

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

Summary of FY2021 Earnings Results

May 11, 2022

Electric Power Development Co., Ltd.

Forward Looking Statements

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

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

※Display of Figures

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

Major Initiatives to Enhance Corporate Value

		CO ₂ emission reduction target			
		2025	2030	2050	
Expansion of CO ₂ -free power sources ⇒ pp.44-46	Renewable energy (hydro / wind / geothermal)	<ul style="list-style-type: none"> Onshore wind: Triton Knoll started commercial operation Offshore wind: Hibikinada Project started construction preparation Offshore wind: Start of environmental impact assessment procedure of offshore Yuza Hydro: Preparation for construction of Onabara Hydro: NEXUS Sakuma Project *3 Onshore wind: Start of construction at 2 sites in Japan Offshore wind: Start of replacement work at 3 sites Solar: Successful bid at 2 sites in Japan Solar: Start of rooftop solar business in Thailand 	-7 million tons *1	-19 million tons *1 -40% (-44%)*2	Net Zero emissions
	Nuclear power	Progress of review of compliance for Ohma nuclear power project with new safety standards			
CO ₂ -free hydrogen energy ⇒ pp.39-42, pp.47-50	Domestic biomass / ammonia co-firing	Feasibility study of supplying wood biomass as fuel with Enviva, USA Study for the development of ammonia burner and the initial introduction of ammonia			
	Hydrogen power generation	Osaki Coolgen Project Phase 3 demonstration test started GENESIS Matsushima's environmental impact assessment procedure started Gundi CCS demonstration project feasibility study started Domestic large-scale CCS feasibility study started			
	Fuel production (CO ₂ -free hydrogen, etc.)	Progress of Australian Brown Coal Hydrogen Pilot Test Project Joint study of Australian green ammonia business investigation of CO ₂ negative hydrogen production from biomass started			
Power network ⇒ p.53	Stabilization	Started VPP business using large-capacity storage battery system			<ul style="list-style-type: none"> Onshore wind icon Offshore wind icon Hydro icon Solar icon
	Enhancement	Contracted to conduct a research project on HVDC power transmission system			
Profit growth initiatives ⇒ pp.51-52	Start of operation of Jackson Generation Power Plant in the United States Securing profits by completing sale of a USA solar project at early stage				

* 1 Compared to three-year average results from FY2017 to FY2019
 * 2 Compared to FY2013 actual results
 * 3 Upcycling to next-generation hydroelectric power plants

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I. Summary of FY2021 Earnings Results

Summary of FY2021 Earnings Results

Increased sales and profits [2020/2021]

- Sales increased due to rising electricity sales prices and increased electricity sales to retailers despite power plant troubles.
- Profit increased from a subsidiary in Australia that owns coal mining interests due to soaring coal price.

(Unit: billion yen)

Consolidated	FY2020	FY2021	Year-on-year change		FY2021	Comparison with the	
	(Apr.-Mar.)	(Apr.-Mar.)			Forecast ^{*2}	forecast	
					(Apr.-Mar.)		
Operating Revenue	909.1	1,084.6	175.4	19.3 %	1,030.0	54.6	5.3%
Operating Income	77.7	86.9	9.2	11.8 %	74.0	12.9	17.5%
Ordinary Income	60.9	72.8	11.9	19.6 %	63.0	9.8	15.6%
Profit attributable to owners of parent	22.3	69.6 ^{*1}	47.3	212.4 %	46.0	23.6	51.5%

Non-consolidated	FY2020	FY2021	Year-on-year change		FY2021	Comparison with the	
	(Apr.-Mar.)	(Apr.-Mar.)			Forecast ^{*2}	forecast	
					(Apr.-Mar.)		
Operating Revenue	589.9	790.0	200.1	33.9 %	739.0	51.0	6.9%
Operating Income	77.8	17.8	(59.9)	(77.0)%	5.0	12.8	258.0%
Ordinary Income	114.0	58.2	(55.7)	(48.9)%	45.0	13.2	29.5%
Profit	15.5	73.6 ^{*1}	58.1	374.5 %	46.0	27.6	60.2%

*1 Increased due to recording of deferred tax assets, etc.

*2 Earnings forecast released on January 31, 2022

Key Data (Electric Power Sales)

	FY2020 (Apr.-Mar.)	FY2021 (Apr.-Mar.)	Year-on-year change	
Electric Power Sales (TWh)				
Electric Power Business	74.5	74.7	0.2	0.3 %
Hydroelectric Power	8.9	9.2	0.3	4.3 %
Thermal Power	52.1	47.9	(4.1)	(8.0)%
Wind Power	1.2	1.1	(0.0)	(1.8)%
Other* ¹	12.3	16.3	4.0	32.6 %
Overseas Business* ²	11.0	11.0	(0.0)	(0.3)%
Water supply rate				
	96%	99%	+3 points	
Load factor*³				
	75%	67%	(8) points	

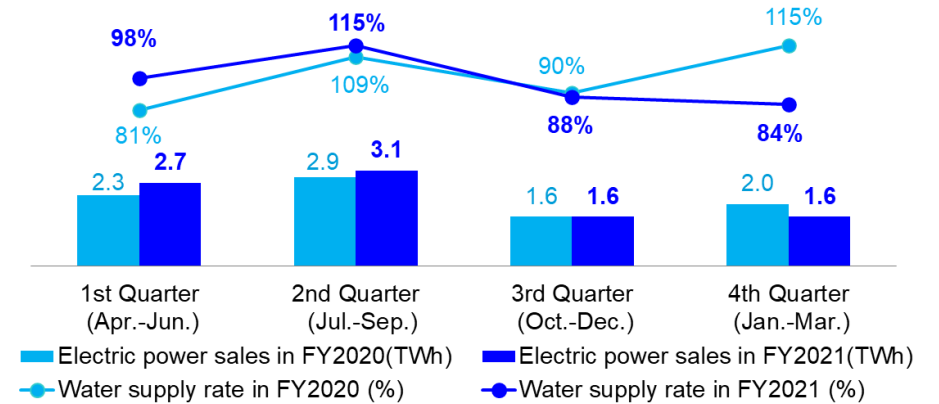
*1 Electric power sales volume of electricity procured from wholesale electricity market, etc.

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

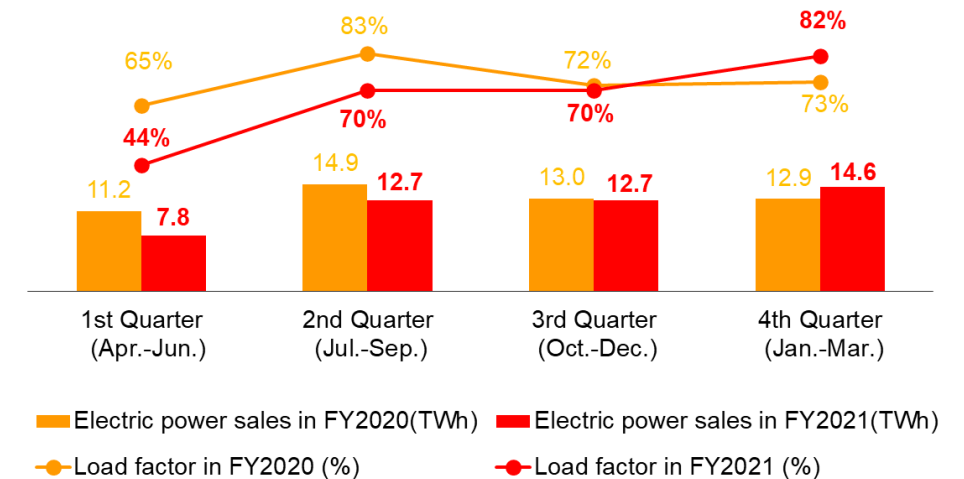
*3 Load factors of thermal power show the results for non-consolidated only.

Electric Power Sales for each Quarter

[Domestic Hydroelectric Power Business]



[Domestic Thermal Electric Power Business]



Key Data (Operating Revenue)

[Electric power business]

- The load factor of thermal power plants declined due to equipment troubles, etc., but as a result of the increase in sales volume to retailers, the sales volume was about the same as the previous year.
- Revenue increased from wholesale sales due to soaring resource prices, and from JEPX sales due to rising JEPX prices.

[Other business]

- Sales increased mainly due to increased sales from a subsidiary in Australia that owns coal mining interests due to soaring coal prices.

	FY2020 (Apr.-Mar.)	FY2021 (Apr.-Mar.)	Year-on-year change			FY2020 (Apr.-Mar.)	FY2021 (Apr.-Mar.)
Operating Revenue (Billion yen)	909.1	1,084.6	175.4	19.3 %	Foreign exchange rate		
Electric Power Business	731.3	876.4	145.1	19.8 %	(Yen/US\$) at the end of December	103.50	115.02
Electric Power Sales	670.9	822.9	152.0	22.7 %	(Yen/THB) at the end of December	3.44	3.43
Renewables ^{*1}	132.5	134.5	2.0	1.5 %	(THB/US\$) at the end of December	30.04	33.42
Transmission / Transformation	49.6	48.7	(0.9)	(1.8)%			
Overseas Business ^{*2}	138.0	145.1	7.0	5.1 %			
Other Business ^{*3}	39.7	63.0	23.3	58.7 %			

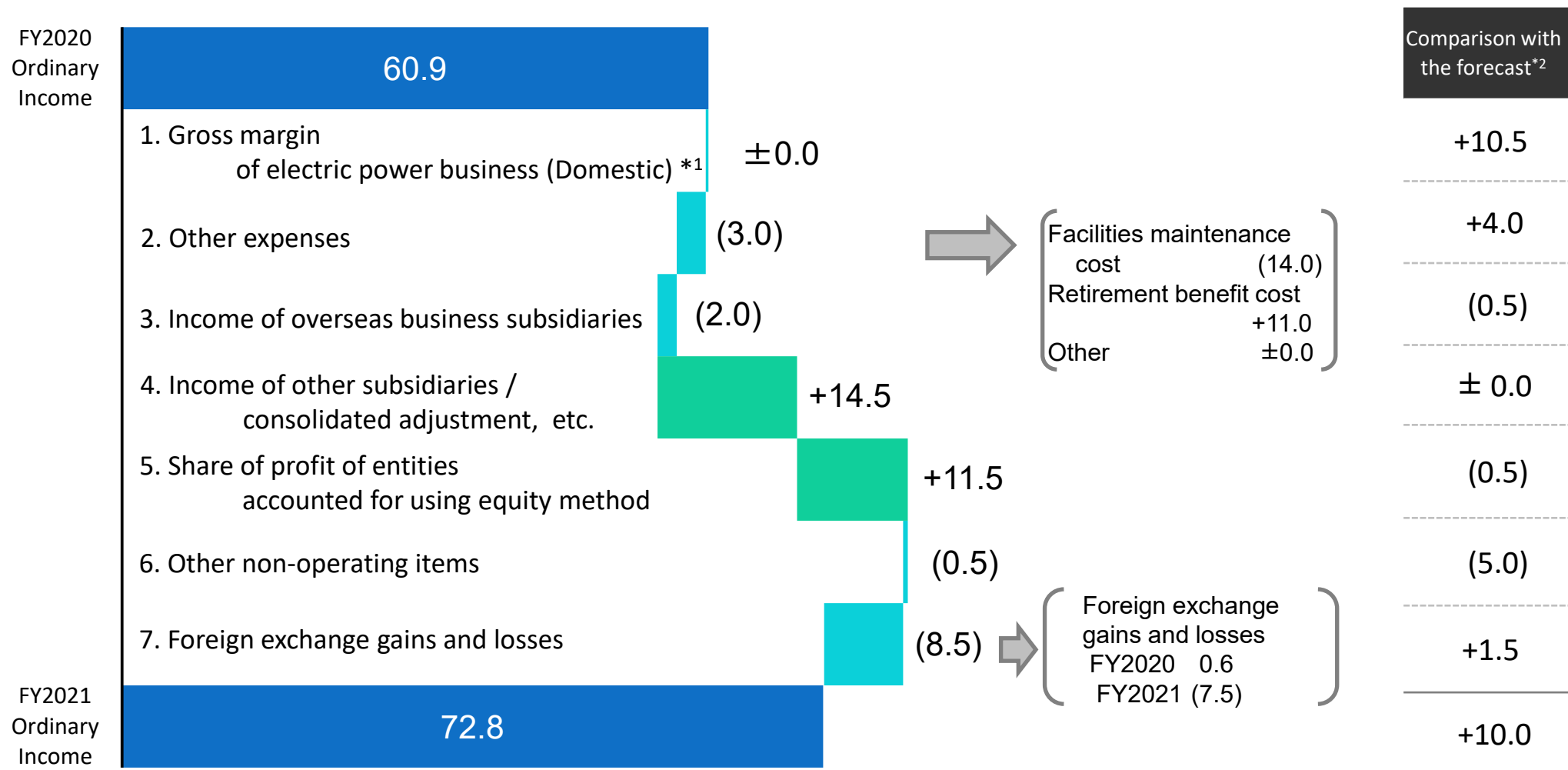
*1 Hydroelectric and wind power

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

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

FY2021 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 others) – fuel costs, etc.

*2 Forecast released on January 31, 2022

Breakdown of Increase / Decrease Factors of Consolidated Ordinary Income

(Unit: billion yen)

1. Gross margin of electric power business (Domestic) ± 0.0

- Decrease in profit due to an increase in unplanned outages
- Decline in base load market sales volume and price
- Wholesale contracts with EPCOs: Improvement of fuel margin
- JEPX trading: Gross profit improvement
- Increased sales of renewable energy

2. Other expenses (3.0)

- Increase in equipment maintenance expenses (14.0)
- Decrease in retirement benefit expenses + 11.0
- Other expenses ± 0.0

3. Overseas business (2.0)

- Thailand consolidated project (2.0)
(Decrease in fixed income and increase in maintenance costs due to periodic inspections)

4. Profit of other subsidiaries / Consolidated adjustment, etc. +14.5

- Increase in profit from a subsidiary in Australia that owns coal mining interests due to soaring coal prices

5. Equity method investment profit +11.5

(Domestic) +10.0

- Increased in profits due to elimination of loss of ENERES in the previous fiscal year

(Overseas) +1.5

- Increased profits in USA projects
- Decreased profit due to the sale of Chiahui interests in the previous fiscal year

6. Other non-operating items (0.5)

- Reduction of interest expense, others (loss on retirement of fixed assets, etc.)

