Financial Results for the Six Months Ended September 30, 2022

November 10, 2022

Hokkaido Electric Power Co., Inc.

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Financial Results and Forecasts

【Business results】

(Billion yen)

	April 1 – Sept. 30, 2022 (A)	April 1 – Sept. 30, 2021 (B)※	Increase/ Decrease (A)-(B)	Comparison (A)/(B) %
Operating Revenue	386.8	273.4	113.3	41.5
Operating Profit(loss)	(0.9)	27.1	(28.1)	–
Ordinary Profit(loss)	(1.0)	22.7	(23.7)	–
Profit(loss) attributable to owners of parent	(1.6)	17.4	(19.0)	–
Basic net income (loss) per share [Yen]	11.29	81.71	(93.00)	

【Financial status】

(Billion yen)

	As of Sept 30, 2022(A)	As of March 31, 2022(B)	Increase/ Decrease (A)-(B)
Assets	2,075.6	1,992.8	82.8
Net Assets	281.3	285.7	(4.3)
Shareholders' Equity Ratio	12.9%	13.7%	(0.8%)

Consolidated – Statement of Operations for the Six Months Ended September 30, 2022

（Billion yen）

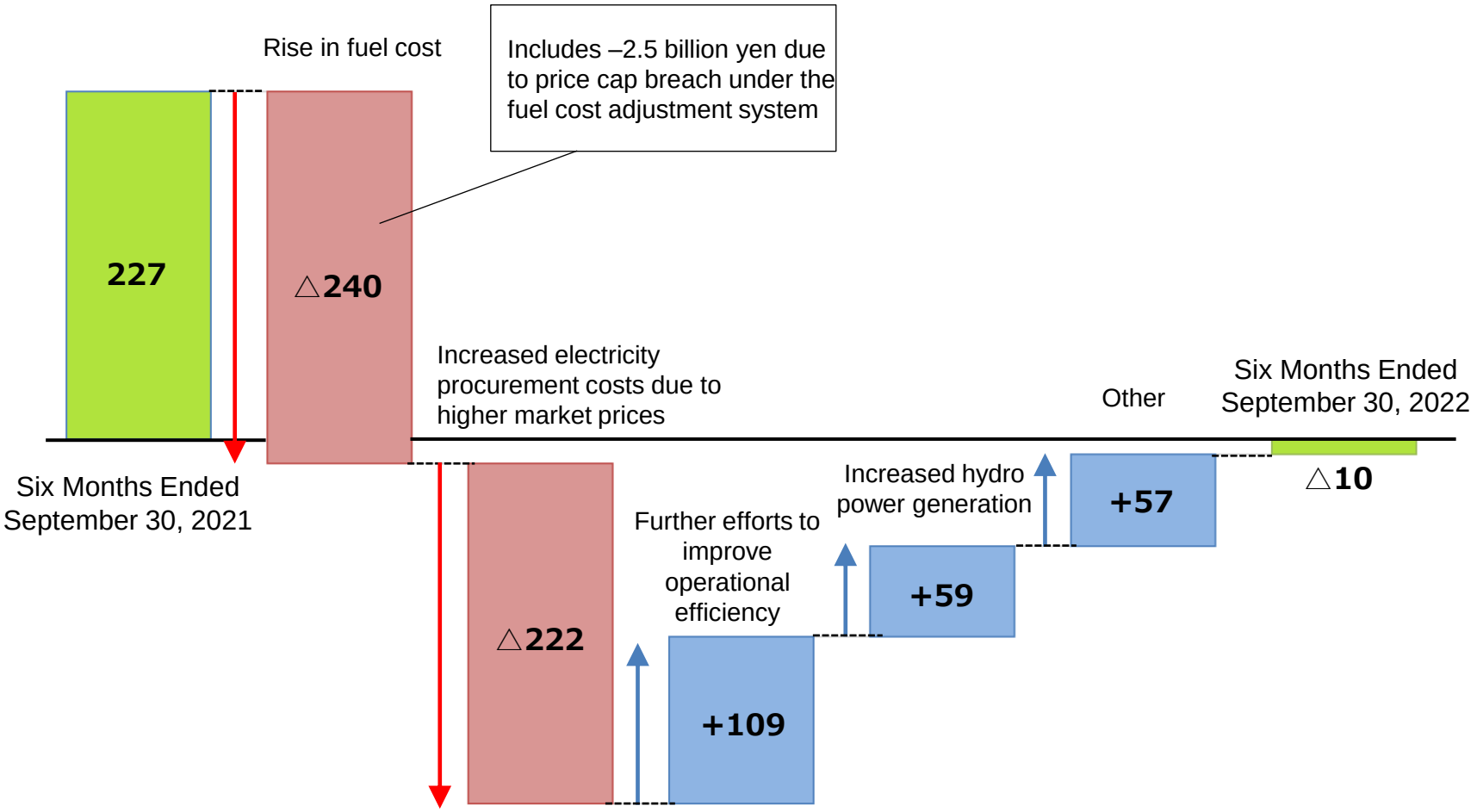
		1H FY2022 consolidated cumulative period (A)	1H FY2021 consolidated cumulative period (B)	Increase/Decrease (A)-(B)	Comparison (A)/(B) %
