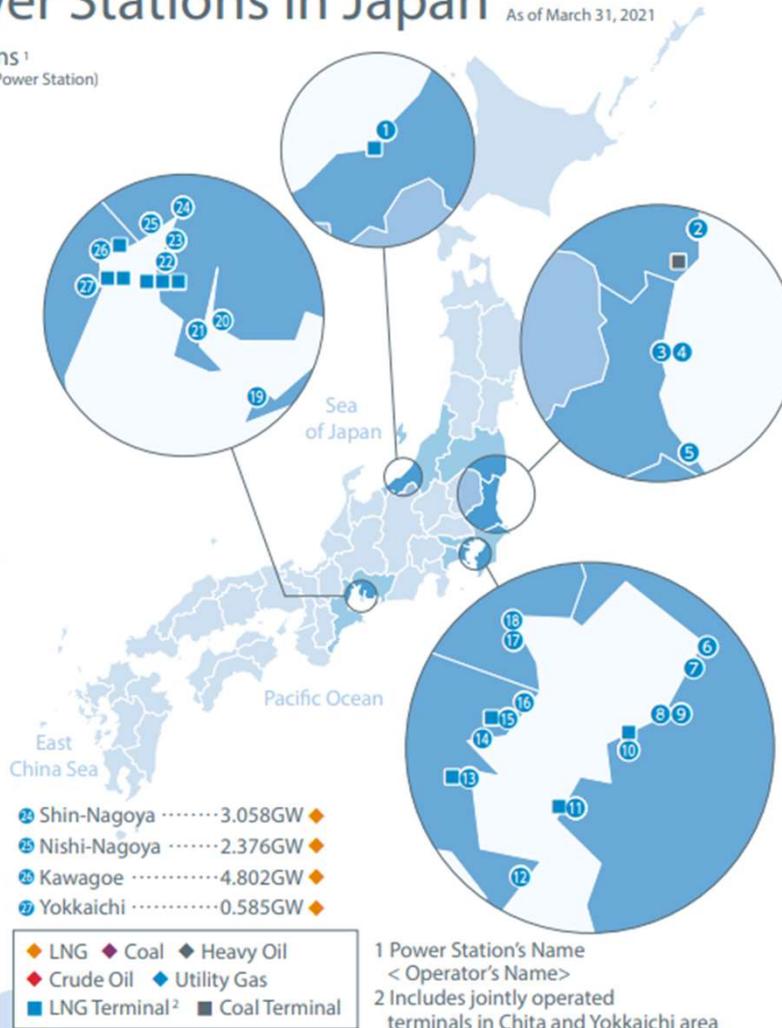
Domestic Thermal Power Generation and Gas Supply Business: List of Domestic Thermal Power Plants

Thermal Power Stations in Japan As of March 31, 2021

List of Thermal Power Stations¹

(Total Output, Fuel Type for Each Thermal Power Station)

- 1 Joetsu 2.38GW ◆
- 2 Hirono 4.4GW ◆◆◆
- 3 Hitachinaka 2GW ◆
- 4 Hitachinaka Kyodo
<HITACHINAKA GENERATION>
..... 0.65GW ◆
- 5 Kashima 5.66GW ◆◆◆
- 6 Chiba 4.38GW ◆
- 7 Goi<GOI UNITED GENERATION>
Replacement is being planned.
- 8 Anegasaki 3.6GW ◆
- 9 Anegasaki<JERA Power ANEGASAKI>*
..... 1.941GW ◆
(*Scheduled to start operation in fiscal 2023.)
- 10 Sodegaura 3.6GW ◆
- 11 Futtsu 5.16GW ◆
- 12 Yokosuka<JERA Power YOKOSUKA>*
..... 1.3GW ◆
(*Scheduled to start operation in fiscal 2023.)
- 13 Minami-Yokohama 1.15GW ◆
- 14 Yokohama 3.541GW ◆
- 15 Higashi-Ohgishima 2GW ◆
- 16 Kawasaki 3.42GW ◆
- 17 Oi 1.05GW ◆
- 18 Shinagawa 1.14GW ◆
- 19 Atsumi 1.4GW ◆◆
- 20 Hekinan 4.1GW ◆
- 21 Taketoyo<JERA Power TAKETOYO>*
..... 1.07GW ◆
(*Scheduled to start operation in fiscal 2022.)
- 22 Chita 3.966GW ◆
- 23 Chita Daini 1.708GW ◆
- 24 Shin-Nagoya 3.058GW ◆
- 25 Nishi-Nagoya 2.376GW ◆
- 26 Kawagoe 4.802GW ◆
- 27 Yokkaichi 0.585GW ◆