7. Foreign exchange gain / loss * 1 (8.5)

- FY2020 +0.6 → FY2021 (7.5)

Foreign exchange rate (THB / USD)

	At the end of December of the previous year	At the end of December * 2
FY 2020	30.15	30.04
FY 2021	30.04	33.42

*1 Foreign exchange valuation gains and losses mainly on US dollar-denominated debt in power generation projects in Thailand

*2 The settlement period of overseas subsidiaries is from January to December

Revenue / Expenditure Comparison

(Unit: billion yen)

	FY2020 (Apr.-Mar.)	FY2021 (Apr.-Mar.)	Year-on- year change	Main factors for change
Operating Revenue	909.1	1,084.6	175.4	
Electric power business	731.3	876.4	145.1	
Overseas business	138.0	145.1	7.0	
Other business	39.7	63.0	23.3	
Operating Expenses	831.3	997.6	166.2	Electric power business +148.6, Overseas business +9.1, Other business +8.4
Operating Income	77.7	86.9	9.2	
Non-operating Revenue	11.2	22.5	11.2	
Share of profit of entities accounted for using equity method	2.7	14.2	11.4	
Foreign exchange gains	0.6	-	(0.6)	
Other	7.7	8.2	0.4	
Non-operating Expenses	28.0	36.6	8.5	
Interest expenses	23.7	22.4	(1.3)	
Foreign exchange losses	-	7.5	7.5	
Other	4.3	6.6	2.2	
Ordinary Income	60.9	72.8	11.9	Electric power business +7.6, Overseas business (8.8), Other business +13.7
Extraordinary income	9.4	-	(9.4)	
Extraordinary losses	5.7	-	(5.7)	
Total income taxes	33.4	(1.9)	(35.4)	
Profit attributable to owners of parent	22.3	69.6	47.3	

Balance Sheet

(Unit: billion yen)

	FY2020 End of FY	FY2021 End of FY	Change from prior year end	Main factors for change
Non-current Assets	2,475.2	2,594.8	119.6	
Electric utility plant and equipment	1,107.3	1,076.9	(30.4)	Non-consolidated (17.3), Subsidiaries and others (13.0)
Overseas business facilities	286.9	271.3	(15.6)	
Other non-current assets	91.1	92.2	1.1	
Construction in progress	588.2	676.5	88.3	Non-consolidated+16.8, Subsidiaries and others +71.5
Nuclear fuel	75.3	75.8	0.4	
Investments and other assets	326.1	401.8	75.6	Long-term investments +71.3 (Includes impact of foreign exchange revaluation on long-term investment of entities accounted for using equity method+16.4)
Current Assets	366.7	471.3	104.6	
Total Assets	2,841.9	3,066.1	224.2	
Interest-bearing debt	1,664.6	1,786.4	121.7	Non-consolidated +117.1, Subsidiaries and others +4.5
Other	323.5	315.6	(7.9)	Accrued taxes (25.5)
Total Liabilities	1,988.2	2,102.0	113.7	
Shareholders' equity	814.7	870.8	56.0	Increase in retained earnings
Accumulated other comprehensive income	(5.6)	45.2	50.8	Deferred gains or losses on hedges+24.6, Foreign currency translation adjustment +23.0
Non-controlling interests	44.5	48.0	3.5	
Total Net Assets	853.6	964.1	110.4	
D/E ratio (x)	2.1	2.0		
Shareholders' equity ratio	28.5%	29.9%		

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

II. Summary of FY2022 Earnings Forecast

Summary of FY2022 Earnings Forecast and Dividends

- Sales and incomes expected to increase due to the elimination of equipment troubles in the previous fiscal year, the rise in electricity sales prices for retailers, and the rise in coal sales price of a subsidiary in Australia that owns coal mining interests due to soaring coal prices
- Scheduled to increase the dividend by 5 yen in 2022

(Unit: billion yen)

	Consolidated			
	FY2021 Result	FY2022 Forecast	Comparison with FY2021 result	
Operating Revenue	1,084.6	1,431.0	346.3	31.9 %
Operating Income	86.9	110.0	23.0	26.5 %
Ordinary Income	72.8	100.0	27.1	37.3 %
Profit attributable to owners of parent	69.6 *	67.0	(2.6)	(3.9)%

(Unit: billion yen)

	Non-consolidated			
	FY2021 Result	FY2022 Forecast	Comparison with FY2021 result	
Operating Revenue	790.0	1,098.0	307.9	39.0 %
Operating Income	17.8	31.0	13.1	73.2 %
Ordinary Income	58.2	56.0	(2.2)	(3.9)%
Profit	73.6*	49.0	(24.6)	(33.5)%

* Increased due to recording of deferred tax assets, etc.

	Cash dividends per share		
	Interim	Year end	Annual
FY2021	35 yen	40 yen	75 yen
FY2022 (forecast)	40 yen	40 yen	80 yen

Key Data

[Electric power business] The revenue is expected to increase due to the increase in wholesale sales along with the rise in resource prices and the increase in sales prices to retailers, though the amount of electricity sold will decrease due to the decline in the utilization rate of thermal power plants and the decrease in sales volume to retailers

[Overseas business] Revenue is expected to increase due to the increase in income due to the rise in gas prices in the Thailand project and the start of operation of the Jackson gas power plant in North America.

[Other business] Expected to increase sales due to rising coal prices at a subsidiary in Australia that owns coal mining interests

	FY2021 Result	FY2022 Forecast	Comparison with FY2021 Result			FY2021 Result	FY2022 Forecast
Electric Power Sales (TWh)					Water supply rate	99%	100%
Electric Power Business	74.7	65.3	(9.4)	(12.6)%	Load factor	67%	63%
Hydroelectric Power	9.2	9.4	0.1	1.4 %	Foreign exchange rate at term end		
Thermal Power	47.9	43.8	(4.1)	(8.7)%	Yen/USD	115.02	125.00
Wind Power	1.1	1.1	(0.0)	(2.2)%	Yen/THB	3.43	3.60
Other ^{*1}	16.3	10.9	(5.3)	(32.8)%	THB/USD	33.42	33.42
Overseas Business^{*2}	11.0	17.4	6.4	57.9 %			
Operating Revenue (Billion yen)	1,084.6	1,431.0	346.3	31.9 %			
Electric Power Business	876.4	1,155.0	278.5	31.8 %			
Electric Power Purchase	822.9	1,078.0	255.0	31.0 %			
Renewables ^{*3}	134.5	141.0	6.4	4.8 %			
Transmission/Transformation	48.7	49.0	0.2	0.5 %			
Overseas Business^{*4}	145.1	196.0	50.8	35.1 %			
Other Business^{*5}	63.0	80.0	16.9	26.8 %			

*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.)

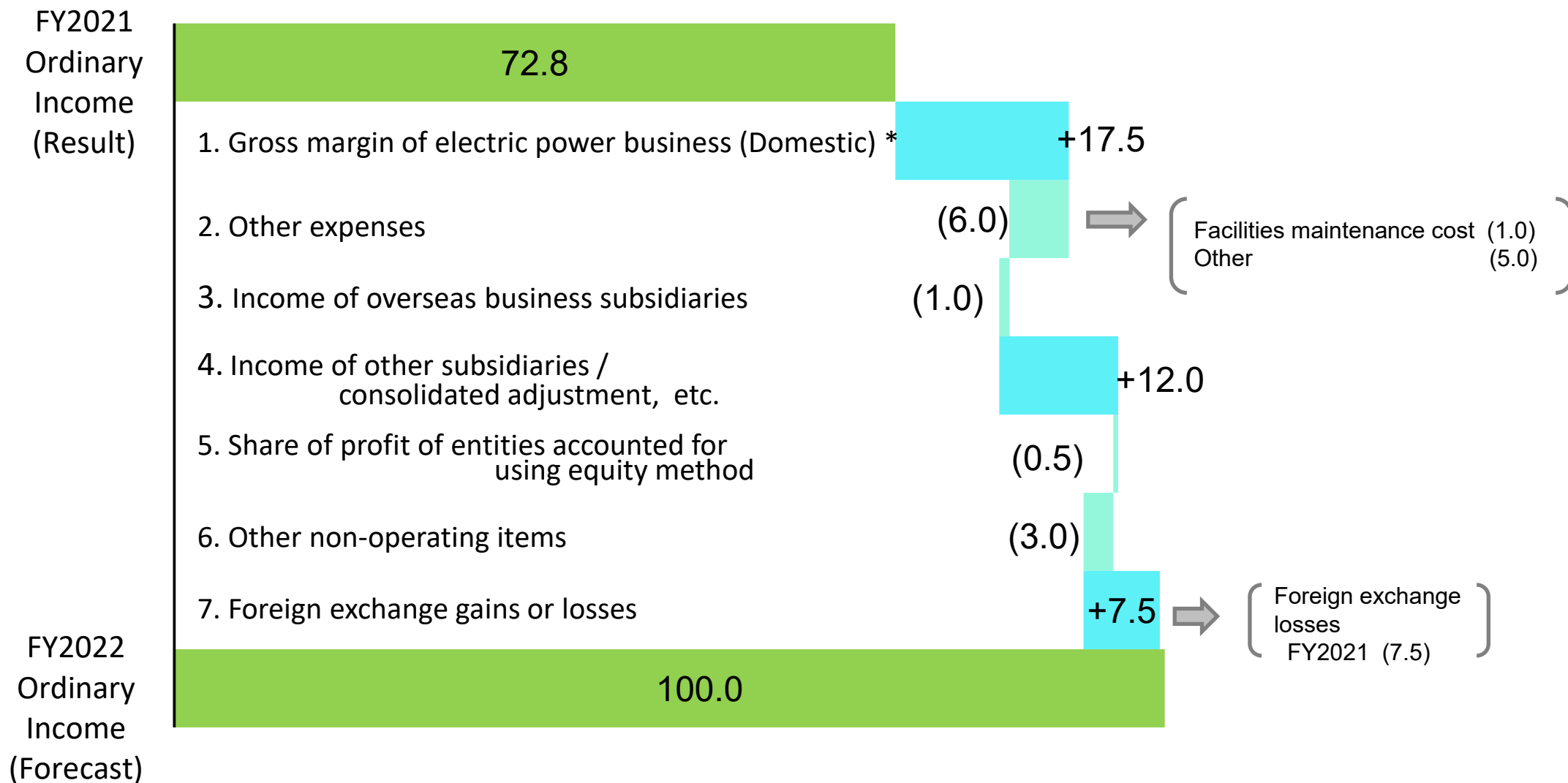
*3 Hydroelectric and wind power

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

*5 "Other business" is composed of "Electric power-related business" segment and "Other business" segment.

FY2022 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.

Breakdown of Increase / Decrease Factors of Consolidated Ordinary Income Forecast

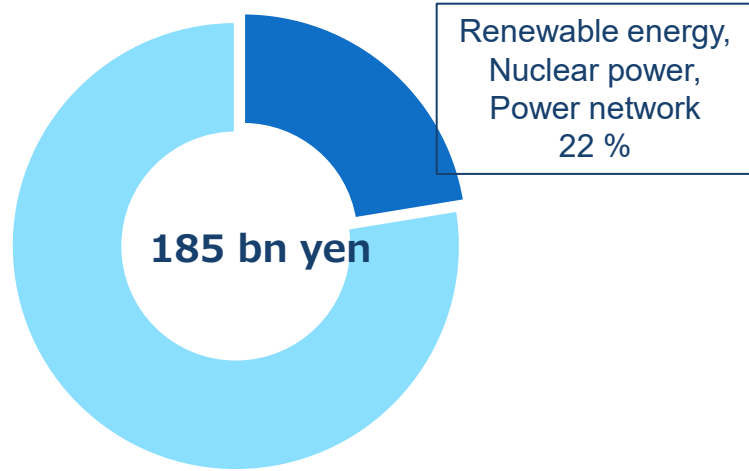
<p><u>1. Gross margin of electric power business (Domestic) +17.5</u></p> <ul style="list-style-type: none"> • Increase due to elimination of unscheduled plant suspensions in the previous fiscal year • Wholesale contracts with EPCOs: decrease due to elimination of fuel margin in the previous fiscal year • Trading: increase due to rise of sales price • Increased sales of renewable energy power 	<p><u>5. Share of profit of entities accounted for using equity method (0.5)</u></p> <p>(Domestic) +1.5</p> <ul style="list-style-type: none"> • Increase due to elimination of loss in the previous fiscal year (Overseas) (2.0) • Decrease due to elimination of temporary profits in USA projects
<p><u>2. Other expenses (6.0)</u></p> <ul style="list-style-type: none"> • Increase in equipment maintenance expenses (1.0) • Other expenses (5.0) 	<p><u>6. Other non-operating items (3.0)</u></p> <ul style="list-style-type: none"> • Increase due to rise of interest expense (Jackson, etc.) • Elimination of derivative evaluation loss in the previous fiscal year
<p><u>3. Income of overseas business subsidiaries (1.0)</u></p> <ul style="list-style-type: none"> • Thailand consolidated project (scheduled decrease in fixed income and increase in maintenance costs due to periodic inspections) • Foreign exchange effect (JPY depreciation) • Commercial operation of Jackson p/s, and increased projects development expenses 	<p><u>7. Foreign exchange gain or losses +7.5</u></p> <p>Foreign exchange loss in the previous fiscal year</p>
<p><u>4. Income of other subsidiaries / Consolidated adjustment, etc. +12.0</u></p> <ul style="list-style-type: none"> • Increase in profit of a subsidiary in Australia that owns coal mining interests due to soaring coal prices • Decrease in profit of subsidiaries 	

Investment Cash Flow

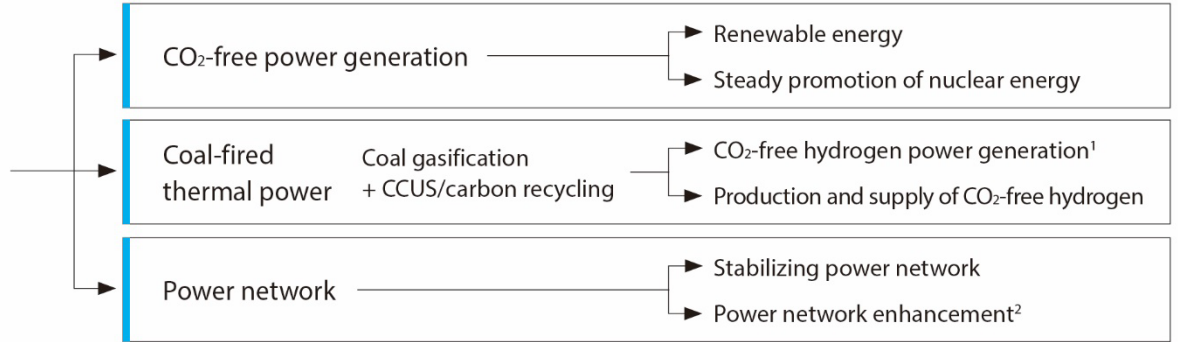
Towards a carbon-neutral society, three initiatives in BLUE MISSION 2050

FY2021

Investment in the three initiatives of BLUE MISSION 2050



J-POWER
"BLUE MISSION 2050"



* 1 Includes hydrogen extracted from ammonia for power generation. * 2 An initiative of J-POWER transmission

Current status of investment in the three initiatives of BLUE MISSION 2050

Investment	Major projects
Renewable energy	Mainly domestic wind power. Under construction 9 sites, 269MW Onikobe geothermal power plant (scheduled to start operation in April 2023) Triton Knoll offshore wind farm started operation in April 2022
Power network	East-West interconnection enhancement project (new Sakuma frequency converter construction, transmission line construction)
Nuclear power	Ohma Nuclear Power Project
GENESIS Matsushima	Under environmental impact assessment

The recovery of investment and loans is not included in the above graph.

FY2022 Forecast

Investment in the three initiatives of BLUE MISSION 2050

We plan to invest more than **60.0 billion yen***, which is more than **30%** of our investment cash flow, in renewable energy, power networks, nuclear power, and GENESIS Matsushima.

*The above figures are current estimates and may change depending on future conditions.

A 3D rendering of a molecular structure with blue spheres and transparent connecting rods, set against a dark blue background. The spheres are glossy and reflect light, creating a sense of depth and movement.

