

The English version is a translation of the original Japanese version.  
Please note that if there is any discrepancy, the Japanese version will take priority.

## Summary of FY2021 1st Quarter Earnings Results

## Forward Looking Statements

The following contains statements that constitute forward-looking statements, plans for the future, management targets, etc. relating to the Company and/or the J-POWER group. These are based on current assumptions of future events, and there exist possibilities that such assumptions are objectively incorrect and actual results may differ from those in the statements as a result of various factors.

Furthermore, information and data other than those concerning the Company and its subsidiaries/affiliates are quoted from public information, and the Company has not verified and will not warrant its accuracy or appropriateness.

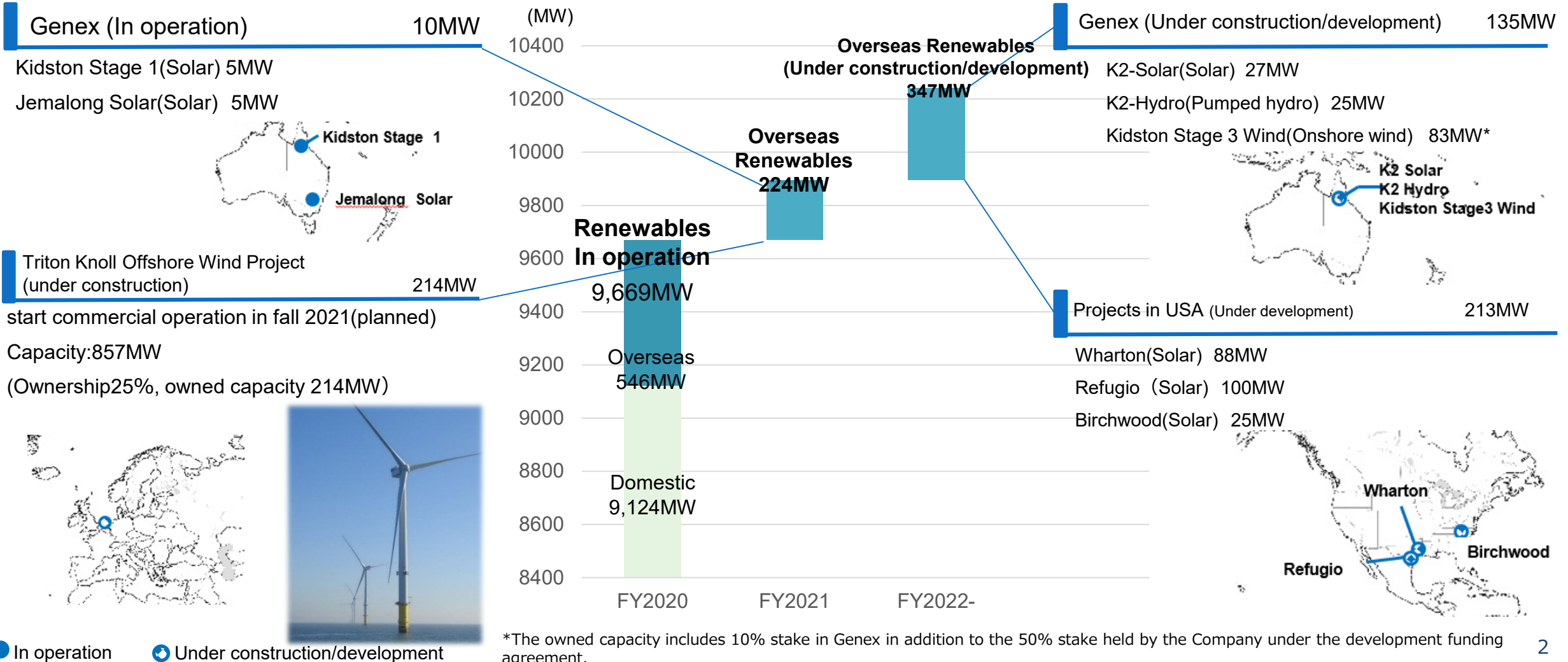
### ※Display of Figures

- ✓ All figures are consolidated unless stated otherwise.
- ✓ Amounts less than 100 million yen and electric power sales volume less than 100 million kWh shown in the consolidated financial data have been rounded down. Consequently, the sum of the individual amounts may not necessarily agree with figures shown in total columns.

# Initiatives for Renewable Energy Overseas

## Topics in FY2021

- The Company acquired 10% stake of Genex Power Limited in May 2021
- Triton Knoll Offshore Wind Power Project will start commercial operation in fall 2021(planned)



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## Summary of FY2021 First Quarter Earnings Results

(Unit: billion yen)

Consolidated	FY2020	FY2021	Year-on-year change	
	1st Quarter (Apr.-Jun.)	1st Quarter (Apr.-Jun.)		
Operating Revenue	187.9	191.7	3.8	2.0 %
Operating Income	22.5	21.5	(1.0)	(4.6)%
Ordinary Income	15.0	19.8	4.8	32.0 %
Profit attributable to owners of parent	11.7	14.0	2.2	19.2 %

Non-consolidated	FY2020	FY2021	Year-on-year change	
	1st Quarter (Apr.-Jun.)	1st Quarter (Apr.-Jun.)		
Operating Revenue	112.8	113.9	1.0	0.9 %
Operating Income	5.5	6.9	1.3	24.0 %
Ordinary Income	23.4	33.8	10.4	44.4 %
Profit	22.4	32.9	10.5	47.0 %

# Key Data (Electric Power Sales)

	FY2020 1st Quarter (Apr.-Jun.)	FY2021 1st Quarter (Apr.-Jun.)	Year-on-year change	
<b>Electric Power Sales (TWh)</b>				
Electric Power Business	15.8	14.7	(1.1)	(7.0)%
Hydroelectric Power	2.3	2.7	0.4	18.2 %
Thermal Power	11.2	7.8	(3.3)	(29.7)%
Wind Power	0.2	0.2	0.0	2.6 %
Other <sup>*1</sup>	2.0	3.8	1.7	88.4 %
Overseas Business <sup>*2</sup>	3.7	3.4	(0.3)	(10.3)%
<b>Water supply rate</b>	81%	98%	+17 points	
<b>Load factor<sup>*3</sup></b>	65%	44%	(21) points	

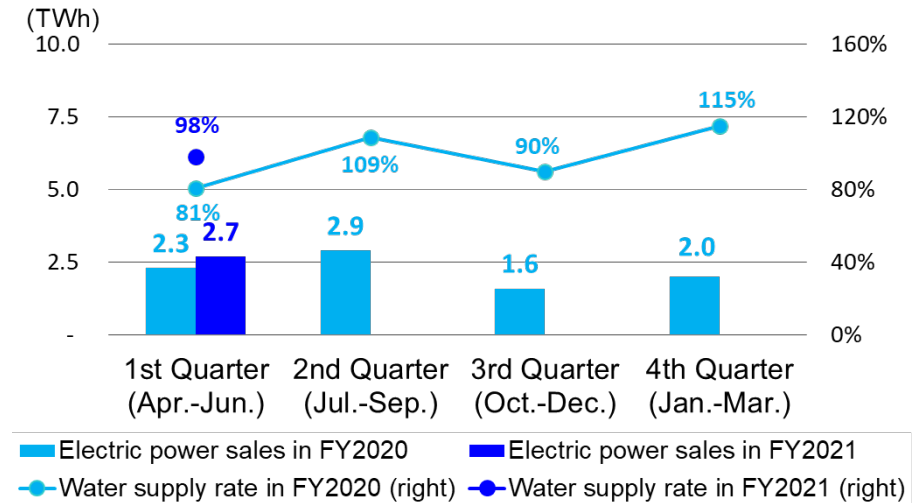
\*1 Electric power sales volume of electricity procured from wholesale electricity market, etc.

\*2 Electric power sales volume of overseas consolidated subsidiaries (Electric power sales volume of equity method affiliated companies is not included)

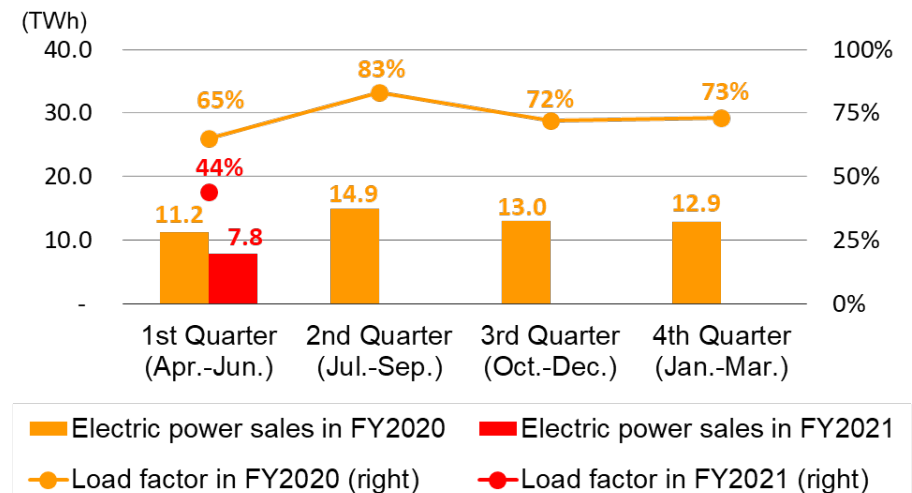
\*3 Load factors of thermal power show the results for non-consolidated only

## Electric Power Sales for each Quarter

### [Domestic Hydroelectric Power]



### [Domestic Thermal Power]



## Key Data (Operating Revenue)

	FY2020 1st Quarter (Apr.-Jun.)	FY2021 1st Quarter (Apr.-Jun.)	Year-on-year change	
Operating Revenue (Billion yen)	187.9	191.7	3.8	2.0 %
Electric Power Business	138.1	143.7	5.6	4.1 %
Electric Power Purchase	125.0	131.1	6.1	4.9 %
Renewables <sup>*1</sup>	31.5	33.1	1.6	5.2 %
Transmission / Transformation	12.2	11.9	(0.2)	(2.4)%
Overseas Business <sup>*2</sup>	40.3	36.3	(4.0)	(10.0)%
Other Business <sup>*3</sup>	9.3	11.5	2.2	23.5 %
Foreign exchange rate at the end of March (Yen/US\$)	108.83	110.71		
Foreign exchange rate at the end of March (Yen/THB)	3.34	3.54		
Foreign exchange rate at the end of March (THB/US\$)	32.67	31.34		
Average foreign exchange rate (Yen/US\$)	107.63	109.52		

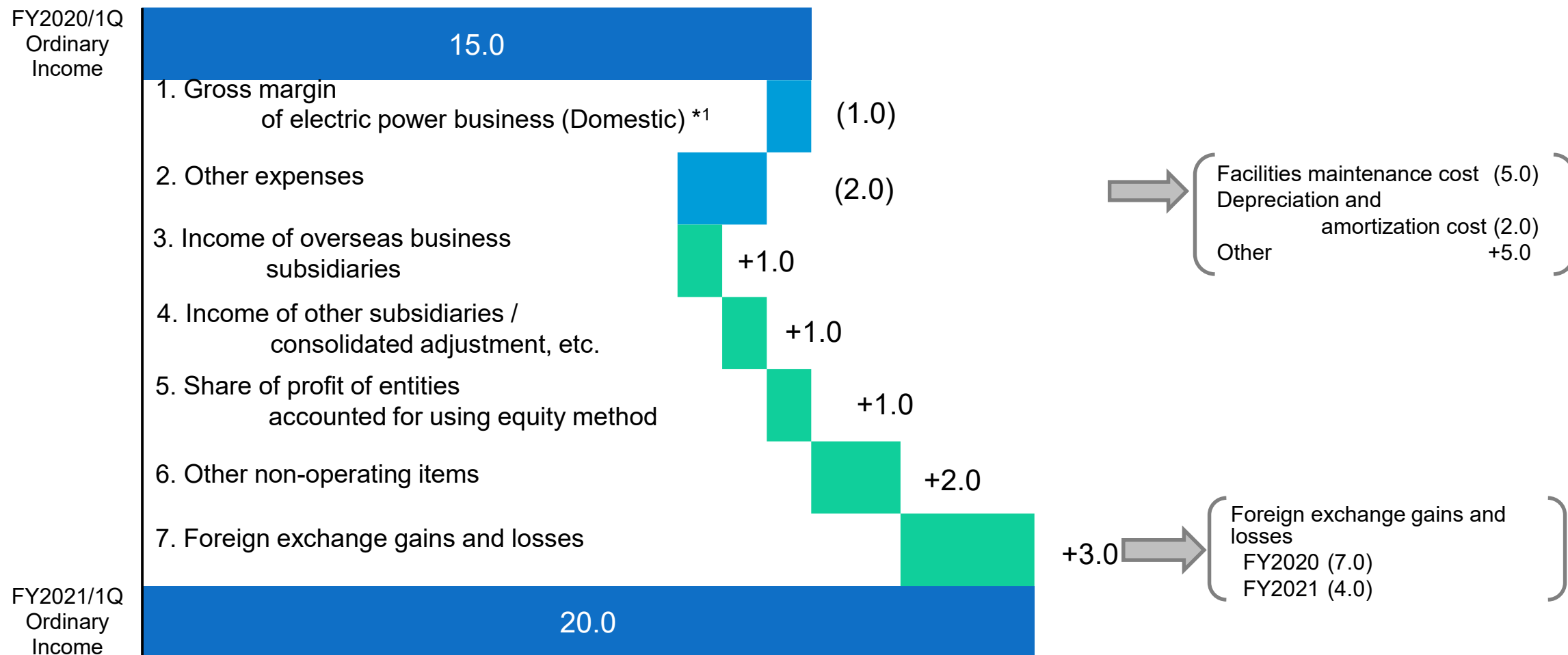
\*1 Hydroelectric and wind power

\*2 Sales for the overseas business segment (Sales from overseas consolidated subsidiaries and overseas consulting business, etc.)

