

# Summary of FY2020 Second Quarter Earnings Results



Electric Power Development Co., Ltd.

October 30, 2020

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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 aimed at growth

### Initiatives aimed at achieving CO2-free



- Started EIA<sup>\*1</sup> for new development of onshore wind at five sites
- Started EIA<sup>\*1</sup> for replacement of onshore wind at three existing sites
- Started replacement work at Tomamae Winvilla Windfarm
- Formed a consortium for business development of offshore wind at off Akita pref. sea area



- Decided capital participation in Genex, an Australian renewable energy company
- Started new development of solar PV at two sites in Texas, USA



- Started commercial operations of Takehara Thermal Power Plant New Unit No.1 and Kashima Power



- Expanded virtual power plant construction business



- Improved operation system for thermal power plants



- Decided to sell interests in Taiwan gas-fired thermal power IPP project

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# I. Summary of FY2020 Second Quarter Earnings Results

# Summary of FY2020 Second Quarter Earnings Results



(Unit: billion yen)

Consolidated	FY2019 2nd Quarter (Apr.-Sep.)	FY2020 2nd Quarter (Apr.-Sep.)	Year-on-year change	
Operating Revenue	461.9	408.5	(53.3)	(11.6) %
Operating Income	49.4	54.3	4.8	9.7 %
Ordinary Income	51.4	48.2	(3.1)	(6.2) %
Profit attributable to owners of parent	28.2	33.7	5.5	19.8 %

Non-consolidated	FY2019 2nd Quarter (Apr.-Sep.)	FY2020 2nd Quarter (Apr.-Sep.)	Year-on-year change	
Operating Revenue	286.1	257.5	(28.5)	(10.0) %
Operating Income	22.0	20.7	(1.3)	(6.2) %
Ordinary Income	49.3	36.2	(13.0)	(26.4) %
Profit	45.1	32.2	(12.8)	(28.5) %

Growth indicator	FY2019 2nd Quarter (Apr.-Sep.)	FY2020 2nd Quarter (Apr.-Sep.)	Year-on-year change	
J-POWER EBITDA <sup>*1</sup>	94.7	109.9	15.2	16.1 %

\*1 J-POWER EBITDA = Operating income + Depreciation and amortization cost + Share of profit of entities accounted for using equity method

Note On April 1, 2020, J-POWER's transmission and transformation business was transferred to a wholly owned subsidiary, J-POWER Transmission Network Co., Ltd. by company split. This transaction negatively impacted the non-consolidated operating revenue, operating income, ordinary income and profit for FY2020 second quarter, while there was no impact on the consolidated earnings results.

# Key Data (Electric Power Sales)

	FY2019 2nd Quarter (Apr.-Sep.)	FY2020 2nd Quarter (Apr.-Sep.)	Year-on-year change	
Electric Power Sales (TWh)				
Electric Power Business	34.8	36.8	2.0	5.9 %
Hydroelectric Power	4.9	5.2	0.3	6.2 %
Thermal Power	23.9	26.1	2.2	9.3 %
Wind Power	0.3	0.4	0.1	48.5 %
Other <sup>*1</sup>	5.6	4.9	(0.6)	(11.4) %
Overseas Business <sup>*2</sup>	8.7	6.2	(2.5)	(29.1) %
Water supply rate	91%	93%	+ 2 points	
Load factor <sup>*3</sup>	71%	76%	+ 5 points	

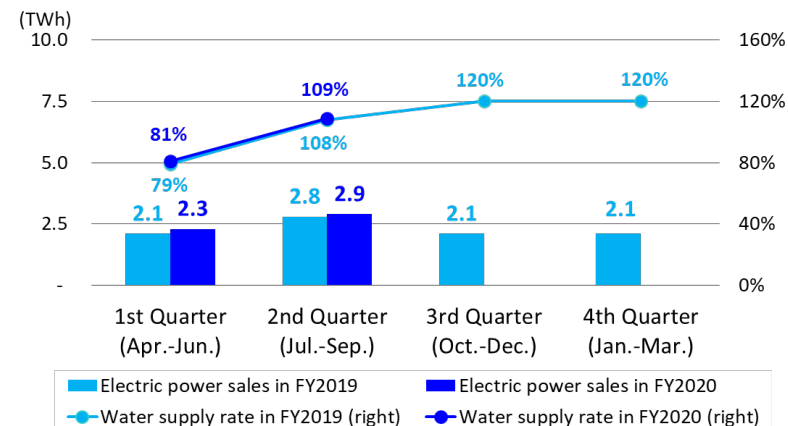
\*1 Electric power sales volume of electricity procured from wholesale electricity market, etc.

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

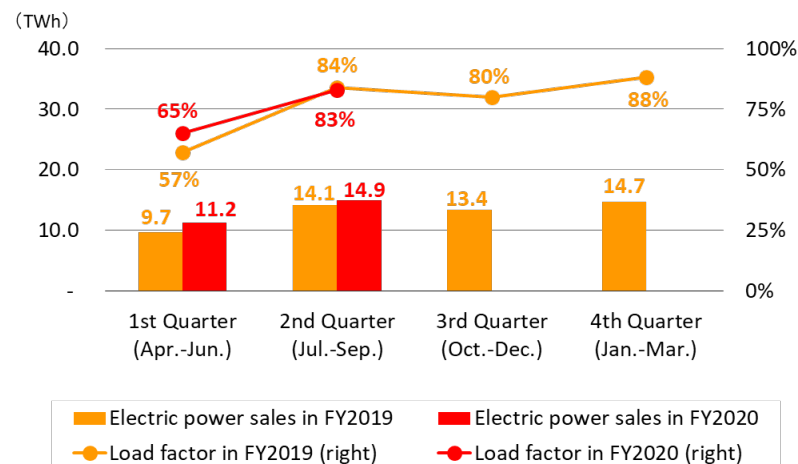
\*3 Load factors of thermal power show the results for non-consolidated only

## Electric Power Sales for each Quarter

[Domestic Hydroelectric Power]



## [Domestic Thermal Power]



# Key Data (Operating Revenue)

	FY2019 2nd Quarter (Apr.-Sep.)	FY2020 2nd Quarter (Apr.-Sep.)	Year-on-year change	
Operating Revenue (Billion yen)	461.9	408.5	(53.3)	(11.6) %
Electric Power Business	343.3	311.6	(31.6)	(9.2) %
Electric Power Generation Business	316.8	279.0	(37.8)	(11.9) %
Transmission / Transformation Business	25.0	24.5	(0.5)	(2.0) %
Overseas Business <sup>*1</sup>	93.5	76.4	(17.1)	(18.3) %
Other Business <sup>*2</sup>	24.9	20.4	(4.5)	(18.1) %
Foreign exchange rate at the end of June (Yen/US\$)	107.79	107.74		
Foreign exchange rate at the end of June (Yen/THB)	3.50	3.49		
Foreign exchange rate at the end of June (THB/US\$)	30.74	30.89		
Average foreign exchange rate (Yen/US\$)	108.60	106.93		

\*1 Sales for the overseas business segment (Sales from overseas consolidated subsidiaries and overseas consulting business, etc.)

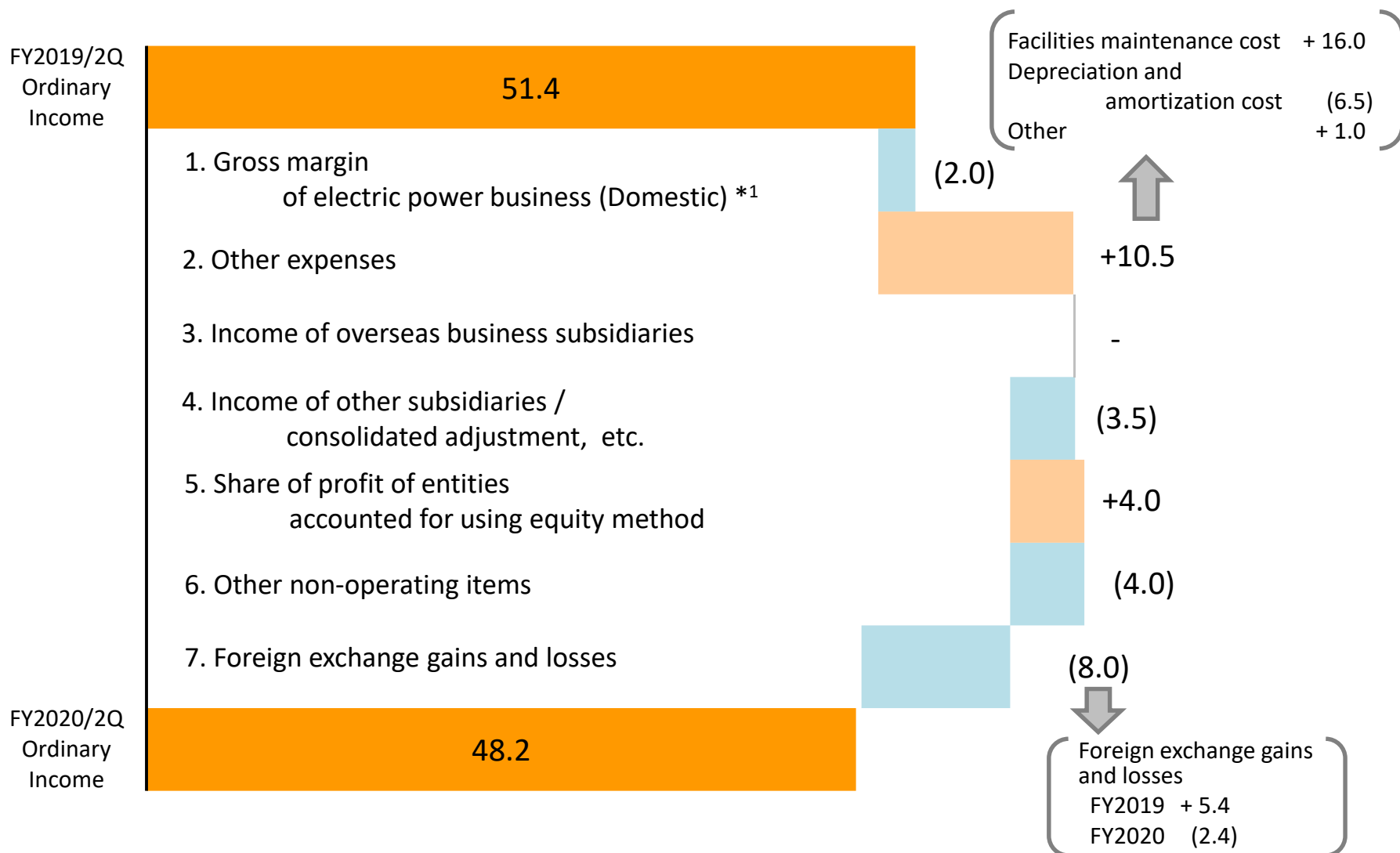
\*2 "Other Business" is composed of "Electric Power-Related Business" segment and "Other Business" segment