APPENDIX

(1) Financial Data Contents

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(1) -1. Consolidated: Revenues and Expenses

(Unit: 100 million yen)

	FY2017	FY2018	FY2019	FY2020	FY2021
Operating revenue	8,562	8,973	9,137	9,091	10,846
Electric utility operating revenue	6,319	6,937	6,841	7,313	8,764
Overseas business operating revenue	1,630	1,410	1,790	1,380	1,451
Other business operating revenue	612	625	505	397	630
Operating expenses	7,519	8,185	8,301	8,313	9,976
Operating income	1,043	788	836	777	869
Non-operating revenue	291	188	265	112	225
Share of profit of entities accounted for using equity method	97	96	113	27	142
Other	193	92	152	84	82
Non-operating expenses	309	292	320	280	366
Interest expenses	283	263	262	237	224
Other	25	28	57	43	141
Ordinary income	1,024	685	780	609	728
Extraordinary income	-	-	-	94	-
Extraordinary losses	33	-	124	57	-
Profit attributable to owners of parent	684	462	422	223	696

(1) -2. Consolidated: Cash Flow

(Unit: 100 million yen)

	FY2017	FY2018	FY2019	FY2020	FY2021
Operating activities	1,603	1,484	1,592	1,679	1,283
Profit before income taxes	990	685	655	646	728
Depreciation and amortization	822	799	830	964	969
Share of (profit) loss of entities accounted for using equity method	(97)	(96)	(113)	(27)	(142)
Investing activities	(1,096)	(1,704)	(1,617)	(1,432)	(1,788)
Purchase of non-current assets	(988)	(1,060)	(1,495)	(1,592)	(1,352)
Payments of investment and loans receivable	(81)	(744)	(109)	(25)	(497)
Free cash flow	506	(220)	(24)	246	(504)

(1) -3. Consolidated: Segment Information

(Unit: 100 million yen)

		Electric power	Electric power -related	Overseas	Other	Subtotal	Elimination*	Consolidated
FY2021	Sales	8,788	2,439	1,451	210	12,889	(2,043)	10,846
	Sales to customers	8,764	446	1,451	184	10,846	-	10,846
	Ordinary income	266	258	220	12	757	(29)	728
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
year-on-year change	Sales	1,454	(1,302)	70	26	248	1,506	1,754
	Sales to customers	1,451	198	70	34	1,754	-	1,754
	Ordinary income	76	135	(88)	1	124	(5)	119

“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)

	FY2017	FY2018	FY2019	FY2020	FY2021
(PL) Operating revenue	8,562	8,973	9,137	9,091	10,846
Operating income	1,043	788	836	777	869
Ordinary income	1,024	685	780	609	728
Profit attributable to owners of parent	684	462	422	223	696
(BS) Total assets	26,470	27,661	28,053	28,419	30,661
Construction in progress	5,257	5,820	6,471	5,882	6,765
Shareholders' equity	7,872	7,974	8,077	8,091	9,160
Net assets	8,361	8,455	8,573	8,536	9,641
Interest-bearing debt	15,613	16,428	16,484	16,646	17,864
(CF) Investing activities	(1,096)	(1,704)	(1,617)	(1,432)	(1,788)
Free cash flow	506	(220)	(24)	246	(504)
(Ref) CAPEX* ¹	(987)	(1,077)	(1,626)	(1,715)	(1,321)
(Ref) Depreciation and amortization	822	799	830	964	969
ROA (%)	3.9	2.5	2.8	2.2	2.5
ROA (ROA excl. Construction in progress) (%)	4.8	3.2	3.6	2.8	3.1
ROE (%)	9.1	5.8	5.3	2.8	8.1
EPS (¥)	373.93	252.68	230.96	121.85	380.70
BPS (¥)	4,300.98	4,356.54	4,412.84	4,420.39	5,004.31
Shareholders' equity ratio (%)	29.7	28.8	28.8	28.5	29.9
D/E ratio (x)	2.0	2.1	2.0	2.1	2.0
Number of shares issued* ² (thousand)	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)

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

(Unit: 100 million yen)

	FY2017	FY2018	FY2019	FY2020	FY2021
Operating revenue	6,145	6,469	5,712	5,899	7,900
Electric power business	6,014	6,336	5,638	5,838	7,810
Sold power to retailers	-	-	-	-	6
Sold power to other suppliers	5,456	5,806	5,104	5,660	7,672
Other*	558	529	533	177	132
Incidental business	131	133	74	61	89
Operating expenses	5,715	6,282	5,464	5,120	7,721
Electric power business	5,593	6,157	5,397	5,065	7,637
Personnel expense	342	324	358	318	201
Amortization of the actuarial difference in retirement benefits	(1)	(14)	24	28	(70)
Fuel cost	2,573	2,890	2,332	1,937	2,985
Repair and maintenance cost	634	697	666	441	515
Depreciation and amortization cost	534	510	527	552	559
Other	1,508	1,734	1,512	1,814	3,375
Incidental business	122	125	66	55	84
Operating income	430	186	248	778	178

* "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】		FY2017	FY2018	FY2019	FY2020	FY2021
Actuarial difference	The remainder in the previous year (c)	49	(0)	(6)	11	13
	Actuarial difference in the previous year	(51)	(20)	42	31	(116)
	Subtotal (a)	(1)	(21)	35	42	(103)
Amortization *(b)		(1)	(14)	24	28	(70)
The remainder in the present year (c=a-b)		(0)	(6)	11	13	(32)

(Unit: 100 million yen)

【Repair and maintenance cost】		FY2017	FY2018	FY2019	FY2020	FY2021
Hydroelectric		119	168	129	134	122
Thermal		460	452	472	290	374
Transmission		39	59	48	-	-
Others		15	16	16	16	18
Total		634	697	666	441	515

(Unit: 100 million yen)

【Depreciation and amortization cost】		FY2017	FY2018	FY2019	FY2020	FY2021
Hydroelectric		151	143	147	155	159
Thermal		243	230	239	356	357
Transmission		105	100	102	-	-
Others		34	35	37	40	42
Total		534	510	527	552	559

* 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)			(Unit: million yen)	
	FY2020 End of FY	FY2021 End of FY		FY2020 End of FY	FY2021 End of FY
Assets			Liabilities		
Non-current assets	2,060,081	2,126,004	Non-current liabilities	1,336,610	1,322,592
Electric utility plant and equipment	870,713	853,331	Bonds payable	654,994	704,994
Hydroelectric power production facilities	371,305	376,083	Long-term loans payable	615,736	561,753
Thermal power production facilities	434,615	413,511	Long-term accrued liabilities	5,599	5,330
Internal Combustion Engine Power Production Facilities	-	726	Lease obligations	190	149
Communication facilities	7,811	7,410	Long-term debt to subsidiaries and associates	2,043	2,081
General facilities	56,980	55,599	Provision for retirement benefits	46,323	39,369
Incidental business facilities	2,500	2,391	Asset retirement obligations	7,172	6,695
Non-operating facilities	691	786	Other non-current liabilities	4,551	2,217
Construction in progress	436,375	453,249	Current liabilities	243,363	354,601
Construction in progress	436,375	453,249	Current portion of non-current liabilities	68,820	120,793
Nuclear fuel	75,359	75,806	Short-term loans payable	8,750	7,950
Nuclear fuel in processing	75,359	75,806	Commercial papers	20,005	90,016
Investments and other assets	674,441	740,440	Accounts payable-trade	7,566	11,930
Long-term investments	50,457	54,215	Accounts payable-other	7,911	32,383
Long-term investment for subsidiaries and associates	584,829	636,379	Accrued expenses	11,822	12,035
Long-term prepaid expenses	7,304	6,950	Accrued taxes	22,338	4,742
Deferred tax assets	31,850	42,894	Deposits received	315	323
Current assets	190,420	294,056	Short-term debt to subsidiaries and associates	92,362	67,534
Cash and deposits	76,769	126,006	Other advances	1,157	2,861
Accounts receivable-trade	28,023	28,134	Other current liabilities	2,311	4,031
Other accounts receivable	2,416	7,763	Total liabilities	1,579,973	1,677,194
Supplies	28,901	45,737	Net assets		
Prepaid expenses	1,356	1,455	Shareholders' equity	659,259	719,227
Short-term receivables from subsidiaries and associates	29,567	20,965	Capital stock	180,502	180,502
Other current assets	23,386	63,994	Capital surplus	109,904	109,904
Total assets	2,250,502	2,420,061	Legal capital surplus	109,904	109,904
			Retained earnings	368,861	428,829
			Legal retained earnings	6,029	6,029
			Other retained earnings	362,832	422,800
			Reserve for special disaster	77	80
			Exchange-fluctuation preparation reserve	1,960	1,960
			General reserve	342,861	342,861
			Retained earnings brought forward	17,933	77,898
			Treasury shares	(8)	(9)
			Valuation and translation adjustments	11,268	23,640
			Valuation difference on available-for-sale securities	9,632	12,611
			Deferred gains or losses on hedges	1,636	11,028
			Total net assets	670,528	742,867
			Total liabilities and net assets	2,250,502	2,420,061

Note) For consolidated balance sheet, please refer to the Financial Results disclosed on May 11, 2022

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

(Unit: million yen)

	FY2020 (Apr.-Mar)	FY2021 (Apr.-Mar)
Operating revenue	589,915	790,055
Electric utility operating revenue	583,812	781,056
Sold power to retailers	-	606
Sold power to other suppliers	566,068	767,205
Other electricity revenue	17,744	13,245
Incidental business operating revenue	6,102	8,998
Operating revenue-consulting business	957	1,016
Operating revenue-coal sale business	4,094	6,916
Operating revenue-other businesses	1,051	1,064
Operating expenses	512,060	772,155
Electric utility operating expenses	506,536	763,745
Hydroelectric power production expenses	62,723	62,942
Thermal power production expenses	315,632	427,208
Purchased power from other suppliers	48,433	203,277
Selling expenses	1,224	2,025
Communicating expenses	4,669	4,783
General and administrative expenses	65,007	49,225
Expenses for third party's power transmission service	2,363	3,801
Enterprise tax	6,480	7,068
Incidental business operating expenses	5,524	8,410
Operating expenses-consulting business	655	721
Operating expenses-coal sale business	4,030	6,871
Operating expenses-other businesses	838	817
Operating income	77,854	17,899

(Unit: million yen)

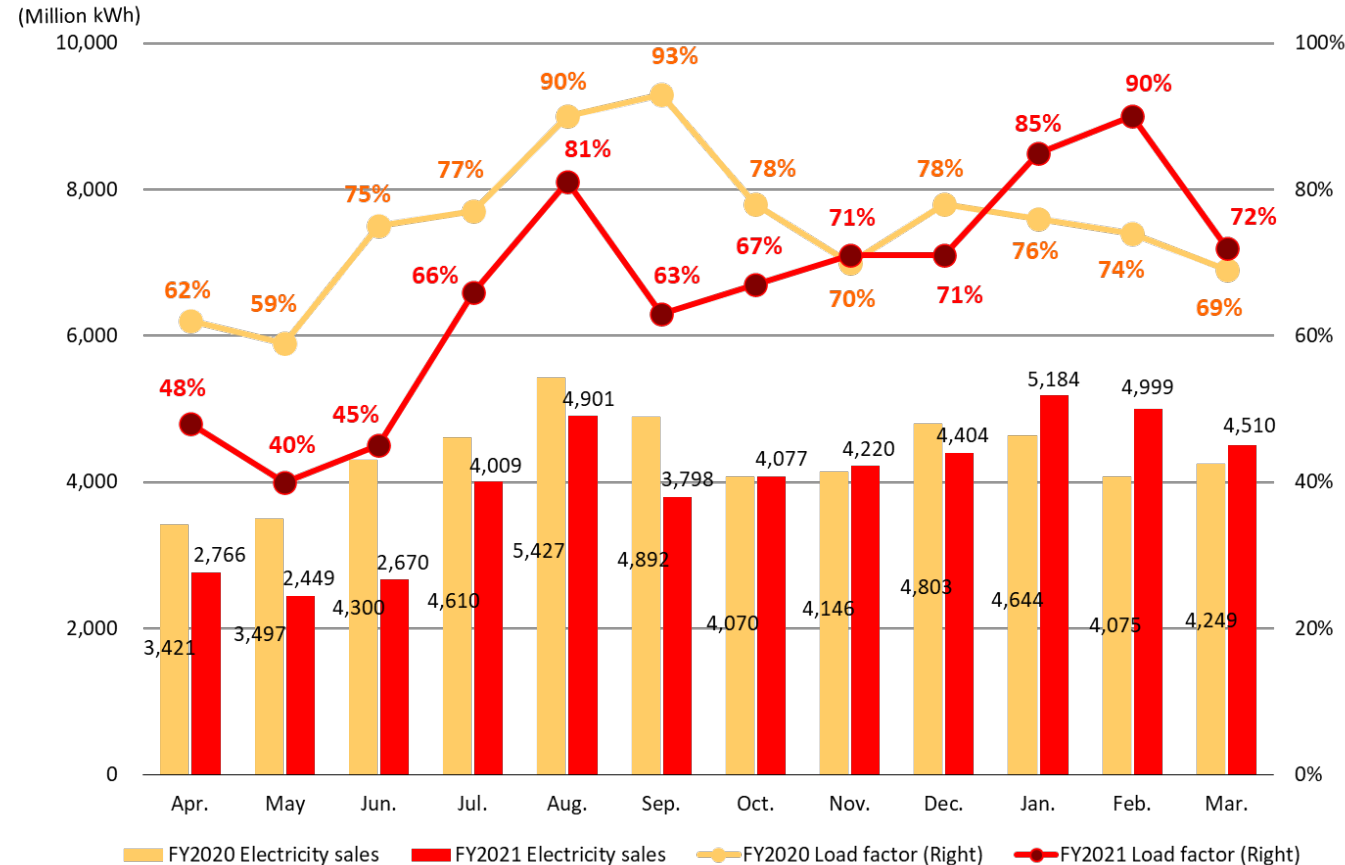
	FY2020 (Apr.-Mar)	FY2021 (Apr.-Mar)
Non-operating income	49,648	52,894
Financial revenue	46,706	49,231
Dividend income	43,930	45,645
Interest income	2,776	3,586
Non-operating revenue	2,941	3,663
Gain on sales of non-current assets	18	0
Miscellaneous revenue	2,923	3,663
Non-operating expenses	13,462	12,507
Financial expenses	11,852	11,239
Interest expenses	11,635	10,994
Bond issuance cost	217	244
Non-operating expenses	1,609	1,267
Loss on sales of non-current assets	1	71
Miscellaneous loss	1,608	1,196
Total ordinary revenue	639,564	842,950
Total ordinary expenses	525,523	784,663
Ordinary income	114,041	58,287
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	36,346	58,287
Income taxes-current	21,445	314
Income taxes-deferred	(631)	(15,724)
Total income taxes	20,813	(15,409)
Profit	15,532	73,696

Note) For consolidated statement of income, please refer to the Financial Results disclosed on May 11, 2022

(1) -8. Monthly Electricity Sales:

Domestic Power Generation Business (Thermal Power)