Ordinary Revenue	Operating Revenues	386.8	273.4	113.3	41.5
	Electricity utility operating revenue	362.7	255.1	107.6	42.2
	Other business operating revenue	24.1	18.3	5.7	31.4
	Non-operating Income	5.2	3.0	2.2	74.3
	Subtotal	392.1	276.4	115.6	41.8
Ordinary Revenue	Operating Expenses	387.8	246.3	141.4	57.4
	Electricity utility operating expenses	366.3	230.0	136.3	59.3
	Other business operating expenses	21.4	16.3	5.1	31.7
	Non-operating Expenses	5.3	7.4	(2.0)	(28.1)
	Subtotal	393.1	253.7	139.3	54.9
[Operating Profit(loss)] Ordinary Profit(loss)		[(0.9)] (1.0)	[27.1] 22.7	[(28.1)] (23.7)	[–] –
Provision or reversal of reserve for fluctuation in water levels		0.3	(0.2)	0.5	–
Profit(loss) before income taxes		(1.3)	22.9	(24.3)	–
Income taxes		0.2	5.3	(5.1)	(95.9)
Profit(loss)		(1.5)	17.6	(19.2)	–
Profit attributable to non-controlling interests		0.0	0.1	(0.1)	(88.0)
Profit(loss) attributable to owners of parent		(1.6)	17.4	(19.0)	–
(Appendix)	Comprehensive Income	(1.4)	16.8	(18.2)	–