Futtsu Thermal Power Station

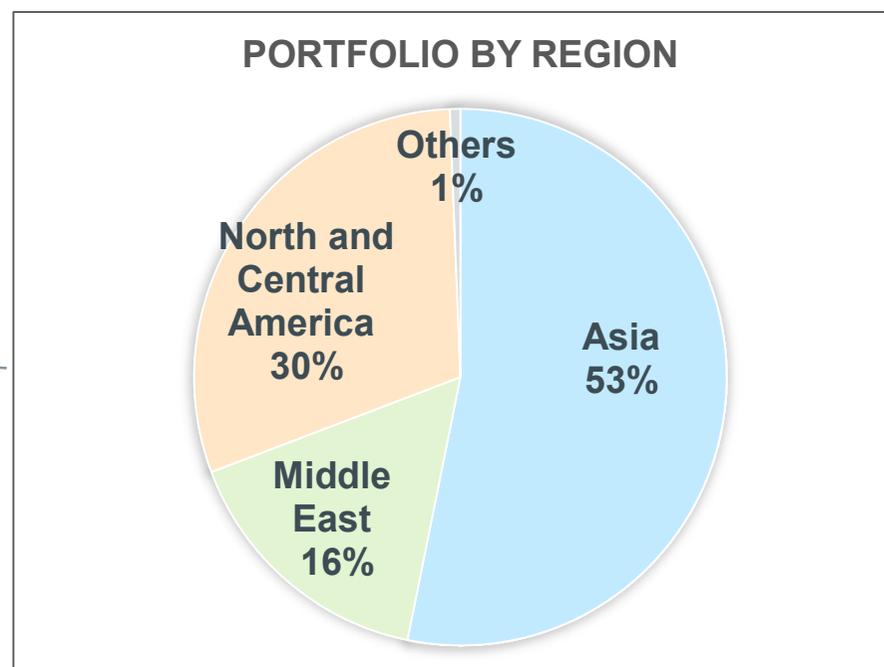
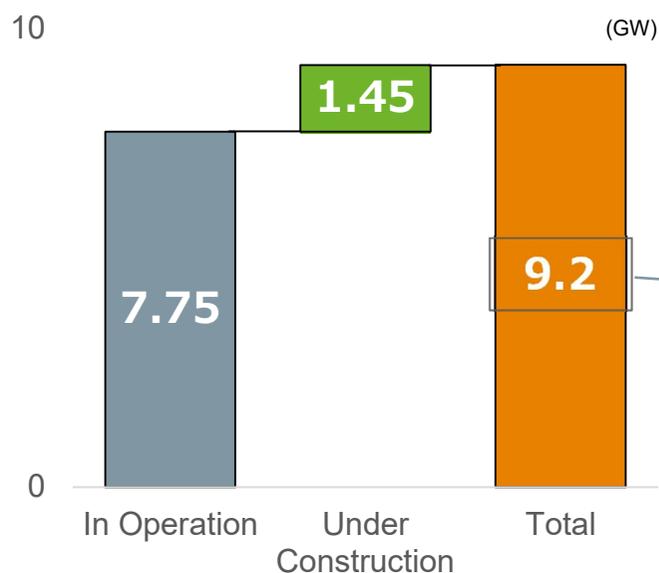


Kawagoe Thermal Power Station

Overseas Power Generation Business: Portfolio of Overseas Power Generation Business

- JERA is expanding its businesses across the world through the experience gained from existing projects around the world. Total capacity of power generation in overseas projects is 9.46 GW (including under construction) , of which PPAs account for about 80%.
- JERA plans to invest in Aboitiz Power Corporation, a major power company in the Philippines in this year. Increase JERA's presence in the energy sector and accelerate its decarbonization there*1.
- JERA sold the stake in Indonesia's PT Paiton Energy and plans to sell shares in Falcon Gas Thermal Power Co. in Mexico and Cogeneration Co. in an industrial park in Thailand by the end of FY2021. JERA will change the portfolio through the sale and reinvestment of assets, aiming to achieve an optimal asset structure in line with changes in the business environment and expand earnings.

< Power generation capacity (As of September 30, 2021)>



List of overseas power generation projects (1)

(As of Sep 30, 2021)

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	10.0%~50.0%	3,592 MW	Coal/Gas	
Philippines	Avoitiz Power Corporation	27%	4,638 MW	Coal/Oil/ Renewable	Executed a share purchase agreement on Sep 27, 2021. Including under construction
Thailand	EGCO Corporation	12.3%	6,016 MW	Gas/Coal/ Renewable	Including under construction
India	ReNew Company	6.7%	10,130MW	Solar Power/ Wind Power	Including under construction
Bangladesh	Summit Power IPP	22.0%	2,419 MW	Gas	Including under construction
United Kingdom	Zenobe Battery Storage	9.9%	73 MW	-	
IPP Projects (1/2)					
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	Cirebon2 Coal Thermal IPP	10.0%	1,000 MW	Coal	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	Scheduled to be sold in FY2021

List of overseas power generation projects (2)

(As of Sep 30, 2021)

IPP Projects (2/2)					
Country	Project Name	Investment ratio	Capacity	Fuel type	Notes
Thailand	Solar Power IPP	49.0%	31 MW	Solar Power	
Thailand	Wind Power IPP	5.0%	180 MW	Wind Power	
Bangladesh	Meghnaghat Gas Thermal IPP	49.0%	718 MW	Gas	Under construction
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 Houf 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	Scheduled to be sold in FY2021
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	

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

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% 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-related Business: Trading Business

- JERAGM has offices in Singapore, the United Kingdom, the Netherlands, the United States, and Japan, and approximately 300 employees participate 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 the scale of transactions.
- JERAGM trades within the limited volume under the governance of the Board of Directors elected by shareholders

