

Summary of FY2020 Earnings Results



Electric Power Development Co., Ltd.

April 30, 2021

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.

Efforts toward Carbon Neutral

- Released J-POWER “BLUE MISSION 2050”

Goal of CO₂ Emissions Reduction by FY2030 - 40%*

*CO₂ emissions from J-POWER domestic power generation business (compared to the 3-year average of actual emissions in FY2017-FY2019)

:Onshore wind
 :Offshore wind
 :Hydroelectric
 :Solar
 :Hydrogen

Renewables in Japan

- Kuzumaki No.2 started operation
- Started preparation for new development of onshore wind at six sites
- Started preparation 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
- Ashoro Hydroelectric Power Station Unit No.2 completed renewal works
- Started preparation for construction of Onabara power plant (released on April 14, 2021)



Renewables overseas

- Started development of Kidston Stage-3 Wind onshore wind energy project in Australia
- Started new development of solar PV at two sites in Texas, USA
- Execution of Joint Development Agreement with Under construction/ Fortress for New Solar Generation and Energy preparing for construction Storage Projects in Virginia, USA

Hydrogen

- Started producing hydrogen at Australian brown coal hydrogen pilot test project
- Started preparation for environmental impact assessment of GENESIS Matsushima Plan (released on April 16, 2021)

Global renewables*¹

In operation
968MW

Under construction/
Max.
363MW

Under environmental
impact assessment*²
Max. approx.
1,187MW



- 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

*1 Owned capacity basis

*2 In addition, domestic offshore wind projects outside of port areas (3 projects, max. 1,585MW in total) are under preparation for development and one geothermal project is under research for development

I. Summary of FY2020 Earnings Results

- ▶ Summary of FY2020 Earnings Results 5
- ▶ Key Data 6
- ▶ FY2020 Earnings Results (Main Factors for Change) 8
- ▶ Revenue / Expenditure Comparison 9
- ▶ Balance Sheet 10

II. Summary of FY2021 Earnings Forecast

- ▶ Summary of FY2021 Earnings Forecast and Dividends 12
- ▶ Key Data 13
- ▶ FY2021 Earnings Forecast (Main Factors for Change) 14

APPENDIX 15

I. Summary of FY2020 Earnings Results

Summary of FY2020 Earnings Results



(Unit: billion yen)

| Consolidated | FY2019 (Apr.-Mar.) | FY2020 (Apr.-Mar.) | Year-on-year change | | FY2020 Forecast ^{*1} (Apr.-Mar.) | Comparison with the forecast | |
|---|-----------------------|-----------------------|------------------------|---------|---|---------------------------------|---------|
| Operating Revenue | 913.7 | 909.1 | (4.6) | (0.5)% | 910.0 | (0.8) | (0.1)% |
| Operating Income | 83.6 | 77.7 | (5.8) | (7.0)% | 70.0 | 7.7 | 11.1% |
| Ordinary Income | 78.0 | 60.9 | (17.1) | (22.0)% | 54.0 | 6.9 | 12.8% |
| Profit attributable to owners of parent | 42.2 | 22.3 | (19.9) | (47.2)% | 39.0 | (16.6) | (42.8)% |

| Non-consolidated | FY2019 (Apr.-Mar.) | FY2020 (Apr.-Mar.) | Year-on-year change | | FY2020 Forecast ^{*2} (Apr.-Mar.) | Comparison with the forecast | |
|-------------------|-----------------------|-----------------------|------------------------|---------|---|---------------------------------|-------|
| Operating Revenue | 571.2 | 589.9 | 18.6 | 3.3% | 584.0 | 5.9 | 1.0% |
| Operating Income | 24.8 | 77.8 | 52.9 | 212.8% | 72.0 | 5.8 | 8.1% |
| Ordinary Income | 60.5 | 114.0 | 53.4 | 88.2% | 106.0 | 8.0 | 7.6% |
| Profit | 57.3 | 15.5 | (41.8) | (72.9)% | 11.0 | 4.5 | 41.2% |

| Growth Indicator | FY2019 (Apr.-Mar.) | FY2020 (Apr.-Mar.) | Year-on-year change | | FY2020 Forecast ^{*1} (Apr.-Mar.) | Comparison with the forecast | |
|------------------------------|-----------------------|-----------------------|------------------------|--------|---|---------------------------------|------|
| J-POWER EBITDA ^{*3} | 177.9 | 176.9 | (0.9) | (0.6)% | 173.0 | 3.9 | 2.3% |

*1 Consolidated earnings forecast released on February 26, 2021 *2 Non-consolidated earnings forecast released on March 31, 2021

*3 J-POWER EBITDA = Operating income + Depreciation and amortization + 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, while there was no impact on the consolidated earnings results.

Key Data (Electric Power Sales)

| | FY2019 (Apr.-Mar.) | FY2020 (Apr.-Mar.) | Year-on-year change | |
|-----------------------------------|-----------------------|-----------------------|------------------------|---------|
| Electric Power Sales (TWh) | | | | |
| Electric Power Business | 73.1 | 74.5 | 1.4 | 2.0 % |
| Hydroelectric Power | 9.1 | 8.9 | (0.2) | (3.2)% |
| Thermal Power | 52.0 | 52.1 | 0.0 | 0.2 % |
| Wind Power | 0.8 | 1.2 | 0.3 | 40.1 % |
| Other ^{*1} | 11.0 | 12.3 | 1.2 | 11.7 % |
| Overseas Business ^{*2} | 15.6 | 11.0 | (4.5) | (29.0)% |
| Water supply rate | 101% | 96% | (5) points | |
| Load factor ^{*3} | 77% | 75% | (2) points | |

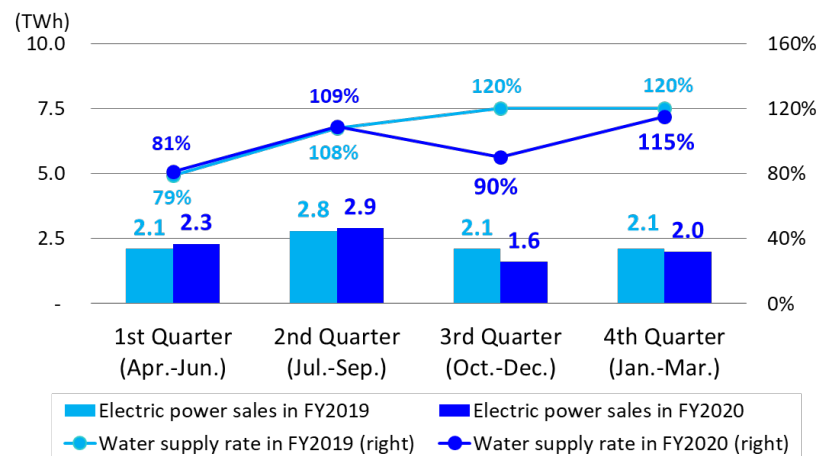
*1 Electric power sales volume of electricity procured from wholesale electricity market, etc.

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

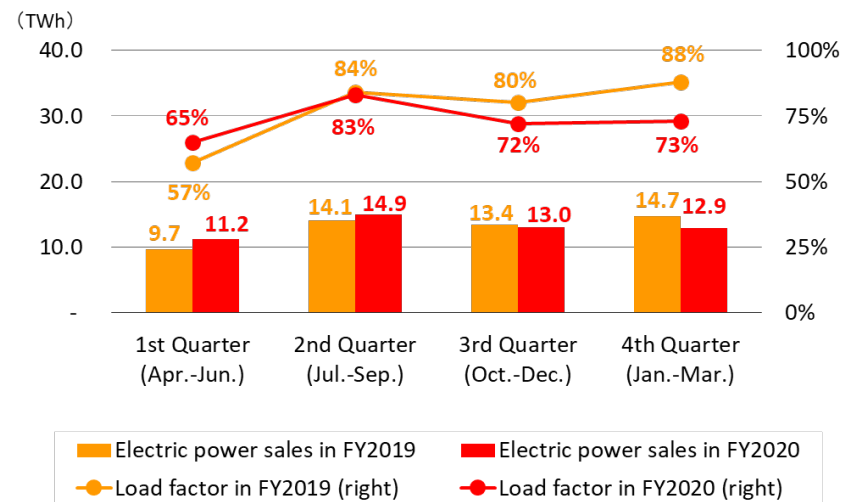
*3 Load factors of thermal power show the results for non-consolidated only.

Electric Power Sales for each Quarter

[Domestic Hydroelectric Power Business]



[Domestic Thermal Electric Power Business]



Key Data (Operating Revenue)

| | FY2019 (Apr.-Mar.) | FY2020 (Apr.-Mar.) | Year-on-year change | |
|---|-----------------------|-----------------------|------------------------|---------|
| Operating Revenue (Billion yen) | 913.7 | 909.1 | (4.6) | (0.5)% |
| Electric Power Business | 684.1 | 731.3 | 47.1 | 6.9 % |
| Electric Power Generation Business | 631.0 | 670.9 | 39.9 | 6.3 % |
| Transmission / Transformation Business | 49.6 | 49.6 | 0.0 | 0.0 % |
| Overseas Business ^{*1} | 179.0 | 138.0 | (41.0) | (22.9)% |
| Other Business ^{*2} | 50.5 | 39.7 | (10.7) | (21.3)% |
| Foreign exchange rate at the end of December (Yen/US\$) | 109.56 | 103.50 | | |
| Foreign exchange rate at the end of December (Yen/THB) | 3.63 | 3.44 | | |
| Foreign exchange rate at the end of December (THB/US\$) | 30.15 | 30.04 | | |

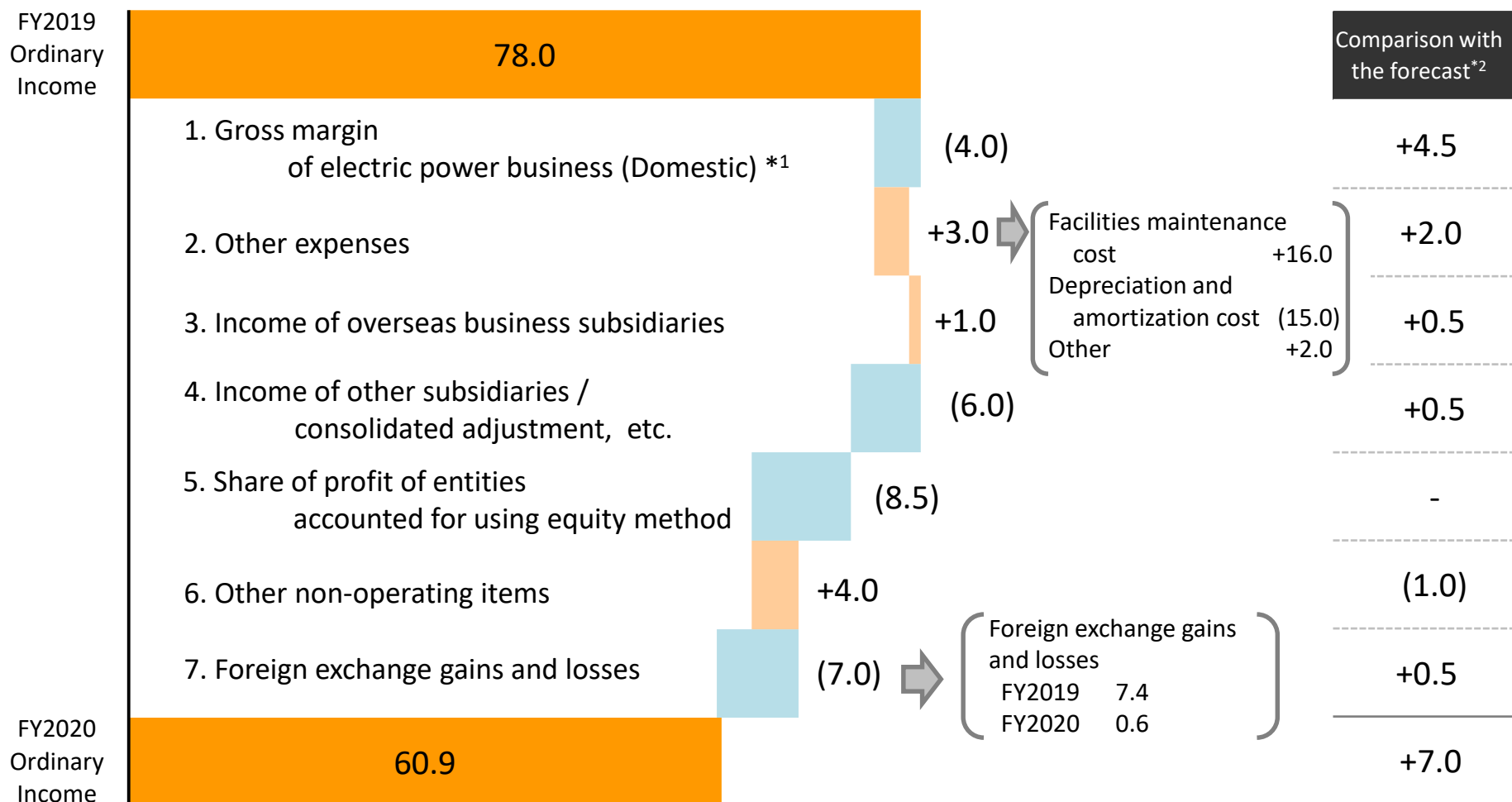
*1 Sales for the overseas business segment (Sales from overseas consolidated subsidiaries and overseas consulting business, etc.)

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

FY2020 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.