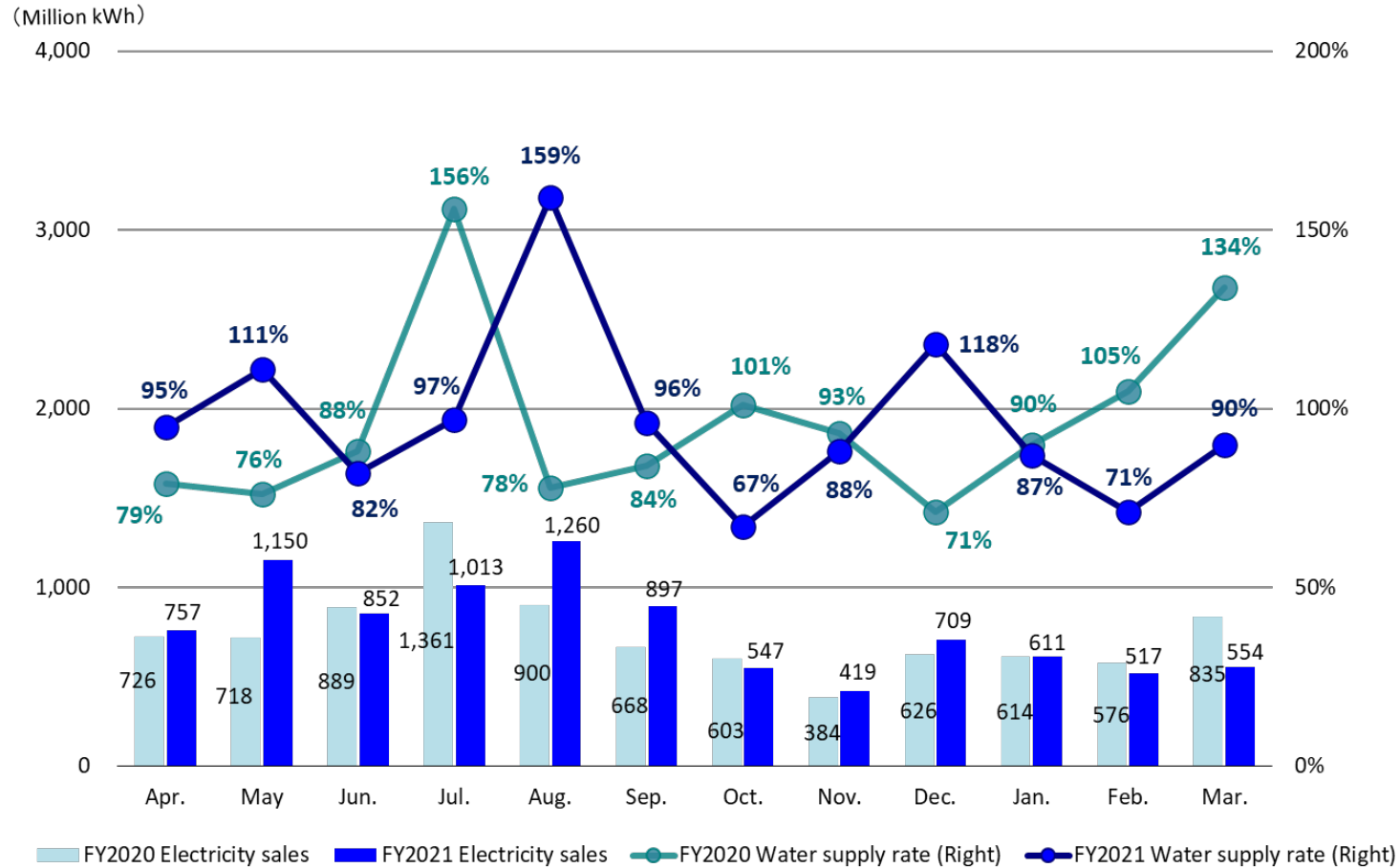
▶ Apr. 2020 - Mar. 2021 Results (Cumulative)	▶ Apr. 2021 - Mar. 2022 Results (Cumulative)
Load factor ⇒ 75%	Load factor ⇒ 67%
Electricity sales ⇒ 52.1 TWh	Electricity sales ⇒ 47.9 TWh



* Load factors of thermal power show the results for non-consolidated only.
 * Proportion of equity holding is not considered.

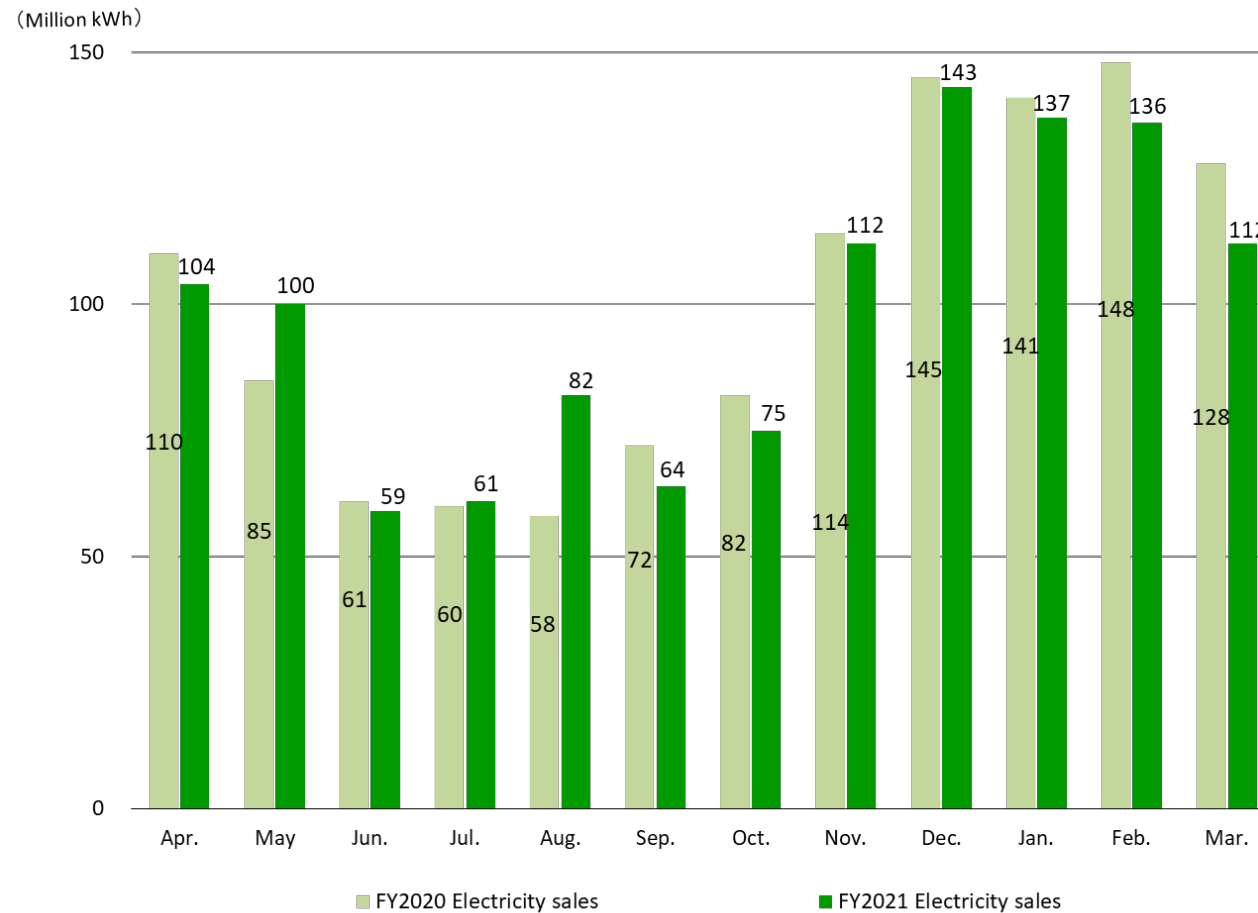
(1) -8. Monthly Electricity Sales: Domestic Power Generation Business (Hydroelectric Power)

<p>▶ Apr. 2020 - Mar. 2021 Results (Cumulative) Water supply rate ⇒ 96% Electricity sales ⇒ 8.9 TWh</p>	<p>▶ Apr. 2021 - Mar. 2022 Results (Cumulative) Water supply rate ⇒ 99% Electricity sales ⇒ 9.2 TWh</p>
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(1) -8. Monthly Electricity Sales: Domestic Power Generation Business (Wind Power)

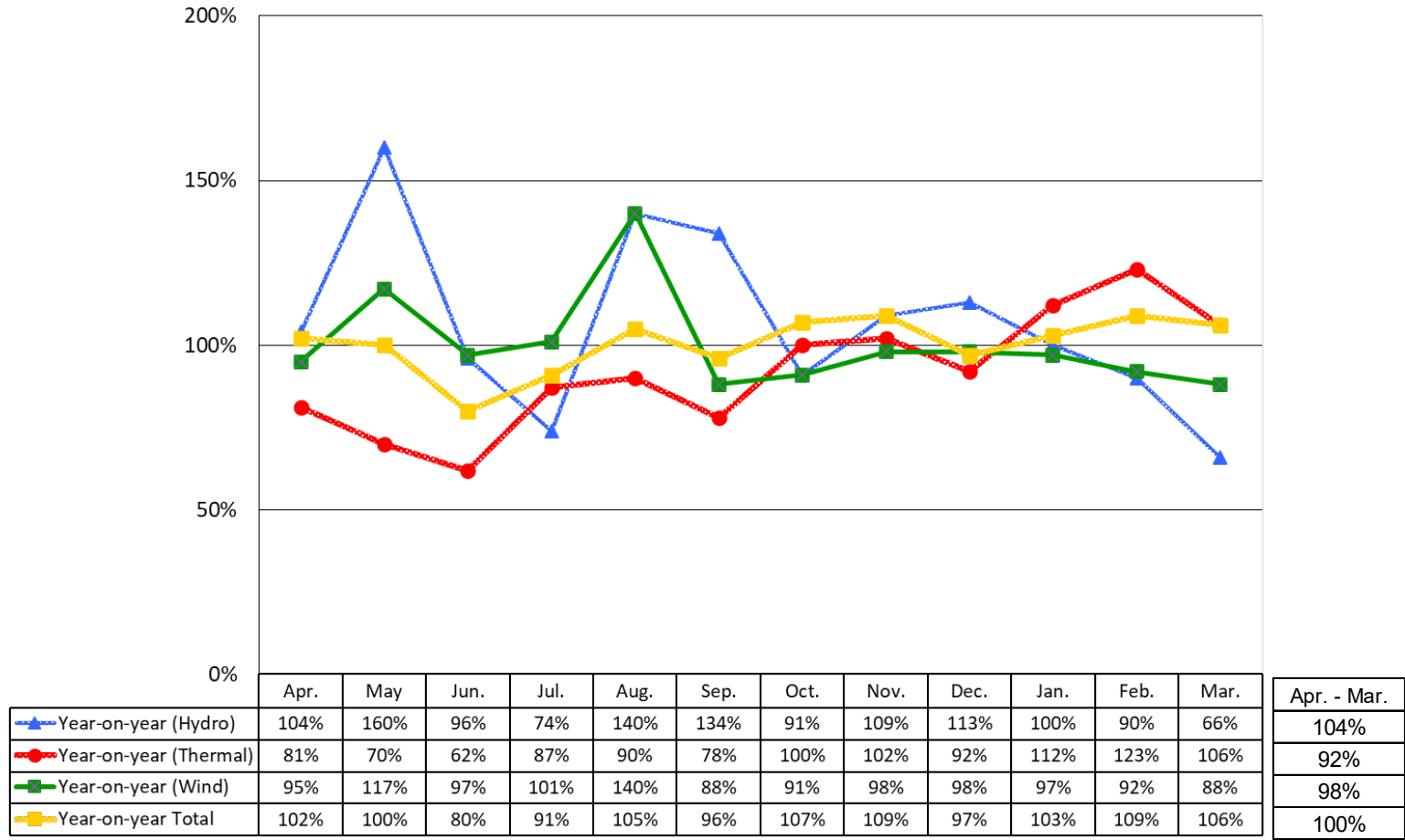
- ▶ Apr. 2020 - Mar. 2021 Results (Cumulative) ⇒ 1.21 TWh
- ▶ Apr. 2021 - Mar. 2022 Results (Cumulative) ⇒ 1.19 TWh



Note) Proportion of equity holding is not considered.

(1) -8. Change in Monthly Electricity Sales: Domestic Power Generation Business

- ▶ Apr. 2020 - Mar. 2021 Total Results (Cumulative) ⇒ 74.5 TWh
- ▶ Apr. 2021 - Mar. 2022 Total Results (Cumulative) ⇒ 74.7 TWh



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

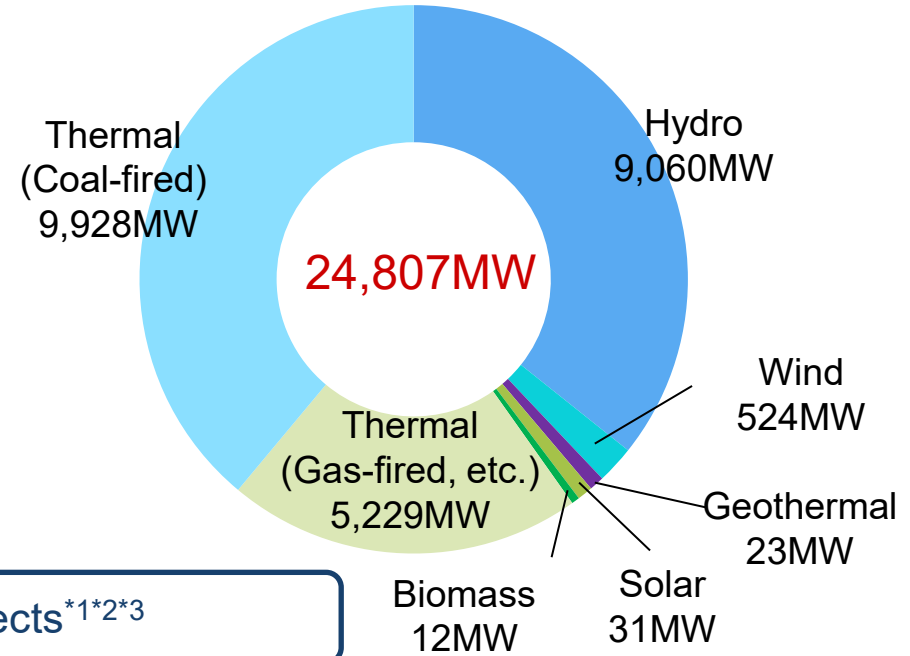
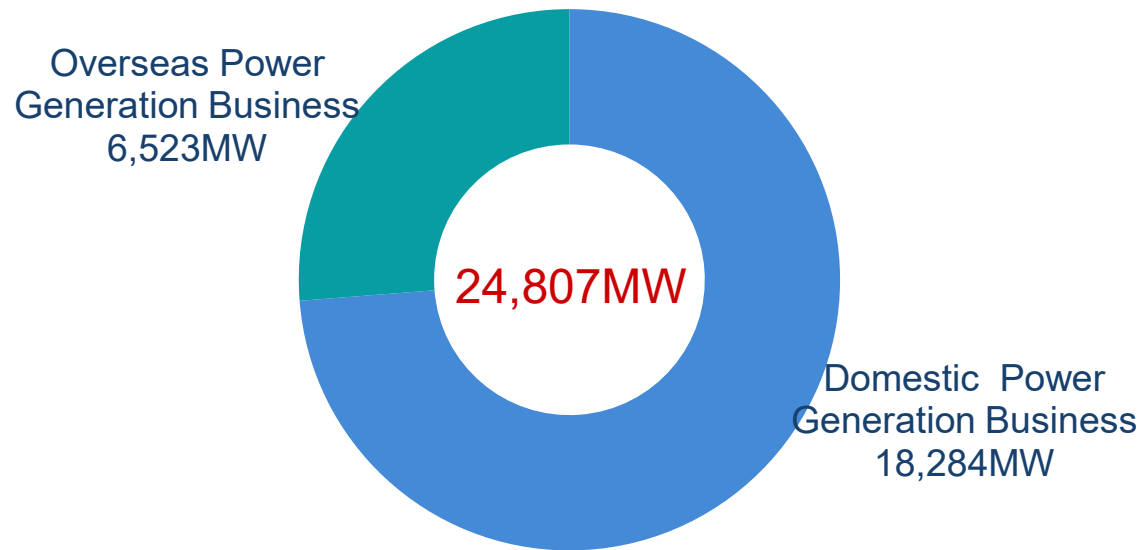
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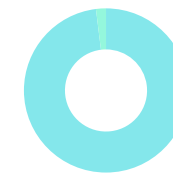
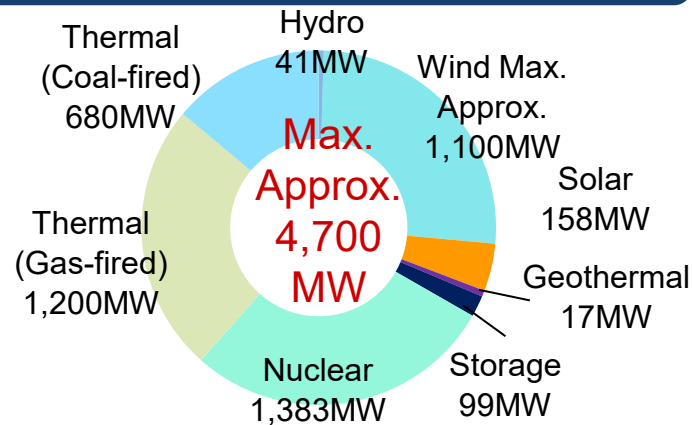
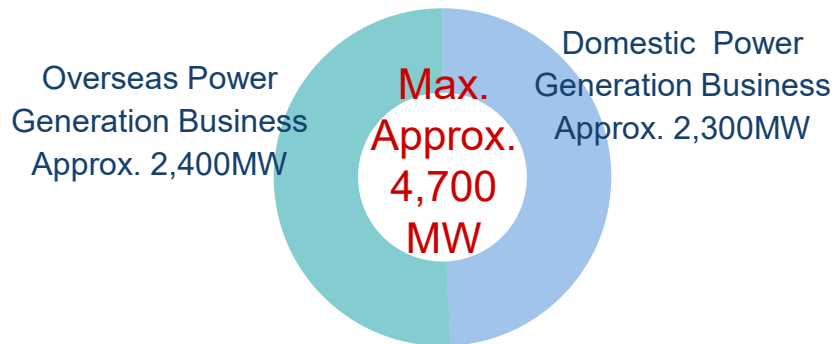
(2) -1. Overview of J-POWER Group Power Generation Facilities