\*3 "Other Business" is composed of "Electric Power-Related Business" segment and "Other Business" segment

# FY2021 First Quarter Earnings Results (Main Factors for Change)

(Unit: billion yen)



\*1 Gross margin of electric power business (Domestic) : Domestic electric power business revenue (hydro, thermal, wind and other) – fuel costs, etc.



# Breakdown of Increase / Decrease Factors of Consolidated Ordinary Income

(Unit: billion yen)

<p><b>1. Gross margin of electric power business (Domestic) (1.0)</b></p> <ul style="list-style-type: none"> <li>• Improve in water supply rate, increase in revenue from Non-fossil Certificate</li> <li>• Decrease in sales volume and price in Base Load Market</li> <li>• Decrease in loss due to time lag effect in fuel revenue, decrease in profit due to unplanned suspensions with power stations</li> </ul>	<p><b>5. Share of profit of entities accounted for using equity method +1.0</b></p> <p>Overseas</p> <ul style="list-style-type: none"> <li>• Increase in profit in US projects, etc.</li> </ul> <p>Domestic</p> <ul style="list-style-type: none"> <li>• Decrease in profit due to regular maintenance cost in geothermal power project (Wasabizawa)</li> <li>• Decrease in profit of ENERES in the previous fiscal year</li> </ul>									
<p><b>2. Other expenses (2.0)</b></p> <ul style="list-style-type: none"> <li>• Increase in maintenance cost (5.0)</li> <li>• Increase in depreciation and amortization cost (2.0)</li> <li>• Decrease in cost in various items +5.0</li> </ul>	<p><b>6. Other non-operating items +2.0</b></p> <ul style="list-style-type: none"> <li>• Gain on valuation of derivatives, decrease in interest expenses, etc.</li> </ul>									
<p><b>3. Income of overseas business subsidiaries +1.0</b></p> <ul style="list-style-type: none"> <li>• Power generation projects in Thailand +1.0 Decrease in regular maintenance cost +0.5 Foreign exchange gains and losses +0.5 (3.34JPY/THB→3.54JPY/THB)</li> </ul>	<p><b>7. Foreign exchange gains and losses*1 +3.0</b></p> <ul style="list-style-type: none"> <li>• Q1 2020 (7.0) → Q1 2021 (4.0)</li> </ul> <p>Foreign exchange rate(THB/USD)</p> <table border="1"> <thead> <tr> <th></th> <th>At the end of December of the previous year</th> <th>At the end of March*2</th> </tr> </thead> <tbody> <tr> <td>FY2020</td> <td>30.15</td> <td>32.67</td> </tr> <tr> <td>FY2021</td> <td>30.04</td> <td>31.34</td> </tr> </tbody> </table>		At the end of December of the previous year	At the end of March*2	FY2020	30.15	32.67	FY2021	30.04	31.34
	At the end of December of the previous year	At the end of March*2								
FY2020	30.15	32.67								
FY2021	30.04	31.34								
<p><b>4. Income of other subsidiaries / consolidated adjustment, etc. +1.0</b></p> <ul style="list-style-type: none"> <li>• Increase in profit in subsidiaries, which perform maintenance of domestic power plants</li> <li>• Decrease in profit due to operation problems in Australian coal mines, which one of our subsidiaries owns throughproportional consolidation</li> </ul>	<p>*1 Foreign exchange valuation gains and losses mainly on US dollar-denominated debt in power generation projects in Thailand</p> <p>*2 The settlement period of overseas subsidiaries is from January to December</p>									

# Consolidated: Revenue / Expenditure Comparison

(Unit: billion yen)

	FY2020 1st Quarter (Apr.-Jun.)	FY2021 1st Quarter (Apr.-Jun.)	Year-on- year change	Main factors for change
<b>Operating Revenue</b>	<b>187.9</b>	<b>191.7</b>	<b>3.8</b>	
Electric power business	138.1	143.7	5.6	
Overseas business	40.3	36.3	(4.0)	
Other business	9.3	11.5	2.2	
<b>Operating Expenses</b>	<b>165.3</b>	<b>170.1</b>	<b>4.8</b>	Electric power business +7.9, Overseas business (4.7), Other business +1.7
<b>Operating Income</b>	<b>22.5</b>	<b>21.5</b>	<b>(1.0)</b>	
<b>Non-operating Revenue</b>	<b>6.1</b>	<b>8.7</b>	<b>2.6</b>	
Share of profit of entities accounted for using equity method	4.4	5.4	1.0	
Gain on valuation of derivatives	0.7	1.8	1.0	
Other	0.9	1.4	0.4	
<b>Non-operating Expenses</b>	<b>13.6</b>	<b>10.4</b>	<b>(3.2)</b>	
Interest expenses	5.9	5.6	(0.2)	
Foreign exchange losses	7.0	4.1	(2.8)	
Other	0.6	0.5	(0.0)	
<b>Ordinary Income</b>	<b>15.0</b>	<b>19.8</b>	<b>4.8</b>	Electric power business (3.5), Overseas business +7.6, Other business +0.5
Total income taxes	4.3	5.1	0.8	
<b>Profit attributable to owners of parent</b>	<b>11.7</b>	<b>14.0</b>	<b>2.2</b>	

# Consolidated: Balance Sheet

(Unit: billion yen)

	FY2020 End of FY	FY2021 End of 1Q	Change from prior year end	Main factors for change
<b>Non-current Assets</b>	<b>2,475.2</b>	<b>2,539.7</b>	<b>64.5</b>	
Electric utility plant and equipment	1,107.3	1,094.8	(12.5)	Non-consolidated (9.0), Subsidiaries and others (3.5)
Overseas business facilities	286.9	292.0	5.0	
Other non-current assets	91.1	94.4	3.3	
Construction in progress	588.2	610.1	21.8	Non-consolidated+4.6, Subsidiaries and others +17.1
Nuclear fuel	75.3	75.4	0.1	
Investments and other assets	326.1	372.7	46.5	Long-term investments +51.0 (Includes impact of foreign exchange revaluation on long-term investment of entities accounted for using equity method+11.7)
<b>Current Assets</b>	<b>366.7</b>	<b>360.4</b>	<b>(6.2)</b>	
<b>Total Assets</b>	<b>2,841.9</b>	<b>2,900.2</b>	<b>58.2</b>	
Interest-bearing debt	1,664.6	1,716.0	51.3	Non-consolidated +40.0, Subsidiaries and others +11.3
Other	323.5	287.1	(36.3)	Accrued taxes (31.2)
<b>Total Liabilities</b>	<b>1,988.2</b>	<b>2,003.2</b>	<b>14.9</b>	
Shareholders' equity	814.7	821.6	6.8	Increase in retained earnings
Accumulated other comprehensive income	(5.6)	27.7	33.4	Foreign currency translation adjustment +19.6, Deferred gains or losses on hedges+15.1
Non-controlling interests	44.5	47.5	3.0	
<b>Total Net Assets</b>	<b>853.6</b>	<b>896.9</b>	<b>43.2</b>	
D/E ratio (x)	2.1	2.0		
Shareholders' equity ratio	28.5%	29.3%		

## Summary of FY2021 Earnings Forecast

- ✓ We do not change the consolidated earnings forecast released on April 30, 2021. We revised the non-consolidated earnings forecast on June 22, 2021.

(Unit: billion yen)

Consolidated	FY2020 Result	FY2021 Forecast	Comparison with FY2020 Result	
Operating Revenue	909.1	842.0	(67.1)	(7.4)%
Operating Income	77.7	59.0	(18.7)	(24.1)%
Ordinary Income	60.9	50.0	(10.9)	(17.9)%
Profit attributable to owners of parent	22.3	34.0	11.6	52.4 %

Non-consolidated	FY2020 Result	FY2021 Forecast	Comparison with FY2020 Result		FY2021 Initial Forecast*	Comparison with Initial Forecast
Operating Revenue	589.9	575.0	(14.9)	(2.5)%	514.0	61.0
Operating Income	77.8	(1.0)	(78.8)	-	6.0	(7.0)
Ordinary Income	114.0	37.0	(77.0)	(67.6)%	41.0	(4.0)
Profit	15.5	39.0	23.4	151.1 %	41.0	(2.0)

\*Earnings forecast released on April 30, 2021

	Cash dividends per share		
	Interim	Year end	Annual
FY2020	35 yen	40 yen	75 yen
FY2021 (Forecast)	35 yen	40 yen	75 yen

## (Reference) Recovery of Facility Troubles

(As of July 30, 2021)

Situation of facility trouble		Status
Isogo Unit1, Unit2 1,200MW	Suppressed operation due to fire in the coal storage silo(approx.75%) since October 20, 2020	• Resumed full operation on July 21, 2021
Tachibanawan Unit1 1,050MW	Trouble on medium-pressure steam turbine caused on December 25, 2020	• Resumed operation on July 10, 2021 • Suppressed operation (approx.60%) • The complete recovery date is not determined
Matsushima Unit2 500MW	Boiler tube leaks caused on February 9, 2021	• Resumed operation on June 12, 2021
Matsuura Unit1, Unit2 2,000MW	Destruction of coal unloader caused on April 4, 2021	• Resumed operation on July 14, 2021
Kashima 600MW	Stop operation due to the trouble on generator on May 4, 2021	• Resumed operation on July 22, 2021
Matsushima Unit1 500MW	Boiler tube leaks caused on June 17, 2021	• Resume operation on August 3, 2021 (planned)

A photograph of several offshore wind turbines in the ocean. The turbines are white with yellow bases. The sky is a clear, bright blue. The image is partially obscured by a white diagonal shape on the right side of the slide.

# Appendix

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# Distributed Energy Services

## Business Environment Change

- The adjustment market for supply and demand in electricity is planned to have all products by 2024
- In April 2021, the supply and demand adjustment market started Third adjustment power 2
- The introduction of renewable energy will expand, and the market will become more important going forward

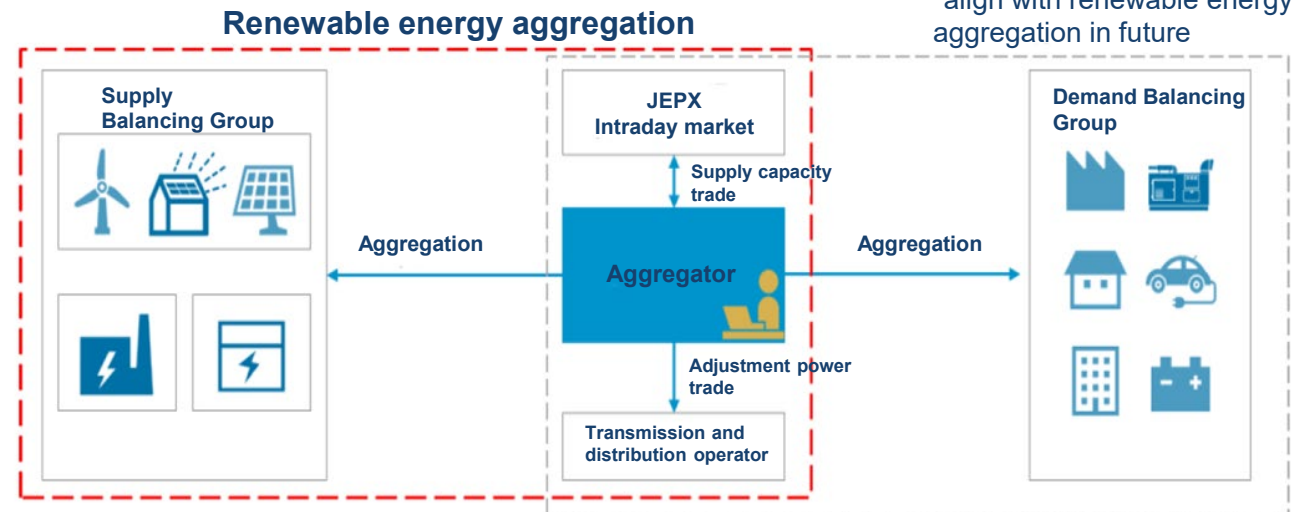
## Future Direction

- Work on electricity retailing in collaboration with partners
- Supply green power for RE100 project\*
- Work on virtual power plant business (VPP)
- Utilize customer-owned resources (batteries, pump equipment, etc.) as adjustment power
- Construct integrated control platform for distributed energy services

## June 2021 Participated in "2021 Renewable Energy Aggregation Demonstration Project " conducted by the Ministry of Economy, Trade and Industry

- A consortium was formed by 17 companies led by Eneres. The project aims at improving renewable energy aggregation technology that bundles and controls fluctuating renewable energy, toward becoming the main power source.
- Through this project, J-POWER aim to verify the accuracy of wind power generation forecasts and to acquire knowledge of the "smoothing effect" that reduces imbalance costs by bundling renewable energy sources.