Operating Revenue (Increased)	Increased 113.3 billion yen from a year earlier to 386.8 billion yen, mainly due to increased fuel cost adjustments amid higher fuel prices and higher retail electricity sales, as well as higher electricity sales to other utilities.
Ordinary Income(loss) (loss)	Down 23.7 billion yen year on year to a loss of one billion yen. The ordinary loss reflects our further efforts to improve operational efficiency, which partially offset a rise in electricity procurement costs amid higher fuel prices and market prices.
Profit(loss) attributable to owners of parent (loss)	Declined 19 billion yen from a year earlier to a 1.6 billion yen loss, mainly due to the ordinary loss.

Consolidated Financial Results for the Six Months Ended September 30, 2022

– Year-on-year changes in ordinary income/loss

(Unit: 100 million yen)



Forecasts of Consolidated Financial Performance for FY2023 (Ending March 2023)

＜No change from forecast earnings announced on September 22, 2022>

・Our forecast full-year consolidated earnings remain unchanged from those published in September 2022, given our retail electricity sales and electricity sales to other utilities are roughly in line with our expectations.

・We will continue monitoring fuel prices and market prices of power closely, given the volatility of late.

(Unit: 100 million yen, GWh)

	Forecasts for fiscal year ending March 31, 2023 (A)	Results for fiscal year ended March 31, 2022 (B)	Change (A)-(B)
Operating Revenue	Approximately 970.0	663.4	Approximately 307.0
Operating profit(loss)	Approximately (64.0)	Approximately 24.9	Approximately (89.0)
Ordinary profit(loss)	Approximately (70.0)	13.8	Approximately (84.0)
Profit(loss) attributable to owners of parent	Approximately (71.0)	6.8	Approximately (78.0)
Year-on-year change/ Retail electricity sales and electricity sales to other utilities*	Approximately 5.4% Approximately 315	12.7% 299	Approximately 16
Year-on-year change Retail electricity sales*	Approximately 7.1% Approximately 237	(2.3%) 222	Approximately 15

*Combined sales of HEPCO, Hokkaido Electric Power Network and Hokkaido Electric Power Co-Creation

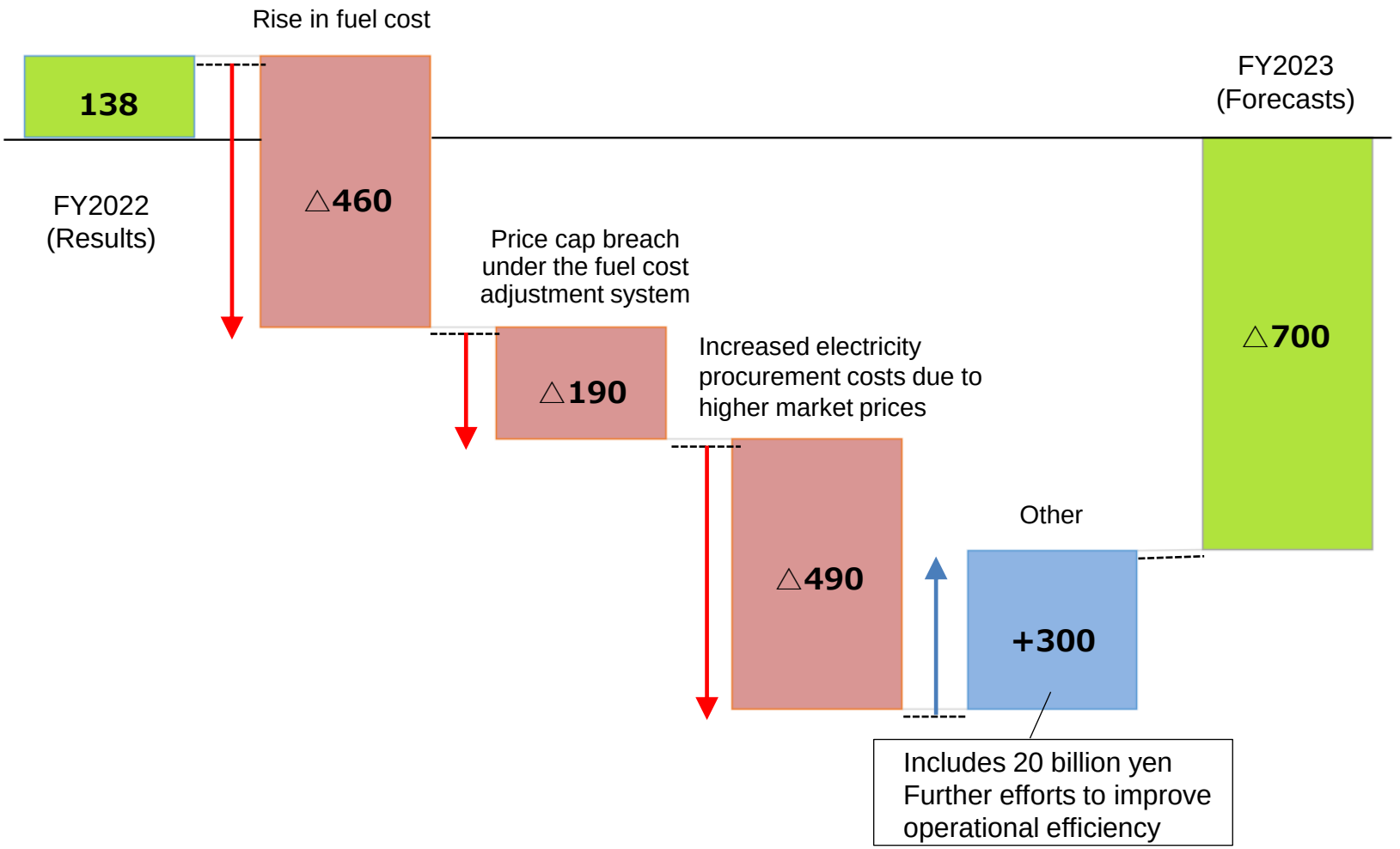
Key Factors

Foreign exchange rate (JPY per USD)	Approximately 137	112	Approximately 25
CIF crude oil price (USD per barrel)	Approximately 100.0	77.2	Approximately 22.8

Note: We assume a foreign exchange rate of about 140 yen per dollar and the CIF crude oil price of about 95 dollar per barrel for October 2022 and thereafter.