Consolidated Power Generation Capacity*1

(As of March 31, 2022)



Development Projects*1*2*3



In addition to projects counted in the left graphs, domestic offshore wind projects outside of port areas (4 projects, max. approx. 1,850MW in total *) are under preparation for development and one geothermal project is under research for development

* Three 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, 2022)

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 plants	46		

Wind Power: 21 wind farms, 500MW*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 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 9 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, 2022)

Thermal (J-POWER): 8 power plants, 8,520MW

	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	
Gas	Ichihara (Chiba)	-	2004	108

Thermal (Others): 4 power plants, 598MW*1

Power plant	Location	Fuel	Ownership	Output capacity (MW)
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, 2022)

Project	Type	Output capacity (MW)	Ownership	Owned capacity (MW)	Power purchaser	Purchase agreement valid through
Thailand (14 projects)		5,600		3,130		
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
Yala	Biomass (Rubber wood waste)	20	49%	10	EGAT*1	2031
Kaeng Khoi 2	CCGT*3	1,468	49%	719	EGAT*1	2033
Rooftop Solar	Solar	0.8	60%	0.5	Companies in the industrial park	-
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)		5,202		1,899		
Tenaska Frontier	CCGT*3	830	31%	257	Exelon Generation Company, LLC	-
Elwood Energy	SCGT*4	1,350	50%	675	PJM market	-
Green Country	CCGT*3	795	50%	398	SPP market	-
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	2023
Orange Grove	SCGT*4	96	50%	48	San Diego Gas & Electric	2035
Westmoreland	CCGT*3	940	25%	235	PJM market	-

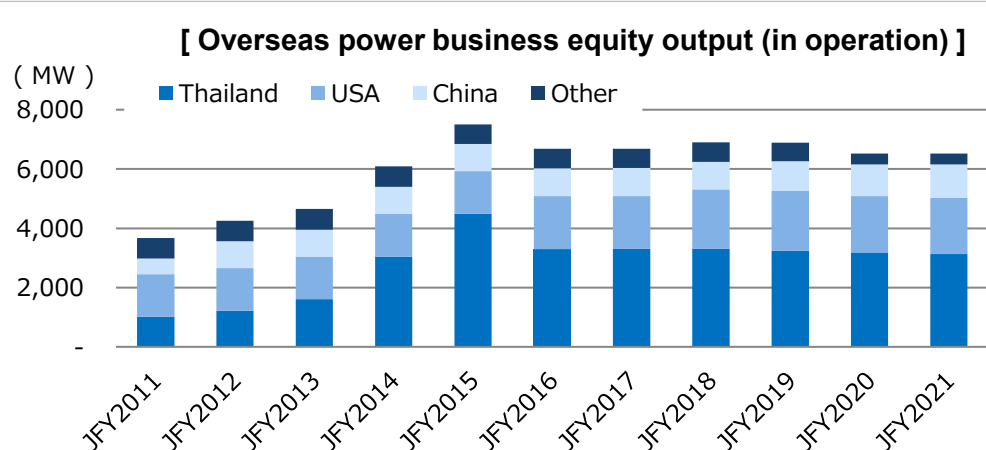
*1 EGAT(Electricity Generating Authority of Thailand): State-owned electric power utility in Thailand

*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 Business Project (As of March 31, 2022)

Project name	Type	Output capacity (MW)	Ownership	Owned capacity (MW)	Power purchaser	PPA Contract period
China (4 projects)		11,758		1,122		
Hanjiang (Xihe, Shuhe)	Hydro	450	27%	122	Shaanxi EPCO	1 year update * 1
Gemeng * 2	Wind, solar, pumping, coal-fired	9,218	7%	645	Shanxi EPCO	-
Hezhou	coal	2,090	17%	355	Guangxi EPCO	1 year update * 1
Other countries / regions (3 projects)		828		372		
CBK (3 projects) (Philippines)	Hydro / pumping	728	50%	364	Philippine Electric Power Corporation	Until 2026
Kidston Stage 1 (Australia)	Solar	50	7.7%	4	NEM market	-
Gemaron Solar (Australia)	Solar	50	7.7%	4	NEM market	-

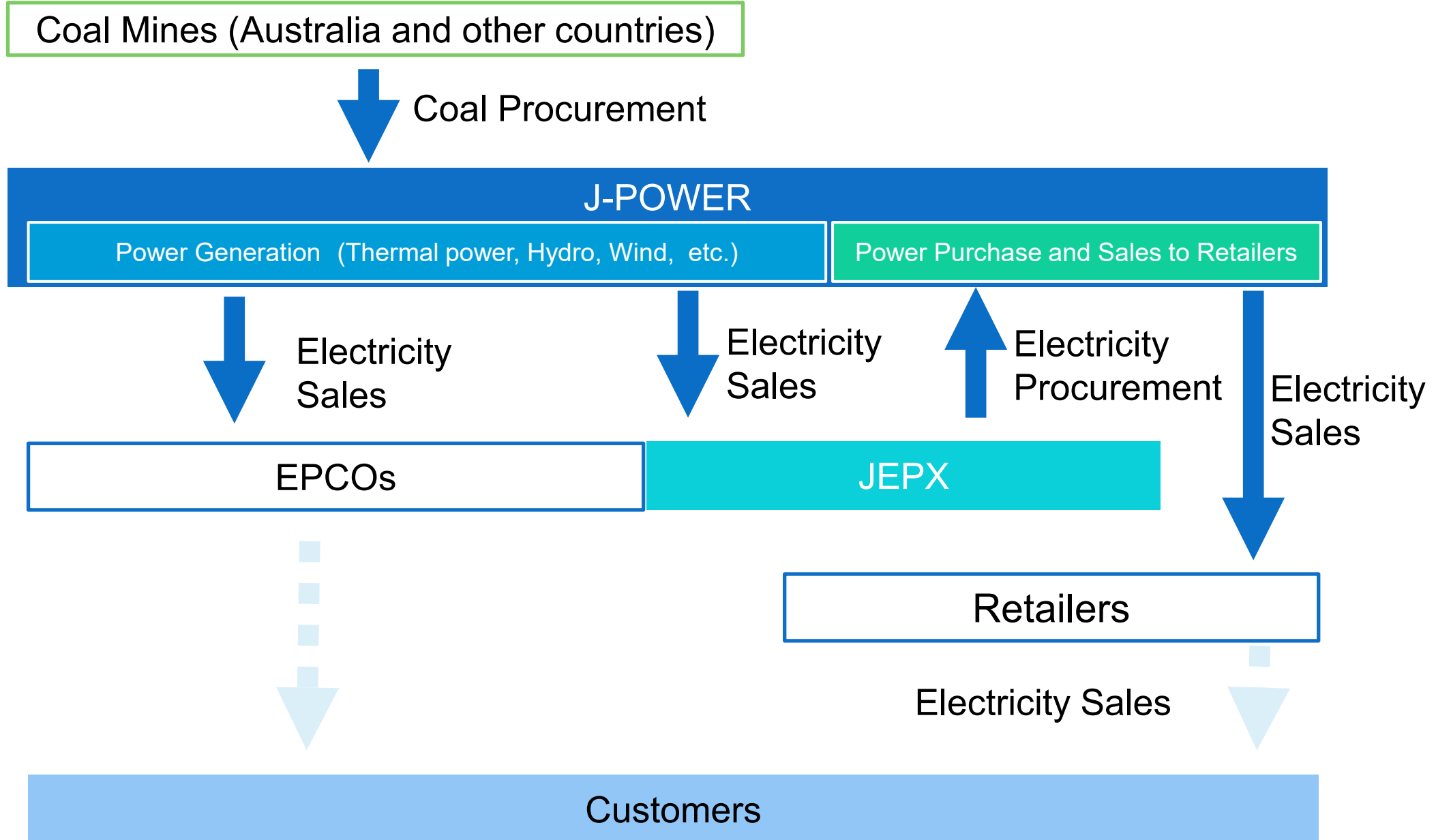


Country / Region	In operation	under development	total
Thailand	3,130	1	3,131
USA	1,899	1,420	3,319
China	1,122	-	1,122
Other areas	372	998	1,370
total	6,523	2,419	8,942

* 1 Although the power sales contract is renewed for one year, in principle, continuous power sales during the operation period will be carried out according to the "Transmission Network Connection Management Agreement" separately concluded with the power transmission and distribution company at the provincial level.

* 2 Gemeng International Energy Co., Ltd. is an electric power company that owns 16 power generation companies . * 3 CCGT (Combined Cycle Gas Turbine) : Gas-fired power (combined cycle)

(2) -4. Main Flow of Domestic Electricity Business

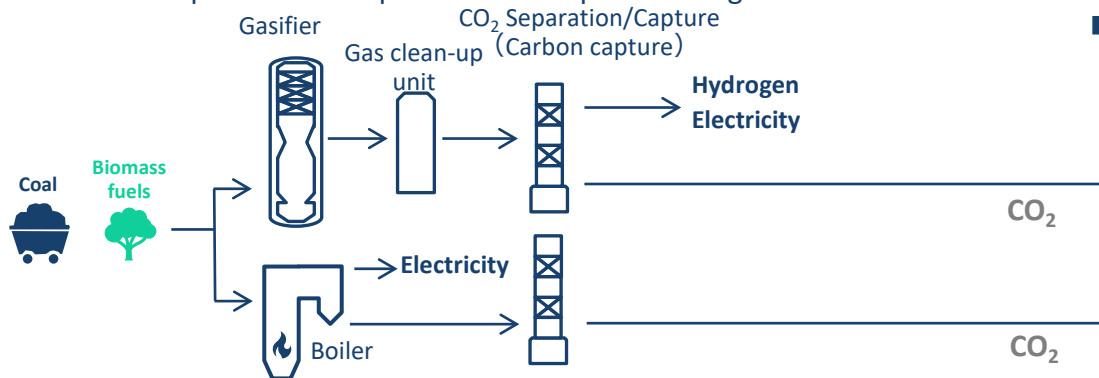


(2) -5. Beginning Feasibility Study for Large-scale CCS in Japan

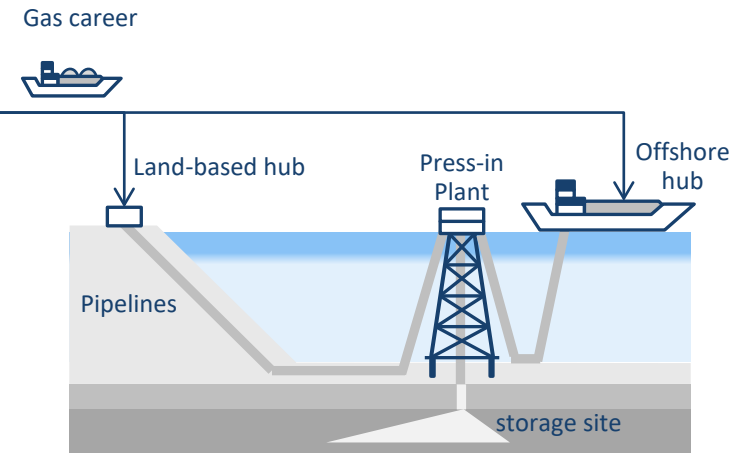
As major CO₂ emitters, we will take the lead in CCS and contribute to a stable supply of energy and carbon neutrality. We will take on the challenge of beginning largescale CCS in 2030 by joining forces with businesses that emit CO₂ and by collaborating and coordinating with construction, equipment, and transportation companies.