*2 Forecast released on February 26, 2021

Revenue / Expenditure Comparison



(Unit: billion yen)

| | FY2019 (Apr.-Mar.) | FY2020 (Apr.-Mar.) | Year-on-year change | Main factors for change |
|--|-----------------------|-----------------------|------------------------|--|
| Operating Revenue | 913.7 | 909.1 | (4.6) | |
| Electric power business | 684.1 | 731.3 | 47.1 | Soared electricity trading prices at JEPX from late December 2020 to January 2021, etc. |
| Overseas business | 179.0 | 138.0 | (41.0) | Decrease in electric power sales volume, etc. |
| Other business | 50.5 | 39.7 | (10.7) | Decreased revenue at an Australian coal mine investment subsidiary, etc. |
| Operating Expenses | 830.1 | 831.3 | 1.2 | Electric power business +46.5, Overseas business (42.6), Other business (2.6) |
| Operating Income | 83.6 | 77.7 | (5.8) | |
| Non-operating Revenue | 26.5 | 11.2 | (15.3) | |
| Share of profit of entities accounted for using equity method | 11.3 | 2.7 | (8.5) | |
| Other | 15.2 | 8.4 | (6.7) | |
| Non-operating Expenses | 32.0 | 28.0 | (4.0) | |
| Interest expenses | 26.2 | 23.7 | (2.5) | |
| Other | 5.7 | 4.3 | (1.4) | |
| Ordinary Income | 78.0 | 60.9 | (17.1) | Electric power business (8.3), Overseas business (3.0), Other business (5.7) |
| Extraordinary income | - | 9.4 | 9.4 | Gain on the sale of shares of Taiwan Chiahui Power Corporation +9.4 |
| Extraordinary losses | 12.4 | 5.7 | (6.7) | Elimination of loss equivalent to impairment loss of Birchwood project in the US (8.9), etc. |
| Total income taxes | 11.9 | 33.4 | 21.5 | Increase in taxable income due to increased non-consolidated operating income, etc. |
| Profit attributable to owners of parent | 42.2 | 22.3 | (19.9) | |

Balance Sheet



(Unit: billion yen)

| | FY2019 End of FY | FY2020 End of FY | Change from prior year end | Main factors for change |
|--|---------------------|---------------------|----------------------------------|---|
| Non-current Assets | 2,471.3 | 2,475.2 | 3.8 | |
| Electric utility plant and equipment | 965.0 | 1,107.3 | 142.3 | Non-consolidated (45.8), Subsidiaries and others +188.1 |
| Overseas business facilities | 316.3 | 286.9 | (29.3) | |
| Other non-current assets | 90.9 | 91.1 | 0.1 | |
| Construction in progress | 647.1 | 588.2 | (58.9) | Non-consolidated (155.1), Subsidiaries and others +96.2 |
| Nuclear fuel | 74.8 | 75.3 | 0.5 | |
| Investments and other assets | 377.0 | 326.1 | (50.8) | Long-term investments (36.2) |
| Current Assets | 334.0 | 366.7 | 32.7 | |
| Total Assets | 2,805.3 | 2,841.9 | 36.5 | |
| Interest-bearing debt | 1,648.4 | 1,664.6 | 16.2 | Non-consolidated (1.7), Subsidiaries +17.9 [Commercial papers +20.0] |
| Other | 299.5 | 323.5 | 24.0 | Accrued taxes +24.4 |
| Total Liabilities | 1,948.0 | 1,988.2 | 40.2 | |
| Shareholders' equity | 806.1 | 814.7 | 8.5 | Increase in retained earnings |
| Accumulated other comprehensive income | 1.5 | (5.6) | (7.1) | Foreign currency translation adjustment (13.3), Remeasurements of defined benefit plans +11.8, Deferred gains or losses on hedges (10.7) |
| Non-controlling interests | 49.6 | 44.5 | (5.0) | |
| Total Net Assets | 857.3 | 853.6 | (3.7) | |
| D/E ratio (x) | 2.0 | 2.1 | | |
| Shareholders' equity ratio | 28.8% | 28.5% | | |

II. Summary of FY2021 Earnings Forecast

Summary of FY2021 Earnings Forecast and Dividends



| | (Unit: billion yen) | | | | | (Unit: billion yen) | | | |
|---|---------------------|-----------------|--------|-------------------------------|-------------------|---------------------|-----------------|--------|-------------------------------|
| | Consolidated | | | Comparison with FY2020 result | | Non-consolidated | | | Comparison with FY2020 result |
| | FY2020 Result | FY2021 Forecast | | | | FY2020 Result | FY2021 Forecast | | |
| Operating Revenue | 909.1 | 842.0 | (67.1) | (7.4)% | Operating Revenue | 589.9 | 514.0 | (75.9) | (12.9)% |
| Operating Income | 77.7 | 59.0 | (18.7) | (24.1)% | Operating Income | 77.8 | 6.0 | (71.8) | (92.3)% |
| Ordinary Income | 60.9 | 50.0 | (10.9) | (17.9)% | Ordinary Income | 114.0 | 41.0 | (73.0) | (64.0)% |
| Profit attributable to owners of parent | 22.3 | 34.0 | 11.6 | 52.4% | Profit | 15.5 | 41.0 | 25.4 | 164.0% |

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

| | FY2020 Result | FY2021 Forecast | Comparison with FY2020 Result | | | FY2020 Result | FY2021 Forecast |
|--|---------------|-----------------|-------------------------------|----------------|-----------------------------------|---------------|-----------------|
| Electric Power Sales (TWh) | | | | | Water supply rate | 96% | 100% |
| Electric Power Business | 74.5 | 71.8 | (2.7) | (3.6)% | Load factor | 75% | 65% |
| Hydroelectric Power | 8.9 | 9.1 | 0.2 | 3.2 % | Foreign exchange rate at term end | | |
| Thermal Power | 52.1 | 46.0 | (6.0) | (11.7)% | Yen/USD | 103.50 | 105.00 |
| Wind Power | 1.2 | 1.1 | (0.0) | (2.7)% | Yen/THB | 3.44 | 3.60 |
| Other ^{*1} | 12.3 | 15.4 | 3.1 | 25.5 % | THB/USD | 30.04 | 30.04 |
| Overseas Business ^{*2} | 11.0 | 10.8 | (0.2) | (1.8)% | | | |
| Operating Revenue (Billion yen) | 909.1 | 842.0 | (67.1) | (7.4)% | | | |
| Electric Power Business | 731.3 | 658.0 | (73.3) | (10.0)% | | | |
| Electric Power Generation Business | 670.9 | 598.0 | (72.9) | (10.9)% | | | |
| Transmission/Transformation Business | 49.6 | 49.0 | (0.6) | (1.4)% | | | |
| Overseas Business ^{*3} | 138.0 | 136.0 | (2.0) | (1.5)% | | | |
| Other Business ^{*4} | 39.7 | 47.0 | 7.2 | 18.2 % | | | |

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

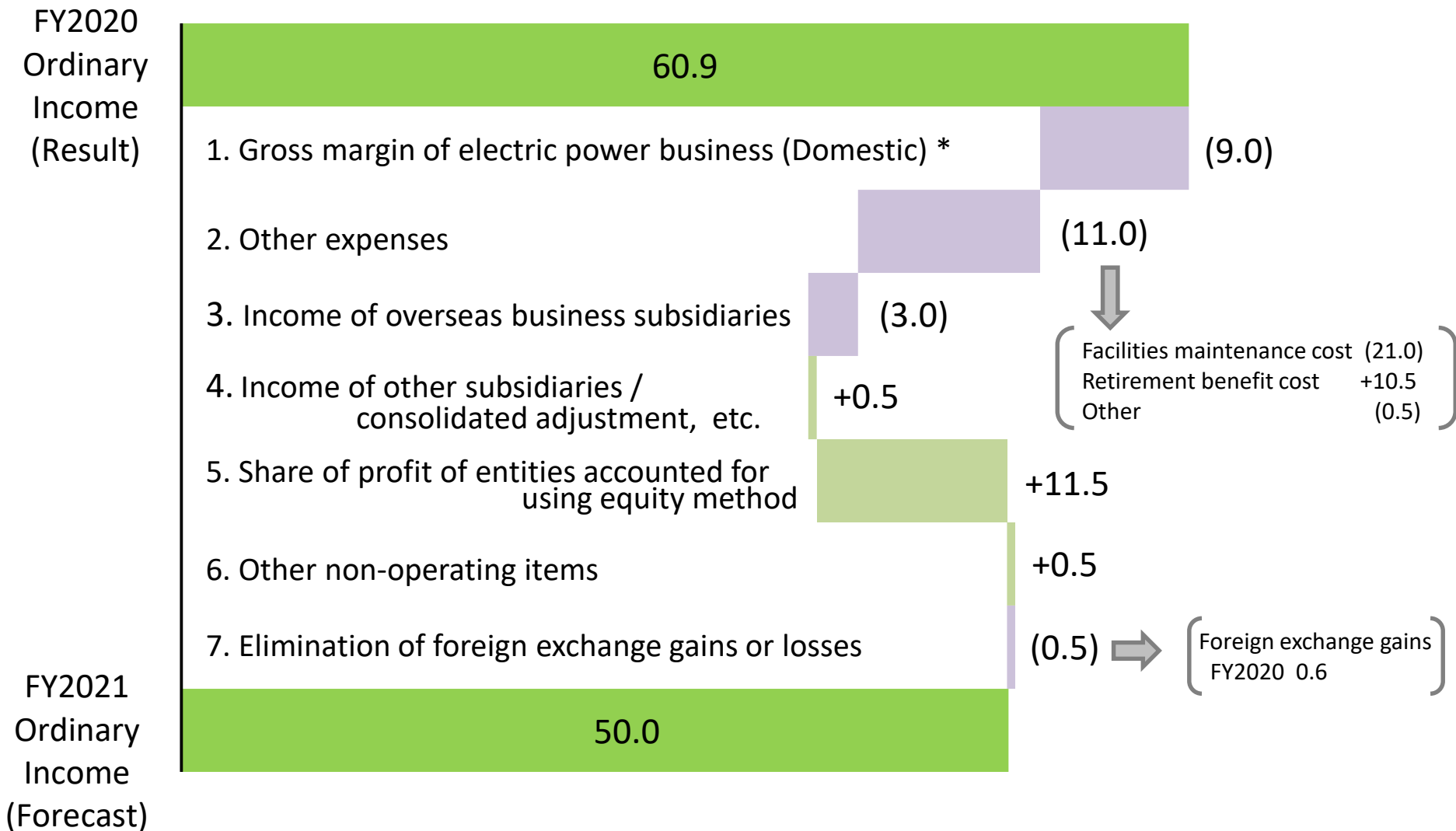
*2 Electric power sales volume of overseas consolidated subsidiaries (Electric power sales volume of equity method affiliated companies is not included.)

*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.

FY2021 Earnings Forecast (Main Factors for Change)

(Unit: billion yen)



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

APPENDIX

(1) Financial Data 16 - 28

(2) Business Data 29 - 49

| | |
|--|--------|
| 1. Consolidated: Revenues and Expenses | ••• 17 |
| 2. Consolidated: Cash Flow | ••• 18 |
| 3. Consolidated: Segment Information | ••• 19 |
| 4. Consolidated: Key Ratios and Key Data | ••• 20 |
| 5. Non-consolidated: Revenues and Expenses | ••• 21 |
| 6. Non-consolidated: Balance Sheet | ••• 23 |
| 7. Non-consolidated: Statement of Income | ••• 24 |
| 8. Monthly Electricity Sales | ••• 25 |

(1)-1. Consolidated: Revenues and Expenses



(Unit: 100 million yen)

| | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 |
|---|--------------|--------------|--------------|--------------|--------------|
| Operating revenue | 7,444 | 8,562 | 8,973 | 9,137 | 9,091 |
| Electric utility operating revenue | 5,385 | 6,319 | 6,937 | 6,841 | 7,313 |
| Overseas business operating revenue | 1,498 | 1,630 | 1,410 | 1,790 | 1,380 |
| Other business operating revenue | 559 | 612 | 625 | 505 | 397 |
| Operating expenses | 6,626 | 7,519 | 8,185 | 8,301 | 8,313 |
| Operating income | 817 | 1,043 | 788 | 836 | 777 |
| Non-operating revenue | 205 | 291 | 188 | 265 | 112 |
| Share of profit of entities accounted for using equity method | 132 | 97 | 96 | 113 | 27 |
| Other | 72 | 193 | 92 | 152 | 84 |
| Non-operating expenses | 351 | 309 | 292 | 320 | 280 |
| Interest expenses | 297 | 283 | 263 | 262 | 237 |
| Other | 53 | 25 | 28 | 57 | 43 |
| Ordinary income | 671 | 1,024 | 685 | 780 | 609 |
| Extraordinary income | - | - | - | - | 94 |
| Extraordinary losses | - | 33 | - | 124 | 57 |
| Profit attributable to owners of parent | 414 | 684 | 462 | 422 | 223 |

(1)-2. Consolidated: Cash Flow



(Unit: 100 million yen)

| | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 |
|--|----------------|----------------|----------------|----------------|----------------|
| Operating activities | 1,154 | 1,603 | 1,484 | 1,592 | 1,679 |
| Profit before income taxes | 671 | 990 | 685 | 655 | 646 |
| Depreciation and amortization | 756 | 822 | 799 | 830 | 964 |
| Share of (profit) loss of entities accounted for using equity method | (132) | (97) | (96) | (113) | (27) |
| Investing activities | (1,376) | (1,096) | (1,704) | (1,617) | (1,432) |
| Purchase of non-current assets | (1,081) | (988) | (1,060) | (1,495) | (1,592) |
| Payments of investment and loans receivable | (180) | (81) | (744) | (109) | (25) |
| Free cash flow | (222) | 506 | (220) | (24) | 246 |