# FY2020 Second 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.

# Revenue / Expenditure Comparison



(Unit: billion yen)

	FY2019 2nd Quarter (Apr.-Sep.)	FY2020 2nd Quarter (Apr.-Sep.)	Year-on-year change	Main factors for change
<b>Operating Revenue</b>	<b>461.9</b>	<b>408.5</b>	<b>(53.3)</b>	
Electric power business	343.3	311.6	(31.6)	Decrease in fuel price, Fall in electricity market price, etc.
Overseas business	93.5	76.4	(17.1)	Decrease in electricity sales volume, etc.
Other business	24.9	20.4	(4.5)	
<b>Operating Expenses</b>	<b>412.4</b>	<b>354.2</b>	<b>(58.1)</b>	Electric power business (40.5), Overseas business (17.2), Other business (0.3)
<b>Operating Income</b>	<b>49.4</b>	<b>54.3</b>	<b>4.8</b>	
<b>Non-operating Revenue</b>	<b>16.2</b>	<b>10.6</b>	<b>(5.6)</b>	
Share of profit of entities accounted for using equity method	4.7	8.9	4.1	
Foreign exchange gains	5.4	-	(5.4)	
Other	6.0	1.7	(4.3)	
<b>Non-operating Expenses</b>	<b>14.3</b>	<b>16.6</b>	<b>2.3</b>	
Interest expenses	13.1	12.1	(0.9)	
Other	1.1	4.5	3.3	
<b>Ordinary Income</b>	<b>51.4</b>	<b>48.2</b>	<b>(3.1)</b>	Electric power business +10.3, Overseas business (9.6), Other business (3.8)
Extraordinary losses	8.9	-	(8.9)	Elimination of loss equivalent to impairment loss of Birchwood project in the US (8.9)
Total income taxes	7.5	10.9	3.3	Elimination of reversal of deferred tax liabilities associated with impairment of Birchwood project +2.4
<b>Profit attributable to owners of parent</b>	<b>28.2</b>	<b>33.7</b>	<b>5.5</b>	

# Balance Sheet



(Unit: billion yen)

	FY2019 End of FY	FY2020 End of 2Q	Change from prior year end	Main factors for change
<b>Non-current Assets</b>	<b>2,471.3</b>	<b>2,462.7</b>	<b>(8.6)</b>	
Electric utility plant and equipment	965.0	1,098.4	133.3	Non-consolidated (45.0), Subsidiaries and others +178.4
Overseas business facilities	316.3	298.9	(17.3)	
Other non-current assets	90.9	87.3	(3.5)	
Construction in progress	647.1	549.9	(97.2)	Non-consolidated (169.0), Subsidiaries and others +71.7
Nuclear fuel	74.8	75.1	0.3	
Investments and other assets	377.0	352.9	(24.0)	Long-term investments (17.7)
<b>Current Assets</b>	<b>334.0</b>	<b>341.0</b>	<b>7.0</b>	
<b>Total Assets</b>	<b>2,805.3</b>	<b>2,803.7</b>	<b>(1.6)</b>	
Interest-bearing debt	1,648.4	1,662.1	13.6	Non-consolidated +9.9, Subsidiaries +3.7 [Corporate bonds +10.0, Long-term loans +2.9]
Other	299.5	295.6	(3.9)	
<b>Total Liabilities</b>	<b>1,948.0</b>	<b>1,957.7</b>	<b>9.7</b>	
Shareholders' equity	806.1	832.6	26.4	Increase in retained earnings Deferred gains or losses on hedges (20.1)
Accumulated other comprehensive income	1.5	(30.0)	(31.6)	Foreign currency translation adjustment (12.7)
Non-controlling interests	49.6	43.4	(6.2)	
<b>Total Net Assets</b>	<b>857.3</b>	<b>846.0</b>	<b>(11.3)</b>	
D/E ratio (x)	2.0	2.1		
Shareholders' equity ratio	28.8%	28.6%		

## II. Summary of FY2020 Earnings Forecast

# Summary of FY2020 Earnings Forecast



(Unit: billion yen)

Consolidated	FY2019 Result	FY2020 Current Forecast	Comparison with FY2019 Result		FY2020 Initial Forecast*	Comparison with Initial Forecast
Operating Revenue	913.7	823.0	(90.7)	(9.9)%	915.0	(92.0)
Operating Income	83.6	74.0	(9.6)	(11.5)%	85.0	(11.0)
Ordinary Income	78.0	68.0	(10.0)	(12.9)%	75.0	(7.0)
Profit attributable to owners of parent	42.2	51.0	8.7	20.6%	47.0	4.0

Non-consolidated	FY2019 Result	FY2020 Current Forecast	Comparison with FY2019 Result		FY2020 Initial Forecast*	Comparison with Initial Forecast
Operating Revenue	571.2	519.0	(52.2)	(9.2)%	554.0	(35.0)
Operating Income	24.8	13.0	(11.8)	(47.8)%	21.0	(8.0)
Ordinary Income	60.5	48.0	(12.5)	(20.8)%	46.0	2.0
Profit	57.3	44.0	(13.3)	(23.3)%	43.0	1.0

Growth indicator	FY2019 Result	FY2020 Current Forecast	Comparison with FY2019 Result		FY2020 Initial Forecast*	Comparison with Initial Forecast
J-POWER EBITDA	177.9	187.0	9.0	5.1%	195.0	(8.0)

	Cash dividends per share		
	Interim	Year end	Annual
FY2019	35 yen	40 yen	75 yen
FY2020	35 yen	40 yen (Forecast)	75 yen (Forecast)

\*Initial forecast was released on April 30, 2020.

	FY2019 Result	FY2020 Current Forecast	Comparison with FY2019 Result		FY2020 Initial Forecast <sup>*5</sup>	Comparison with Initial Forecast		FY2019 Result	FY2020 Current Forecast	FY2020 Initial Forecast <sup>*5</sup>
<b>Electric Power Sales (TWh)</b>										
<b>Electric Power Business</b>	<b>73.1</b>	<b>74.2</b>	<b>1.1</b>	<b>1.5%</b>	<b>76.4</b>	<b>(2.1)</b>				
Hydroelectric Power	9.1	9.1	(0.0)	(0.6)%	9.0	0.0				
Thermal Power	52.0	53.8	1.8	3.5%	53.8	0.0				
Wind Power	0.8	1.1	0.2	34.0%	1.1	0.0				
Other <sup>*1</sup>	11.0	10.0	(0.9)	(8.8)%	12.3	(2.2)				
<b>Overseas Business<sup>*2</sup></b>	<b>15.6</b>	<b>13.5</b>	<b>(2.1)</b>	<b>(13.5)%</b>	<b>16.2</b>	<b>(2.6)</b>				
<b>Operating Revenue (Billion yen)</b>	<b>913.7</b>	<b>823.0</b>	<b>(90.7)</b>	<b>(9.9)%</b>	<b>915.0</b>	<b>(92.0)</b>				
<b>Electric Power Business</b>	<b>684.1</b>	<b>633.0</b>	<b>(51.1)</b>	<b>(7.5)%</b>	<b>693.0</b>	<b>(60.0)</b>				
Electric Power Generation Business	631.0	566.0	(65.0)	(10.3)%	627.0	(61.0)				
Transmission/Transformation Business	49.6	50.0	0.3	0.7%	50.0	-				
<b>Overseas Business<sup>*3</sup></b>	<b>179.0</b>	<b>151.0</b>	<b>(28.0)</b>	<b>(15.7)%</b>	<b>169.0</b>	<b>(18.0)</b>				
<b>Other Business<sup>*4</sup></b>	<b>50.5</b>	<b>39.0</b>	<b>(11.5)</b>	<b>(22.8)%</b>	<b>53.0</b>	<b>(14.0)</b>				
							Water supply rate	101%	95%	100%
							Load factor	77%	77%	76%
							Foreign exchange rate at term end			
							Yen/USD	109.56	110.00	110.00
							Yen/THB	3.63	3.30	3.30
							THB/USD	30.15	30.15	30.15
							Average foreign exchange rate			
							Yen/USD	108.70	108.46	110.00

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

\*4 "Other Business" is composed of "Electric Power-Related Business" segment and "Other Business" segment.

\*5 Initial forecast was released on April 30, 2020.