Concept

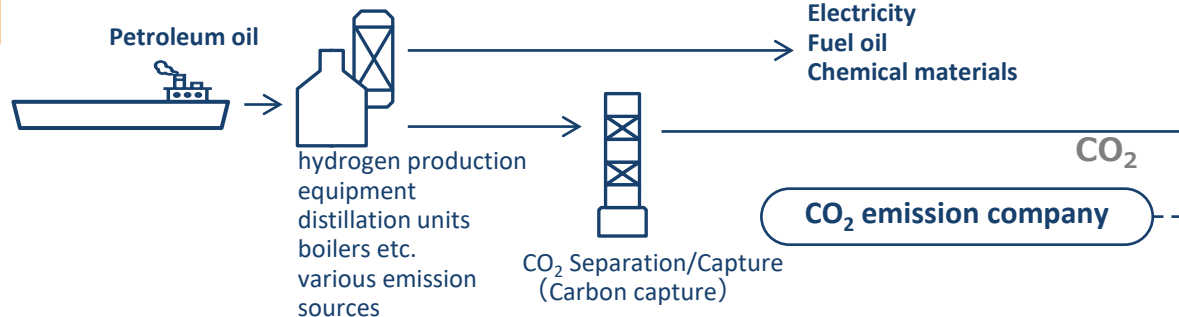
- Separation and capture of CO₂ emitted from coal-fired power plants
 - CO₂-free hydrogen power generation by combining technologies for gasification with CO₂ separation and capture technology
 - Also anticipated is the separation and capture from gas after combustion in existing coal-fired power plants



- CO₂ is transported to the reservoir (storage site) for injection and storage
 - Study of candidate areas with CO₂ storage potential
 - Study of transportation methods from the emission sources to the storage site
 - Considering press-in (injection) system for the storage site



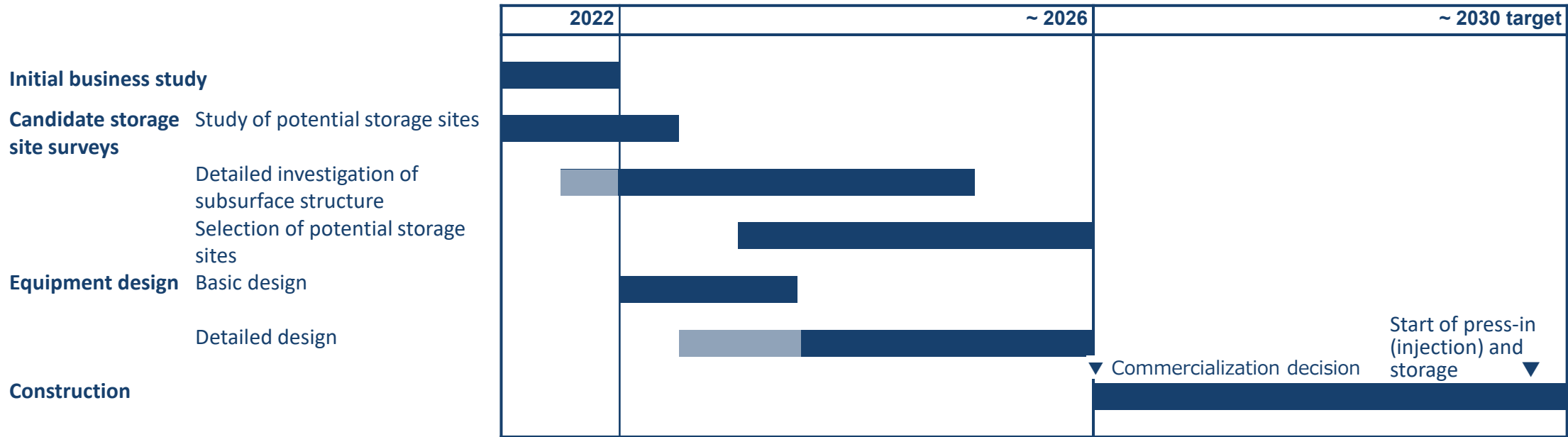
- Separation and capture of CO₂ emitted during the oil refining process, contributing to refinery decarbonization
 - Separation and capture of highly concentrated CO₂ from hydrogen production equipment
 - Separation and capture of CO₂ from exhaust gases at distillation units and boilers



(2) -5. Beginning Feasibility Study for Large-scale CCS in Japan

plan

- A feasibility study will be done in western Japan, the location of both companies' emission sources and where CO₂ sequestration potential is anticipated.
- It will take nearly 10 years—from the investigation of candidate storage sites to the start of press-in (injection) and storage—for surveys, design, and construction.
- By starting as early as possible, we will contribute to CO₂ reduction in Japan from 2030



- To achieve an early resolution of our goals, we will coordinate and collaborate with all stakeholders to resolve issues, such as business environment improvement, CCS chain formation, and reducing costs

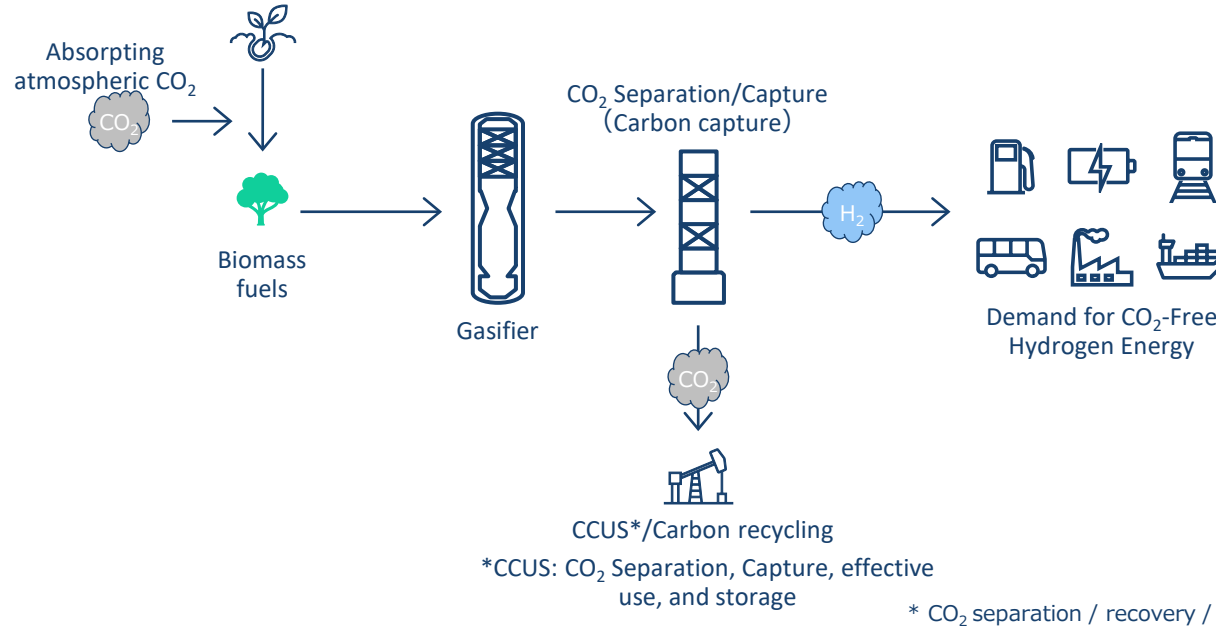


(2) -6. Beginning the Study for an Integrated Demonstration of CO₂-Negative Hydrogen Production from Biomass

CO₂-free hydrogen will be produced by splitting biomass into hydrogen and CO₂ using gasification technology and then separating out and capturing the CO₂.

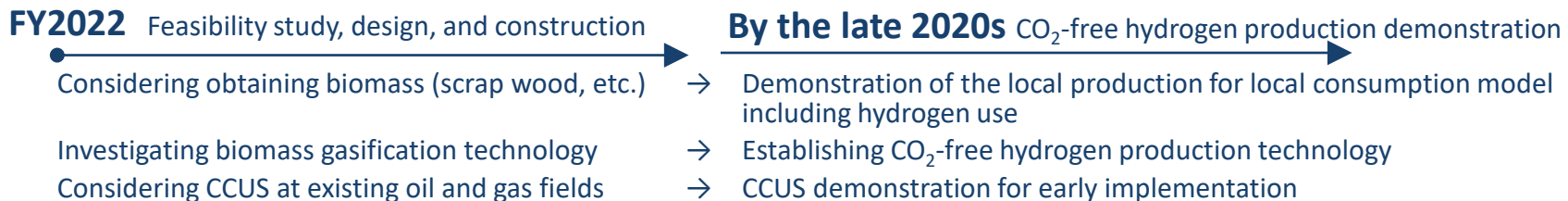
Separated and captured CO₂ will be pressed-in (injected) and stored underground using existing oil and gas fields to achieve negative emissions.

Concept

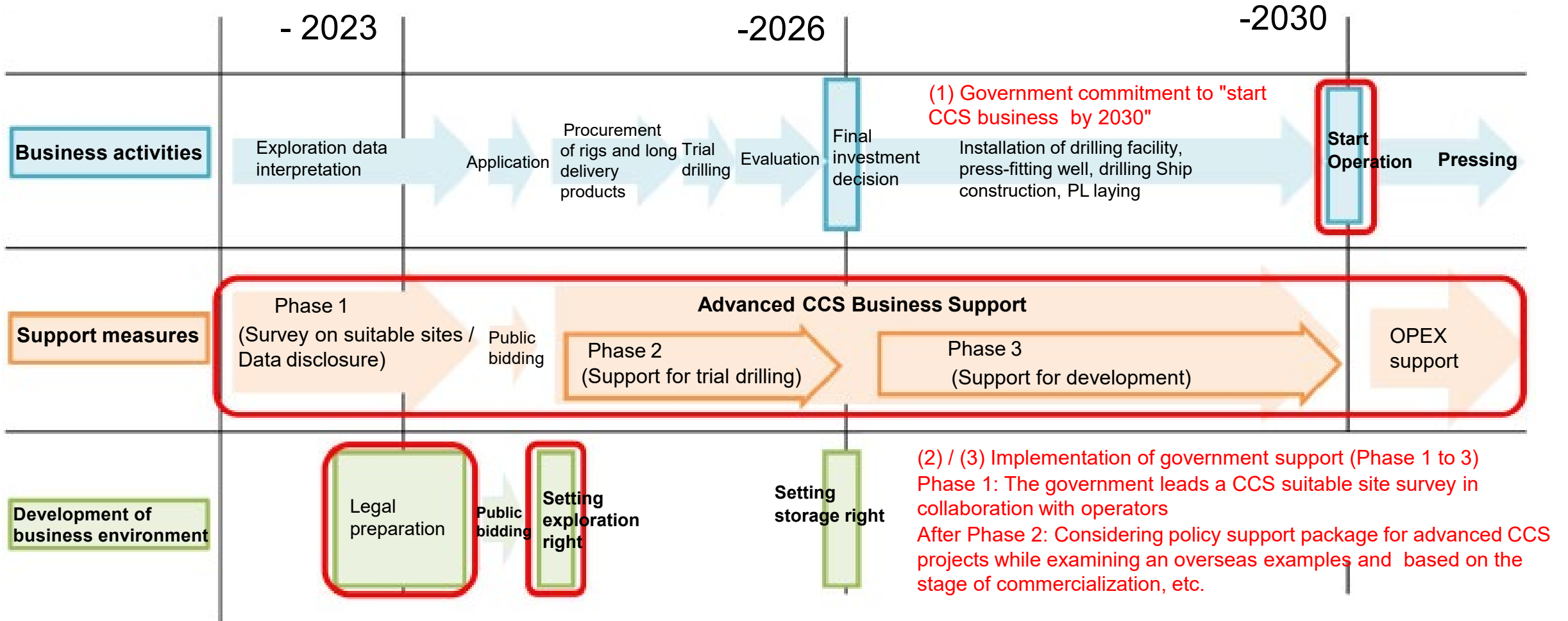


Plan

- We will begin a feasibility study this fiscal year to develop biomass gasification technology using scrap wood and other biomass produced locally for local consumption.
- In the late 2020s, we intend to start a demonstration project combining CCUS with the production of hydrogen from biomass using gasification technology.



(2) -7. National CCS Long-term Roadmap (Draft)



(4) Organize the issues for the development of domestic law by 2022, and prepare the domestic law at an early stage toward the start of the CCS business by 2030.

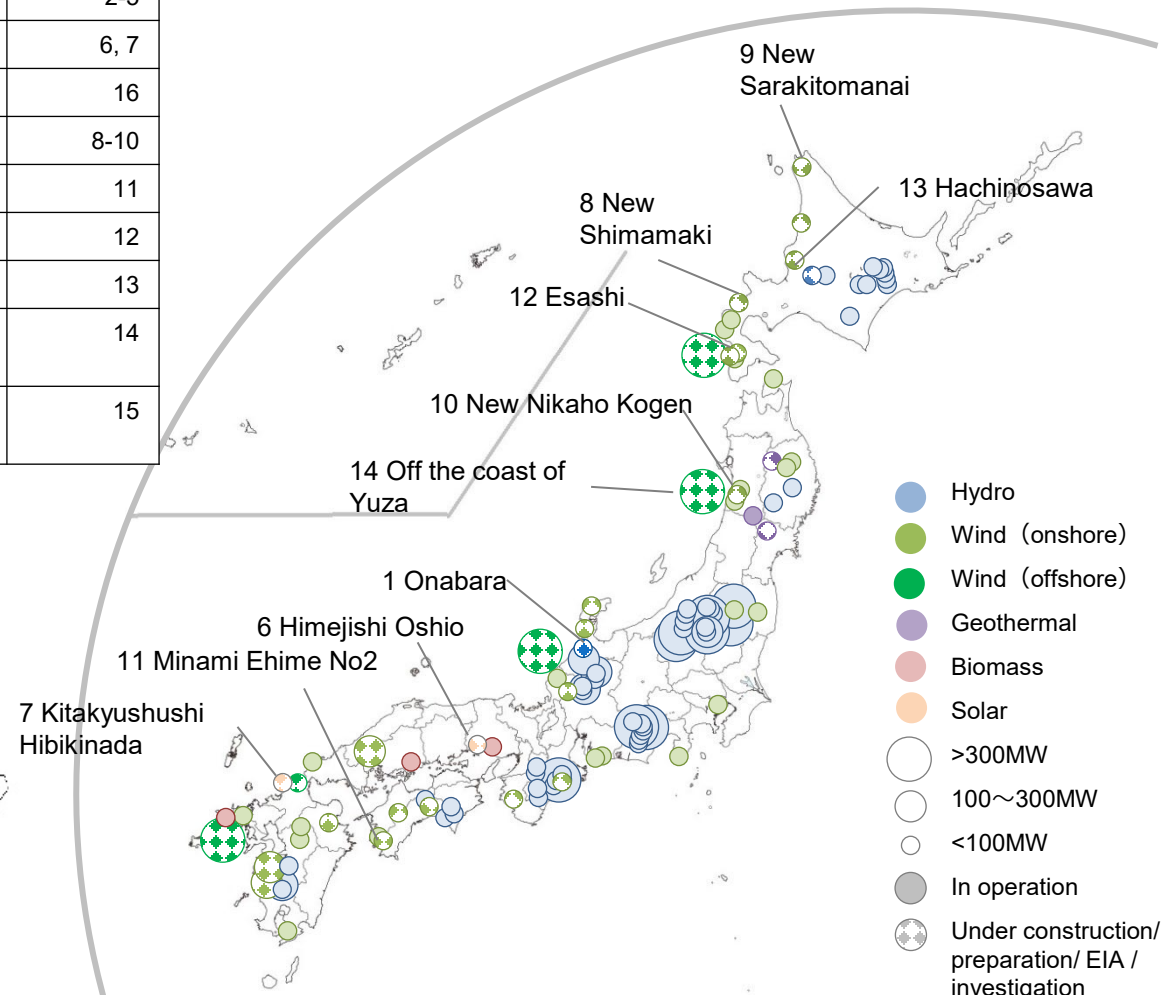
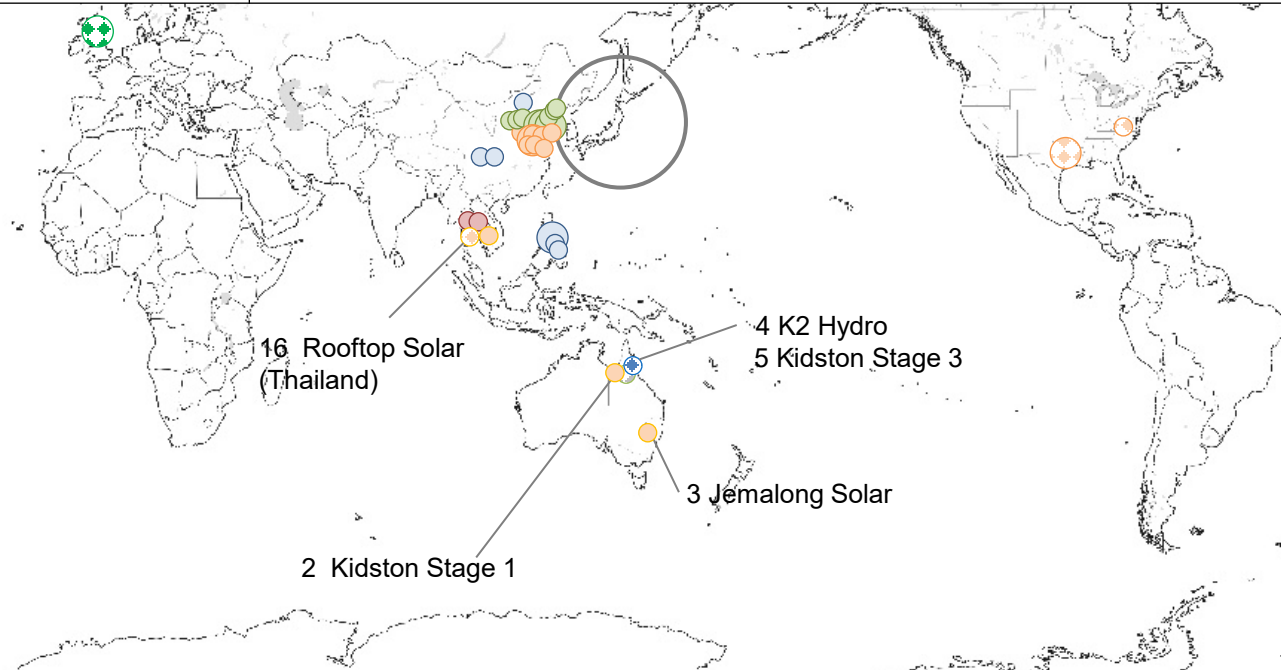
(Source: Ministry of Economy, Trade and Industry 4th CCS Long-term Roadmap Study Group (April 20, 2022) Excerpt from " CCS Long-term Roadmap Interim Summary (Draft)")