(1)-3. Consolidated: Segment Information



(Unit: 100 million yen)

| | | Electric power | Electric power -related | Overseas | Other | Subtotal | Elimination* | Consolidated |
|------------------------|--------------------|----------------|----------------------------|----------|-------|----------|--------------|--------------|
| FY2020 | Sales | 7,334 | 3,741 | 1,380 | 184 | 12,641 | (3,550) | 9,091 |
| | Sales to customers | 7,313 | 247 | 1,380 | 149 | 9,091 | - | 9,091 |
| | Ordinary income | 190 | 122 | 308 | 10 | 633 | (24) | 609 |
| FY2019 | Sales | 6,860 | 4,005 | 1,790 | 221 | 12,878 | (3,740) | 9,137 |
| | Sales to customers | 6,841 | 319 | 1,790 | 185 | 9,137 | - | 9,137 |
| | Ordinary income | 274 | 185 | 339 | 5 | 805 | (24) | 780 |
| year-on-year change | Sales | 474 | (263) | (410) | (37) | (236) | 190 | (46) |
| | Sales to customers | 471 | (72) | (410) | (35) | (46) | - | (46) |
| | Ordinary income | (83) | (62) | (30) | 4 | (172) | 0 | (171) |

“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

(1)-4. Consolidated: Key Ratios and Key Data

(Unit: 100 million yen)

| | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 |
|--|----------|----------|----------|----------|----------|
| (PL) Operating revenue | 7,444 | 8,562 | 8,973 | 9,137 | 9,091 |
| Operating income | 817 | 1,043 | 788 | 836 | 777 |
| Ordinary income | 671 | 1,024 | 685 | 780 | 609 |
| Profit attributable to owners of parent | 414 | 684 | 462 | 422 | 223 |
| (BS) Total assets | 26,062 | 26,470 | 27,661 | 28,053 | 28,419 |
| Construction in progress | 4,761 | 5,257 | 5,820 | 6,471 | 5,882 |
| Shareholders' equity | 7,238 | 7,872 | 7,974 | 8,077 | 8,091 |
| Net assets | 7,640 | 8,361 | 8,455 | 8,573 | 8,536 |
| Interest-bearing debt | 16,200 | 15,613 | 16,428 | 16,484 | 16,646 |
| (CF) Investing activities | (1,376) | (1,096) | (1,704) | (1,617) | (1,432) |
| Free cash flow | (222) | 506 | (220) | (24) | 246 |
| (Ref) CAPEX* ¹ | (1,058) | (987) | (1,077) | (1,626) | (1,715) |
| (Ref) Depreciation and amortization | 756 | 822 | 799 | 830 | 964 |
| ROA (%) | 2.6 | 3.9 | 2.5 | 2.8 | 2.2 |
| ROA (ROA excl. Construction in progress) (%) | 3.2 | 4.8 | 3.2 | 3.6 | 2.8 |
| ROE (%) | 6.0 | 9.1 | 5.8 | 5.3 | 2.8 |
| EPS (¥) | 226.33 | 373.93 | 252.68 | 230.96 | 121.85 |
| BPS (¥) | 3,954.22 | 4,300.98 | 4,356.54 | 4,412.84 | 4,420.39 |
| Shareholders' equity ratio (%) | 27.8 | 29.7 | 28.8 | 28.8 | 28.5 |
| D/E ratio (x) | 2.2 | 2.0 | 2.1 | 2.0 | 2.1 |
| Number of shares issued* ² (thousand) | 183,049 | 183,049 | 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)

(1)-5. Non-consolidated: Revenues and Expenses



(Unit: 100 million yen)

| | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 |
|--|--------------|--------------|--------------|--------------|--------------|
| Operating revenue | 5,224 | 6,145 | 6,469 | 5,712 | 5,899 |
| Electric power business | 5,109 | 6,014 | 6,336 | 5,638 | 5,838 |
| Sold power to other suppliers | 4,579 | 5,456 | 5,806 | 5,104 | 5,660 |
| Other ^{*1} | 529 | 558 | 529 | 533 | 177 |
| Incidental business | 115 | 131 | 133 | 74 | 61 |
| Operating expenses | 4,948 | 5,715 | 6,282 | 5,464 | 5,120 |
| Electric power business | 4,842 | 5,593 | 6,157 | 5,397 | 5,065 |
| Personnel expense | 436 | 342 | 324 | 358 | 318 |
| Amortization of the actuarial difference in retirement benefits | 107 | (1) | (14) | 24 | 28 |
| Fuel cost | 1,968 | 2,573 | 2,890 | 2,332 | 1,937 |
| Repair and maintenance cost | 683 | 634 | 697 | 666 | 441 |
| Depreciation and amortization cost | 496 | 534 | 510 | 527 | 552 |
| Other | 1,257 | 1,508 | 1,734 | 1,512 | 1,814 |
| Incidental business | 105 | 122 | 125 | 66 | 55 |
| Operating income | 276 | 430 | 186 | 248 | 778 |

*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

(1)-5. Non-consolidated: Revenues and Expenses

(Unit: 100 million yen)

| 【 Amortization of the actuarial difference 】 | | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 |
|--|---|--------|--------|--------|--------|--------|
| Actuarial difference | The remainder in the previous year (c) | (10) | 49 | (0) | (6) | 11 |
| | Actuarial difference in the previous year | 167 | (51) | (20) | 42 | 31 |
| | Subtotal (a) | 156 | (1) | (21) | 35 | 42 |
| Amortization *(b) | | 107 | (1) | (14) | 24 | 28 |
| The remainder in the present year (c=a-b) | | 49 | (0) | (6) | 11 | 13 |

(Unit: 100 million yen)

| 【 Repair and maintenance cost 】 | | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 |
|---------------------------------|--|--------|--------|--------|--------|--------|
| Hydroelectric | | 119 | 119 | 168 | 129 | 134 |
| Thermal | | 507 | 460 | 452 | 472 | 290 |
| Transmission | | 39 | 39 | 59 | 48 | - |
| Others | | 17 | 15 | 16 | 16 | 16 |
| Total | | 683 | 634 | 697 | 666 | 441 |

(Unit: 100 million yen)

| 【 Depreciation and amortization cost 】 | | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 |
|--|--|--------|--------|--------|--------|--------|
| Hydroelectric | | 132 | 151 | 143 | 147 | 155 |
| Thermal | | 230 | 243 | 230 | 239 | 356 |
| Transmission | | 100 | 105 | 100 | 102 | - |
| Others | | 33 | 34 | 35 | 37 | 40 |
| Total | | 496 | 534 | 510 | 527 | 552 |

* Actuarial difference is amortized by the declining-balance method over two years from the year following the year in which they occurred.

(1)-6. Non-consolidated: Balance Sheet



(Unit: million yen)

| | FY2019 End of FY | FY2020 End of FY |
|---|---------------------|---------------------|
| Assets | | |
| Non-current assets | 2,252,958 | 2,060,081 |
| Electric utility plant and equipment | 916,563 | 870,713 |
| Hydroelectric power production facilities | 367,545 | 371,305 |
| Thermal power production facilities | 303,682 | 434,615 |
| Transmission facilities | 150,839 | - |
| Transformation facilities | 30,175 | - |
| Communication facilities | 9,312 | 7,811 |
| General facilities | 55,007 | 56,980 |
| Incidental business facilities | 2,507 | 2,500 |
| Non-operating facilities | 505 | 691 |
| Construction in progress | 591,528 | 436,375 |
| Construction in progress | 589,775 | 436,375 |
| Retirement in progress | 1,753 | - |
| Nuclear fuel | 74,812 | 75,359 |
| Nuclear fuel in processing | 74,812 | 75,359 |
| Investments and other assets | 667,041 | 674,441 |
| Long-term investments | 43,948 | 50,457 |
| Long-term investment for subsidiaries and associates | 572,635 | 584,829 |
| Long-term prepaid expenses | 16,408 | 7,304 |
| Deferred tax assets | 34,047 | 31,850 |
| Current assets | 167,147 | 190,420 |
| Cash and deposits | 63,040 | 76,769 |
| Accounts receivable-trade | 32,596 | 28,023 |
| Other accounts receivable | 1,034 | 2,416 |
| Supplies | 35,601 | 28,901 |
| Prepaid expenses | 2,668 | 1,356 |
| Short-term receivables from subsidiaries and associates | 9,482 | 29,567 |
| Other current assets | 22,723 | 23,386 |
| Total assets | 2,420,106 | 2,250,502 |

(Unit: million yen)

| | FY2019 End of FY | FY2020 End of FY |
|---|---------------------|---------------------|
| Liabilities | | |
| Non-current liabilities | 1,279,081 | 1,336,610 |
| Bonds payable | 604,993 | 654,994 |
| Long-term loans payable | 604,686 | 615,736 |
| Long-term accrued liabilities | 5,269 | 5,599 |
| Lease obligations | 208 | 190 |
| Long-term debt to subsidiaries and associates | 1,505 | 2,043 |
| Provision for retirement benefits | 44,550 | 46,323 |
| Asset retirement obligations | 4,549 | 7,172 |
| Other non-current liabilities | 13,317 | 4,551 |
| Current liabilities | 480,208 | 243,363 |
| Current portion of non-current liabilities | 144,258 | 68,820 |
| Short-term loans payable | 14,750 | 8,750 |
| Commercial paper | - | 20,005 |
| Accounts payable-trade | 4,642 | 7,566 |
| Accounts payable-other | 14,870 | 7,911 |
| Accrued expenses | 13,514 | 11,822 |
| Accrued taxes | 6,259 | 22,338 |
| Deposits received | 319 | 315 |
| Short-term debt to subsidiaries and associates | 278,286 | 92,362 |
| Other advances | 710 | 1,157 |
| Other current liabilities | 2,597 | 2,311 |
| Total liabilities | 1,759,289 | 1,579,973 |
| Net assets | | |
| Shareholders' equity | 657,456 | 659,259 |
| Capital stock | 180,502 | 180,502 |
| Capital surplus | 109,904 | 109,904 |
| Legal capital surplus | 109,904 | 109,904 |
| Retained earnings | 367,057 | 368,861 |
| Legal retained earnings | 6,029 | 6,029 |
| Other retained earnings | 361,028 | 362,832 |
| Reserve for special disaster | 74 | 77 |
| Exchange-fluctuation preparation reserve | 1,960 | 1,960 |
| General reserve | 302,861 | 342,861 |
| Retained earnings brought forward | 56,132 | 17,933 |
| Treasury shares | (8) | (8) |
| Valuation and translation adjustments | 3,360 | 11,268 |
| Valuation difference on available-for-sale securities | 4,562 | 9,632 |
| Deferred gains or losses on hedges | (1,201) | 1,636 |
| Total net assets | 660,817 | 670,528 |
| Total liabilities and net assets | 2,420,106 | 2,250,502 |

* For consolidated balance sheet, please refer to the Financial Results disclosed on April 30, 2021

(1)-7. Non-consolidated: Statement of Income



(Unit: million yen)

| | FY2019 (Apr.-Mar) | FY2020 (Apr.-Mar) |
|---|----------------------|----------------------|
| Operating revenue | 571,291 | 589,915 |
| Electric utility operating revenue | 563,813 | 583,812 |
| Sold power to other suppliers | 510,429 | 566,068 |
| Transmission revenue | 49,673 | - |
| Other electricity revenue | 3,710 | 17,744 |
| Incidental business operating revenue | 7,478 | 6,102 |
| Operating revenue-consulting business | 1,320 | 957 |
| Operating revenue-coal sale business | 5,040 | 4,094 |
| Operating revenue-other businesses | 1,117 | 1,051 |
| Operating expenses | 546,405 | 512,060 |
| Electric utility operating expenses | 539,708 | 506,536 |
| Hydroelectric power production expenses | 62,337 | 62,723 |
| Thermal power production expenses | 355,331 | 315,632 |
| Purchased power from other suppliers | 11,813 | 48,433 |
| Transmission expenses | 24,738 | - |
| Transformation expenses | 5,446 | - |
| Selling expenses | 1,110 | 1,224 |
| Communicating expenses | 4,599 | 4,669 |
| General and administrative expenses | 65,722 | 65,007 |
| Expenses for third party's power transmission service | 1,446 | 2,363 |
| Enterprise tax | 7,162 | 6,480 |
| Incidental business operating expenses | 6,697 | 5,524 |
| Operating expenses-consulting business | 884 | 655 |
| Operating expenses-coal sale business | 4,987 | 4,030 |
| Operating expenses-other businesses | 825 | 838 |
| Operating income | 24,886 | 77,854 |

(Unit: million yen)

| | FY2019 (Apr.-Mar) | FY2020 (Apr.-Mar) |
|--|----------------------|----------------------|
| Non-operating income | 52,749 | 49,648 |
| Financial revenue | 50,594 | 46,706 |
| Dividend income | 49,781 | 43,930 |
| Interest income | 812 | 2,776 |
| Non-operating revenue | 2,155 | 2,941 |
| Gain on sales of non-current assets | 13 | 18 |
| Miscellaneous revenue | 2,141 | 2,923 |
| Non-operating expenses | 17,037 | 13,462 |
| Financial expenses | 13,012 | 11,852 |
| Interest expenses | 12,711 | 11,635 |
| Bond issuance cost | 301 | 217 |
| Non-operating expenses | 4,024 | 1,609 |
| Loss on sales of non-current assets | 0 | 1 |
| Miscellaneous loss | 4,023 | 1,608 |
| Total ordinary revenue | 624,041 | 639,564 |
| Total ordinary expenses | 563,443 | 525,523 |
| Ordinary income | 60,597 | 114,041 |
| Extraordinary losses | - | 77,694 |
| Impairment losses | - | 3,170 |
| Loss on debt waiver for subsidiaries and associates | - | 57,001 |
| Loss on valuation of shares of subsidiaries and associates | - | 17,522 |
| Profit before income taxes | 60,597 | 36,346 |
| Income taxes-current | 3,457 | 21,445 |
| Income taxes-deferred | (238) | (631) |
| Total income taxes | 3,219 | 20,813 |
| Profit | 57,377 | 15,532 |