Forecasts of Consolidated Financial Performance for FY2023 (Ending March 2023) – Year-on-year changes in ordinary income/loss

(Unit: 100 million yen, approx. 100 million yen)



FY2023 Year-ended Dividend Forecasts

- Our year-end dividend forecast for the fiscal year ending March 31, 2023, remains undetermined, unchanged from the announcement on September 22, 2022.
- We will monitor the direction of fuel prices and market prices of electricity and publish the forecast as it becomes available.

【 Cash Dividend per Share 】

	Common stock			Class-B preferred Stock		
	Interim	Year-ended	Annual total	Interim	Year-ended	Annual total
FY2021 actual	¥10.00	¥10.00	¥20.00	¥1,500,000	¥1,500,000	¥3,000,000
FY2022 【forecast】	¥0.00 actual	undecided	undecided	¥0 actual	undecided	undecided

Financial Results Supplementary Materials

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〇Monthly Retail Electricity Sales Trends at HEPCO

〇Consolidated; Statement of Operations（Revenue）

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- Fuel and Purchased Power
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〇Consolidated Statements of Balance Sheets

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Consolidated; Electricity Sales

- Retail electricity sales increased 7.6% year on year to 10,679 million kilowatts, mainly due to new customer acquisitions.
- Electricity sales to other utilities totaled 3,625 million kilowatts, up 6.6% year on year, driven by increased sales volume under the feed-in tariff system for renewable energy.

(GWh)

			1H FY2023 consolidated cumulative period (A)	1H FY2022 consolidated cumulative period (B)	Increase/ Decrease (A)-(B)	Comparison (A)/(B) %
Retail electricity sales	Low-voltage customers	Residential	3,590	3,761	(171)	(4.6)
		Commercial and Industrial	626	645	(19)	(2.9)
		subtotal	4,216	4,406	(190)	(4.3)
	High-voltage and Extra high-voltage customers		6,333	5,478	855	15.6
	Subtotal (*1)		10,549	9,884	665	6.7
	Other (*2)		130	39	91	228.3
	Total		10,679	9,923	756	7.6
Electricity sales to other utility			3,625	3,402	223	6.6
Total			14,304	13,325	979	7.4

*1: The figure in the subtotal column indicates the electricity sales volume for HEPCO.

*2: The figure in the other column indicates the electricity sales volume for both Hokkaido Electric Power Network and Hokkaido Electric Power Co-creation.

Monthly Retail Electricity Sales Trends at HEPCO

(GWh, %)

		FY2022						
		Apr.	May	Jun.	Jul.	Aug.	Sep.	Total
Low-voltage customers	Residential	756	650	510	551	575	548	3,590
	Commercial and industrial	183	104	74	85	94	86	626
	Subtotal	939	754	584	636	669	634	4,216
High-voltage and Extra High-voltage customers		984	982	992	1,149	1,137	1,089	6,333
(Rate of increase / decrease in the same month of the Previous year)		[3.6]	[1.6]	[9.3]	[8.1]	[5.8]	[13.4]	[6.7]
Total		1,923	1,736	1,576	1,785	1,806	1,723	10,549

(GWh, %)

		FY2021												
		Apr.	May	Jun.	Jul.	Aug.	Sep.	Total	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Low-voltage customers	Residential	765	726	516	560	648	546	3,761	554	681	730	1,029	838	772
	Commercial and industrial	174	121	75	86	106	83	645	83	112	174	385	318	263
	Subtotal	939	847	591	646	754	629	4,406	637	793	904	1,414	1,156	1,035
High-voltage and Extra High-voltage customers		918	860	851	1,005	954	890	5,478	935	949	1,106	1,146	1,039	1,081
(Rate of increase / decrease in the same month of the Previous year)		[0.0]	[(0.8)]	[(3.6)]	[0.8]	[(2.5)]	[(6.5)]	[(2.0)]	[(2.9)]	[(4.9)]	[(2.2)]	[(3.6)]	[(2.0)]	[(0.2)]
Total		1,857	1,707	1,442	1,651	1,708	1,519	9,884	1,572	1,742	2,010	2,560	2,195	2,116