# FY2020 Earnings Forecast (Main Factors for Change)



[Current forecast]

[Initial forecast]  
(released on April 30, 2020)

(Unit: billion yen)

FY2019 Ordinary Income (Result)	78.0		78.0		
1. Gross margin of electric power business (Domestic) *1		(2.0)	+8.0		(10.0)
2. Other expenses		+1.0	(4.5)		+5.5
	Facilities maintenance cost +19.5 Depreciation and amortization cost (12.0) Other (6.5)				
3. Income of overseas business subsidiaries		(1.5)	(2.5)		+1.0
4. Income of other subsidiaries /consolidated adjustment, etc.		(6.5)	+0.5		(7.0)
5. Share of profit of entities accounted for using equity method	+1.5		-		+1.5
6. Other non-operating items		+5.0	+3.0		+2.0
7. Foreign exchange gains and losses		(7.5)	(7.5)		-
FY2020 Ordinary Income (Forecast)	68.0		75.0		(7.0)

Note In addition to the above factors, estimated gain on the sale of shares of Taiwan Chiahui Power Corporation announced on September 7, 2020 is reflected as extraordinary income of 8.0 billion yen in the current forecast

\*1 Domestic electric power business revenue (hydro, thermal, wind and other) – Fuel costs, etc.

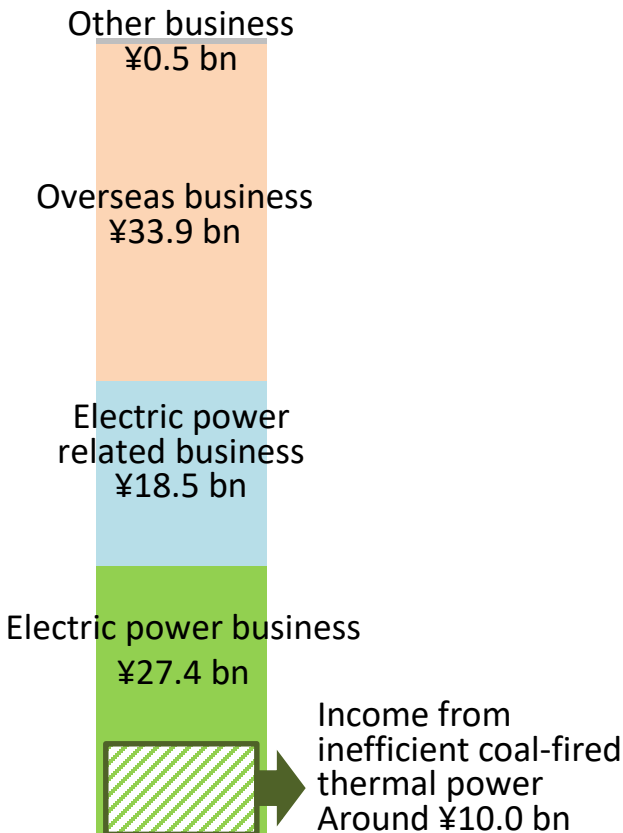
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- The treatment of inefficient coal-fired thermal power plants has been under review in recent years as they have been aged
- We are aiming at phasing them out by initiatives toward realizing zero-emission power supply\*<sup>1</sup> already under implementation

Consolidated ordinary income ¥78.0 bn \*<sup>2</sup>



FY2019 ordinary income

## Challenges for aged thermal power

- ◆ Difficulties for long-term operations due to aging
- ◆ Necessity of improving operation system for thermal power plants to achieve more efficient staffing and cost reduction

Initiatives toward realizing zero-emission power supply

- Steadily promoting new development of and discovering new projects of renewable energy
- Active efforts in new fields such as distributed energy services
- Eliminate emissions from thermal power generation utilizing IGCC combined with CCS and carbon recycling, hydrogen power generation, etc.

## Phasing out of inefficient coal-fired thermal power

- ◆ Phasing out contributes to CO<sub>2</sub> reduction and adaptation to policy
- ◆ Initiatives toward zero emission maintains our business foundation
- ✓ 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

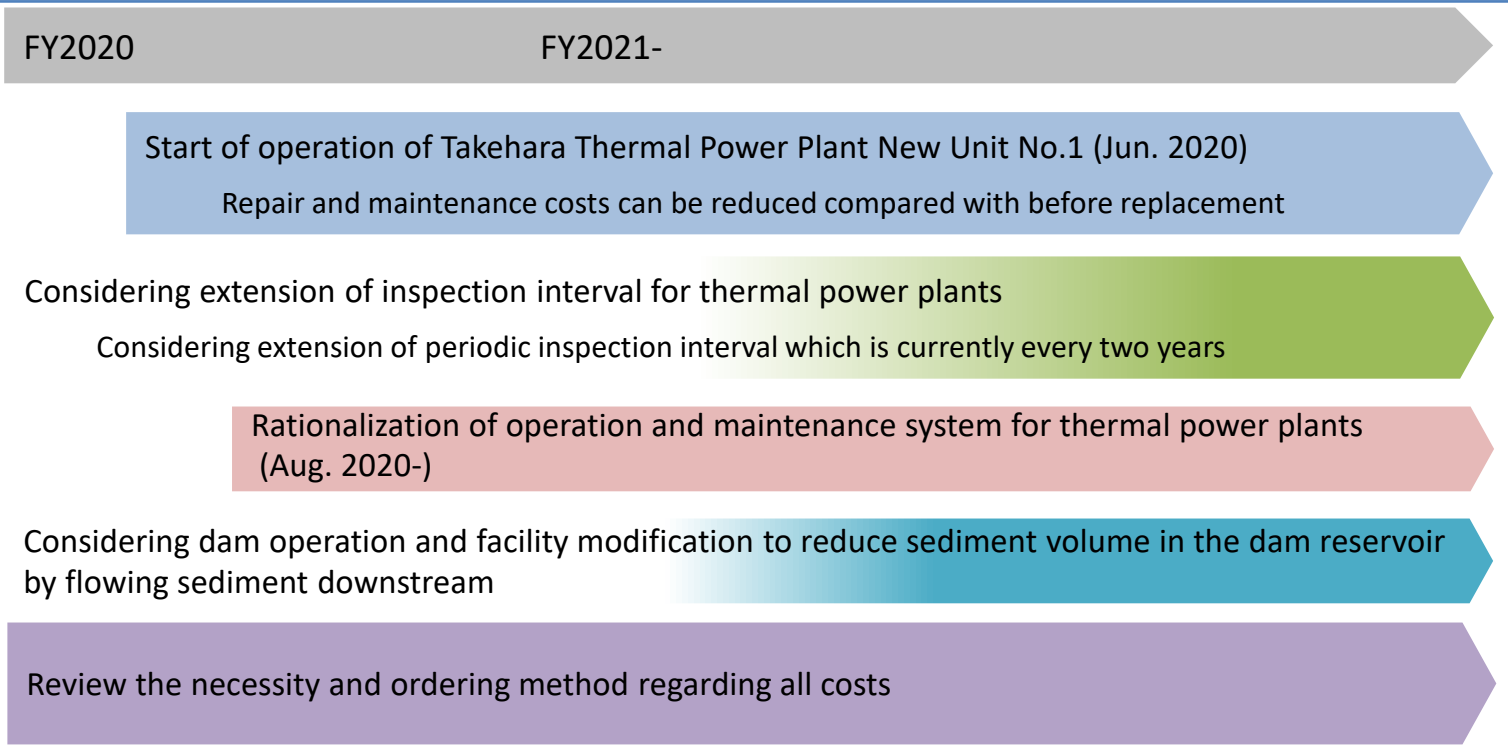
\*1 Please refer to pp.14-38 of "Summary of FY2019 Earnings Results" (disclosed on April 30, 2020)

\*2 Is not equal to the sum of each segment income due to adjustment of inter segment transaction, etc.

## Main factors for increase in costs in recent years

- Repair and maintenance costs have increased with ageing of thermal power plants whose average age was 31 years at the end of FY2019
- Repair and maintenance costs have increased with increasing sediment management costs at dam reservoirs
- Consignment costs and research costs have increased with promotion of initiatives in accordance with the medium-term management plan which takes major changes in business environment surrounding J-POWER group as opportunities for growth
  - ✓ Costs for investigation toward further expansion of renewable energy
  - ✓ Research costs aiming at realizing zero emission from fossil fuel power generation including Osaki CoolGen Project which is engaged in demonstration tests of oxygen-blown IGCC, IGFC and CO2 separation and capture
- Quality maintenance costs of equipment for construction of Ohma Nuclear Power Plant

## Initiatives aiming at reducing costs



# Initiatives Aiming at Reducing Costs

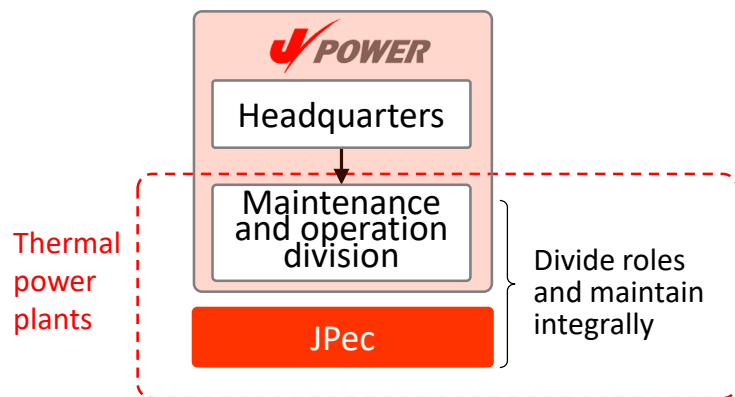
## (Improvement of the Operation System for Thermal Power Plants)



- In August 2020, the operation system for thermal power plants has been improved, in which operations of J-POWER's thermal power plants have been comprehensively transferred to its subsidiary
- Achieve cost reduction and more efficient staffing through elimination of redundant management structure and utilizing digital technologies (aiming at shifting approx. 30% of O&M personnel to other businesses by FY2024)
- This initiative is expected to contribute to enhance cost competitiveness while increasing personnel in renewable and overseas businesses