* For consolidated statement of income, please refer to the Financial Results disclosed on April 30, 2021

(1)-8. Monthly Electricity Sales:

Domestic Power Generation Business (Thermal Power)



▶ Apr. 2019 - Mar. 2020 Results (Cumulative)

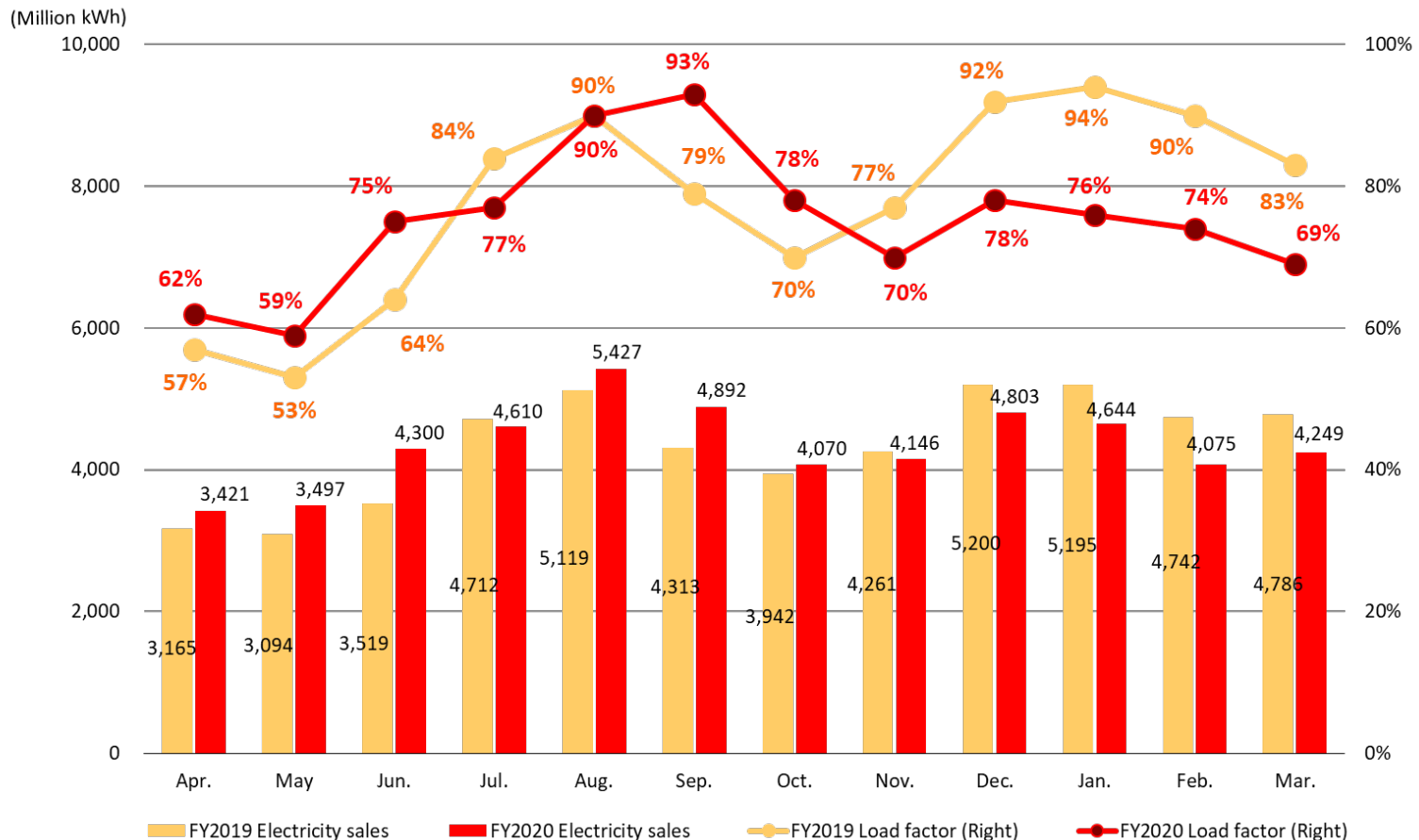
Load factor ⇒ 77%

Electricity sales ⇒ 52.0 TWh

▶ Apr. 2020 - Mar. 2021 Results (Cumulative)

Load factor ⇒ 75%

Electricity sales ⇒ 52.1 TWh



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

* Proportion of equity holding is not taken into account.

(1)-8. Monthly Electricity Sales:



Domestic Power Generation Business (Hydroelectric Power)

▶ Apr. 2019 - Mar. 2020 Results (Cumulative)

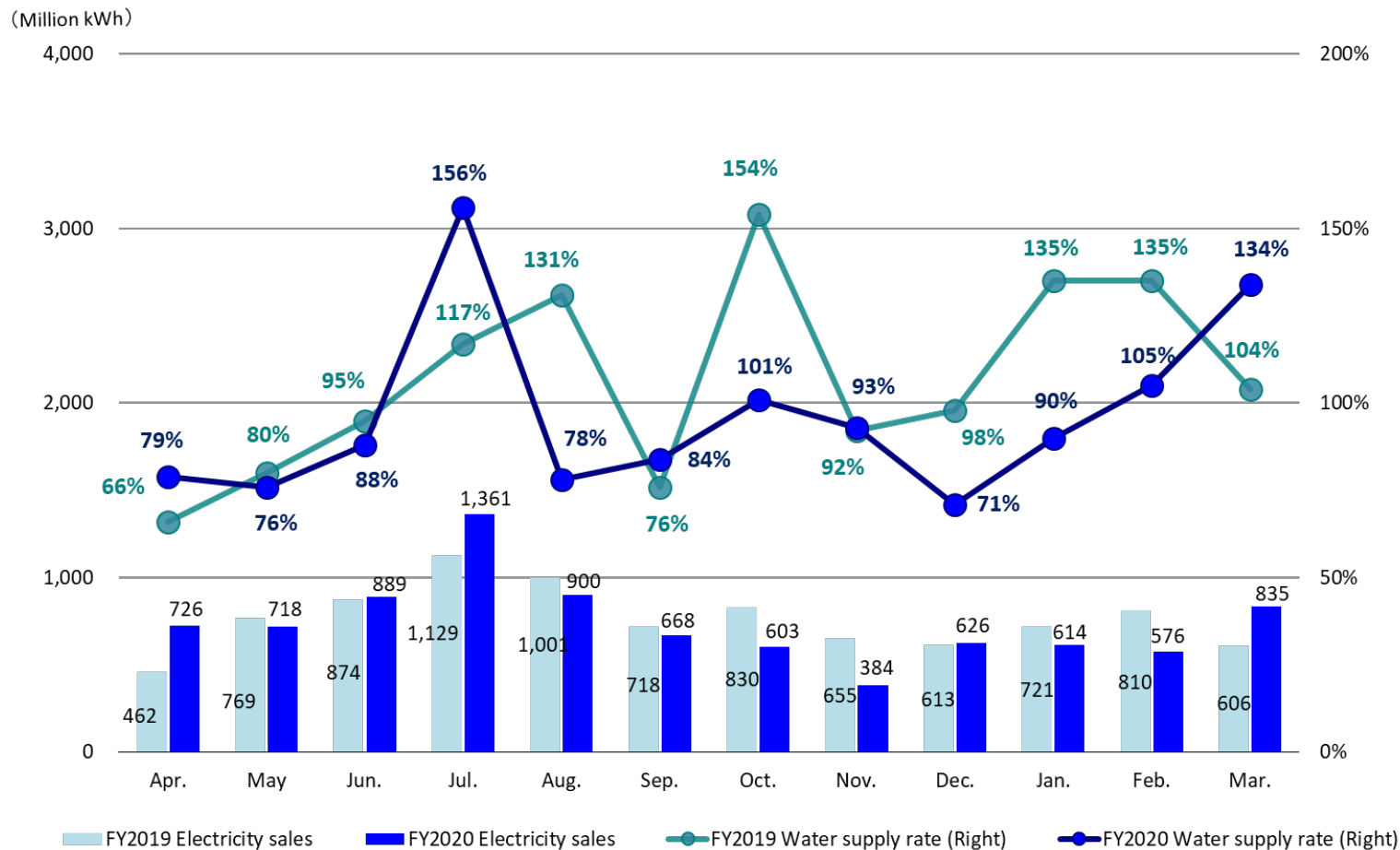
Water supply rate ⇒ 101%

Electricity sales ⇒ 9.1 TWh

▶ Apr. 2020 - Mar. 2021 Results (Cumulative)

Water supply rate ⇒ 96%

Electricity sales ⇒ 8.9 TWh

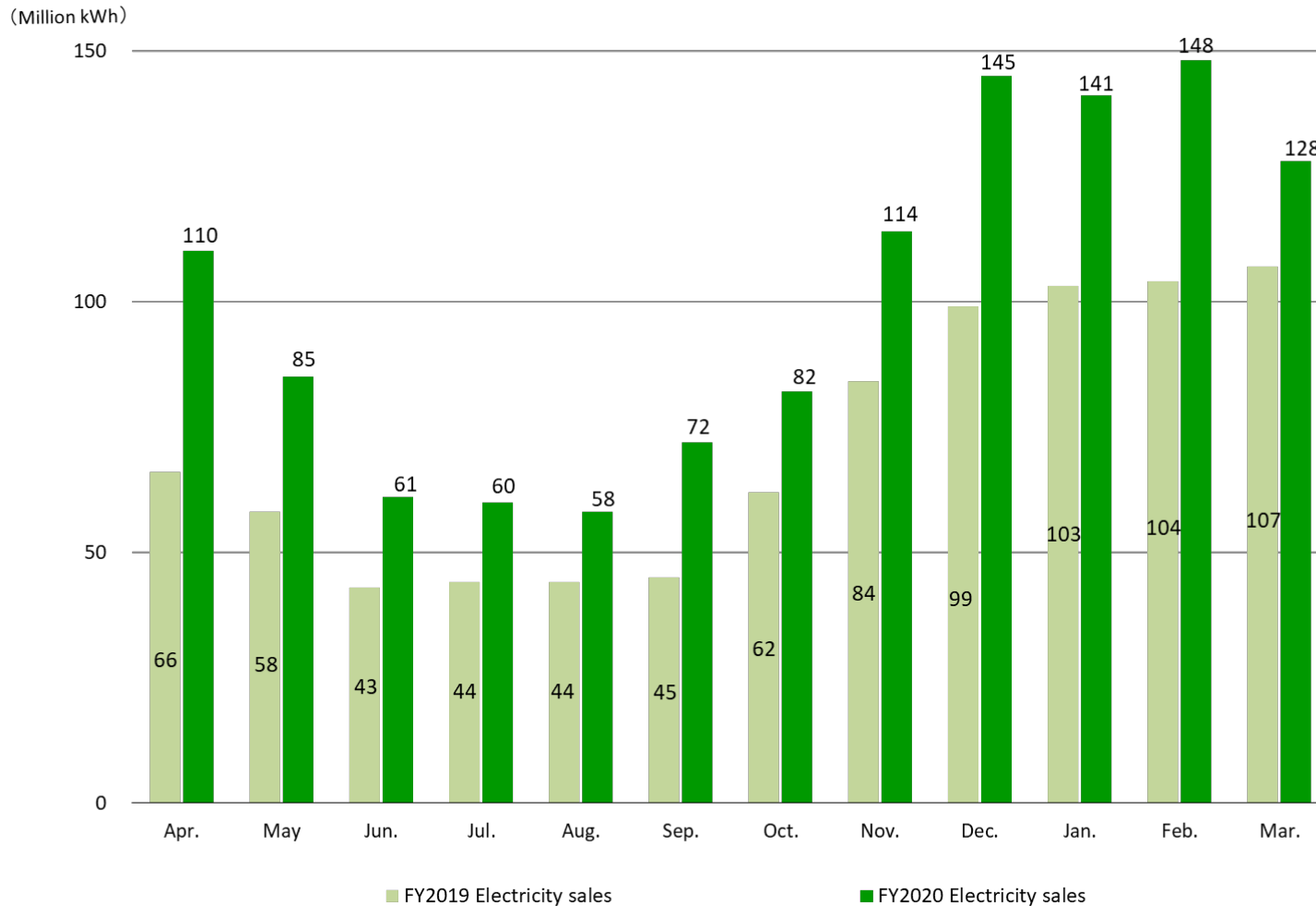


(1)-8. Monthly Electricity Sales:

Domestic Power Generation Business (Wind Power)



- ▶ Apr. 2019 - Mar. 2020 Results (Cumulative) ⇒ 0.86 TWh
- ▶ Apr. 2020 - Mar. 2021 Results (Cumulative) ⇒ 1.21 TWh