### Image of demonstration project



### DER aggregation

\*align with renewable energy aggregation in future

\* Environmental initiative aimed at providing 100% renewable energy for business operations

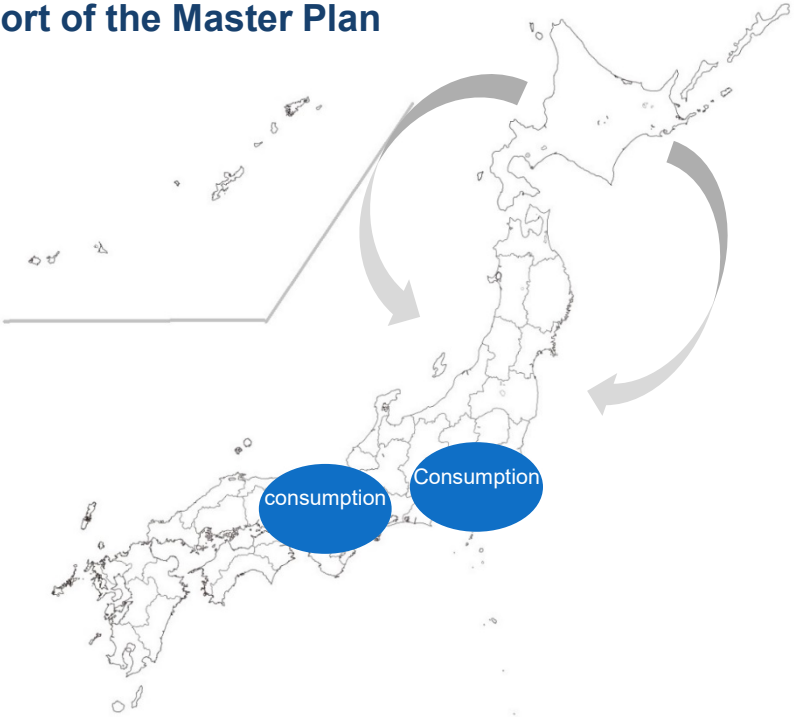


# Actions Taken towards HVDC Transmission System

- Japanese government is currently examining “Master Plan” (reinforcement of the national grids) considering the future power development in order to largely expand the renewable energy and secure the resilience.
- Utilization of offshore wind power requires long-distance transmission of massive power to the point of consumption. Therefore, the introduction of HVDC transmission system, which has benefits from the viewpoint of cost, efficiency flexibility of the operation and stability of the grids, is being studied.
- J-POWER Transmission Network Co., Ltd. (J-POWER Transmission), a wholly owned subsidiary of J-POWER, is appointed together with Research Institute for Ocean Economics and Eukote Energy LLC to carry out “the study on the establishment and operation of HVDC transmission system from the offshore wind power” by the New Energy and Industrial Technology Development Organization.

<b>Study Period</b>	From July 2021 to March 2022
<b>Study Purpose</b>	To find difficulties of the introduction of HVDC transmission system and foresee its possible realization by conducting its feasibility study
<b>Study Content</b>	<ol style="list-style-type: none"> <li>1.Study on detailed roots for the HVDC transmission system</li> <li>2.Study on the facility required for HVDC transmission system</li> <li>3.Study on the cost and schedule for HVDC transmission system</li> <li>4.Study on the status of overseas HVDC transmission system</li> </ol>

**Image of HVDC transmission system in the interim report of the Master Plan**



## J-POWER Group’s HVDC transmission system facilities

- ❑ J-POWER Transmission owns and maintains Hokkaido-Honshu HVDC Link and Kii-Channel HVDC Link\* (including submarine cables).
- ❑ J-POWER Transmission succeeded in constructing Japan's first ultra-high voltage DC power transmission facility and developing a DC CV cable.

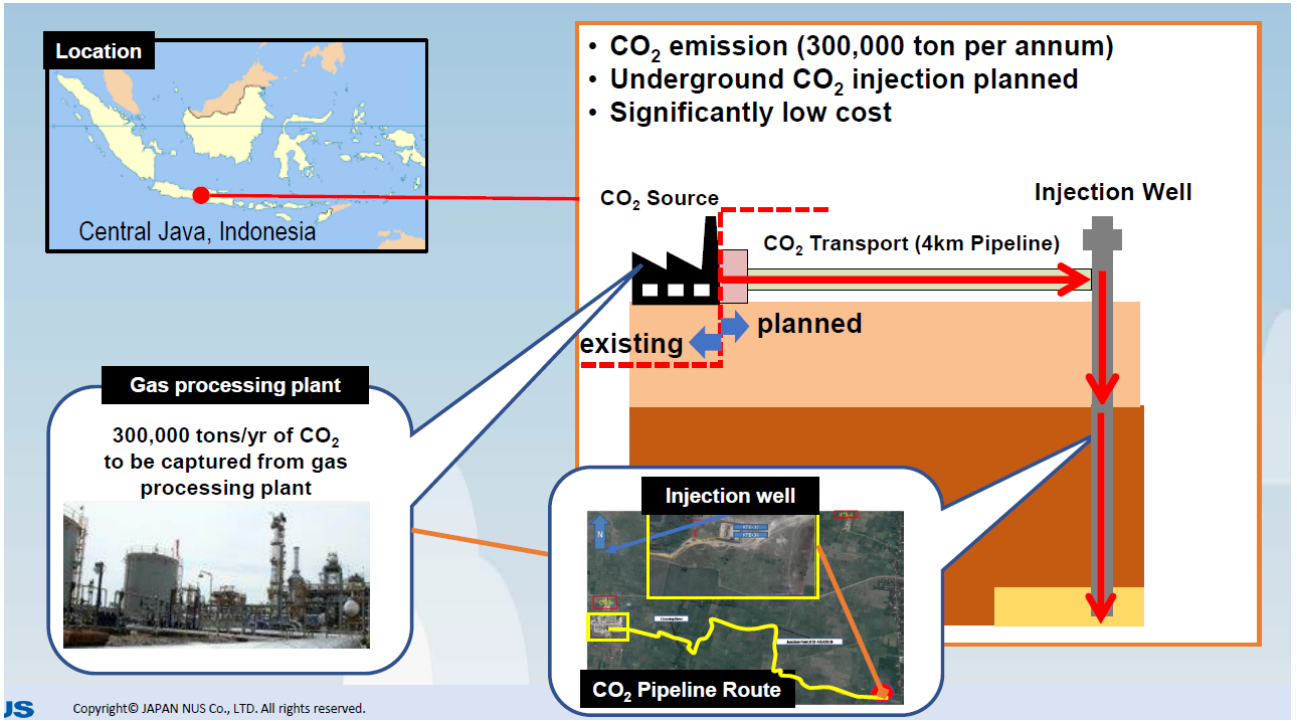
\*Jointly owned with Kansai Transmission and Distribution, Inc. and Shikoku Electric Power Transmission & Distribution Company, Incorporated

# Overview of Gundih CCUS Project

- A CCS demonstration project has been implemented as a JCM (bilateral CO<sub>2</sub> crediting scheme) research project since May 2020, and plans to inject and store CO<sub>2</sub> emitted from natural gas production (300,000 ton- CO<sub>2</sub> /year) in the Gundih field in Indonesia
- CO<sub>2</sub> can be injected underground at a low cost
- On June 22, at the 1st Asia CCUS Network Forum, ‘the Asia CCUS Network’ has launched, which is an international industry–academia–government platform aimed at knowledge sharing and improvement of the business environment for CCUS throughout the Asia region
- Gundih CCUS Project is watched by Japanese and Indonesian officials as a flagship project in the Asia CCUS Network

**【Organizations】**

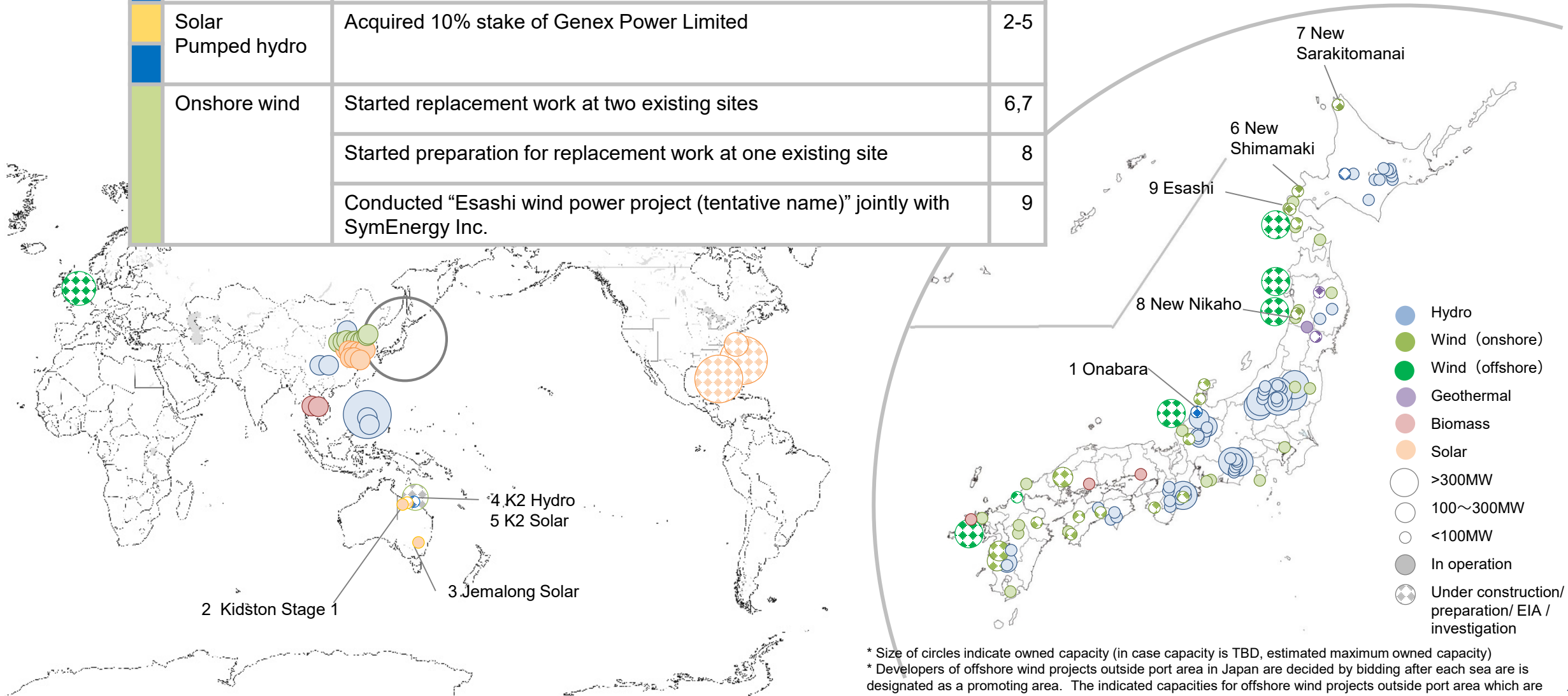
(Japan)		(Indonesia)	
JGC		Pertamina	
JANUS			
J-POWER			