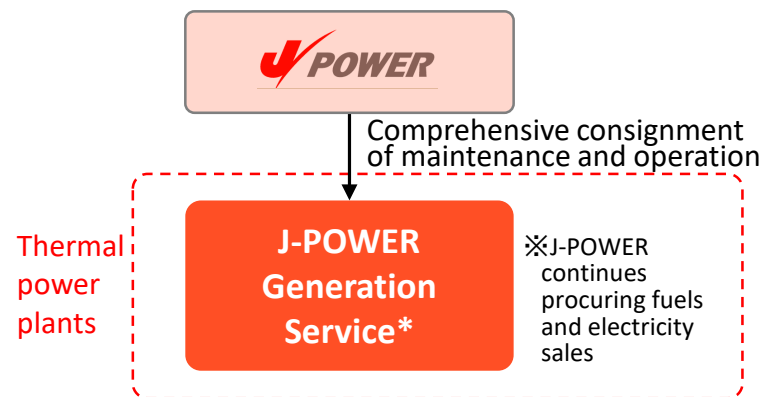
- July 2020

【Cooperation of two companies】



August 2020 -

【Completed by one company】



\* J-POWER's wholly owned subsidiary. Changed the company name from JPec consistent with the operational system change

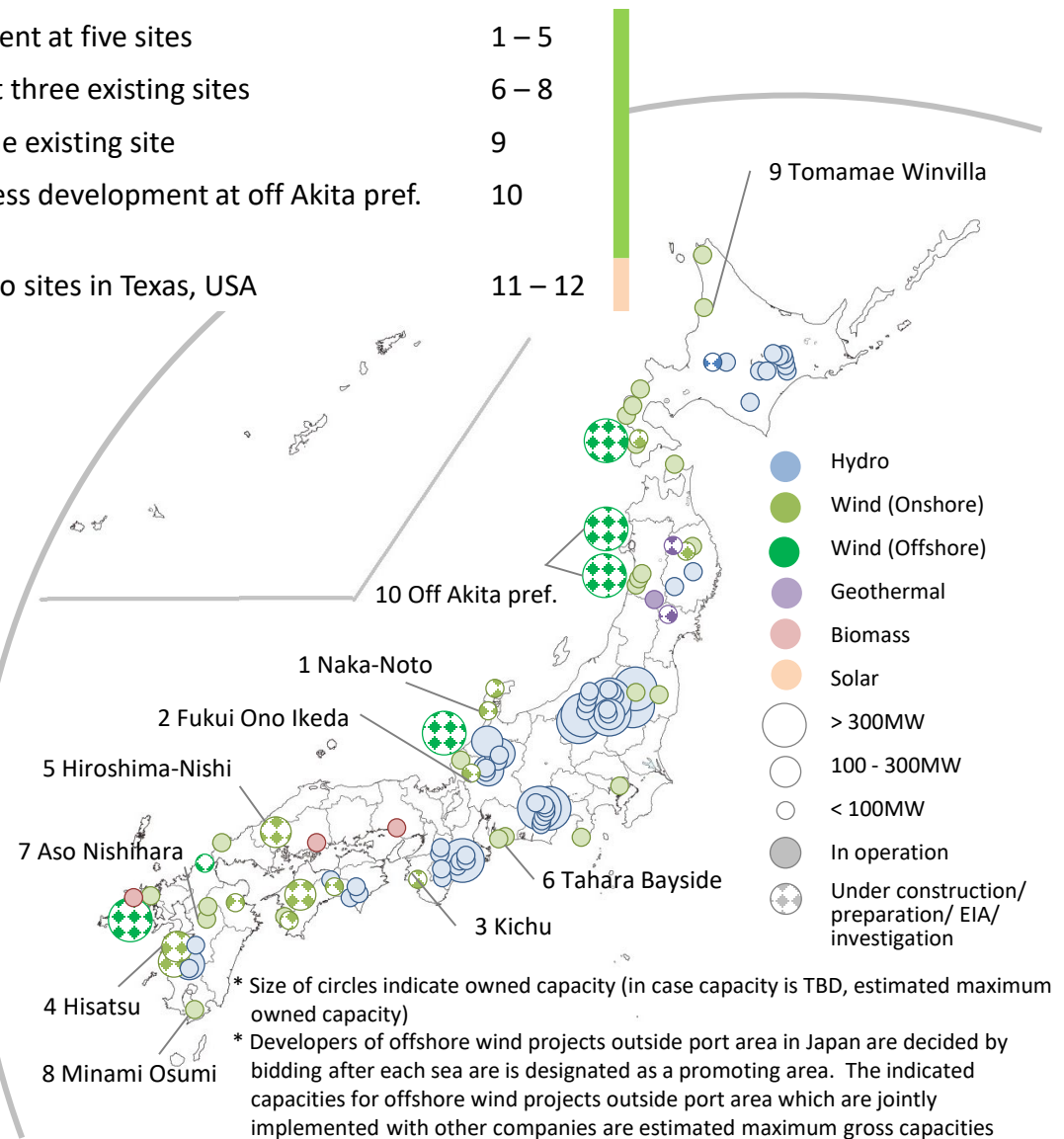
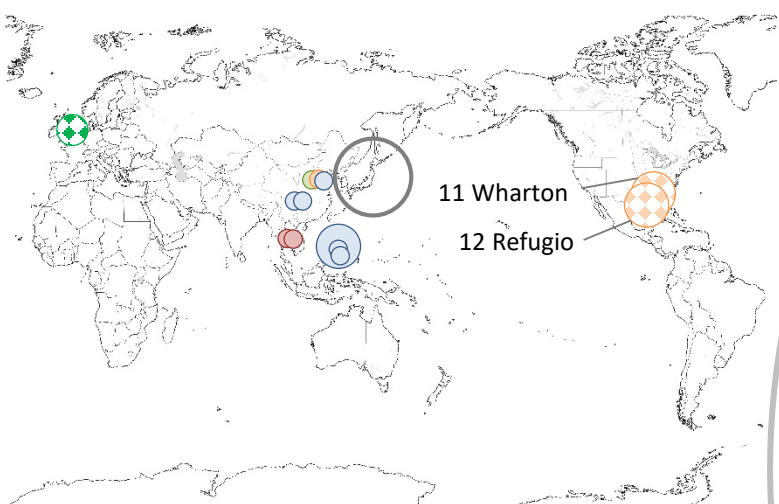
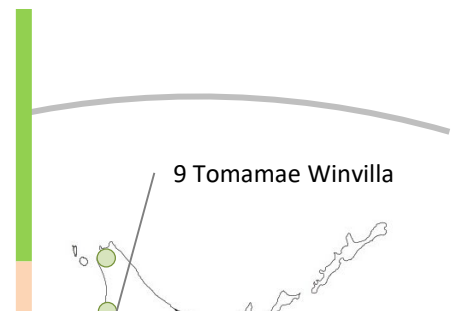
# Further Expansion of Renewable Energy

## Progress in FY2020

Wind	Onshore
	Offshore
Solar	

- Started EIA\*<sup>1</sup> for new development at five sites
- Started EIA\*<sup>1</sup> for replacement at three existing sites
- Started replacement work at one existing site
- Formed a consortium for business development at off Akita pref. sea area\*<sup>2</sup>
- Started new development at two sites in Texas, USA

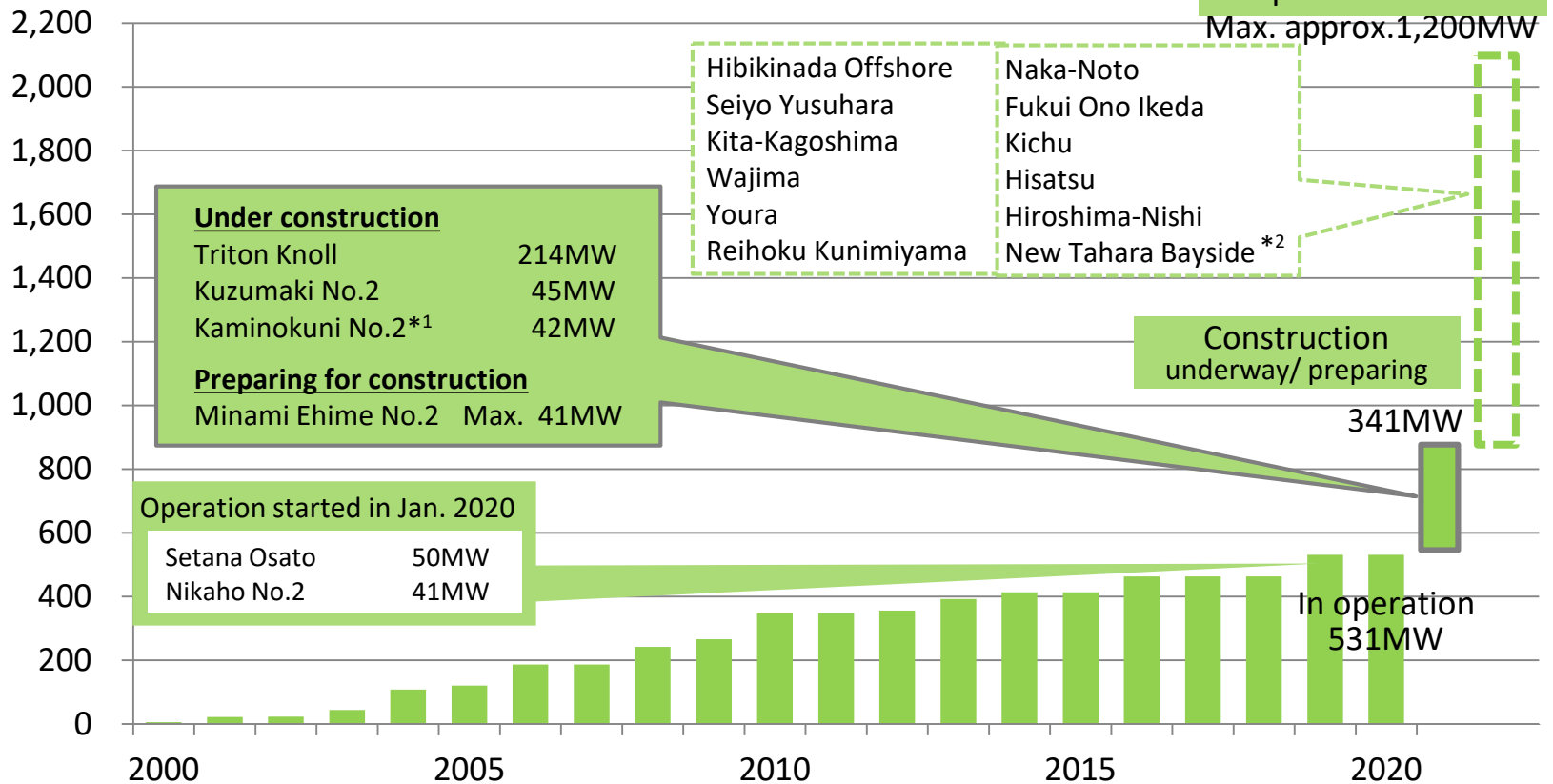
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- 6 – 8
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- 11 – 12