【Average temperature in Hokkaido】

(℃)

		Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec	Jan.	Feb.	Mar.
Average temperature (2022～2023)	actual	2.0	8.2	13.6	16.2	22.2	21.8	19.0						
	year-on-year	(1.1)	1.1	1.2	(1.6)	(0.7)	0.0	1.0						
	deviation	1.9	1.8	1.7	0.1	2.2	0.5	1.1						

Consolidated; Statement of Operations (Revenue)

(Unit: billion yen)

	1H FY2023 consolidated cumulative period (A)	1H FY2022 consolidated cumulative period (B)	Increase/ Decrease (A)-(B)	Comparison (A)/(B)%	Major cause of increase/decrease
Operating Revenue	386.8	273.4	113.3	41.5	
Electric utility operating revenue	362.7	255.1	107.6	42.2	
Two companies total: Commercial and Industrial	259.1	199.2	59.8	30.1	・Increased fuel cost adjustments [48.9] ・Increase mainly in retail electricity sales volume
Two companies total: Others	104.4	56.4	48.0	85.1	・Increase in electricity sales volume between zones and to other companies [42.8] ・Increase in consignment revenues [3.0]
Two companies total: Sold power to other utilities & Sold power to other suppliers (Repost)	75.4	32.5	42.8	131.6	
Two companies total: Transmission revenue (Repost)	23.7	20.6	3.0	14.8	
Subsidiary / consolidation revision	(0.8)	(0.5)	(0.2)	46.3	
Other business operating revenue	24.1	18.3	5.7	31.4	
Non-operating Income	5.2	3.0	2.2	74.3	
Ordinary Revenue	392.1	276.4	115.6	41.8	

*The total amount of the two companies represents the sum of the results of Hokkaido Electric Power Co., Inc. and Hokkaido Electric Power Network Co., Inc. after elimination of internal transactions.

Consolidated; Power Supply

・We were able to maintain a stable supply by appropriately managing the supply equipment during a time when all units at the Tomari power plant were suspended ,but the flow rate was above the annual average at 106.0%.

(GWh)

		1H FY2023 consolidated cumulative period (A)	1H FY2022 consolidated cumulative period (B)	Increase/ Decrease (A)-(B)	Comparison (A)/(B)%
Generated Power	【Water flow rate %】 Hydroelectric	[106.0%] 2,370	[88.7%] 1,972	[17.3%] 398	20.2
	Fossil Fuel	6,642	7,402	(760)	(10.3)
	【Nuclear capacity ratio%】 Nuclear	[－] －	[－] －	[－] －	－
	Renewable	49	42	7	17.6
	Subtotal	9,061	9,416	(355)	(3.8)
Power received by other companies*		6,519	5,087	1,432	28.1
Power used for pumped storage		(286)	(134)	(152)	112.7
Total		15,294	14,369	925	6.4

※Power received by other companies include the amount of power received from consolidated subsidiaries Hokkaido Power Engineering Co., Inc. and HOKUDEN ECO-ENERGY Co., Inc..

Consolidated; Statement of Operations (Expenses and Ordinary Profit/loss)

(Unit: billion yen)