# Expansion of Renewable Energy

## Progress in FY2021

Hydroelectric	Started preparation for construction of Onabara power plant	1
Solar Pumped hydro	Acquired 10% stake of Genex Power Limited	2-5
Onshore wind	Started replacement work at two existing sites	6,7
	Started preparation for replacement work at one existing site	8
	Conducted "Esashi wind power project (tentative name)" jointly with SymEnergy Inc.	9



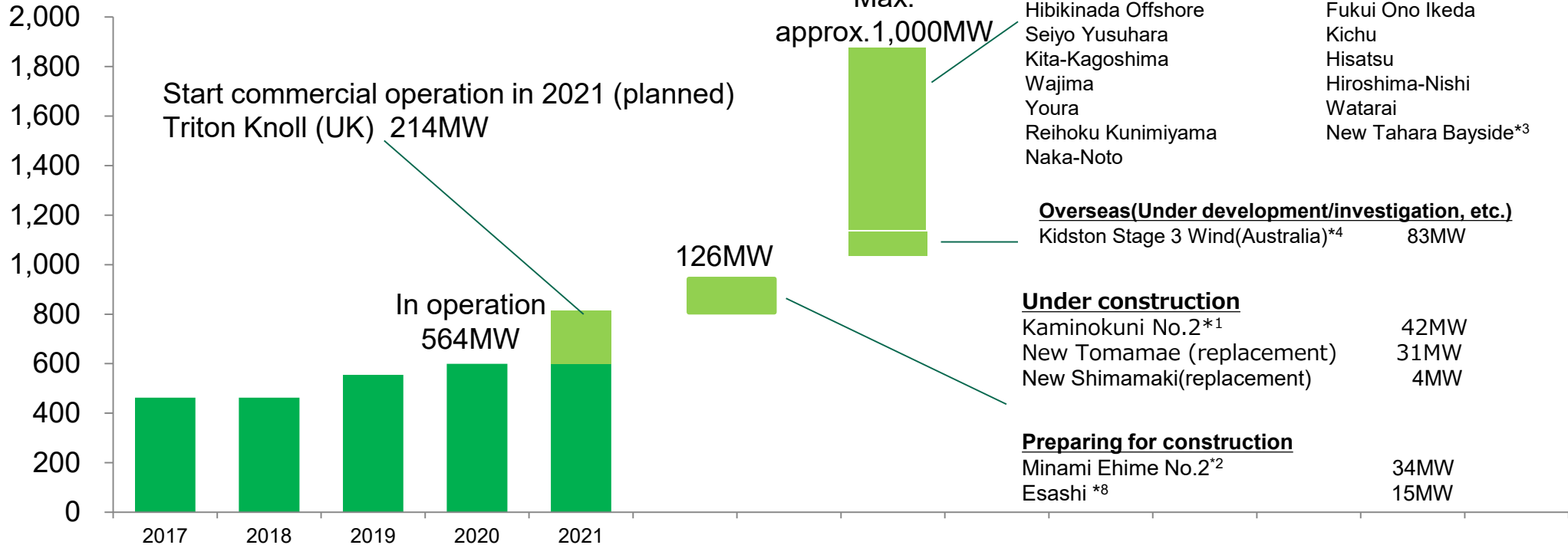
\*1 Environmental impact assessment \*2With JERA Co., Inc. and Equinor ASA

\* Size of circles indicate owned capacity (in case capacity is TBD, estimated maximum owned capacity)  
 \* Developers of offshore wind projects outside port area in Japan are decided by bidding after each sea are designated as a promoting area. The indicated capacities for offshore wind projects outside port area which are jointly implemented with other companies are estimated maximum gross capacities

# Renewable Energy Development Projects (Wind)

## Onshore and offshore (port area)

(Owned capacity, MW)



## Offshore (outside port area)

Under research for development	Saikai Offshore*5 Hiyama-area Offshore Awara Offshore*6	Max. approx. 1,400MW in total	Formed a consortium for business development*7 and made a bid	Off Akita pref.
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Note: "Construction underway/ preparing" and "Under environmental impact assessment" in the graph above do not include replacement projects with no capacity change

\*1 Presents only phase 1 construction. Total plan amounts up to 120.4MW \*2 Total plan amounts up to 40.8MW

\*3 Estimated capacity increase with replacement \*4 Conducted jointly with Genex Power Limited. The owned capacity includes 10% stake in Genex in addition to the 50% stake held by the Company under the development funding agreement.

\*5 Conducted jointly with SUMITOMO CORPORATION \*6 Conducted jointly with Mitsui Fudosan Co., Ltd. \*7 With JERA Co., Inc. and Equinor ASA

\*8 Conducted jointly with SymEnergy Inc. Owned capacity considering future share of SymEnergy Inc.

# Renewable Energy Development Projects (Hydro, Geothermal, Solar)

Hydro	Project	Capacity	Ownership	Owned capacity	Note
	Shinkatsurazawa/ Kumaoi	17.0MW	100%	17.0MW	Start of operation : FY2022 (planned)
	Ashoro Repowering	-	100%	-	Completion of construction : FY2022 (planned)
	Ogamigo Repowering	20.0MW→21.3MW	100%	20.0MW→21.3MW	Completion of construction : FY2023 (planned)
	Nagayama Repowering	37.0MW→39.5MW	100%	37.0MW→39.5MW	Completion of construction : FY2025 (planned)
	Onabara	1MW	100%	1MW	Completion of construction : November 2024 (planned)
	K2 Hydro (Australia, Pumped hydro)	250MW	10%	25MW	Start of operation : 2024 (planned)

Geo-thermal	Project	Capacity	Ownership	Owned capacity	Note
	Onikobe Replacement	14.9MW	100%	14.9MW	Start of operation: April 2023 (planned)
	Appi	14.9MW	15%	2.2MW	Start of operation: April 2024 (planned)
	Takahinatayama-area	-	-	-	Under research for development

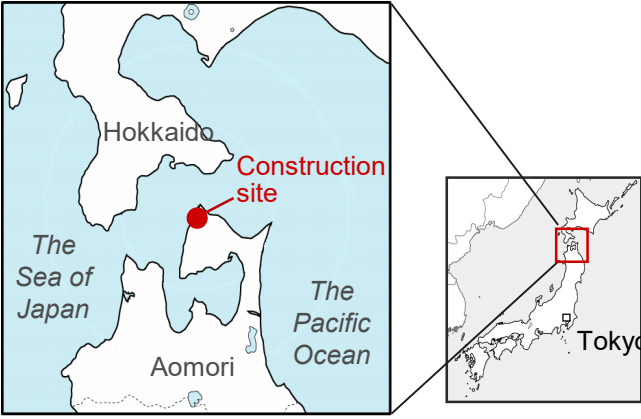
Solar	Project	Capacity	Ownership	Owned capacity	Note
	Wharton (USA)	350MW	25%	87.5MW	Start of operation: After 2022 (planned)
	Refugio (USA)	400MW	25%	100.0MW	Start of operation: After 2023 (planned)
	Birchwood (USA)	50MW	50%	25MW	Start of operation: After 2023 (planned)
	K2 Solar (Australia)	270MW	10%	27MW	Start of operation : 2024 (planned)

# Ohma Nuclear Power Project

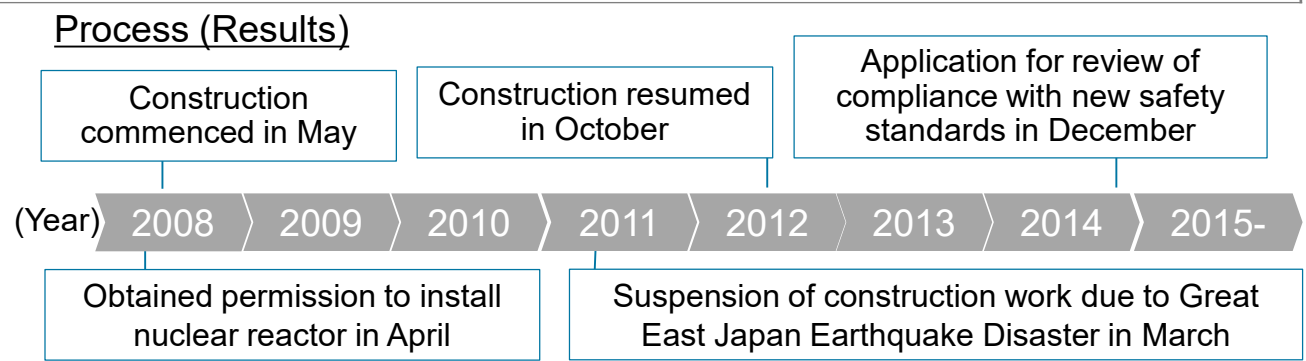
- In December 2014, J-POWER submitted to NRA\* an application for permission for alteration of reactor installment license and an application for construction plan approval in order to undertake review of compliance with the new safety standards
- The impact of earthquakes and Tsunamis are being reviewed by NRA
- Sincerely and appropriately respond to compliance reviews and aim to restart full scale construction work quickly
- Strive for more polite information communication and mutual communication so that we can gain the understanding and trust of the community

## Overview of the Project

Location	Ohma-machi, Shimokita-gun, Aomori Prefecture
Capacity	1,383MW
Type of nuclear reactor	Advanced Boiling Water Reactor (ABWR)
Fuel	Enriched uranium and uranium-plutonium mixed oxide (MOX)
Commencement of operations	To be determined



Status of construction (as of June 30, 2021)



\* Nuclear Regulation Authority

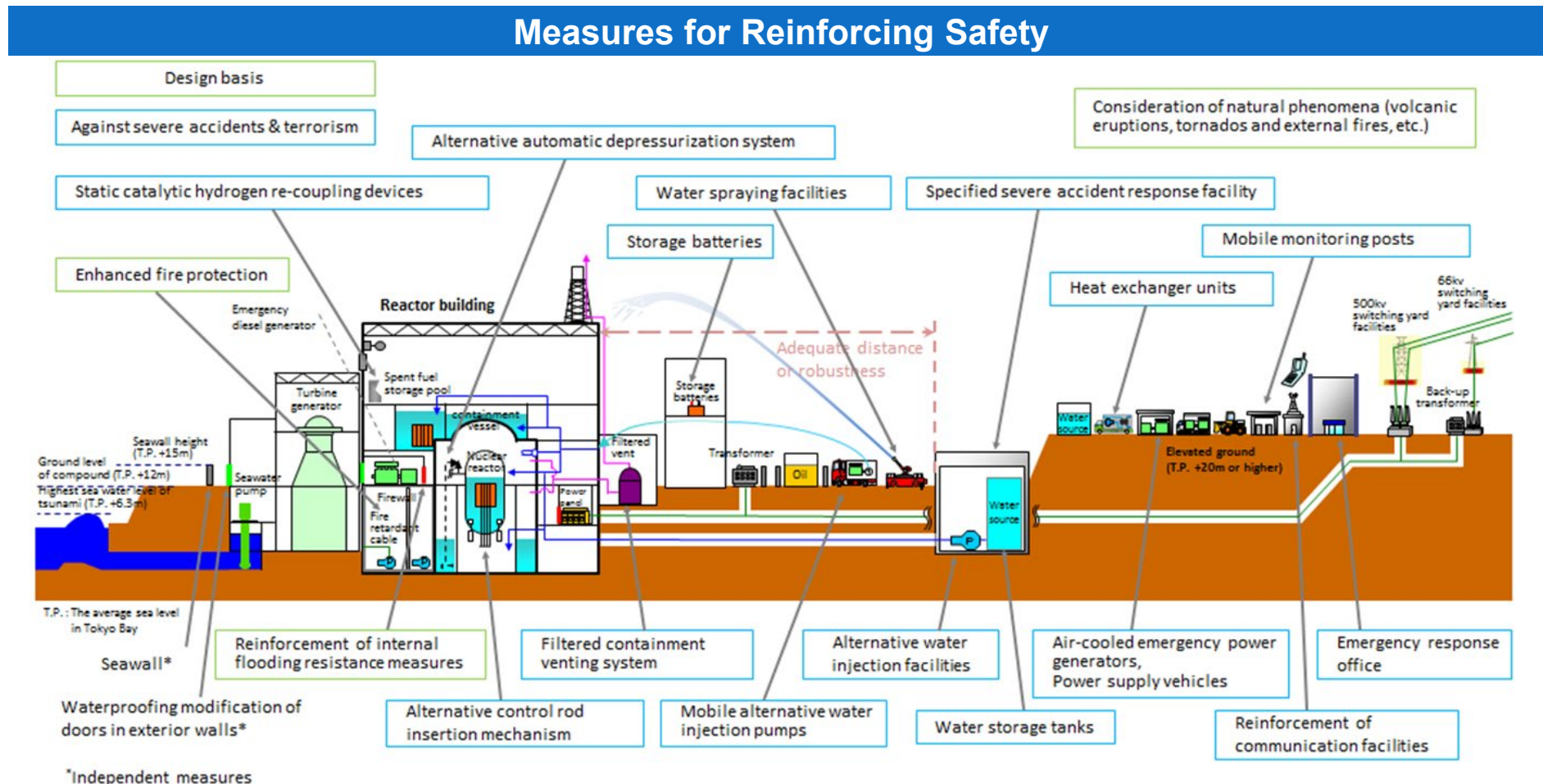


# Response to the New Safety Standards at the Ohma Nuclear Power Plant

## Construction Works for Measures for Reinforcing Safety

- Construction Period: From the 2nd half of 2022 to the 2nd half of 2027
- Construction Cost: Approx. 130 billion yen