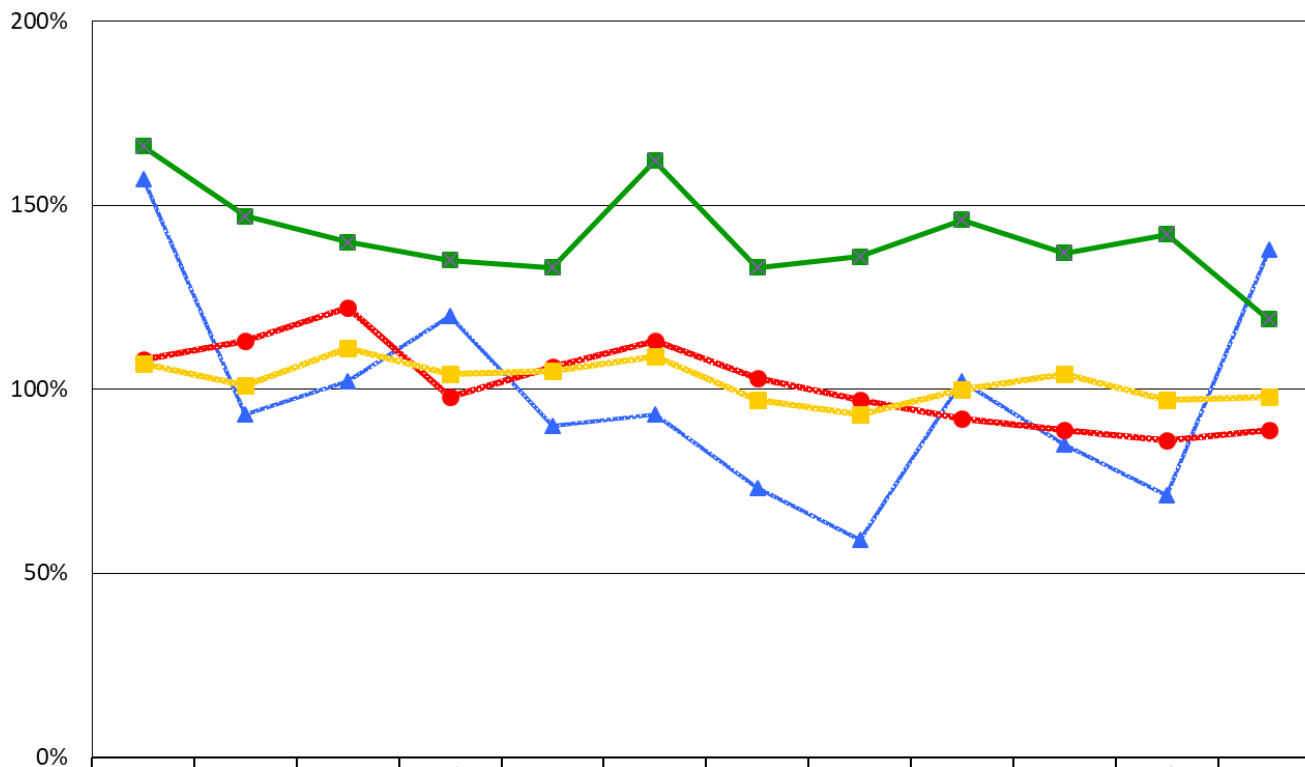
* Proportion of equity holding is not taken into account.

(1)-8. Change in Monthly Electricity Sales:

Domestic Power Generation Business



- ▶ Apr. 2019 - Mar. 2020 Total Results (Cumulative) ⇒ 73.1 TWh
- ▶ Apr. 2020 - Mar. 2021 Total Results (Cumulative) ⇒ 74.5 TWh



| | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. - Mar. |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|-------------|
| Year-on-year (Hydro) | 157% | 93% | 102% | 120% | 90% | 93% | 73% | 59% | 102% | 85% | 71% | 138% | 97% |
| Year-on-year (Thermal) | 108% | 113% | 122% | 98% | 106% | 113% | 103% | 97% | 92% | 89% | 86% | 89% | 100% |
| Year-on-year (Wind) | 166% | 147% | 140% | 135% | 133% | 162% | 133% | 136% | 146% | 137% | 142% | 119% | 140% |
| Year-on-year Total | 107% | 101% | 111% | 104% | 105% | 109% | 97% | 93% | 100% | 104% | 97% | 98% | 102% |

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

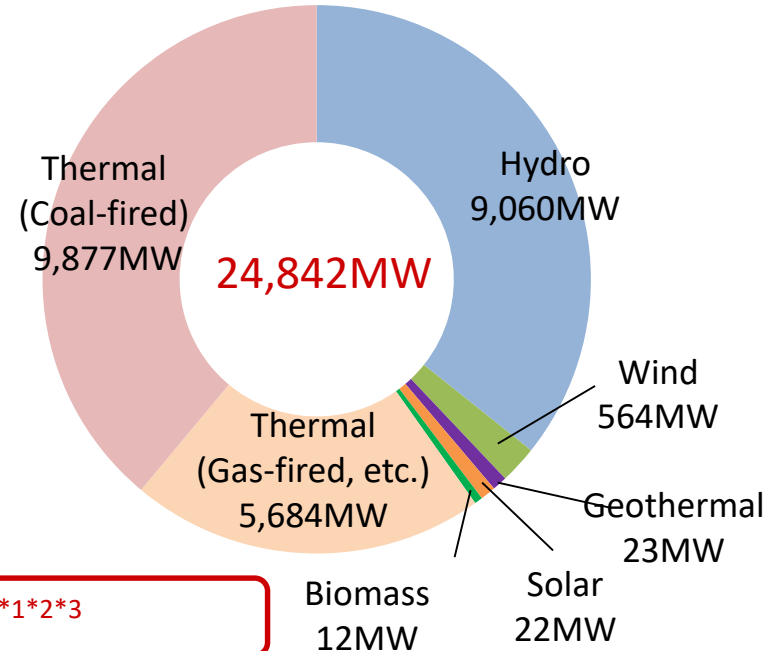
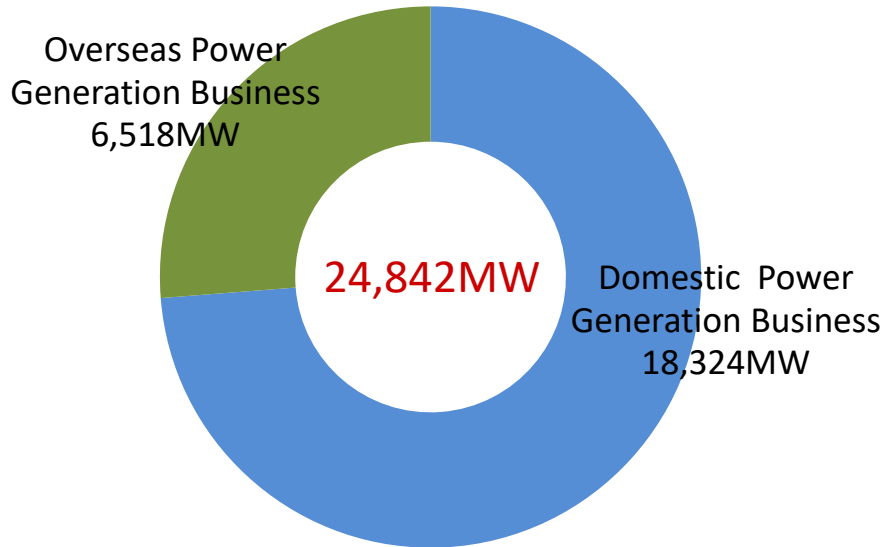
(2) Business Data Contents

| | |
|---|-------|
| 1. Overview of J-POWER Group Power Generation Facilities | •••30 |
| 2. Domestic Electric Power Business Facilities | •••31 |
| 3. Overseas Power Generation Projects | •••33 |
| 4. Further Expansion of Renewable Energy | •••35 |
| 5. Renewable Energy Development Projects | •••36 |
| 6. Phasing Out of Inefficient Coal-fired Thermal Power | •••38 |
| 7. Initiatives toward Zero Emissions (CO2 free Hydrogen Generation/ Producing Hydrogen) | •••39 |
| 8. Osaki CoolGen Project | •••40 |
| 9. GENESIS Matsushima Plan | •••41 |
| 10. Carbon Recycling Test Projects | •••42 |
| 11. Australian Brown Coal Hydrogen Pilot Test Project | •••43 |
| 12. Overseas Projects under Development | •••44 |
| 13. Ohma Nuclear Power Project | •••46 |
| 14. Response to the New Safety Standards at the Ohma Nuclear Power Plant | •••47 |
| 15. Initiatives Aiming at Reducing Costs | •••48 |

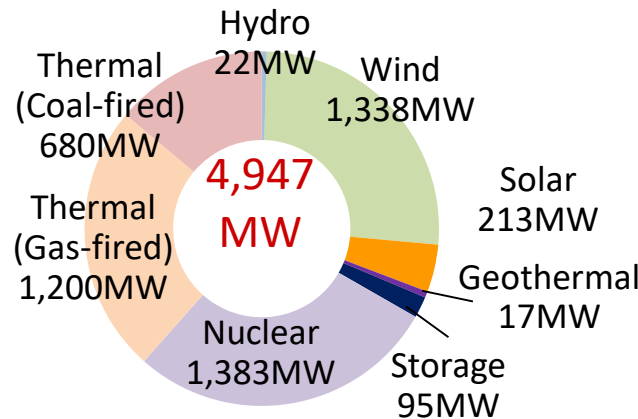
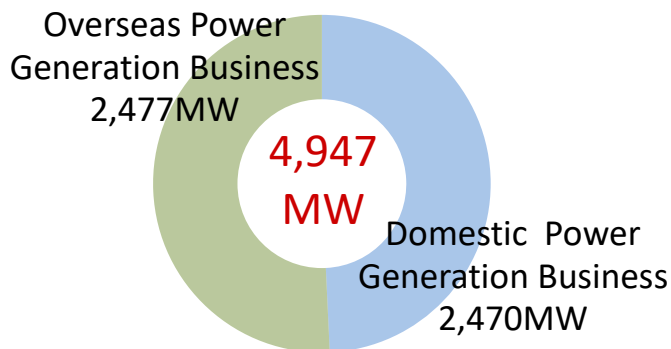
(2)-1. Overview of J-POWER Group Power Generation Facilities

Consolidated Power Generation Capacity*1

(As of March 31, 2021)



Development Projects*1*2*3



In addition to projects counted in the left graphs, domestic offshore wind projects outside of port areas (3 projects, max. approx. 1,400MW in total *) are under preparation for development and one geothermal project is under research for development

* Two projects are jointly conducted with other companies

*1 Capacity figures show owned capacity which takes into account of equity ratio *2 For replacement project, only change amount in capacity is counted

*3 In case capacity is to be determined, maximum capacity at environmental impact assessment is used

(2)-2. Domestic Electric Power Business Facilities (As of March 31, 2021)

Hydroelectric: 60 power plants, 8,560MW*1

| Power plant | Location | Beginning of operation | Capacity (MW) |
|-----------------|-----------|------------------------|---------------|
| Shimogo | Fukushima | 1988 | 1,000 |
| Okutadami | Fukushima | 1958 | 560 |
| Otori | Fukushima | 1963 | 182 |
| Tagokura | Fukushima | 1959 | 400 |
| Okukiyotsu | Niigata | 1978 | 1,000 |
| Okukiyotsu No.2 | Niigata | 1996 | 600 |
| Numappara | Tochigi | 1973 | 675 |
| Shintoyone | Aichi | 1972 | 1,125 |
| Sakuma | Shizuoka | 1956 | 350 |
| Miboro | Gifu | 1961 | 215 |
| Nagano | Fukui | 1968 | 220 |
| Tedorigawa No.1 | Ishikawa | 1979 | 250 |
| Ikehara | Nara | 1964 | 350 |
| Sendaigawa No.1 | Kagoshima | 1965 | 120 |
| Other 46 plants | | | |

Wind Power: 23 wind farms, 540MW*2

| Wind farm | Location | Ownership | Output capacity (MW) |
|-------------------------|-----------|-----------|----------------------|
| Setana Osato | Hokkaido | 100% | 50.0 |
| Kaminokuni | Hokkaido | 100% | 28.0 |
| Green Power Kuzumaki | Iwate | 100% | 21.0 |
| Kuzumaki No.2 | Iwate | 100% | 44.6 |
| Nikaho Kogen | Akita | 100% | 24.8 |
| Nikaho No.2 | Akita | 100% | 41.4 |
| Koriyama-Nunobiki Kogen | Fukushima | 100% | 66.0 |
| Hiyama Kogen | Fukushima | 100% | 28.0 |
| Irouzaki | Shizuoka | 100% | 34.0 |
| Tahara Bayside | Aichi | 100% | 22.0 |
| Awara-Kitagata | Fukui | 100% | 20.0 |
| Minami Ehime | Ehime | 100% | 28.5 |
| Minami Oosumi | Kagoshima | 100% | 24.7 |
| Other 10 wind farms | | | |

*1 Including 3,275MW of pure pumped storage type.

*2 Owned capacity: Output capacity of each facility is multiplied by J-POWER's investment ratio (equity ratio).