(2) -8. Expansion of Renewable Energy

Progress in FY2021

(As of March 31, 2022)

Hydroelectric	Started preparation for construction of Onabara power plant	1
Solar Pumped hydro	Acquired 10% stake of Genex Power Limited	2-5
	Acquired two solar power projects	6, 7
	Start of rooftop solar business in Thailand	16
Onshore wind	Started replacement work at three existing sites	8-10
	Started construction of Minami Ehime No.2 Onshore Wind Farm	11
	Started joint construction of Esashi Wind Farm	12
	Conducted jointly in "Hachinosawa wind power project (tentative name)"	13
Off-shore wind	"Started joint environment assessment of "(tentative name) Yuza off-shore wind power project in Yamagata prefecture	14
	Triton Knoll Offshore Wind Power Project is under construction (started commercial operation on April 1, 2022)	15



- Hydro
- Wind (onshore)
- ⊗ Wind (offshore)
- Geothermal
- Biomass
- Solar
- >300MW
- 100~300MW
- <100MW
- In operation
- ⊗ Under construction/ preparation/ EIA / investigation

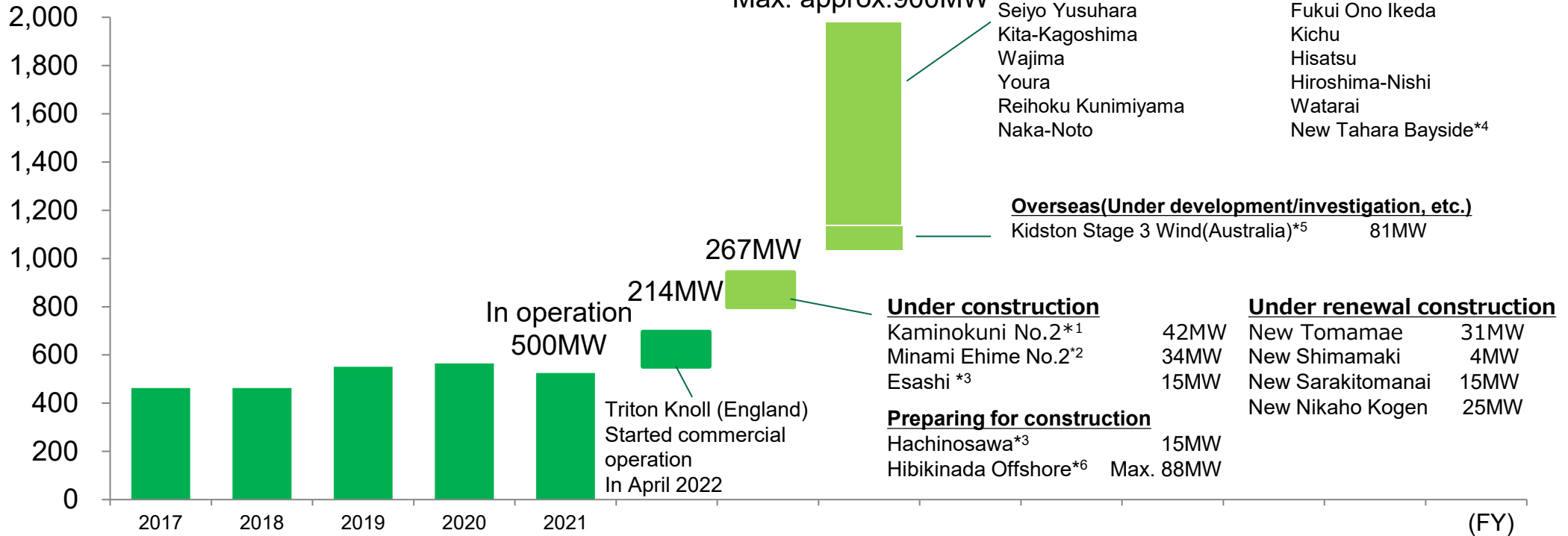
* Size of circles indicate owned capacity (in case capacity is TBD, estimated maximum owned capacity)
 * Developers of offshore wind projects outside port area in Japan are decided by bidding after each sea are designated as a promoting area. The indicated capacities for offshore wind projects outside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

(2) -9. Renewable Energy Development Projects (Wind)

(As of March 31, 2022)

Onshore and offshore (port area)

(Owned capacity, MW)



Offshore (outside port area)

Under research for development	Saikai Offshore*7 Hiyama-area Offshore Awara Offshore*8 Yuza Offshore*9	Max. approx. 1,850MW in total
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*1 Presents only phase 1 construction. Total plan amounts up to 120.4MW *2 Total plan amounts up to 40.8MW

*3 Conducted jointly with SymEnergy Inc. Owned capacity considering future share of SymEnergy Inc. *4 Estimated capacity increase with replacement

*5 Conducted jointly with Genex Power Limited. The owned capacity includes 7.7% stake in Genex in addition to the 50% stake held by the Company under the development funding agreement.

*6 Conducted jointly with Kyuden Mirai Energy Company, Incorporated, Hokutaku Co., LTD, Saibu Gas Co. Ltd. and Kyudenko Corp.

*7 Conducted jointly with SUMITOMO CORPORATION *8 Conducted jointly with Mitsui Fudosan Co., Ltd. *9 Joint environment assessment as a consortium.

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

(As of March 31, 2022)

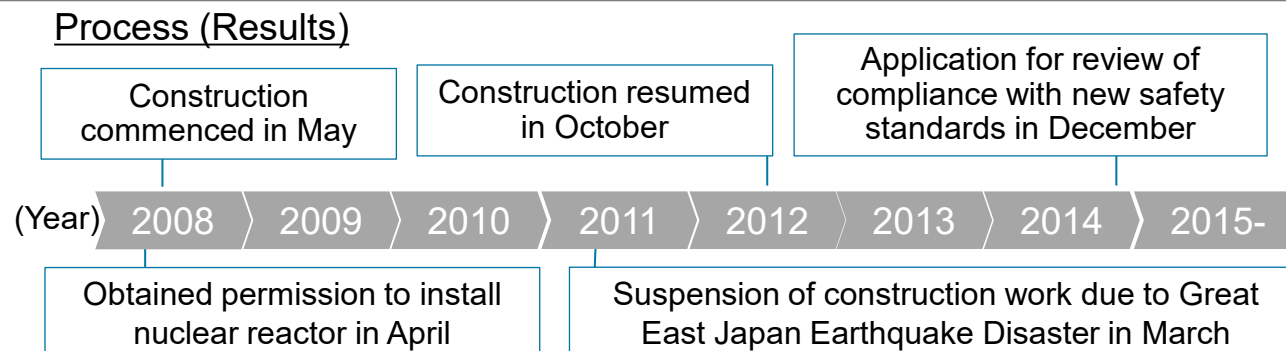
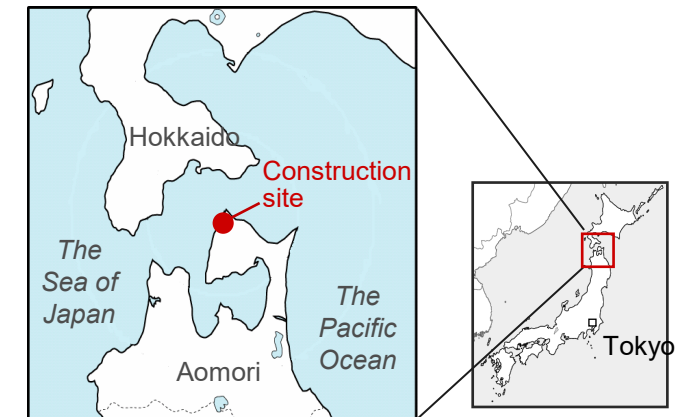
Hydro	Project	Capacity	Ownership	Owned capacity	Note
	Shinkatsurazawa/ Kumaoi	17.0MW	100%	17.0MW	Start of operation : FY2022 (planned)
	Ashoro Repowering	-	100%	-	Completion of construction : FY2022 (planned)
	Ogamigo Repowering	20.0MW→21.3MW	100%	20.0MW→21.3MW	Completion of construction : FY2023 (planned)
	Nagayama Repowering	37.0MW→39.5MW	100%	37.0MW→39.5MW	Completion of construction : FY2025 (planned)
	Onabara	1.0MW	100%	1.0MW	Start of operation : FY2024 (planned)
	K2 Hydro (Australia, Pumped hydro)	250MW	7.7%	19.3MW	Start of operation : 2024 (planned)
Geo-thermal	Project	Capacity	Ownership	Owned capacity	Note
	Onikobe Replacement	14.9MW	100%	14.9MW	Start of operation: April 2023 (planned)
	Appi	14.9MW	15%	2.2MW	Start of operation: April 2024 (planned)
	Takahinatayama-area	-	-	-	Under research for development
Solar	Project	Capacity	Ownership	Owned capacity	Note
	Kitakyushushi Hibikinada (JPN)	30MW	100%	30MW	Start of operation: FY2024 (planned)
	Himejishi Oshio (JPN)	2MW	100%	2MW	Start of operation: FY2024 (planned)
	Refugio (USA)	400MW	25%	100.0MW	Start of operation: After 2023 (planned)
	Birchwood (USA)	50MW	50%	25MW	-
	Rooftop solar (Thailand, 2 projects)	total 1.6MW	60%	1.0MW	Start of operation : After 2022 (planned)

(2) -10. Ohma Nuclear Power Project

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

Overview of the Project

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



Status of construction (as of March 31, 2022)



* Nuclear Regulation Authority

(2) -11. Osaki CoolGen Project

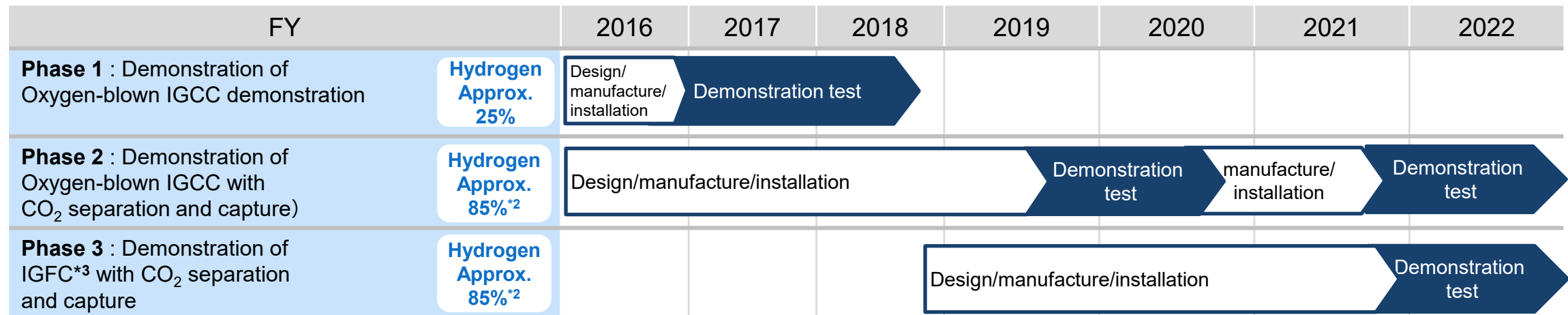
- Demonstration test *1 of a system that produces coal gasification gas containing hydrogen and uses it to generate electricity is underway
- In Phase 2, the basic performance (CO₂ recovery rate of 90% or more, CO₂ recovery purity of 99% or more) has been confirmed in the demonstration test until the end of February 2021. In the future, we will continue to conduct demonstration tests to improve the accuracy of the results so far.
- We started the third phase demonstration test, demonstration of fuel cell power generation using high-concentration hydrogen that was successfully manufactured in the second phase test, in April 2022.

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)



Fuel cell used for the third phase demonstration test

*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.



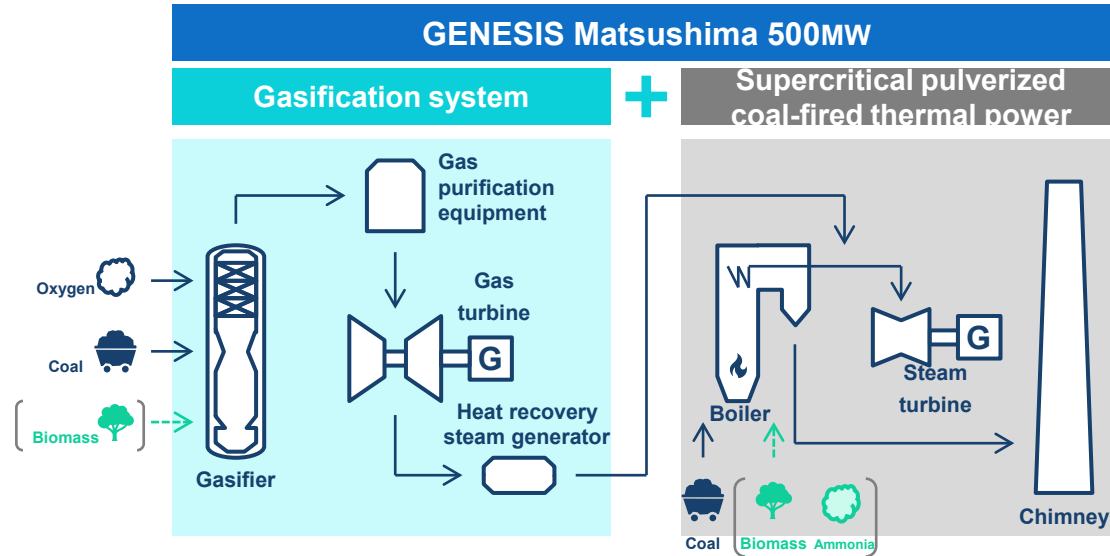
*1 The project is subsidized by the New Energy and Industrial Technology Development Organization (NEDO), a national research and development organization.