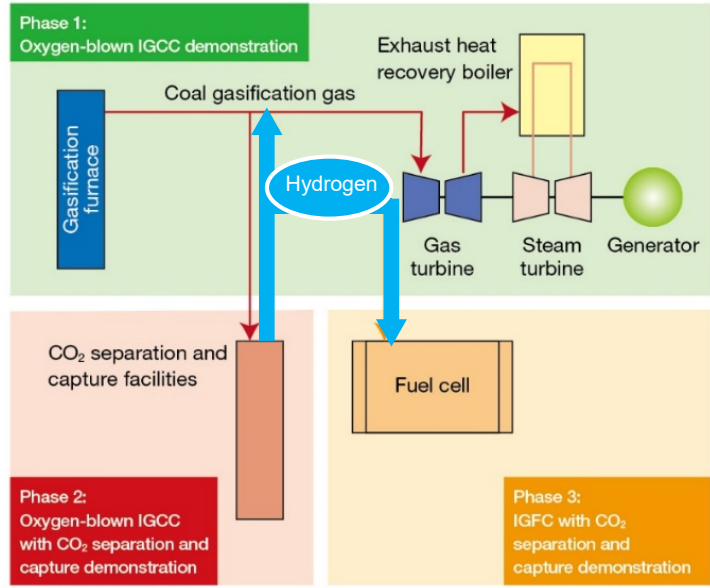
\*The construction plan is based on J-POWER's projections, which incorporate estimations of examination and permit process durations by the NRA.



# Initiatives for CO<sub>2</sub>-free Hydrogen Generation / Producing Hydrogen

## Osaki CoolGen Project (Refer to page24 for details)

- Large-scale demonstration test on high-efficiency coal-fired thermal power (oxygen-blown IGCC\*<sup>1</sup>, IGFC\*<sup>2</sup>) and CO<sub>2</sub> separation and capture aiming for commercialization



## Carbon Recycling Test Projects (Refer to page26 for details)

- Considering carbon recycling to utilize CO<sub>2</sub> captured in Osaki CoolGen Project

## GENESIS Matsushima Plan (Refer to page25 for details)

- the first commercialization of the results demonstrated in the Osaki CoolGen Project
- Adding a gasification unit to the existing Matsushima Thermal Power Plant Unit No.2 as a transitional technology toward realizing a hydrogen society.



## Australian Brown Coal Hydrogen Pilot Test Project (Refer to page27 for details)

- Participating in demonstration test of constructing supply chain which produces hydrogen by gasifying brown coal in Australia and transports it to Japan

\*1 IGCC (Integrated Coal Gasification Combined Cycle): An integrated power generation system with a twin-turbine configuration; the gas produced from coal is used as fuel to drive a gas turbine, the exhaust gas from which and others is used to drive a steam turbine. There are oxygen-blown type and air-blown type depending on kind of gas supplied to gasifier when coal is gasified. Oxygen-blown IGCC is said to be more efficient when operated with CO<sub>2</sub> separation and capture facilities

\*2 IGFC (Integrated Coal Gasification Fuel Cell Combined Cycle): Power generation system combining fuel cells with gas and steam turbines in a triply integrated configuration



# Osaki CoolGen Project

- Demonstration test \*1 of a system that manufactures coal gasification gas containing hydrogen and uses it to generate electricity is underway
- Demonstration test will be conducted in three phases
- In Phase 2, the basic performance (CO<sub>2</sub> recovery rate of 90% or more, CO<sub>2</sub> recovery purity of 99% or more) has been confirmed in the demonstration test until the end of February 2021. In the future, we will continue to conduct demonstration tests to improve the accuracy of the results so far. We started construction of installation of the equipment in March 2021 for the third phase demonstration test



Company	Osaki CoolGen Corporation (Ownership: J-POWER 50%, Chugoku Electric Power Company 50%)		Output	166MW
Location	Chugoku Electric Power Company Osaki Power Station premises (Hiroshima)	Generation type	Oxygen-blown IGCC (Gas turbine: 1,300°C class)	

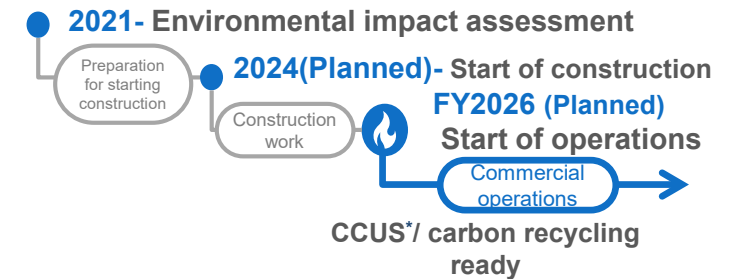
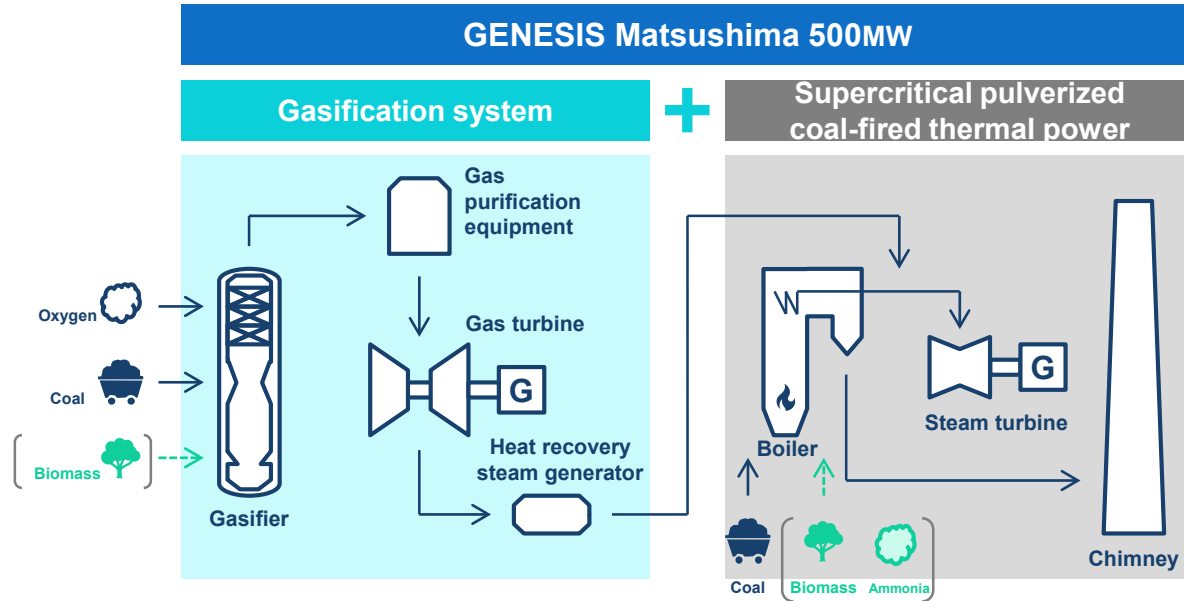
FY		2016	2017	2018	2019	2020	2021	2022
Phase 1 : Demonstration of Oxygen-blown IGCC demonstration	Hydrogen Approx. 25%	Design/ manufacture/ installation	Demonstration test					
Phase 2 : Demonstration of Oxygen-blown IGCC with CO <sub>2</sub> separation and capture)	Hydrogen Approx. 85%*2	Design/manufacture/installation			Demonstration test	manufacture/ installation	Demonstration test	
Phase 3 : Demonstration of IGFC with CO <sub>2</sub> separation and capture	Hydrogen Approx. 85%*2			Design/manufacture/installation			Demonstration test	

\*1 The project is subsidized by the New Energy and Industrial Technology Development Organization (NEDO), a national research and development organization.

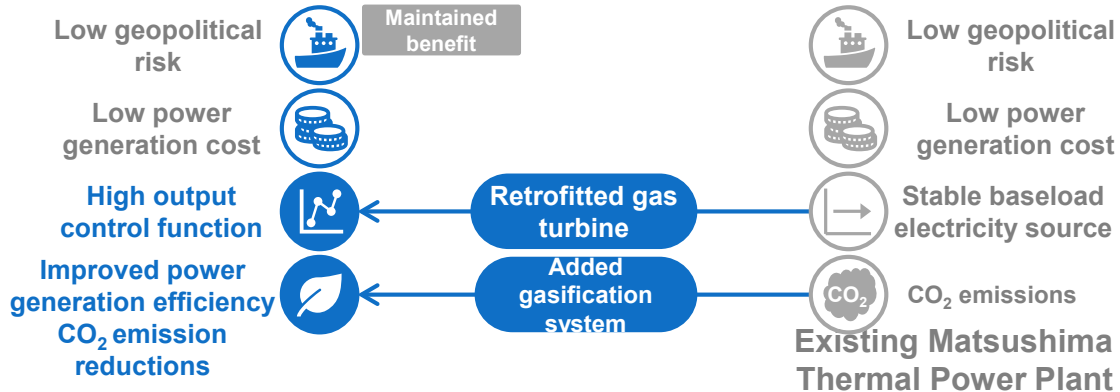
\*2 Hydrogen concentration after CO<sub>2</sub> separation and capture. For power generation, the concentration will be lowered for burning due to restrictions on the capability of the turbine used in the demonstration test.

# Upcycling Existing Thermal Power Plants –GENESIS Matsushima

J-POWER will take the first step in CO<sub>2</sub>-free hydrogen power generation at the Matsushima Plant that paved the way for using imported coal after the oil crisis. J-POWER will realize reducing environmental loads as early as possible by applying new technologies to the existing assets in an economically viable way while maintaining a stable power supply.



## GENESIS Matsushima



## J-POWER GENESIS

An initiative for realizing carbon neutrality, with a view to CO<sub>2</sub> free hydrogen power generation in the future

\* CCUS : Carbon Capture, Utilization, and Storage

# Carbon Recycling Test Projects

- Considering carbon recycling to utilize CO<sub>2</sub> captured in Osaki CoolGen Project

## Osaki CoolGen Carbon Recycling Test Project

Company: Osaki CoolGen Corporation (Ownership: J-POWER 50%, Chugoku Electric Power Company 50%)

Demonstration Outline: Manufacturing Liquefaction carbonic acid production 5ton- CO<sub>2</sub>/day

Osaki CoolGen  
(IGCC + CO<sub>2</sub> Capture Process  
Demonstration facility)



CO<sub>2</sub>

### Examples of Carbon Recycling

#### Tomato farm

- Jointly operated by J-POWER and KAGOME in Kitakyushu city
- Utilizing thousands tons of CO<sub>2</sub> annually to promote tomato photosynthesis



Research and development related to biofuel production from microalgae

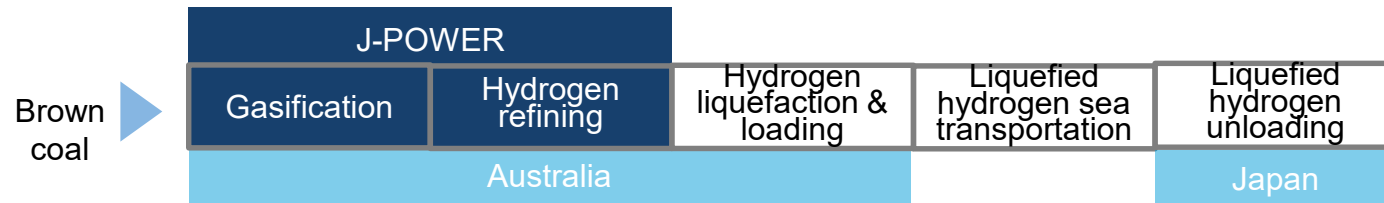
Environmentally friendly concrete

FY	2018	2019	2020	2021	2022	2023	2024
Demonstration test schedule			Design/manufacture/ installation	Demonstration tests			