(2)-2. Domestic Electric Power Business Facilities (As of March 31, 2021)



Thermal (J-POWER): 7 power plants, 8,412MW

| | Power plant (Location) | | Beginning of operation | Capacity (MW) |
|------|-----------------------------|----------|---------------------------|------------------|
| Coal | Isogo (Kanagawa) | New No.1 | 2002 | 600 |
| | | New No.2 | 2009 | 600 |
| | Takasago (Hyogo) | No.1 | 1968 | 250 |
| | | No.2 | 1969 | 250 |
| | Takehara (Hiroshima) | New No.1 | 2020 | 600 |
| | | No.3 | 1983 | 700 |
| | Tachibanawan (Tokushima) | No.1 | 2000 | 1,050 |
| | | No.2 | 2000 | 1,050 |
| | Matsushima (Nagasaki) | No.1 | 1981 | 500 |
| | | No.2 | 1981 | 500 |
| | Matsuura (Nagasaki) | No.1 | 1990 | 1,000 |
| | | No.2 | 1997 | 1,000 |
| | Ishikawa Coal (Okinawa) | No.1 | 1986 | 156 |
| | | No.2 | 1987 | 156 |

Thermal (Others): 5 power plants, 705MW*1

| Power plant | Location | Fuel | Ownership | Output capacity (MW) |
|---|----------|------|-----------|----------------------------|
| J-POWER Supply and Trading Ichihara | Chiba | Gas | 100% | 108 |
| Mihama Seaside Power Shinminato | Chiba | Gas | 100% | 105 |
| Itoigawa | Niigata | Coal | 64% | 149 |
| Tosa | Kochi | Coal | 45% | 167 |
| Kashima | Ibaraki | Coal | 50% | 645 |

*1 Owned capacity: Output capacity of each facility is multiplied by J-POWER's investment ratio (equity ratio).

(2)- 3. Overseas Power Generation Projects (As of March 31, 2021)



| Project | Type | Output capacity (MW) | Ownership | Owncd capacity (MW) | Power purchaser | Purchase agreement valid through |
|------------------------------------|-----------------------------|----------------------|-----------|---------------------|--|----------------------------------|
| Thailand (14 projects) | | 5,719 | | 3,189 | | |
| Roi-Et | Biomass (Chaff) | 9 | 24.7% | 2 | EGAT*1 | 2024 |
| Rayong | CCGT*3 | 112 | 20% | 22 | EGAT*1/ Companies in the industrial park | 2024 |
| Nong Khae | CCGT*3 | 120 | 49% | 59 | EGAT*1/ Companies in the industrial park | 2021 |
| Yala | Biomass (Rubber wood waste) | 20 | 49% | 10 | EGAT*1 | 2031 |
| Kaeng Khoi 2 | CCGT*3 | 1,468 | 49% | 719 | EGAT*1 | 2033 |
| 7 SPPs*2 | CCGT*3 | 790 | 57.7% | 456 | EGAT*1/ Companies in the industrial park | 2038 |
| Nong Saeng | CCGT*3 | 1,600 | 60% | 960 | EGAT*1 | 2039 |
| U-Thai | CCGT*3 | 1,600 | 60% | 960 | EGAT*1 | 2040 |
| United States (10 projects) | | 5,187 | | 1,895 | | |
| Tenaska Frontier | CCGT*3 | 830 | 31% | 257 | Exelon Generation Company, LLC | 2020 |
| Elwood Energy | SCGT*4 | 1,350 | 50% | 675 | PJM market | - |
| Green Country | CCGT*3 | 795 | 50% | 398 | Exelon Generation Company, LLC | 2022 |
| Pinelawn | CCGT*3 | 80 | 50% | 40 | Long Island Power Authority | 2025 |
| Equus | SCGT*4 | 48 | 50% | 24 | NYISO market | - |
| Fluvanna | CCGT*3 | 885 | 15% | 133 | Shell Energy North America | 2024 |
| Edgewood | SCGT*4 | 88 | 50% | 44 | Long Island Power Authority | 2023 |
| Shoreham | Jet Fuel (Simple cycle) | 90 | 50% | 45 | Long Island Power Authority | 2020 |
| Orange Grove | SCGT*4 | 96 | 50% | 48 | San Diego Gas & Electric | 2035 |
| Westmoreland | CCGT*3 | 925 | 25% | 231 | PJM market | - |

*1 EGAT(Electricity Generating Authority of Thailand): State-owned electric power utility in Thailand

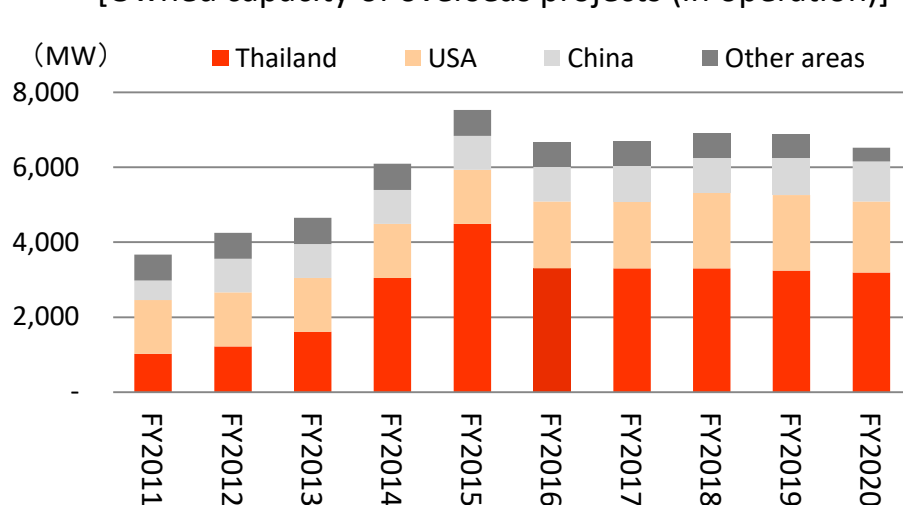
*2 7 SPP projects (KP1,KP2,TLC,NNK,NLL,CRN,NK2). J-POWER holds 45% stake in NLL and 60% stake in other 6 plants.

*3 CCGT: Combined Cycle Gas Turbine *4 SCGT: Simple Cycle Gas Turbine

(2)- 3. Overseas Power Generation Projects (As of March 31, 2021)

| Project | Type | Output capacity (MW) | Ownership | Owned capacity (MW) | Power purchaser | Purchase agreement valid through |
|--|---------------|----------------------|-----------|---------------------|-----------------------------------|----------------------------------|
| China (4 projects) | | 11,026 | | 1,071 | | |
| Hanjiang (Xihe/Shuhe) | Hydroelectric | 450 | 27% | 122 | Shaanxi Electric Power Company | Renewed every year* ¹ |
| Gemeng* ² | Mainly Coal | 7,442 | 7% | 521 | Shanxi Province Power Corporation | - |
| Hezhou | Coal | 2,090 | 17% | 355 | Guanxi Power Grid Co. | Renewed every year* ¹ |
| Other country/region (3 projects) | | 728 | | 364 | | |
| CBK (3 projects) (Philippines) | Hydroelectric | 728 | 50% | 364 | National Power Corporation | 2026 |

[Owned capacity of overseas projects (in operation)]



| Country/Region | In operation | Under development | Total |
|----------------|--------------|-------------------|--------------|
| Thailand | 3,189 | - | 3,189 |
| USA | 1,895 | 1,508 | 3,402 |
| China | 1,071 | - | 1,071 |
| Other areas | 364 | 969 | 1,333 |
| Total | 6,518 | 2,477 | 8,995 |

*1 Although power purchase agreements are renewed every year, J-POWER makes other agreements with power purchasers for continuous power purchase during the plant operation.

*2 Gemeng International Energy Co., Ltd. is an electric power company that owns 14 power generation companies.

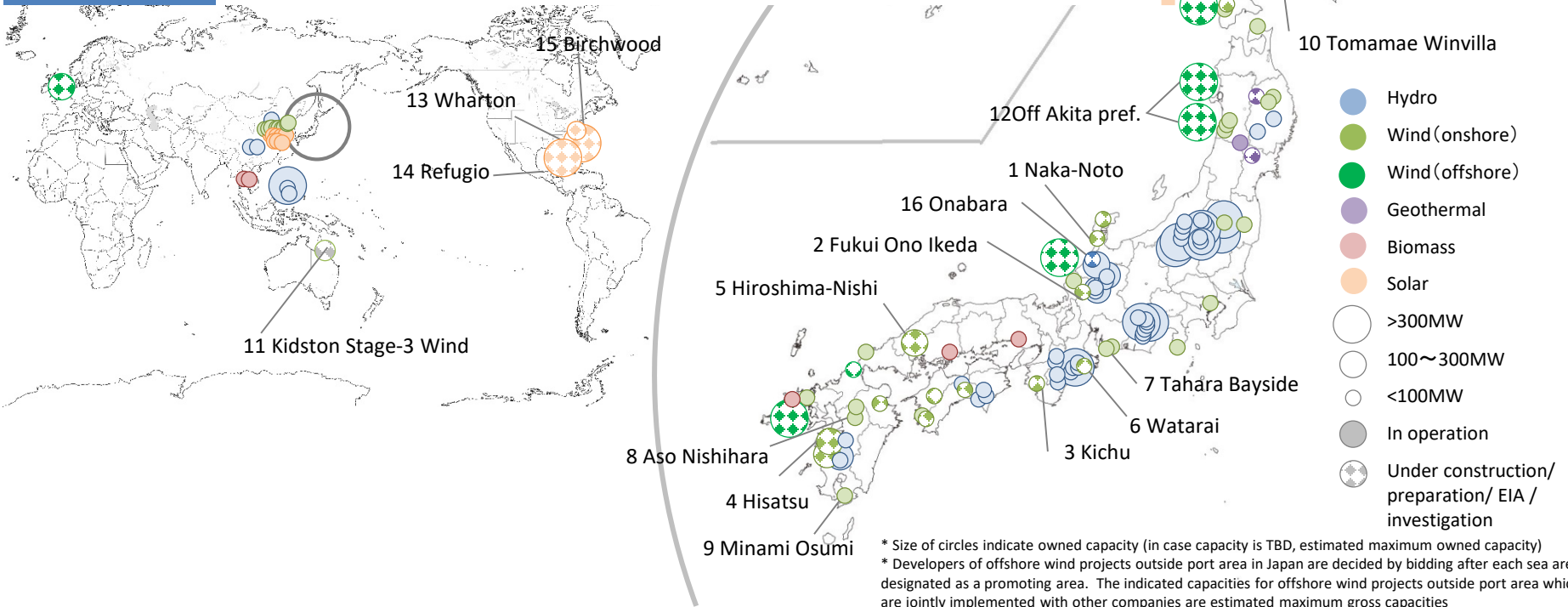
*3 CCGT: Combined Cycle Gas Turbine

(2)- 4. Further Expansion of Renewable Energy

Progress in FY2020

| | |
|-------|----------|
| Wind | Onshore |
| | Offshore |
| Solar | |
| Hydro | |

- Started EIA*¹ for new development at six sites 1~6
- Started EIA*¹ for replacement at three existing sites 7~9
- Started replacement work at one existing site 10
- Signed a Development Funding Agreement with Genex Power Limited for new development project in Australia 11
- Formed a consortium for business development at off Akita pref. sea area *² 12
- Started new development at two sites in Texas, USA 13~14
- Execution of Joint Development Agreement with Fortress Investment Group, LLC for New Solar Generation and Energy Storage Projects in Virginia, USA 15
- Started preparation for construction of Onabara power plant 16

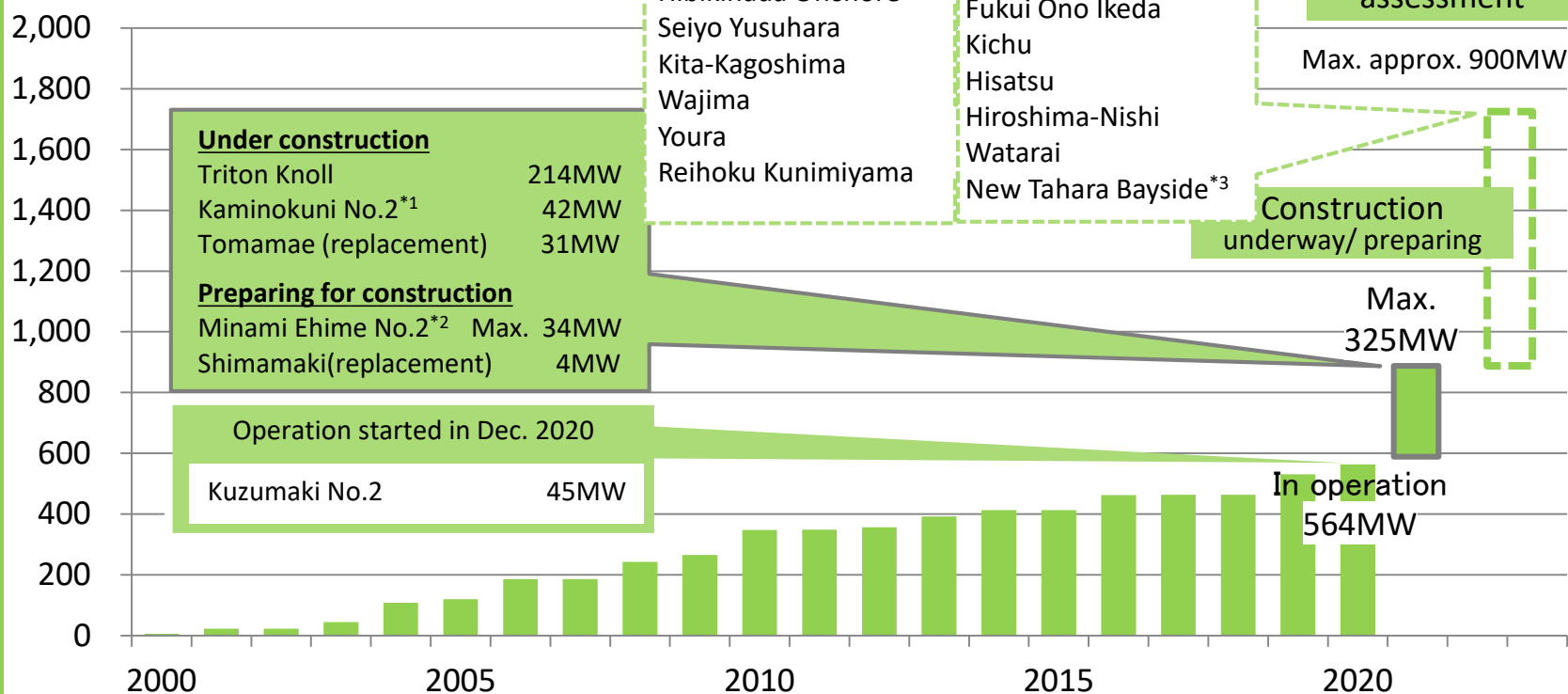


* Size of circles indicate owned capacity (in case capacity is TBD, estimated maximum owned capacity)
 * Developers of offshore wind projects outside port area in Japan are decided by bidding after each sea area is designated as a promoting area. The indicated capacities for offshore wind projects outside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

(2)- 5. 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
Awaro Offshore*6

Max. approx. 1,400MW in total

Formed a consortium for business development*7

Off Akita pref.