*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.

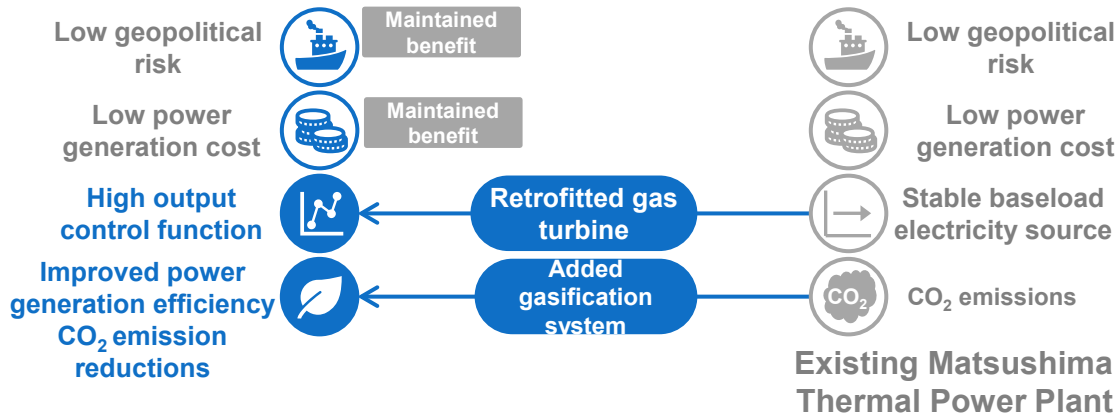
*3 IGFC (Integrated Coal Gasification Fuel Cell Combined Cycle): Power generation system combining fuel cells with gas and steam turbines in a triply integrated configuration

(2) -12. Upcycling Existing Thermal Power Plants –GENESIS Matsushima

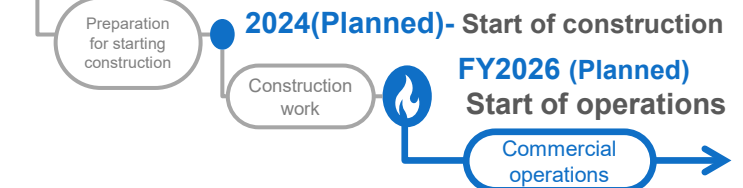
- J-POWER will take the first step in CO₂-free hydrogen power generation at the Matsushima Plant that paved the way for using imported coal after the oil crisis.
- J-POWER will realize reducing environmental loads as early as possible by applying new technologies to the existing assets in an economically viable way while maintaining a stable power supply.
- On December 24, 2021, it received Minister of METI's opinion regarding planning stage environment consideration document. Currently preparing form of environmental assessment method



GENESIS Matsushima



September 2021- Started Environmental impact assessment



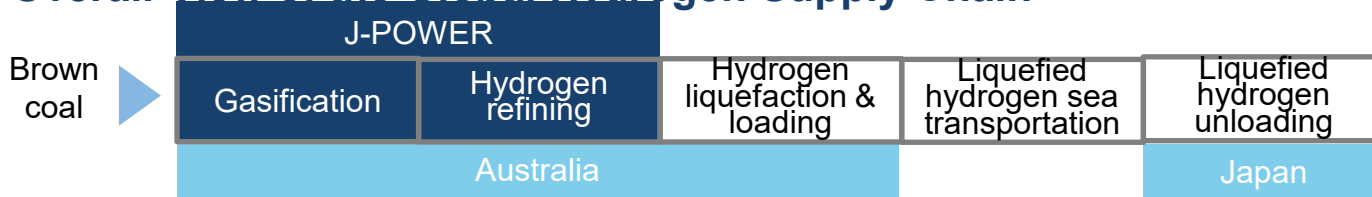
CCUS* carbon recycling ready

* CCUS : Carbon Capture, Utilization, and Storage

(2) -13. 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 . We started producing hydrogen in January 2021 and achieved a hydrogen purity of 99.999% in February. Demonstration tests using multiple lignite and biomass mixed lignite is underway.
- In April 2022, the supply chain including hydrogen transportation and cargo handling to Japan was completed. We are making progress toward the realization of a society in which hydrogen can be used as energy.
- 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



In April 2022, an event was held in Kobe city in Japan, to celebrate the completion of the supply chain for hydrogen produced from Australian brown coal.

Toyota hydrogen engine car that entered the Super Taikyu Series Round 5 (Suzuka) uses hydrogen derived from Australian brown coal



Source : HySTRA, J-Power/J-Power Latrobe Valley

Benefits of using brown coal

- Abundant resources
- Cheaper than coal



source: HySTRA



source: Toyota motor

January 2021
Started producing hydrogen

April 2022
Completion of the supply chain

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)

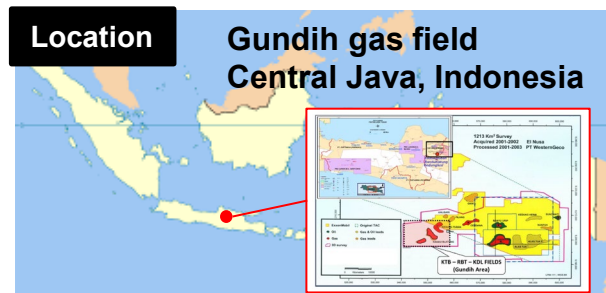
*2 Sponsored by the Australian federal government and the Victoria state government

(2) -14. Overview of Gundih CCUS Project

- A CCS demonstration project has been implemented as a JCM (bilateral CO₂ crediting scheme) research project since May 2020, and plans to inject and store CO₂ emitted from natural gas production (300,000 tons- CO₂ /year) in the Gundih gas field in Indonesia
- On June 22, at the 1st Asia CCUS Network Forum, ‘the Asia CCUS Network’ has launched, which is an international industry–academia–government platform aimed at knowledge sharing and improvement of the business environment for CCUS throughout the Asia region
- Gundih CCUS Project is watched by Japanese and Indonesian officials as a flagship project in the Asia CCUS Network

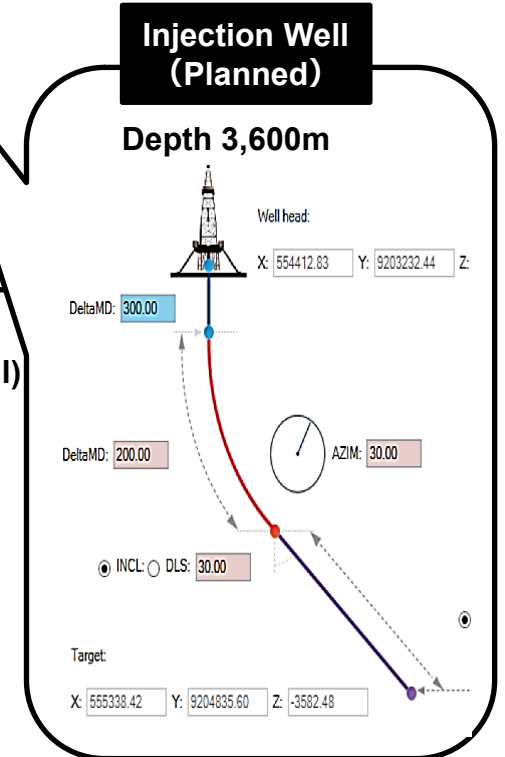
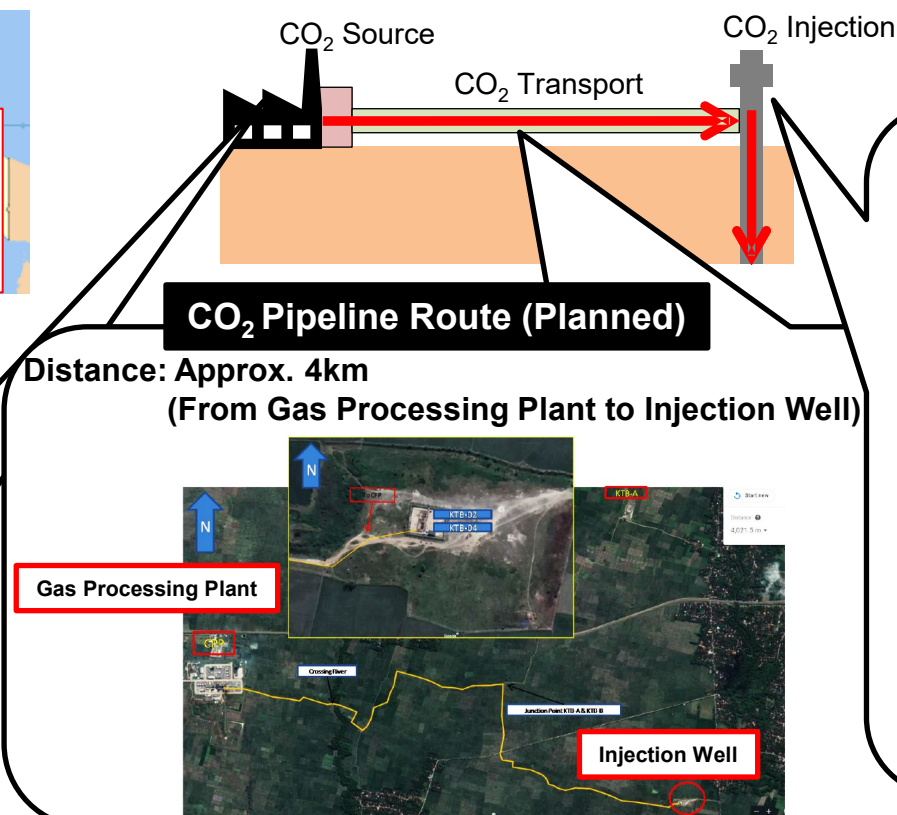
【Organizations】
 (Japan)
 -JGC
 -JANUS
 -J-POWER

(Indonesia)
 -Pertamina
 -Institut Teknologi Bandung





Gas Processing Plant (Existing)

300,000 tons/year of CO₂ to be captured from gas processing plant



(2) -15. Overview of Overseas Projects under Development (As of May 11, 2022)

Project	Overview	
<p>Triton Knoll (UK)</p> <p>Capacity: 857MW Type: Offshore wind Ownership: 25% Status: Started operation</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*¹ 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. • Started commercial operation in April 2022 	
<p>Jackson (USA)</p> <p>Capacity: 1,200MW Type: CCGT*² Ownership: 100% Status: Started operation</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*³ market • Started commercial operation in May 2022 	
<p>Wharton (USA)</p> <p>Capacity: 350MW Type: Solar Status: Completed development and sold ownership</p>	<ul style="list-style-type: none"> • Completed development and sold ownership in January 2022 • Contributing to the expansion of renewable energy by leveraging our strength in project development 	

*1 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.

*2 CCGT: Combined Cycle Gas Turbine

*3 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) -15. Overview of Overseas Projects under Development (As of May 11, 2022)

Project	Overview	
<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: Late 2022(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>Refugio / Birchwood (USA)</p> <p>Capacity: Solar: 400MW (Refugio), 500MW (Birchwood) Storage: 190MW (Birchwood) Ownership: 25%(Refugio), 50%(Birchwood) Status: Under development Start of operation: After 2023</p>	<ul style="list-style-type: none"> • Refugio is located close to Houston, a high-power demand area • Birchwood is 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 • Execution of Joint Development Agreement with Fortress Investment Group, LLC 	
<p>Kidston Stage-3 Wind (Australia)</p> <p>Capacity: 150MW Type: Onshore wind Ownership: 50%* Status: Under development Start of operation: 2025</p>	<ul style="list-style-type: none"> • 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 	
<p>Rooftop solar (2 projects, Thailand)</p> <p>Capacity: total 1.6MW Type: Solar Ownership: 60% Status: Under development Start of operation: Each project will commence commercial operation after 2022</p>	<ul style="list-style-type: none"> • Utilizing the business foundation formed by large-scale gas-fired development • Work for decentralized power sources to accommodate growing requirements of customers for decarbonization • Aiming to supply CO2-free energy by installing solar photovoltaic systems on customers' factory roofs 	

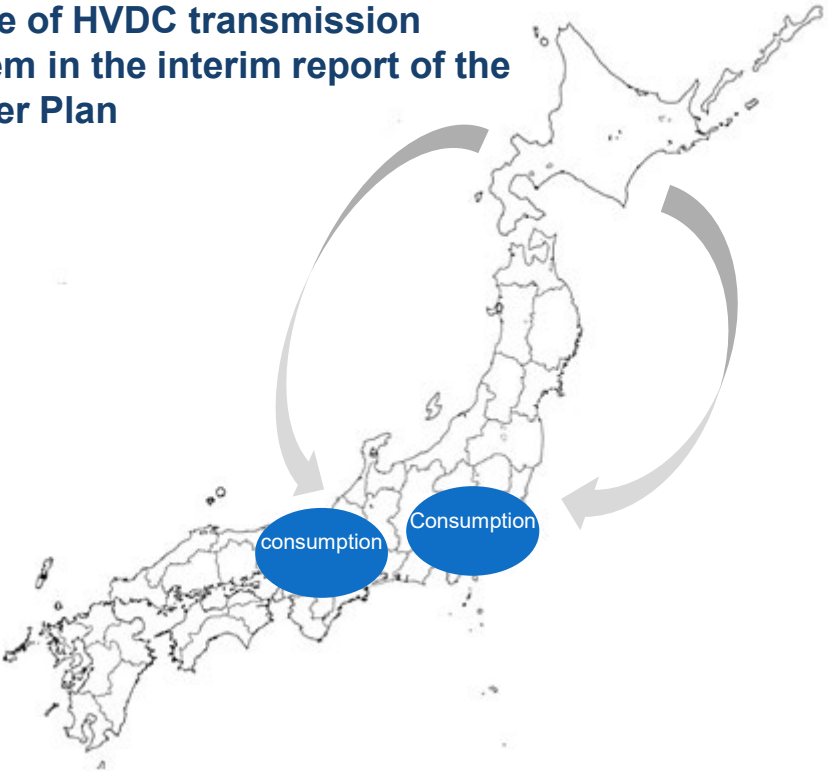
*The owned capacity which includes 7.7% stake in Genex in addition to the 50% stake held by the Company under the development funding agreement is 53.9%

(2) -16. Actions Taken towards HVDC Transmission System

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

Study Period	From July 2021 to March 2022
Study Content	<ol style="list-style-type: none"> 1. Study on detailed roots for the HVDC transmission system 2. Study on the facility required for HVDC transmission system 3. Study on the cost and schedule for HVDC transmission system 4. Study on the status of overseas HVDC transmission system

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



J-POWER Group’s HVDC transmission system facilities

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

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



<https://www.jppower.co.jp/english/>