# Australian Brown Coal Hydrogen Pilot Test Project

- Participating in demonstration test of constructing supply chain which produces hydrogen by gasifying brown coal in Australia and transports it to Japan
- J-POWER has been in charge of brown coal gasification\*1 and hydrogen refining facilities\*2 utilizing its knowledge on coal gasification
- We started producing hydrogen in January 2021 and achieved a hydrogen purity of 99.999% in February. The Demonstration test operation is underway
- When commercialized in the future, CO<sub>2</sub> free will be achieved by applying CCS to store CO<sub>2</sub> generated in hydrogen production

## Overall View of the Global Hydrogen Supply Chain



### Benefits of using brown coal

- Unused
- Abundant resources
- Cheaper than coal

January 2021  
Started producing  
hydrogen



FY	2019	2020	2021	2022	2023	2024
Demonstration test schedule	Design/manufacture/installation/ test run		Demonstration test			

\*1 Sponsored by the New Energy and Industrial Technology Development Organization (NEDO)

\*2 Sponsored by the Australian federal government and the Victoria state government



# Overseas Main Projects Under Construction / Development (As of June 30, 2021)

Project	Overview	Location of the project
<p><b>Central Java (Indonesia)</b></p> <p>Capacity: 2,000MW (1,000MW x 2)            Type: Coal-fired (USC*1)            Ownership: 34%            Status: Under construction            Start of operation: FY2021(planned)</p>	<ul style="list-style-type: none"> <li>• IPP project (newly developed coal-fired power plant) awarded through international tender in Indonesia in 2011.</li> <li>• The plan is to construct a high-efficiency coal-fired power plant in Batang city, Central Java Province.</li> <li>• After startup of operation, the plant will sell electricity to Indonesia's state-owned electric power utility for a period of 25 years.</li> </ul>	
<p><b>Triton Knoll (UK)</b></p> <p>Capacity: 857MW            Type: Offshore wind            Ownership: 25%            Status: Under construction            Start of operation: 2021</p>	<ul style="list-style-type: none"> <li>• Participating in an overseas offshore wind power project from the construction phase.</li> <li>• A fixed price is guaranteed for 15 years under UK CfD*2 regime.</li> <li>• Taking advantage of the expertise regarding offshore wind power business obtained by participating in this project, J-POWER will accelerate its commitment to promoting its renewable energy business across the world, including Japan.</li> </ul>	
<p><b>Jackson (USA)</b></p> <p>Capacity: 1,200MW            Type: CCGT*3            Ownership: 100%            Status: Under construction            Start of operation: 2022</p>	<ul style="list-style-type: none"> <li>• Concluded in June 2019 to construct a new power plant next to Elwood plant now under operation</li> <li>• A greenfield project to build a power plant from scratch</li> <li>• Close to Chicago, a high power-demand area</li> <li>• Electricity is sold in the PJM*4 market</li> </ul>	

\*1 USC: Ultra – Supercritical

\*2 CfD regime: The CfD is an investment incentive program of UK, which will be granted to wind power generators and other low carbon electric power resources. Accredited electricity generators shall execute the CfD agreement with the LCCC (Low Carbon Contracts Company), a CfD management company owned by the British Government, and then, the parties thereto will make settlements for an electricity price based on the difference between the strike price, which is provided under the agreement, and the reference price, which is determined according to wholesale market prices from time to time.

\*3 CCGT: Combined Cycle Gas Turbine

\*4 PJM: The independent system operator in the Eastern US that operates the largest wholesale electricity market in the US as well as runs its electric power system.

# Overseas Main Projects Under Construction / Development (As of June 30, 2021)

Project	Overview	Location of the project
<p><b>Wharton, Refugio (USA)</b></p> <p>Capacity: Wharton:350MW Refugio:400MW Type: Solar photovoltaic Ownership: 25% Status: Under development Start of operation: After2022, after 2023</p>	<ul style="list-style-type: none"> <li>• First renewable project in USA for J-POWER</li> <li>• Texas has abundant solar resource and can expect growth in power demand</li> <li>• Located close to Houston, a high-power demand area</li> </ul>	
<p><b>Birchwood (USA)</b></p> <p>Capacity: Solar 50MW Storage 190MW Type: Solar Ownership: 50% Status: Under development Start of operation: After 2023(Solar)</p>	<ul style="list-style-type: none"> <li>• Third renewable project in USA for J-POWER</li> <li>• Execution of Joint Development Agreement with Fortress Investment Group, LLC</li> <li>• Developing solar generation and energy storage projects in Virginia after closing Birchwood Power in March 2021, which is the coal-fired power plant and J-POWER has owned 50% of its interest</li> </ul>	
<p><b>Kidston Stage-3 Wind (Australia)</b></p> <p>Capacity: 150MW Type: Onshore wind Ownership: 50%* Status: Under development Start of operation: 2025</p>	<ul style="list-style-type: none"> <li>• First renewable project in Australia for J-POWER</li> <li>• J-POWER executes Development Funding Agreement with Genex Power Limited for New Wind Project</li> <li>• Leveraging J-POWER's domestic and international wind energy expertise and Genex's renewable energy development capabilities in Australia</li> </ul>	

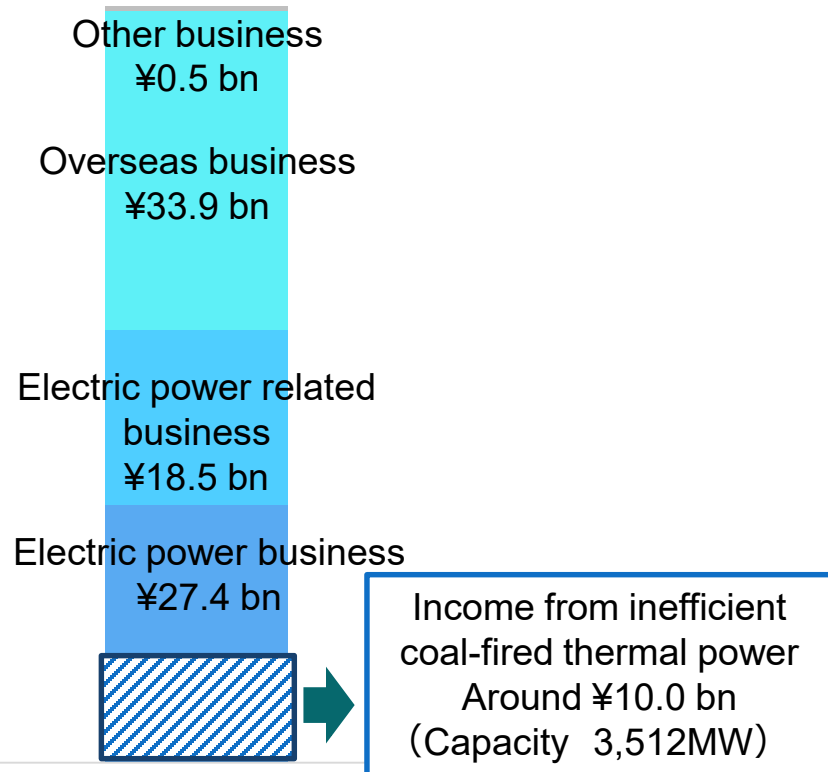
\*The owned capacity which includes 10% stake in Genex in addition to the 50% stake held by the Company under the development funding agreement is 55%

# Phasing Out of Inefficient Coal-fired Thermal Power

- We showed the future direction of the treatment of inefficient coal-fired thermal power plants in J-POWER “BLUE MISSION 2050”
  - Phasing out aged power plants one after another/Lower emissions (mixed combustion with biomass and ammonia)/Upcycling

Consolidated ordinary income

¥78.0 bn\*1

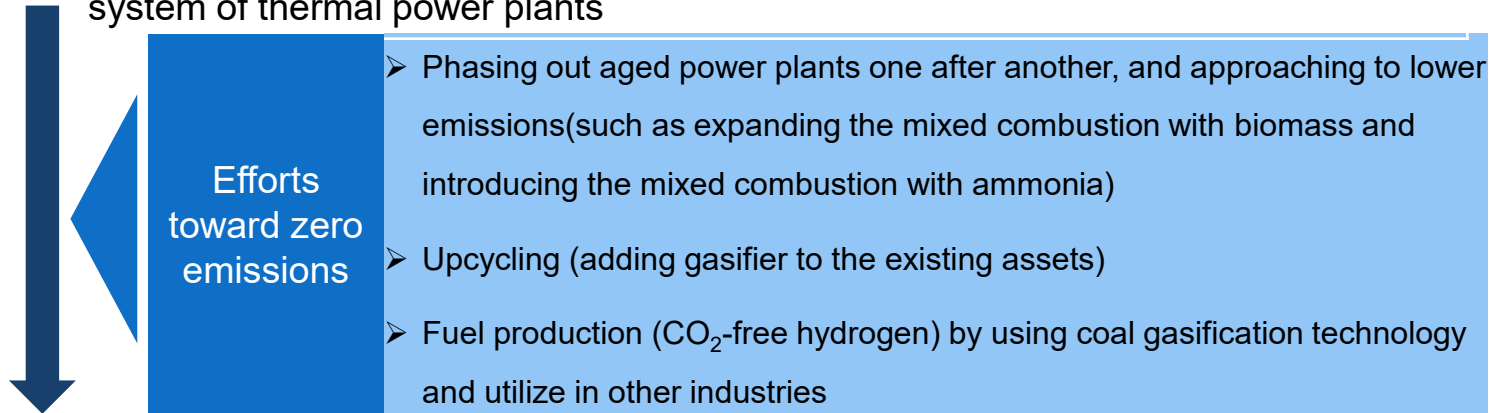


FY2019 Consolidated ordinary income

\*1 Is not equal to the sum of each segment income due to adjustment of inter segment transaction, etc.

## Challenges for aging thermal power

- ◆ It will be difficult to operate for a long time due to aging
- ◆ Necessity of slimming personnel and cost reduction by changing the operation system of thermal power plants



## Phasing Out of Inefficient Coal-fired Thermal Power Plants

- ◆ CO<sub>2</sub> emission reduction target in 2030: -40%, realization of CO<sub>2</sub>-free hydrogen power generation
- ◆ Maintaining the business foundation through the results of efforts toward zero emissions
  - ✓ When investing in large-scale new power plants, it is also important to consider profitability and predictability of investment recovery. Aim to build a new generation portfolio while maintaining and improving profitability
  - ✓ A large-scale power generation business is built on relationships with various stakeholders. Take the time to respond carefully with the understanding of the locals who are greatly affected

# Phasing Out of Inefficient Coal-fired Thermal Power / Indicator for Efficiency

- As a result of government discussions on the phase-out of inefficient coal-fired power plants, regulatory and inductive measures will be introduced to improve the efficiency of coal-fired power plants, considering security of stable supply.