*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

*5 Conducted jointly with SUMITOMO CORPORATION

*6 Conducted jointly with Mitsui Fudosan Co., Ltd.

*7 With JERA Co., Inc. and Equinor ASA

Note: "Construction underway/ preparing" and "Under environmental impact assessment" in the graph above do not include replacement projects with no capacity change

(2)- 5. Renewable Energy Development Projects (Hydro, Geothermal, Solar)



| Hydro | Project | Capacity | Note |
|---------|--------------------------|--|---|
| | Shinkatsurazawa/ 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) |
| Onabara | 1MW | Completion of construction : November 2024 (planned) | |

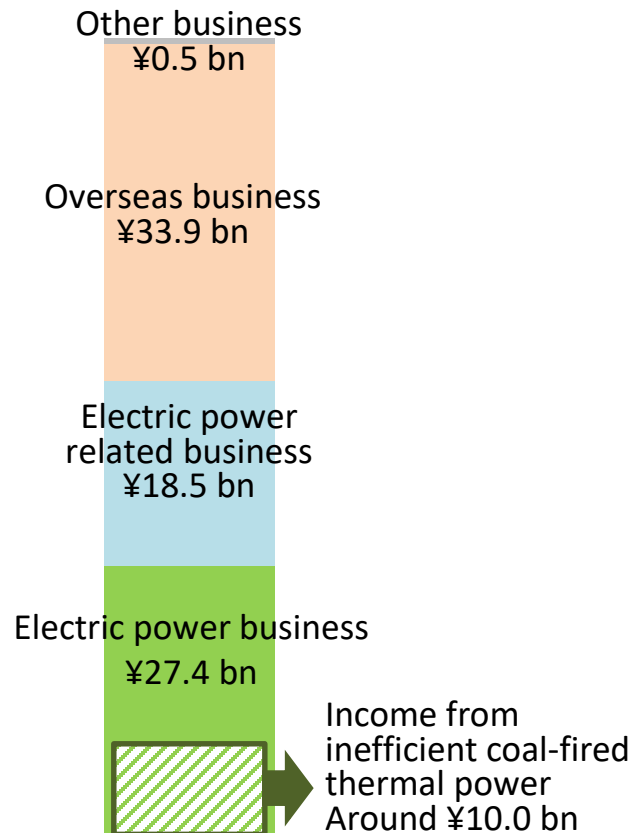
| Geo-thermal | Project | Capacity | Ownership | Owned capacity | Start of operation |
|-------------|---------------------|----------|-----------|----------------|--------------------------------|
| | Onikobe Replacement | 14.9MW | 100% | 14.9MW | April 2023 (planned) |
| | Appi | 14.9MW | 15% | 2.2MW | 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) |
| | Birchwood (USA, Solar) | 50MW | 50% | 25MW | 2023 (planned) |
| | Birchwood (USA, Storage) | 190MW | 50% | 95MW | To be determined (Preparation for construction) |

(2)- 6. Phasing Out of Inefficient Coal-fired Thermal Power

- 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*¹ already under implementation

Consolidated ordinary income ¥78.0 bn *²



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 CO₂ 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

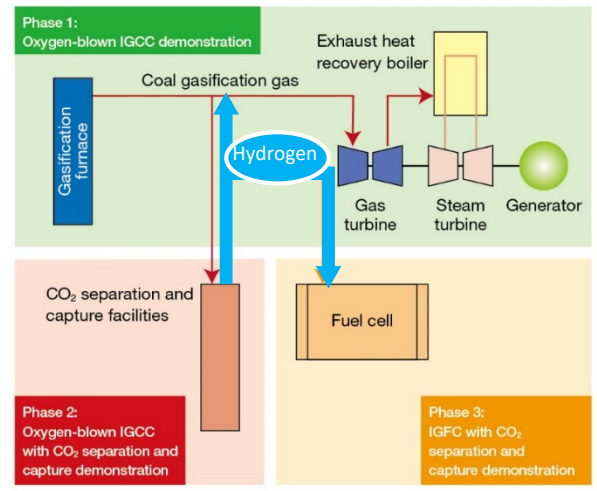
*1 Please refer to pp.14-38 of "Summary of FY2019 Earnings Results" (disclosed on April 30, 2020)

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

(2)- 7. Initiatives toward Zero Emissions (CO₂ free Hydrogen Generation/ Producing Hydrogen)

Osaki CoolGen Project (Refer to page40 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



Commercialization

GENESIS Matsushima Plan (Refer to page41 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.



- 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

Carbon Recycling Test Projects(Refer to page42 for details)

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

Australian Brown Coal Hydrogen Pilot Test Project (Refer to page43 for details)

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

(2)- 8. 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 (CO₂ recovery rate of 90% or more, CO₂ 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.
- The third phase demonstration test is under design / production of equipment for the start of construction in March 2021

| | | | |
|----------|---|-----------------|---|
| 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

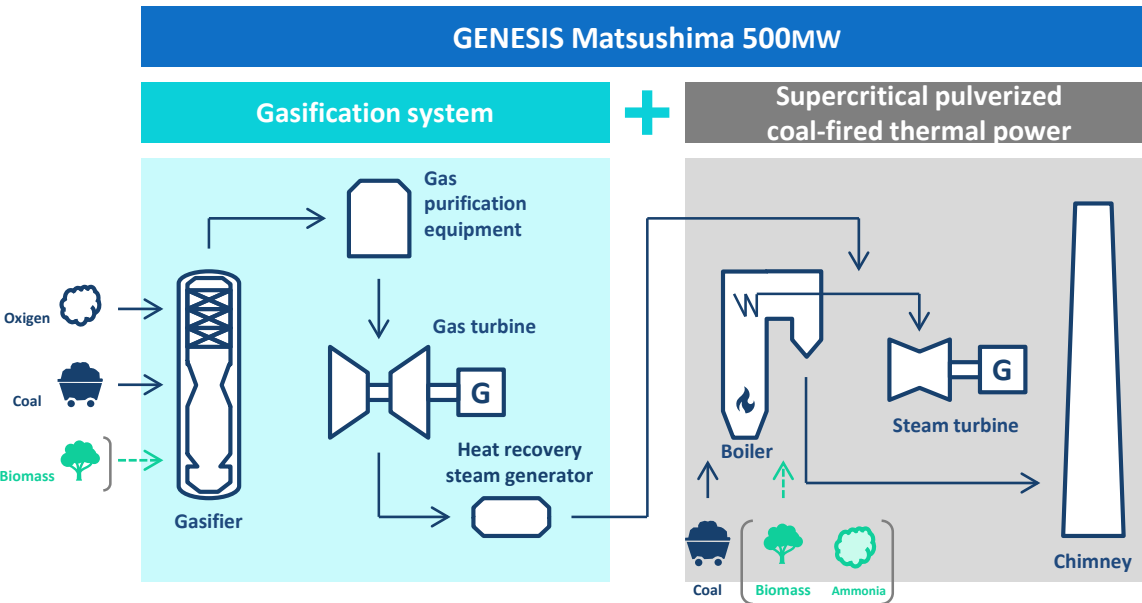
| | FY | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|-----------------------------------|--|---------------------------------|--------------------|---------------------------------|--------------------|--------------------------|--------------------|------|
| Hydrogen Approx. 25% | Phase 1 : Demonstration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

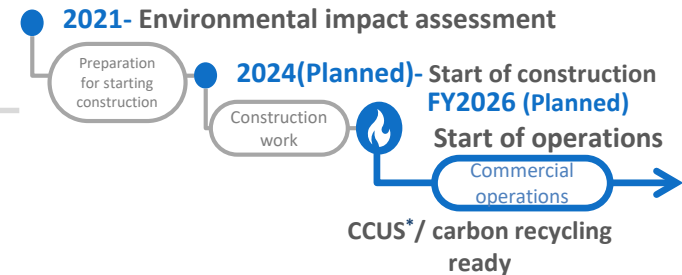
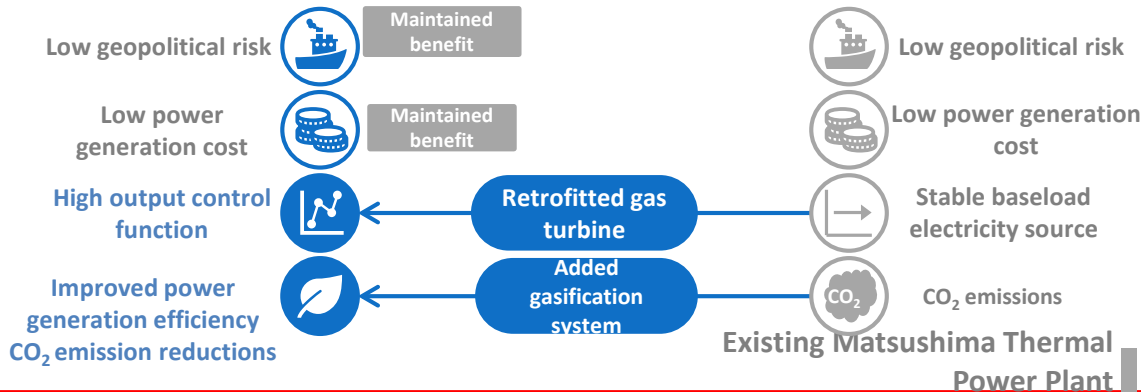
*2 Hydrogen concentration after CO₂ separation and capture. For power generation, the concentration will be lowered for burning due to restrictions on the capability of the turbine used in the demonstration test.

(2)- 9. GENESIS Matsushima Plan

J-POWER will take the first step in CO₂-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 CO₂ free hydrogen power generation in the future

* CCUS : Carbon Capture, Utilization, and Storage

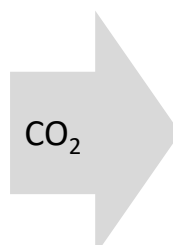
➤ Considering carbon recycling to utilize CO₂ captured in Osaki CoolGen Project

■ 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- CO₂/day

Osaki CoolGen
(IGCC + CO₂ Capture Process Demonstration facility)



Examples of Carbon Recycling

Tomato farm

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



Research and development related to biofuel production from microalgae

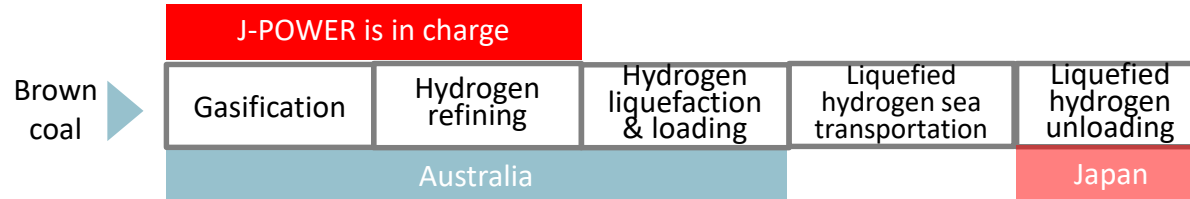
Environmentally friendly concrete

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

(2)- 11. 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. These facilities were installed by September 2020 and test run is underway aiming at producing hydrogen
- We started producing hydrogen in January 2021
- When commercialized in the future, CO₂ free will be achieved by applying CCS to store CO₂ generated in hydrogen production

Overall View of the Global Hydrogen Supply Chain



Brown coal gasification facility

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

(2)-12. Overseas Projects under Development (As of March 31, 2021)

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

*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.