\* 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 area is 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

## Onshore and offshore (port area)

(Owned capacity, MW)



## Offshore (outside port area)

Under research for development

Saikai Offshore\*3  
Hiyama-area Offshore  
Awara Offshore\*4

Max. approx. 1,400MW in total

Formed a consortium for business development\*5

Off Akita pref.

\*1 Presents only phase 1 construction. Total plan amounts up to 120.4MW \*2 Estimated capacity increase with replacement

\*3 Conducted jointly with SUMITOMO CORPORATION \*4 Conducted jointly with Mitsui Fudosan Co., Ltd. \*5 With JERA Co., Inc. and Equinor ASA

Hydro	Project	Capacity	Note
	Shinkaturazawa/ Kumaoui	17.0MW	Start of operation : FY2022 (planned)
	Ashoro Repowering	-	Completion of construction : FY2022 (planned)
	Ogamigo Repowering	20.0MW→21.3MW	Completion of construction : FY2023 (planned)
	Nagayama Repowering	37.0MW→39.5MW	Completion of construction : FY2025 (planned)

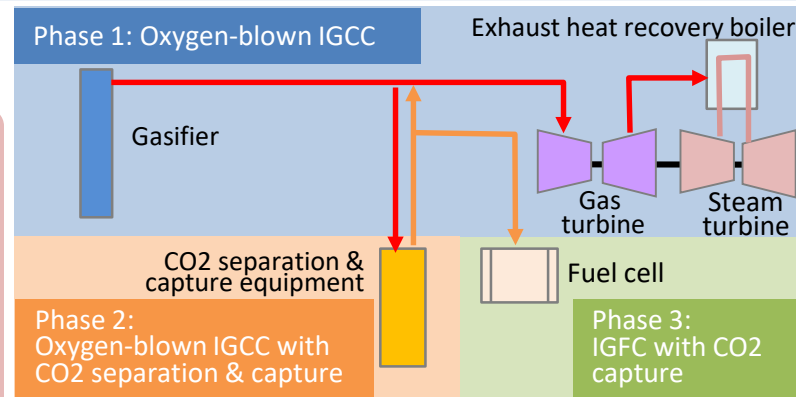
Geo-thermal	Project	Capacity	Ownership	Owned capacity	Start of operation
	Onikobe Replacement	14.9MW	100%	14.9MW	April 2023 (planned)
	Appi	14.9MW	15%	2.2MW	April 2024 (planned)
	Takahinatayama-area	-	-	-	Under research for development

Solar	Project	Capacity	Ownership	Owned capacity	Start of operation
	Wharton (USA)	350MW	25%	87.5MW	2022 (planned)
	Refugio (USA)	400MW	25%	100.0MW	2023 (planned)

## Osaki CoolGen Project (Refer to the next page for details)

- Large-scale demonstration test on high-efficiency coal-fired thermal power (oxygen-blown IGCC, IGFC) and CO2 separation and capture aiming for commercialization

- 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 CO2 separation and capture facilities
- IGFC (Integrated Coal Gasification Fuel Cell Combined Cycle): Power generation system combining fuel cells with gas and steam turbines in a triply integrated configuration, which will be able to achieve the highest efficiency as a coal-fired generation technology



## Considering carbon recycling projects

- Considering carbon recycling to utilize CO2 captured in Osaki CoolGen Project

Example



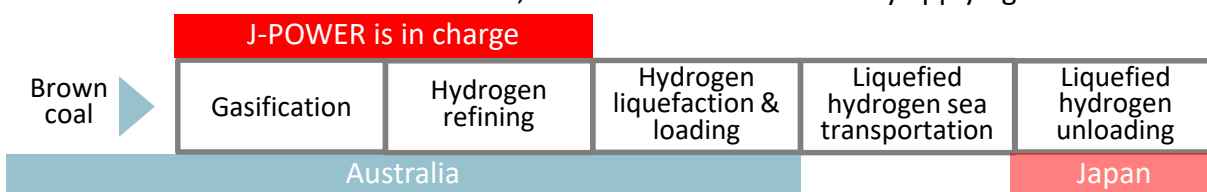
CO2 supply



- Jointly operated by J-POWER and KAGOME in Kitakyushu city
- Utilizing thousands tons of CO2 annually to promote tomato photosynthesis

## 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 utilizing its knowledge on coal gasification. These facilities were installed by September 2020 and test run is underway aiming at producing hydrogen
- When commercialized in the future, CO2 free will be achieved by applying CCS to store CO2 generated in hydrogen production



Brown coal gasification facility

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



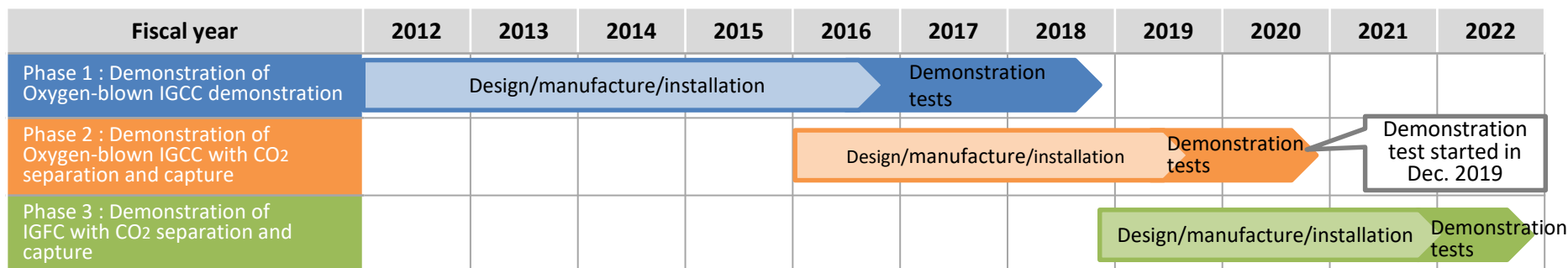
➤ Large-scale demonstration test on oxygen-blown IGCC, IGFC and CO<sub>2</sub> separation and capture to verify total system performance aiming for commercialization\*

\*This demonstration test is subsidized by the New Energy and Industrial Technology Development Organization (NEDO)

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)	



## Demonstration Test Schedule



Phase 1 demonstration tests completed in February 2019, achieving targets in all testing items.

Phase 2 demonstration tests started in December 2019

- ◆ Gross efficiency reached 51.9% (LHV), which stands at world top level as 170 MW-class demonstration plant  
⇒ Gaining perspective for approx. 57% of gross efficiency at an oxygen-blown IGCC plant with 1500°C-class gas turbine, which enables significant CO<sub>2</sub> emission reduction
- ◆ Results of load change rate approx. 16%/minute\*<sup>1</sup> and stable operation at 0MW net output\*<sup>2</sup> prove quick output control ability  
⇒ Demonstrating high flexibility in operation, which enables supplement for sudden output changes in renewables
- ◆ With a view to CO<sub>2</sub> zero emissions in the future, started CO<sub>2</sub> separation and capture demonstration tests

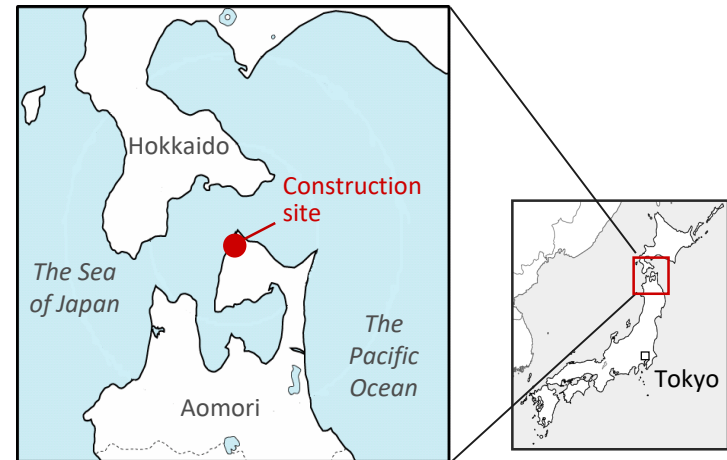
\*1 Output change rate to rated load per minute. Larger figure shows higher ability of quick output change in response to change of electricity demand.

\*2 Net output represents MW of generator minus MW consumed in the plant itself. 0MW net output means generating the same volume of electricity as consumed in the plant.