		1H FY2023 consolidated cumulative period (A)	1H FY2022 consolidated cumulative period (B)	Increase / Decrease (A) - (B)	Comparison (A)/(B)%	Major cause of increase/decrease
Electric utility operating expenses		366.3	230.0	136.3	59.3	
Two companies total	Personnel	28.0	27.4	0.6	2.2	
	Fuel	96.5	43.7	52.8	120.8	[Cause of increase] ・Rise in fuel prices [72.9] ・Increased retail electricity sales and electricity sales to other utilities ・Increased electricity procurement costs due to higher market prices [22.2] [Cause of decrease] ・Increased hydro power generation [(5.9)]
	Purchased Power	119.5	42.1	77.3	183.4	
	Maintenance	26.2	24.1	2.1	8.9	・Increase in repair costs associated with power generation facilities [3.7]
	Depreciation	35.8	34.9	0.9	2.6	
	Other Expenses	62.2	59.8	2.3	3.9	
Subsidiary / consolidation revision		(2.2)	(2.2)	0.0	(2.2)	
Other business operating expenses		21.4	16.3	5.1	31.7	
Non-operating Expenses		5.3	7.4	(2.0)	(28.1)	
Interest Expenses(Repost)		4.6	4.7	(0.1)	(2.2)	
Ordinary Expenses		393.1	253.7	139.3	54.9	
Ordinary profit(loss)		(1.0)	22.7	(23.7)	–	

*The total amount of the two companies represents the sum of the results of Hokkaido Electric Power Co., Inc. and Hokkaido Electric Power Network Co., Inc. after elimination of internal transactions.

Consolidated; Segment Information

- Sales in the HEPCO segment grew 87.4 billion yen from a year earlier to 339.3 billion yen. The segment's ordinary income dropped by 23.4 billion yen to a loss of 1.6 billion. This reflects our endeavor to further improve the segment's operational efficiency, which partially offset an increase in electricity procurement costs amid higher fuel prices and market prices of electricity.
- Sales from Hokkaido Electric Network rose 58.5 billion yen from the same period of the previous year to 169.2 billion yen. The segment posted 1.9 billion yen in ordinary loss, due to increased costs related to supply-demand adjustment in line with higher fuel prices.
- Sales from others totaled 66.6 billion yen, up 8.3 billion yen from the same period of the previous year. The segment's ordinary income amounted to 4.0 billion yen, up 0.3 billion yen from the same period of the previous year, reflecting an increase in fees from leased cables to mobile carriers in the telecommunication business.

(Unit: billion yen)

	1H FY2023 consolidated cumulative period (A)	1H FY2022 consolidated cumulative period (B)	Increase/ Decrease (A)-(B)
Operating Revenue	386.8	273.4	113.3
Hokkaido Electric Power Company	339.3	251.8	87.4
Hokkaido Electric Power Network	169.2	110.6	58.5
Other *1	66.6	58.2	8.3
Adjustments *2	(188.3)	(147.2)	(41.0)
Segment Income (Ordinary Income)	(1.0)	22.7	(23.7)
Hokkaido Electric Power Company	(1.6)	21.7	(23.4)
Hokkaido Electric Power Network	(1.9)	(1.2)	(0.7)
Other *1	4.0	3.6	0.3
Adjustments *2	(1.4)	(1.4)	0.0

*1 "Other" refers to the results of consolidated subsidiaries other than Hokkaido Electric Power Company and Hokkaido Electric Power Network segments.

*2 "Adjustments" refer to the amount of elimination of inter-segment transactions in the consolidated financial results.