(2)-12. Overseas Projects under Development (As of March 31, 2021)

Project

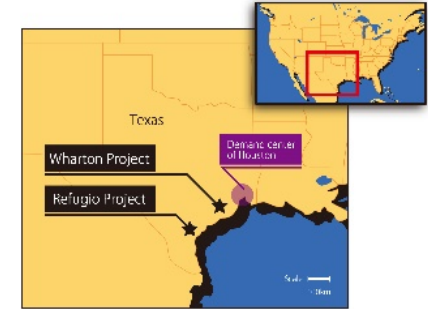
Overview

Location of the project

Wharton, Refugio (USA)

Capacity:
Wharton:350MW
Refugio:400MW
Type: Solar photovoltaic
Ownership: 25%
Status: Under development
Start of operation: 2022, 2023

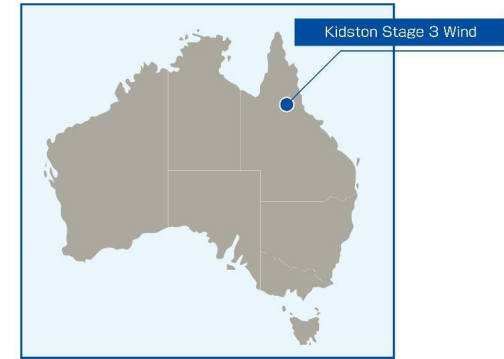
- First renewable project in USA for J-POWER
- Texas has abundant solar resource and can expect growth in power demand
- Located close to Houston, a high-power demand area



Kidston Stage-3 Wind (Australia)

Capacity: 150MW
Type: Onshore wind
Ownership: 50%
Status: Under development
Start of operation: 2024

- First renewable project in Australia for J-POWER
- J-POWER executes Development Funding Agreement with Genex Power Limited for New Wind Project
- Leveraging J-POWER's domestic and international wind energy expertise and Genex's renewable energy development capabilities in Australia



Birchwood (USA)

Capacity: Solar 50MW
Storage 190MW
Type: Solar
Ownership: 50%
Status: Under development
Start of operation: 2023(Solar)

- Third renewable project in USA for J-POWER
- Execution of Joint Development Agreement with Fortress Investment Group, LLC
- 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

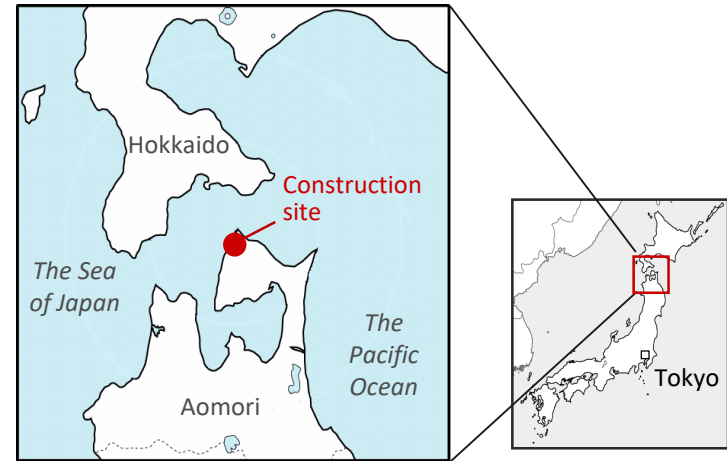


(2)-13. Ohma Nuclear Power Project

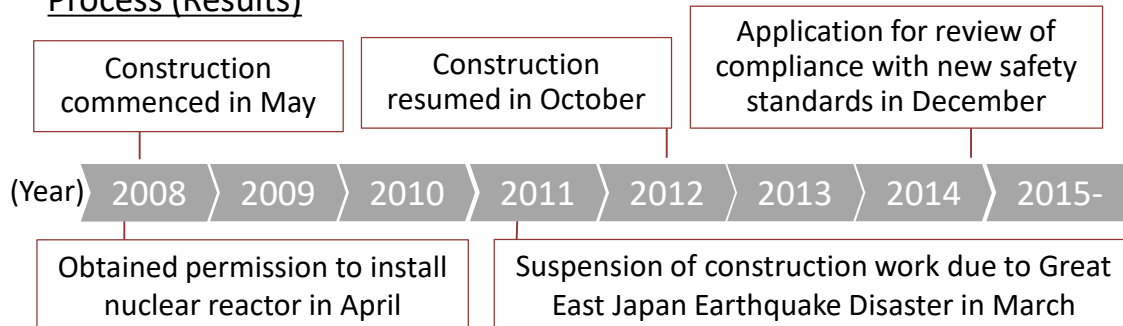
- In December 2014, J-POWER submitted to NRA* an application for permission for alteration of reactor installment license and an application for construction plan approval in order to undertake review of compliance with the new safety standards
- Pursue further improvements in safety continuously
- Sincerely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

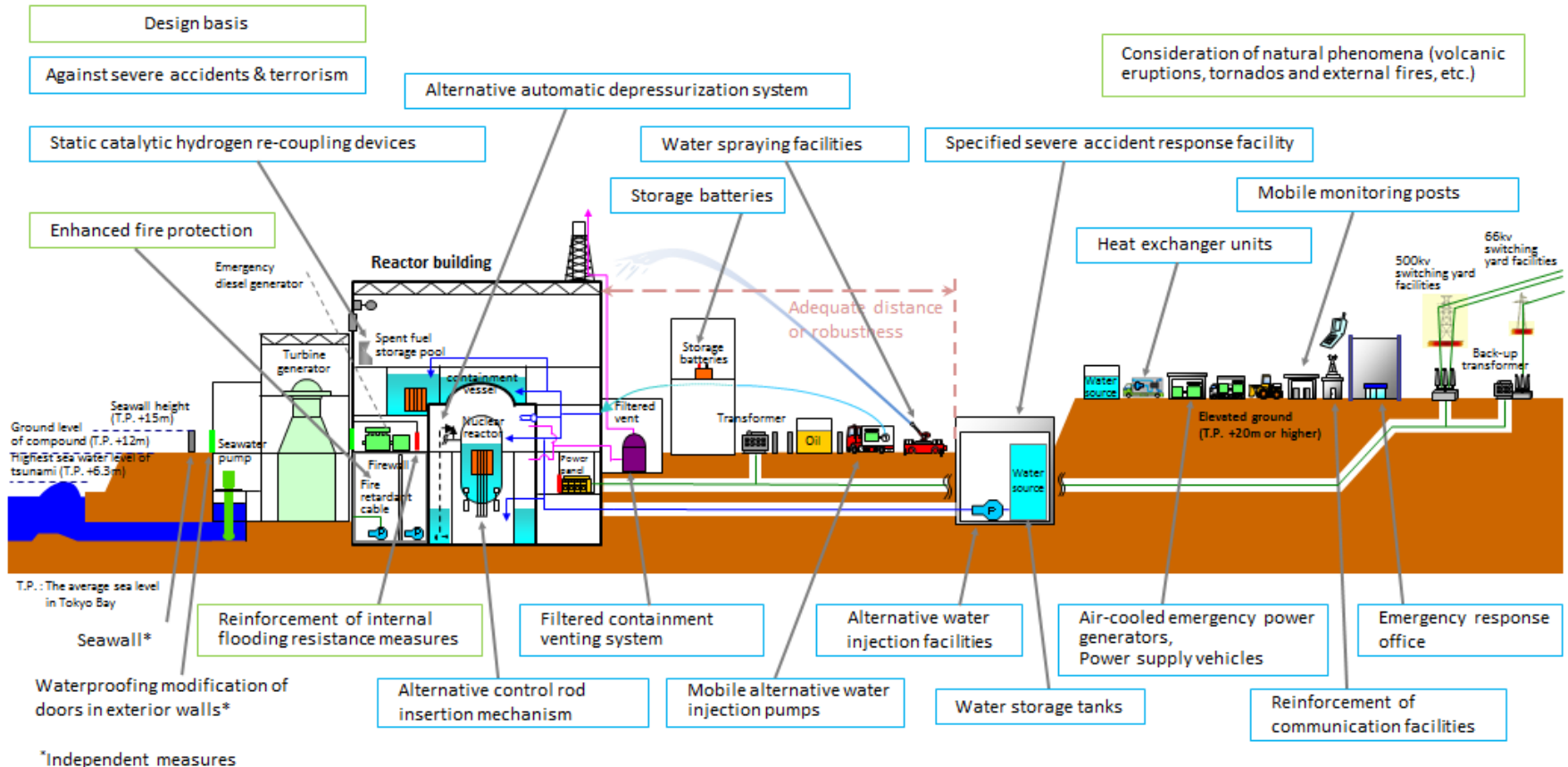
■ Construction Works for Measures for Reinforcing Safety

✓ Construction Period: From the 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)

Measures for Reinforcing Safety

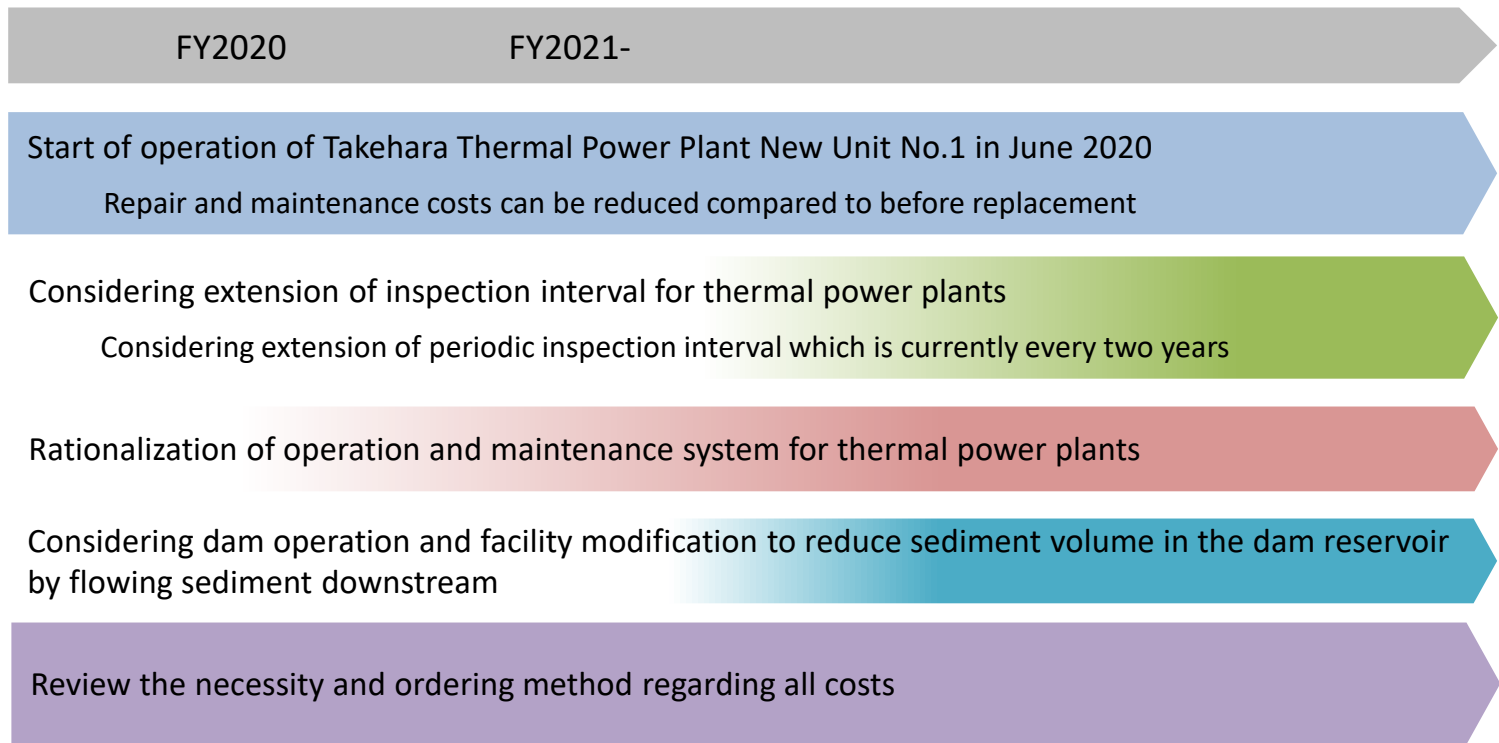


(2)-15. Initiatives Aiming at Reducing Costs

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 32 years at the end of FY2020*
- 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 in coal use including Osaki CoolGen Project which is engaged in demonstration tests of oxygen-blown IGCC, IGFC and CO₂ separation and capture(it will decrease after FY 2021)
- Quality maintenance costs of equipment for construction of Ohma Nuclear Power Plant

Initiatives aiming at reducing costs



*Takehara New Unit No.1 is not included

(2)-15. Initiatives Aiming at Reducing Costs

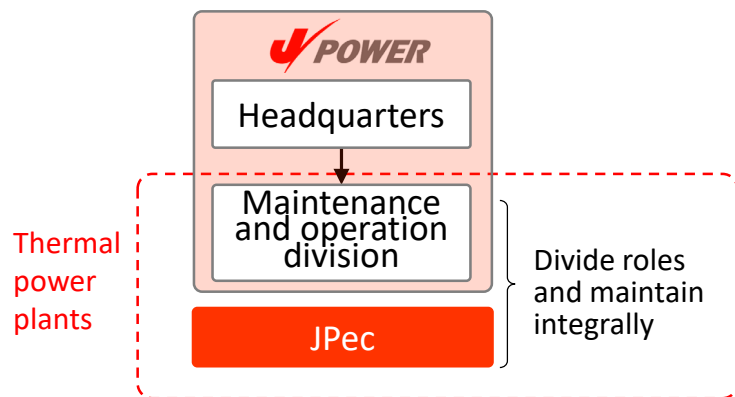
(Improvement of the Operation System for Thermal Power Plants)



- 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

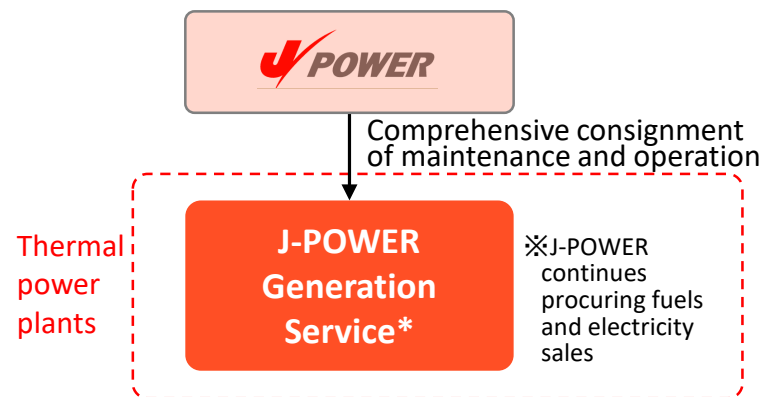
- July 2020

【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



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