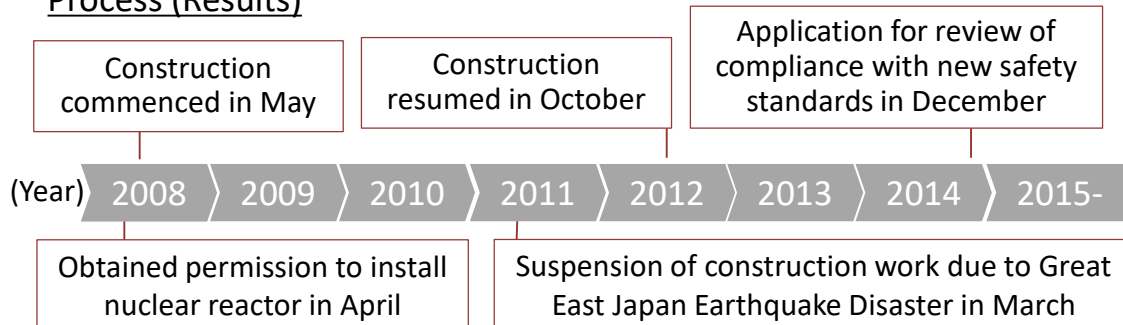
- In December 2014, J-POWER submitted to NRA\* an application for permission for alteration of reactor installment license and an application for construction plan approval in order to undertake review of compliance with the new safety standards
- Pursue further improvements in safety continuously
- 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



## Process (Results)



\* Nuclear Regulatory Authority

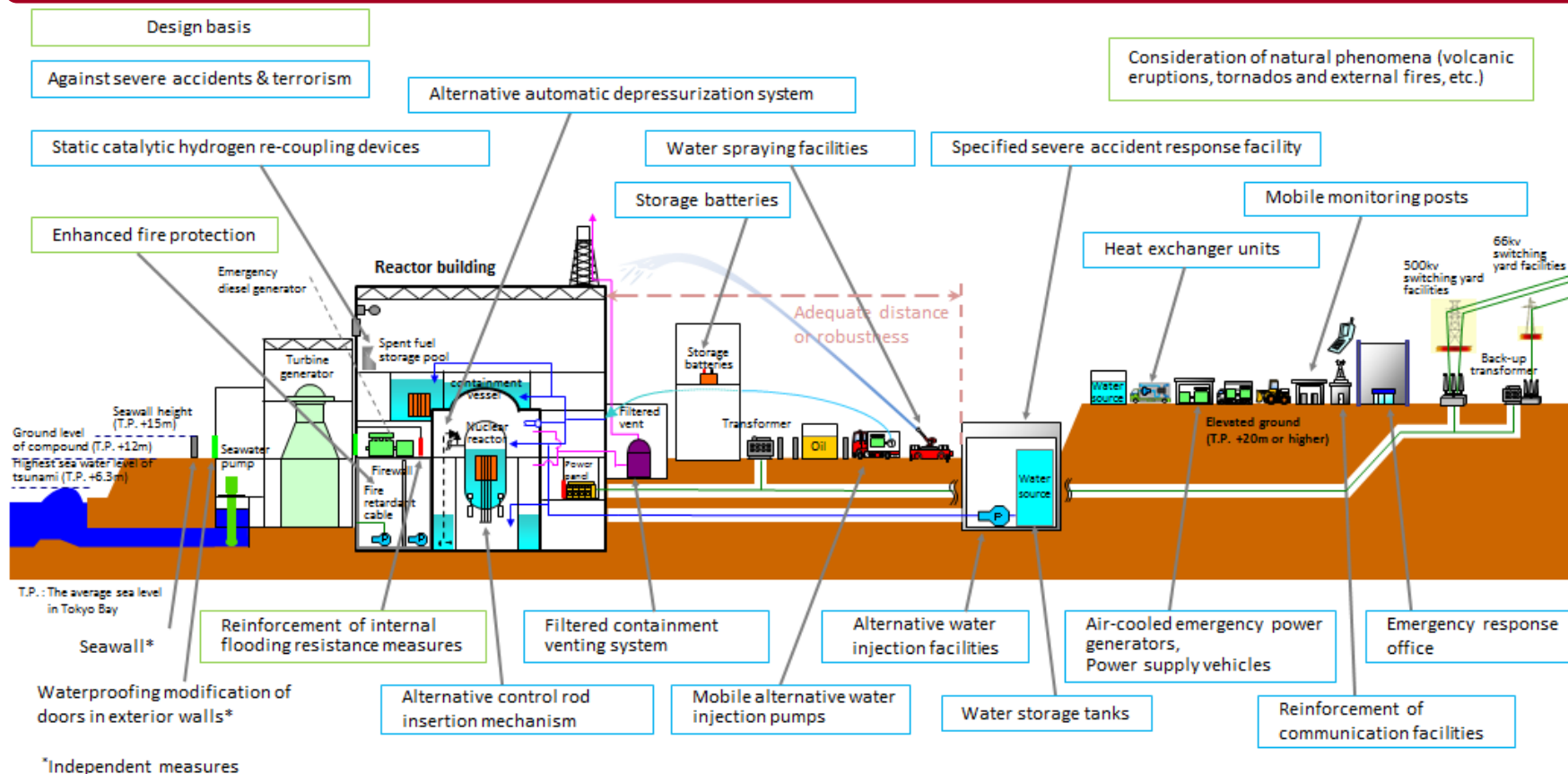
## Construction Works for Measures for Reinforcing Safety

✓ Construction Period: From the 2<sup>nd</sup> half of 2022 to the 2<sup>nd</sup> 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)

### Measures for Reinforcing Safety



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: FY2020</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>	
<p><b>Wharton, Refugio (USA)</b></p> <p>Capacity: Wharton:350MW Refugio:400MW                      Type: Solar photovoltaic                      Ownership: 25%                      Status: Under development                      Start of operation: 2022, 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>	

Note : The impacts of COVID-19 are under examination

\*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.

# Consolidated: Revenues and Expenses



(Unit: 100 million yen)

	FY2016	FY2017	FY2018	FY2019	FY2019 2Q	FY2020 2Q
<b>Operating revenue</b>	<b>7,444</b>	<b>8,562</b>	<b>8,973</b>	<b>9,137</b>	<b>4,619</b>	<b>4,085</b>
Electric utility operating revenue	5,385	6,319	6,937	6,841	3,433	3,116
Overseas business operating revenue	1,498	1,630	1,410	1,790	935	764
Other business operating revenue	559	612	625	505	249	204
<b>Operating expenses</b>	<b>6,626</b>	<b>7,519</b>	<b>8,185</b>	<b>8,301</b>	<b>4,124</b>	<b>3,542</b>
<b>Operating income</b>	<b>817</b>	<b>1,043</b>	<b>788</b>	<b>836</b>	<b>494</b>	<b>543</b>
<b>Non-operating revenue</b>	<b>205</b>	<b>291</b>	<b>188</b>	<b>265</b>	<b>162</b>	<b>106</b>
Share of profit of entities accounted for using equity method	132	97	96	113	47	89
Other	72	193	92	152	115	17
<b>Non-operating expenses</b>	<b>351</b>	<b>309</b>	<b>292</b>	<b>320</b>	<b>143</b>	<b>166</b>
Interest expenses	297	283	263	262	131	121
Other	53	25	28	57	11	45
<b>Ordinary income</b>	<b>671</b>	<b>1,024</b>	<b>685</b>	<b>780</b>	<b>514</b>	<b>482</b>
Extraordinary losses	-	33	-	124	89	-
<b>Profit attributable to owners of parent</b>	<b>414</b>	<b>684</b>	<b>462</b>	<b>422</b>	<b>282</b>	<b>337</b>

# Non-consolidated: Revenues and Expenses



(Unit: 100 million yen)

	FY2016	FY2017	FY2018	FY2019	FY2019 2Q	FY2020 2Q
<b>Operating revenue</b>	<b>5,224</b>	<b>6,145</b>	<b>6,469</b>	<b>5,712</b>	<b>2,861</b>	<b>2,575</b>
<b>Electric power business</b>	<b>5,109</b>	<b>6,014</b>	<b>6,336</b>	<b>5,638</b>	<b>2,820</b>	<b>2,550</b>
Sold power to other suppliers	4,579	5,456	5,806	5,104	2,554	2,436
Other <sup>*1</sup>	529	558	529	533	266	113
<b>Incidental business</b>	<b>115</b>	<b>131</b>	<b>133</b>	<b>74</b>	<b>40</b>	<b>24</b>
<b>Operating expenses</b>	<b>4,948</b>	<b>5,715</b>	<b>6,282</b>	<b>5,464</b>	<b>2,640</b>	<b>2,368</b>
<b>Electric power business</b>	<b>4,842</b>	<b>5,593</b>	<b>6,157</b>	<b>5,397</b>	<b>2,603</b>	<b>2,346</b>
Personnel expense	436	342	324	358	175	164
Amortization of the actuarial difference in retirement benefits	107	(1)	(14)	24	12	14
Fuel cost	1,968	2,573	2,890	2,332	1,147	988
Repair and maintenance cost	683	634	697	666	350	183
Depreciation and amortization cost	496	534	510	527	260	265
Other	1,257	1,508	1,734	1,512	670	743
<b>Incidental business</b>	<b>105</b>	<b>122</b>	<b>125</b>	<b>66</b>	<b>36</b>	<b>21</b>
<b>Operating income</b>	<b>276</b>	<b>430</b>	<b>186</b>	<b>248</b>	<b>220</b>	<b>207</b>

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

# Consolidated: Segment Information



(Unit: 100 million yen)

		Electric power	Electric power -related	Overseas	Other	Subtotal	Elimination*	Consolidated
FY2020 2Q	Sales	3,126	1,622	764	78	5,591	(1,505)	4,085
	Sales to customers	3,116	142	764	62	4,085	-	4,085
	Ordinary income	314	27	130	5	477	5	482
FY2019 2Q	Sales	3,442	1,688	935	103	6,170	(1,551)	4,619
	Sales to customers	3,433	163	935	86	4,619	-	4,619
	Ordinary income	210	68	226	2	508	5	514
year-on-year change	Sales	(316)	(66)	(171)	(25)	(579)	45	(533)
	Sales to customers	(316)	(21)	(171)	(24)	(533)	-	(533)
	Ordinary income	103	(40)	(96)	2	(31)	(0)	(31)