	Energy Conservation Act		<Regulatory measures> New indicator for coal-fired power plants	<Inductive measures> Capacity market
	A indicator	B indicator		
Efficiency standard	Total achievement of target efficiency for each fuel type (A indicator: more and or 1.0) Coal-fired : 41% Oil-fired, etc. : 39% LNG : 48%	44.3%	43%	42%
Scope of evaluation	By company			by plant
Scope of calculation	Total weighted average of all fuel type plant's achievement	Weighted average of all fuel type plant's efficiency	Coal	Coal
Method of calculation	Actual efficiency			Design efficiency (As of bidding)
Correction of efficiency	Biomass co-firing/Heat utilization		-Biomass co-firing/Heat utilization -Hydrogen or Ammonia co-firing -Adjustment correction according to load factor	Consider equipment improvement by the time of bidding
Others			Concept of adjustment correction  Correction [%] = -0.037 × load factor [%] + 3.69	Receipt rate of capacity payment according to load factor <b>Below 50% load factor: 100%</b> <b>Over 50% load factor: 80%</b> (Review of the reduction rate after FY2026 bidding will be considered)



## Consolidated: Revenues and Expenses

(Unit: 100 million yen)

	FY2017	FY2018	FY2019	FY2020	FY2020 1Q	FY2021 1Q
<b>Operating revenue</b>	<b>8,562</b>	<b>8,973</b>	<b>9,137</b>	<b>9,091</b>	<b>1,879</b>	<b>1,917</b>
Electric utility operating revenue	6,319	6,937	6,841	7,313	1,381	1,437
Overseas business operating revenue	1,630	1,410	1,790	1,380	403	363
Other business operating revenue	612	625	505	397	93	115
<b>Operating expenses</b>	<b>7,519</b>	<b>8,185</b>	<b>8,301</b>	<b>8,313</b>	<b>1,653</b>	<b>1,701</b>
<b>Operating income</b>	<b>1,043</b>	<b>788</b>	<b>836</b>	<b>777</b>	<b>225</b>	<b>215</b>
<b>Non-operating revenue</b>	<b>291</b>	<b>188</b>	<b>265</b>	<b>112</b>	<b>61</b>	<b>87</b>
Share of profit of entities accounted for using equity method	97	96	113	27	44	54
Other	193	92	152	84	17	32
<b>Non-operating expenses</b>	<b>309</b>	<b>292</b>	<b>320</b>	<b>280</b>	<b>136</b>	<b>104</b>
Interest expenses	283	263	262	237	59	56
Other	25	28	57	43	76	47
<b>Ordinary income</b>	<b>1,024</b>	<b>685</b>	<b>780</b>	<b>609</b>	<b>150</b>	<b>198</b>
Extraordinary income	-	-	-	94	-	-
Extraordinary losses	33	-	124	57	-	-
<b>Profit attributable to owners of parent</b>	<b>684</b>	<b>462</b>	<b>422</b>	<b>223</b>	<b>117</b>	<b>140</b>

## Non-consolidated: Operating Revenues & Expenses

(Unit: 100 million yen)

	FY2017	FY2018	FY2019	FY2020	FY2020 1Q	FY2021 1Q
<b>Operating revenue</b>	<b>6,145</b>	<b>6,469</b>	<b>5,712</b>	<b>5,899</b>	<b>1,128</b>	<b>1,139</b>
<b>Electric power business</b>	<b>6,014</b>	<b>6,336</b>	<b>5,638</b>	<b>5,838</b>	<b>1,118</b>	<b>1,112</b>
Sold power to other suppliers	5,456	5,806	5,104	5,660	1,093	1,084
Other <sup>*1</sup>	558	529	533	177	25	27
<b>Incidental business</b>	<b>131</b>	<b>133</b>	<b>74</b>	<b>61</b>	<b>9</b>	<b>26</b>
<b>Operating expenses</b>	<b>5,715</b>	<b>6,282</b>	<b>5,464</b>	<b>5,120</b>	<b>1,072</b>	<b>1,070</b>
<b>Electric power business</b>	<b>5,593</b>	<b>6,157</b>	<b>5,397</b>	<b>5,065</b>	<b>1,064</b>	<b>1,045</b>
Personnel expense	342	324	358	318	85	49
Amortization of the actuarial difference in retirement benefits	(1)	(14)	24	28	7	(17)
Fuel cost	2,573	2,890	2,332	1,937	453	346
Repair and maintenance cost	634	697	666	441	75	84
Depreciation and amortization cost	534	510	527	552	119	140
Other	1,508	1,734	1,512	1,814	330	424
<b>Incidental business</b>	<b>122</b>	<b>125</b>	<b>66</b>	<b>55</b>	<b>8</b>	<b>25</b>
<b>Operating income</b>	<b>430</b>	<b>186</b>	<b>248</b>	<b>778</b>	<b>55</b>	<b>69</b>

\*1 "Other" shows transmission revenue and other electricity revenue. Due to the split of transmission business in April, 2020, "Other" for FY2020 and FY2021 show only other electricity revenue

# Consolidated: Segment Information

(Unit: 100 million yen)

		Electric power	Electric power -related	Overseas	Other	Subtotal	Elimination*	Consolidated
FY2021 1Q	Sales	1,443	376	363	48	2,231	(314)	1,917
	Sales to customers	1,437	74	363	41	1,917	-	1,917
	Ordinary income	98	11	81	3	194	4	198
FY2020 1Q	Sales	1,385	759	403	37	2,586	(707)	1,879
	Sales to customers	1,381	63	403	30	1,879	-	1,879
	Ordinary income	134	6	4	2	147	3	150
year-on-year change	Sales	57	(383)	(40)	10	(355)	393	38
	Sales to customers	56	11	(40)	11	38	-	38
	Ordinary income	(35)	4	76	1	47	1	48

## “Electric Power Business”

Mainly J-POWER group’s electric power generation business and transmission/ transformation business. The majority of consolidated revenue is derived from this segment.

## “Electric Power-Related business”

These focus on peripheral business essential for the operation of power plants and transmission facilities, such as designing, executing, inspecting and maintaining power facilities and importing and transporting coal. Intra-group transactions account for a large portion of this segment, such as Company’s power plant maintenance, coal transportation activities.

## “Overseas business”

Overseas power generation business, overseas engineering and consulting business

## “Other business”

Diversified business such as telecommunication, environmental and the sale of coal

\* Elimination includes elimination of intersegment sales

## Consolidated: Cash Flow

(Unit: 100 million yen)

	FY2017	FY2018	FY2019	FY2020	FY2020 1Q	FY2021 1Q
<b>Operating activities</b>	<b>1,603</b>	<b>1,484</b>	<b>1,592</b>	<b>1,679</b>	<b>256</b>	<b>(52)</b>
Profit before income taxes	990	685	655	646	150	198
Depreciation and amortization	822	799	830	964	220	242
Share of (profit) loss of entities accounted for using equity method	(97)	(96)	(113)	(27)	(44)	(54)
<b>Investing activities</b>	<b>(1,096)</b>	<b>(1,704)</b>	<b>(1,617)</b>	<b>(1,432)</b>	<b>(339)</b>	<b>(533)</b>
Purchase of non-current assets	(988)	(1,060)	(1,495)	(1,592)	(343)	(252)
Payments of investment and loans receivable	(81)	(744)	(109)	(25)	(9)	(316)
<b>Free cash flow</b>	<b>506</b>	<b>(220)</b>	<b>(24)</b>	<b>246</b>	<b>(82)</b>	<b>(586)</b>

# Consolidated: Key Ratios and Key Data

(Unit: 100 million yen)

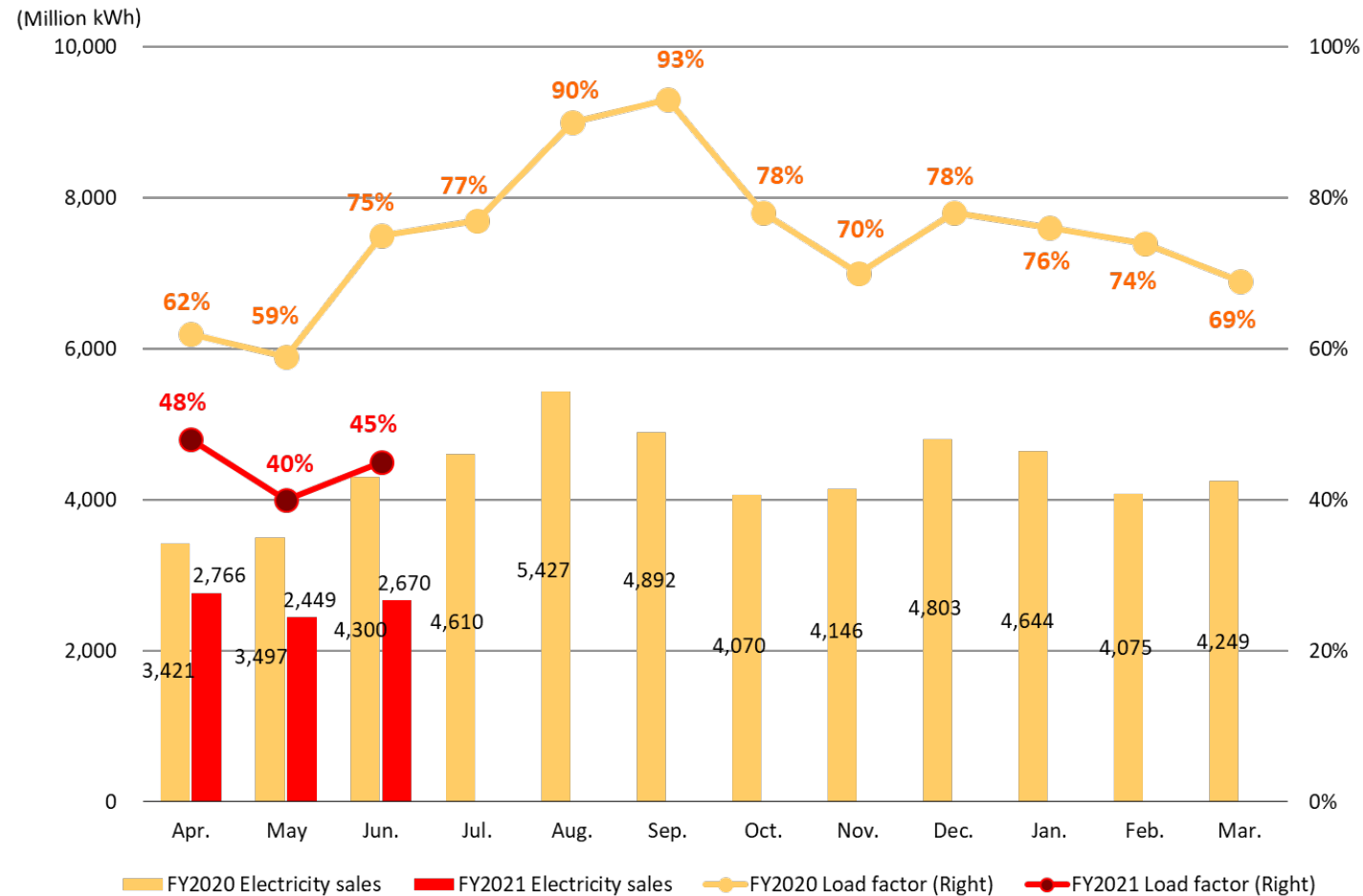
	FY2017	FY2018	FY2019	FY2020	FY2020 1Q	FY2021 1Q
<b>(PL)</b> Operating revenue	8,562	8,973	9,137	9,091	1,879	1,917
Operating income	1,043	788	836	777	225	215
Ordinary income	1,024	685	780	609	150	198
Profit attributable to owners of parent	684	462	422	223	117	140
<b>(BS)</b> Total assets	26,470	27,661	28,053	28,419	27,992	29,002
Construction in progress	5,257	5,820	6,471	5,882	5,400	6,101
Shareholders' equity	7,872	7,974	8,077	8,091	7,700	8,493
Net assets	8,361	8,455	8,573	8,536	8,106	8,969
Interest-bearing debt	15,613	16,428	16,484	16,646	16,729	17,160
<b>(CF)</b> Investing activities	(1,096)	(1,704)	(1,617)	(1,432)	(339)	(533)
Free cash flow	506	(220)	(24)	246	(82)	(586)
(Ref) CAPEX* <sup>1</sup>	(987)	(1,077)	(1,626)	(1,715)	(460)	(235)
(Ref) Depreciation and amortization	822	799	830	964	220	242
ROA (%)	3.9	2.5	2.8	2.2	-	-
ROA (ROA excl. Construction in progress) (%)	4.8	3.2	3.6	2.8	-	-
ROE (%)	9.1	5.8	5.3	2.8	-	-
EPS ( ¥ )	373.93	252.68	230.96	121.85	64.25	76.59
BPS ( ¥ )	4,300.98	4,356.54	4,412.84	4,420.39	4,206.95	4,640.30
Shareholders' equity ratio (%)	29.7	28.8	28.8	28.5	27.5	29.3
D/E ratio (x)	2.0	2.1	2.0	2.1	2.2	2.0
Number of shares issued* <sup>2</sup> (thousand)	183,049	183,048	183,048	183,048	183,048	183,048

\*1 Capital expenditure: Increase in tangible and intangible non-current assets

\*2 Number of shares issued at the end of the fiscal year (excluding treasury stock)