## “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”

This focuses 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)

	FY2016	FY2017	FY2018	FY2019	FY2019 2Q	FY2020 2Q
<b>Operating activities</b>	<b>1,154</b>	<b>1,603</b>	<b>1,484</b>	<b>1,592</b>	<b>554</b>	<b>780</b>
Profit before income taxes	671	990	685	655	424	482
Depreciation and amortization	756	822	799	830	404	467
Share of (profit) loss of entities accounted for using equity method	(132)	(97)	(96)	(113)	(47)	(89)
<b>Investing activities</b>	<b>(1,376)</b>	<b>(1,096)</b>	<b>(1,704)</b>	<b>(1,617)</b>	<b>(813)</b>	<b>(780)</b>
Purchase of non-current assets	(1,081)	(988)	(1,060)	(1,495)	(700)	(699)
Payments of investment and loans receivable	(180)	(81)	(744)	(109)	(95)	(14)
<b>Free cash flow</b>	<b>(222)</b>	<b>506</b>	<b>(220)</b>	<b>(24)</b>	<b>(259)</b>	<b>(0)</b>



# Consolidated: Key Ratios and Key Data



(Unit: 100 million yen)

	FY2016	FY2017	FY2018	FY2019	FY2019 2Q	FY2020 2Q
<b>(PL)</b> Operating revenue	7,444	8,562	8,973	9,137	4,619	4,085
Operating income	817	1,043	788	836	494	543
Ordinary income	671	1,024	685	780	514	482
Profit attributable to owners of parent	414	684	462	422	282	337
<b>(BS)</b> Total assets	26,062	26,470	27,661	28,053	27,773	28,037
Construction in progress	4,761	5,257	5,820	6,471	6,202	5,499
Shareholders' equity	7,238	7,872	7,974	8,077	8,002	8,026
Net assets	7,640	8,361	8,455	8,573	8,501	8,460
Interest-bearing debt	16,200	15,613	16,428	16,484	16,625	16,621
<b>(CF)</b> Investing activities	(1,376)	(1,096)	(1,704)	(1,617)	(813)	(780)
Free cash flow	(222)	506	(220)	(24)	(259)	(0)
(Ref) CAPEX* <sup>1</sup>	(1,058)	(987)	(1,077)	(1,626)	(692)	(764)
(Ref) Depreciation and amortization	756	822	799	830	404	467
ROA (%)	2.6	3.9	2.5	2.8	-	-
ROA (ROA excl. Construction in progress) (%)	3.2	4.8	3.2	3.6	-	-
ROE (%)	6.0	9.1	5.8	5.3	-	-
EPS ( ¥ )	226.33	373.93	252.68	230.96	154.07	184.54
BPS ( ¥ )	3,954.22	4,300.98	4,356.54	4,412.84	4,372.03	4,384.71
Shareholders' equity ratio (%)	27.8	29.7	28.8	28.8	28.8	28.6
D/E ratio (x)	2.2	2.0	2.1	2.0	2.1	2.1
Number of shares issued* <sup>2</sup> (thousand)	183,049	183,049	183,048	183,048	183,048	183,048

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

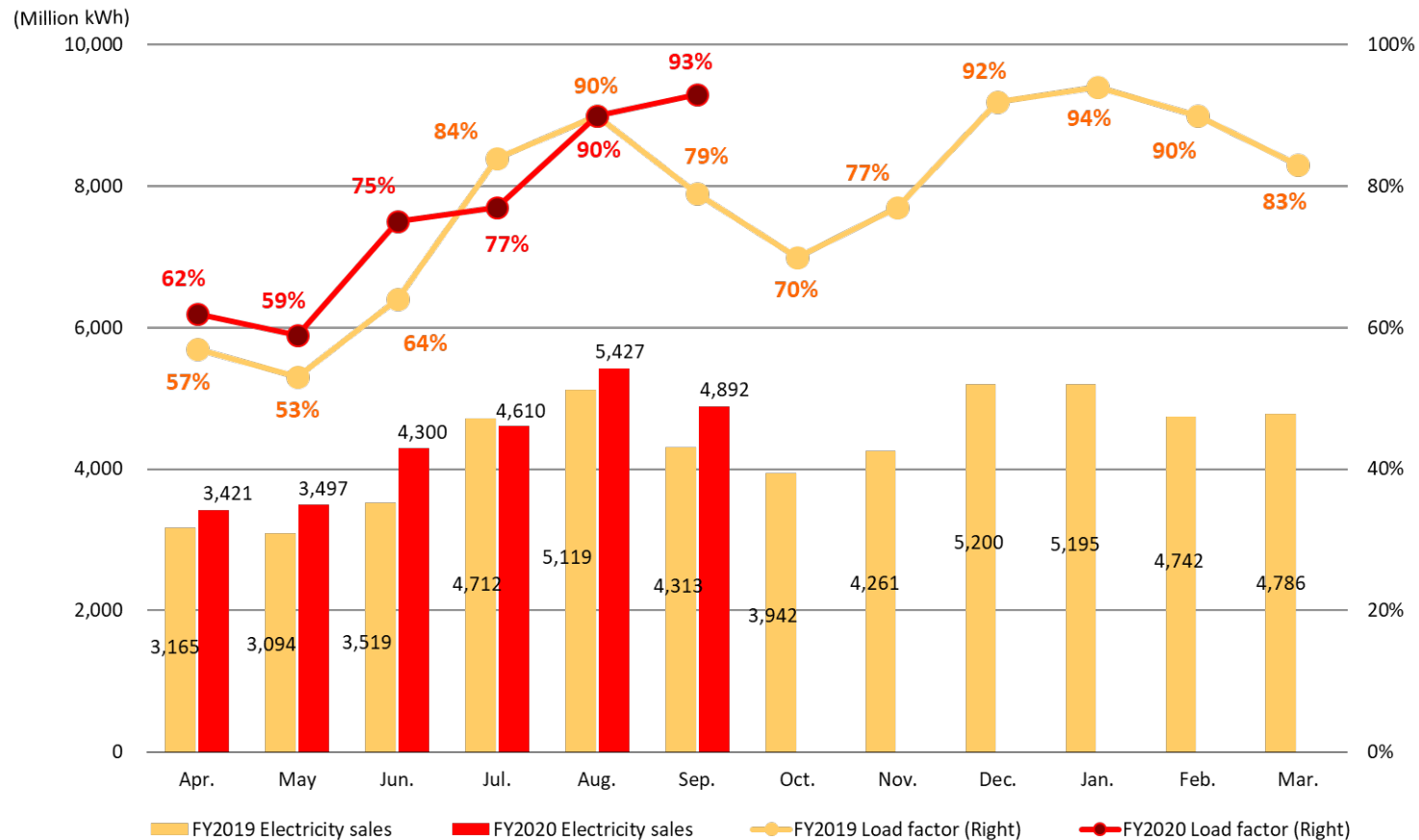
\*2 Number of shares issued at the end of the fiscal year (excluding treasury stock)

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



▶ Apr. 2019 - Sep. 2019 Results (Cumulative)  
 Load factor ⇒ 71%  
 Electricity sales ⇒ 23.9 TWh

▶ Apr. 2020 - Sep. 2020 Results (Cumulative)  
 Load factor ⇒ 76%  
 Electricity sales ⇒ 26.1 TWh



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

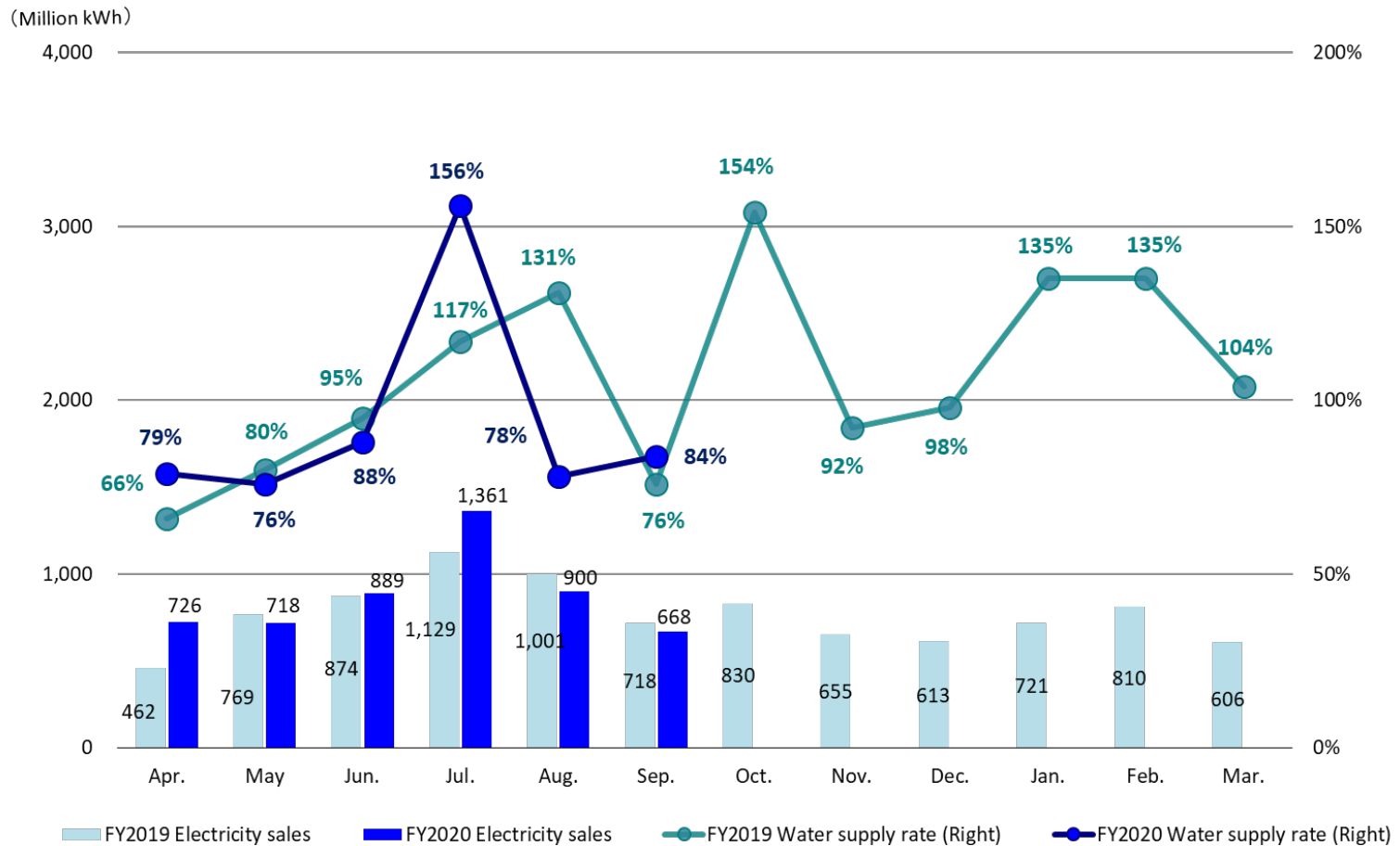
\* Proportion of equity holding is not taken into account.

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



▶ Apr. 2019 - Sep. 2019 Results (Cumulative)  
 Water supply rate ⇒ 91%  
 Electricity sales ⇒ 4.9 TWh

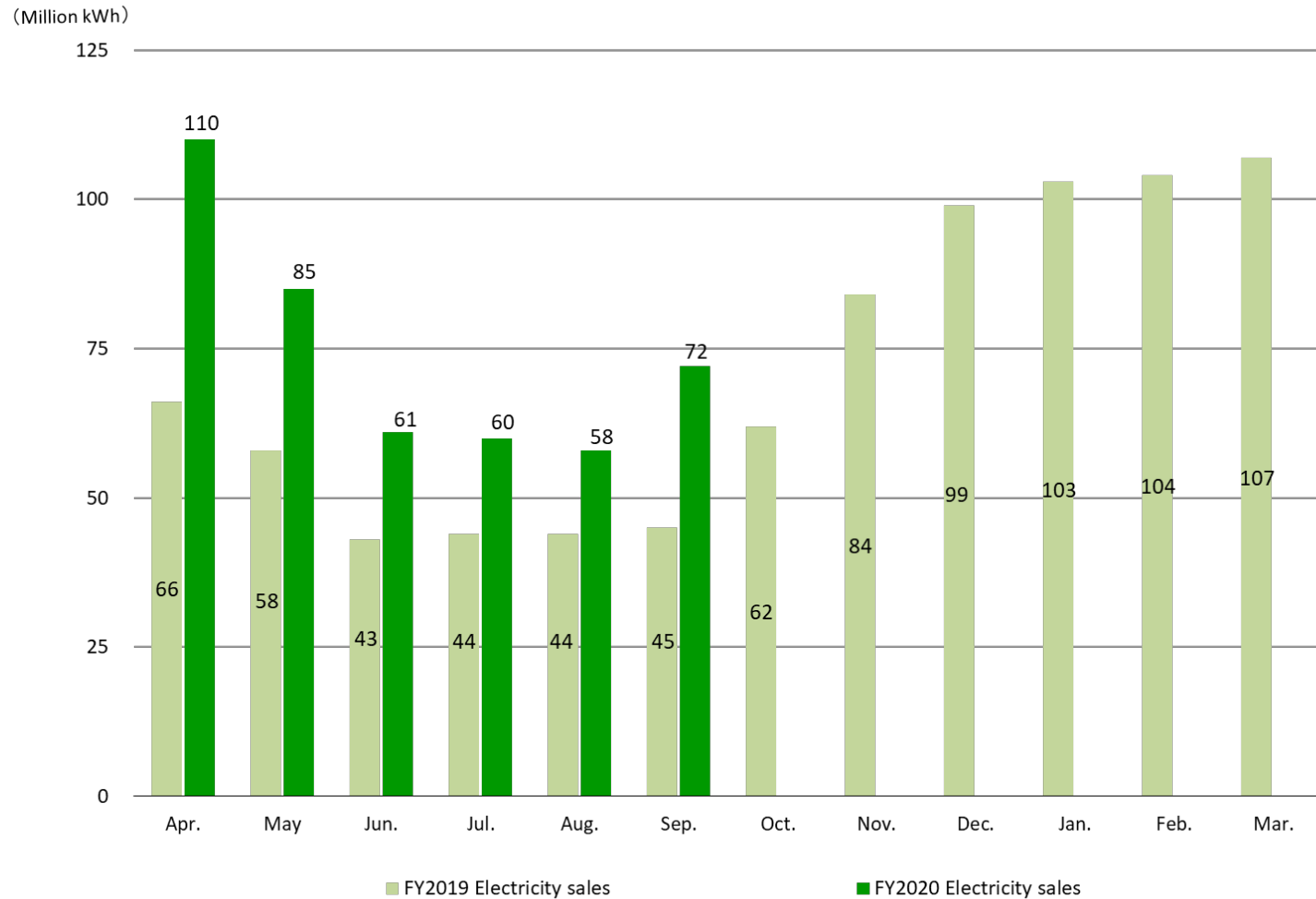
▶ Apr. 2020 - Sep. 2020 Results (Cumulative)  
 Water supply rate ⇒ 93%  
 Electricity sales ⇒ 5.2 TWh



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



- ▶ Apr. 2019 - Sep. 2019 Results (Cumulative) ⇒ 0.30 TWh
- ▶ Apr. 2020 - Sep. 2020 Results (Cumulative) ⇒ 0.45 TWh

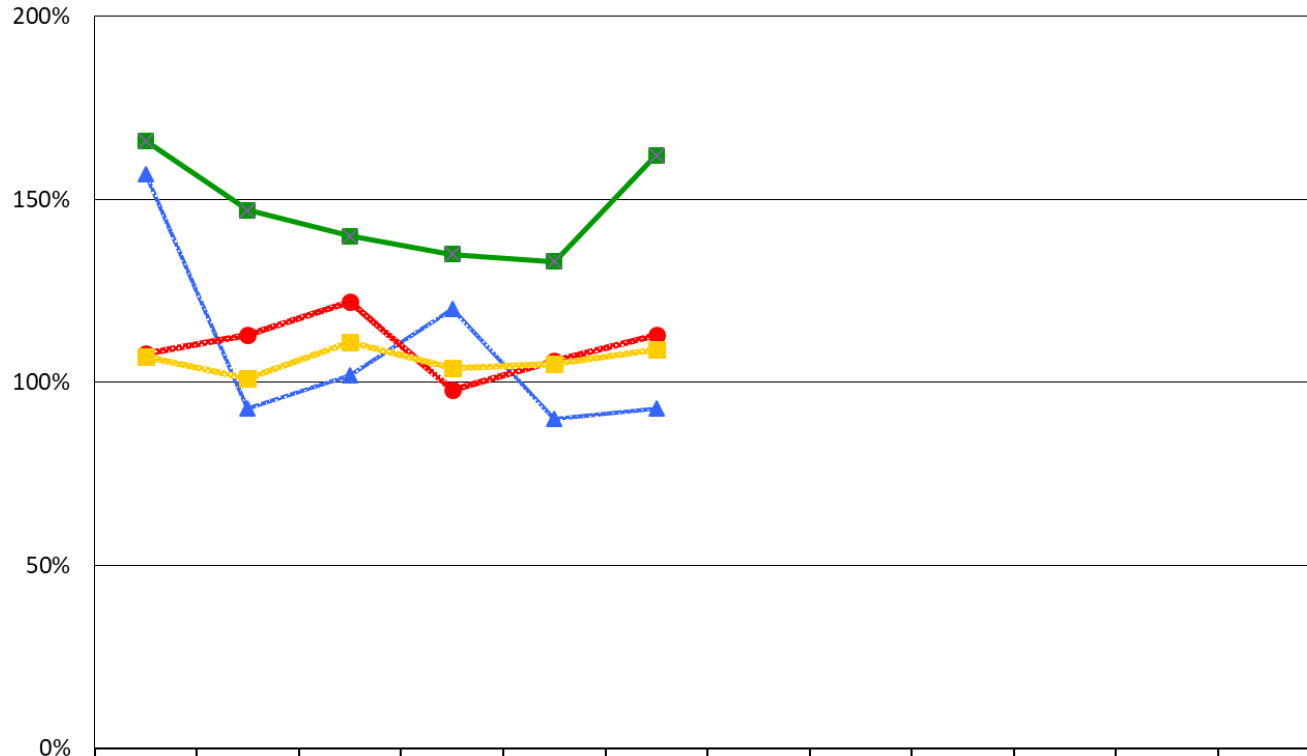


\* Proportion of equity holding is not taken into account.

# Change in Monthly Electricity Sales: Domestic Power Generation Business



- ▶ Apr. 2019 - Sep. 2019 Total Results (Cumulative) ⇒ 34.8 TWh
- ▶ Apr. 2020 - Sep. 2020 Total Results (Cumulative) ⇒ 36.8 TWh



	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. - Sep.
Year-on-year (Hydro)	157%	93%	102%	120%	90%	93%							106%
Year-on-year (Thermal)	108%	113%	122%	98%	106%	113%							109%
Year-on-year (Wind)	166%	147%	140%	135%	133%	162%							149%
Year-on-year Total	107%	101%	111%	104%	105%	109%							106%

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



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