# Monthly Electricity Sales: Domestic Power Generation Business (Thermal Power)

<ul style="list-style-type: none"> <li>Apr. 2020 - Jun. 2020 (cumulative)</li> <li>Load factor ⇒ 65%</li> <li>Electricity sales ⇒ 11.2 TWh</li> </ul>	<ul style="list-style-type: none"> <li>Apr. 2021 - Jun. 2021 Results (cumulative)</li> <li>Load factor ⇒ 44%</li> <li>Electricity sales ⇒ 7.8 TWh</li> </ul>
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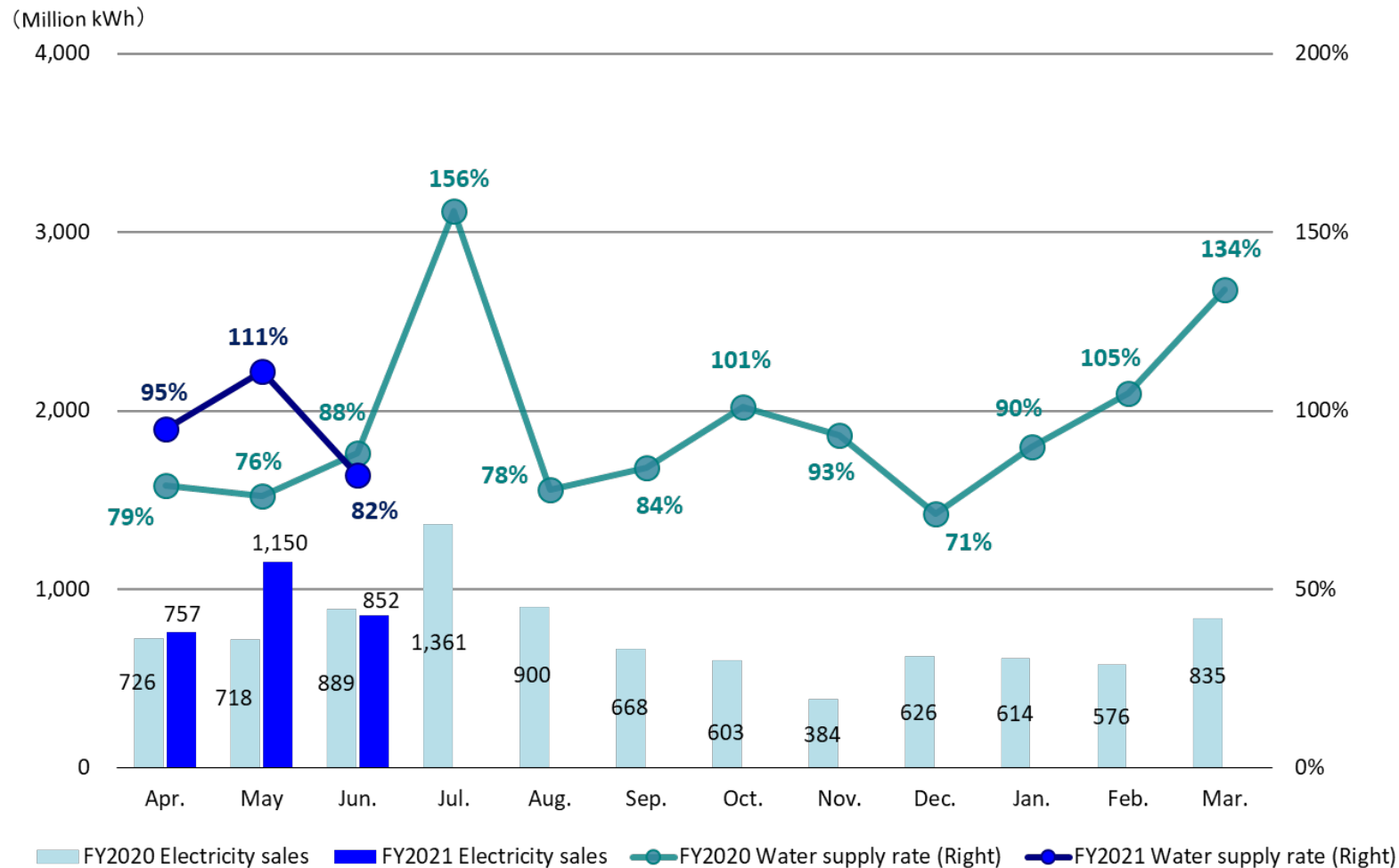


\* Load factors of thermal power show the results for non-consolidated only.

\* Proportion of equity holding is not taken into account.

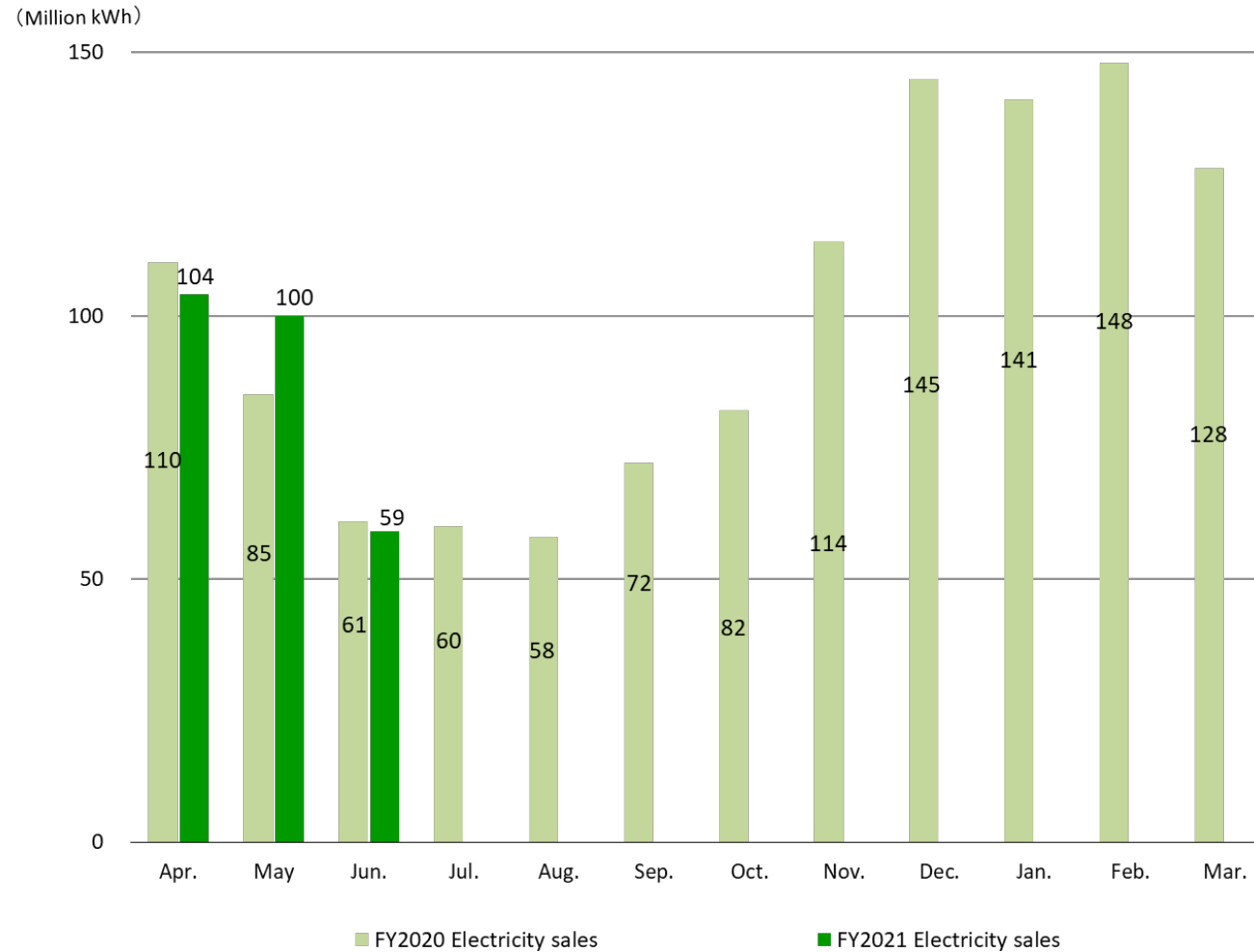
# Monthly Electricity Sales: Domestic Power Generation Business (Hydroelectric Power)

<ul style="list-style-type: none"> <li>Apr. 2020 - Jun. 2020 Results (cumulative)</li> <li>Water supply rate ⇒ 81%</li> <li>Electricity sales ⇒ 2.3 TWh</li> </ul>	<ul style="list-style-type: none"> <li>Apr. 2021 – Jun. 2021 Results (cumulative)</li> <li>Water supply rate ⇒ 98%</li> <li>Electricity sales ⇒ 2.7 TWh</li> </ul>
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# Monthly Electricity Sales: Domestic Power Generation Business (Wind Power)

- ▶ Apr. 2020 - Jun. 2020 Results (cumulative) ⇒ 0.25 TWh
- ▶ Apr. 2021 - Jun. 2021 Results (cumulative) ⇒ 0.26 TWh

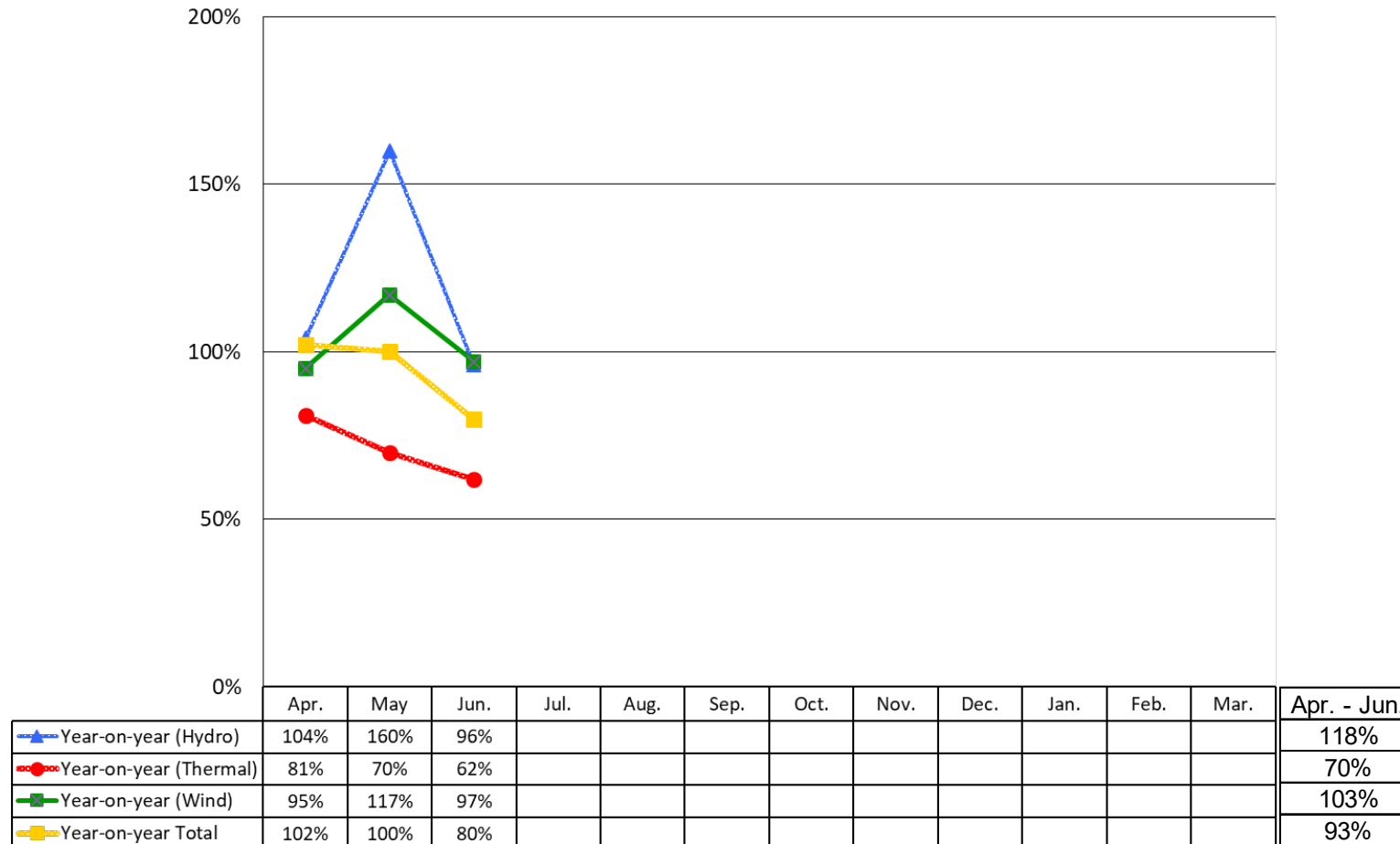


\* Proportion of equity holding is not taken into account.



# Change in Monthly Electricity Sales: Domestic Power Generation Business

- ▶ Apr. 2020 - Jun. 2020 Total Results (cumulative) ⇒ 15.8 TWh
- ▶ Apr. 2021 - Jun. 2021 Total Results (cumulative) ⇒ 14.7 TWh



\* Total volume includes electricity sales volume of hydro, thermal, wind and electricity procured from wholesale electricity market, etc.



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