Consolidated; Statements of Cash Flow

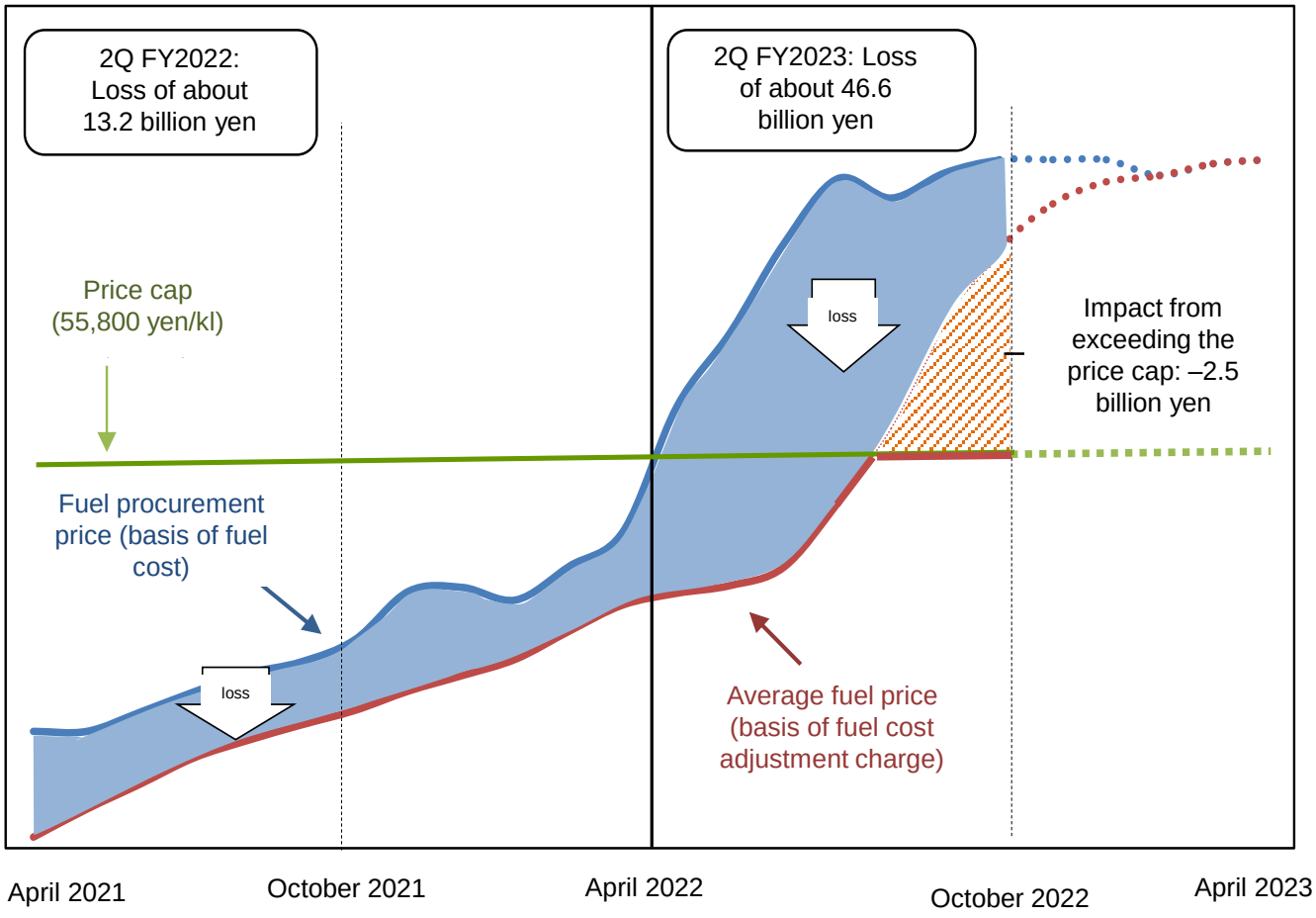
- Cash flow used in operating activities was a 31.8 billion outflow, down 45.9 billion yen from a year earlier. This was mainly due to pretax losses and increased inventory due to higher fuel prices.
- Cash flow used in investing activities was 45.9 billion yen outflow, up 14.2 billion from a year earlier. This reflects increased expenditures for the acquisition of fixed assets.
- Cash flow from financing activities totaled 83.2 billion, up 77.1 billion yen from a year earlier, due to an increase in interest-bearing debt.
- As a result, cash and cash equivalents increased 5.3 billion yen to 94.2 billion yen.

(billion yen)

	1H FY2023 consolidated cumulative period (A)	1H FY2022 consolidated cumulative period (B)	Increase / Decrease (A) - (B)
Ⅰ. Cash flows from operating activities	(31.8)	14.0	(45.9)
Ⅱ. Cash flows from investing activities	(45.9)	(31.7)	(14.2)
Deductible cash flow〔Ⅰ＋Ⅱ〕	(77.8)	(17.6)	(60.1)
Ⅲ. Cash flows from financing activities	83.2	6.0	77.1
Ⅳ. Net increase (decrease) in cash and cash equivalents〔Ⅰ＋Ⅱ＋Ⅲ〕	5.3	(11.6)	17.0
Ⅴ. Net increase (decrease) in Cash & Cash Equivalents	94.2	72.1	22.1

Time Lag Impact Incurred by Fuel Cost Adjustment System

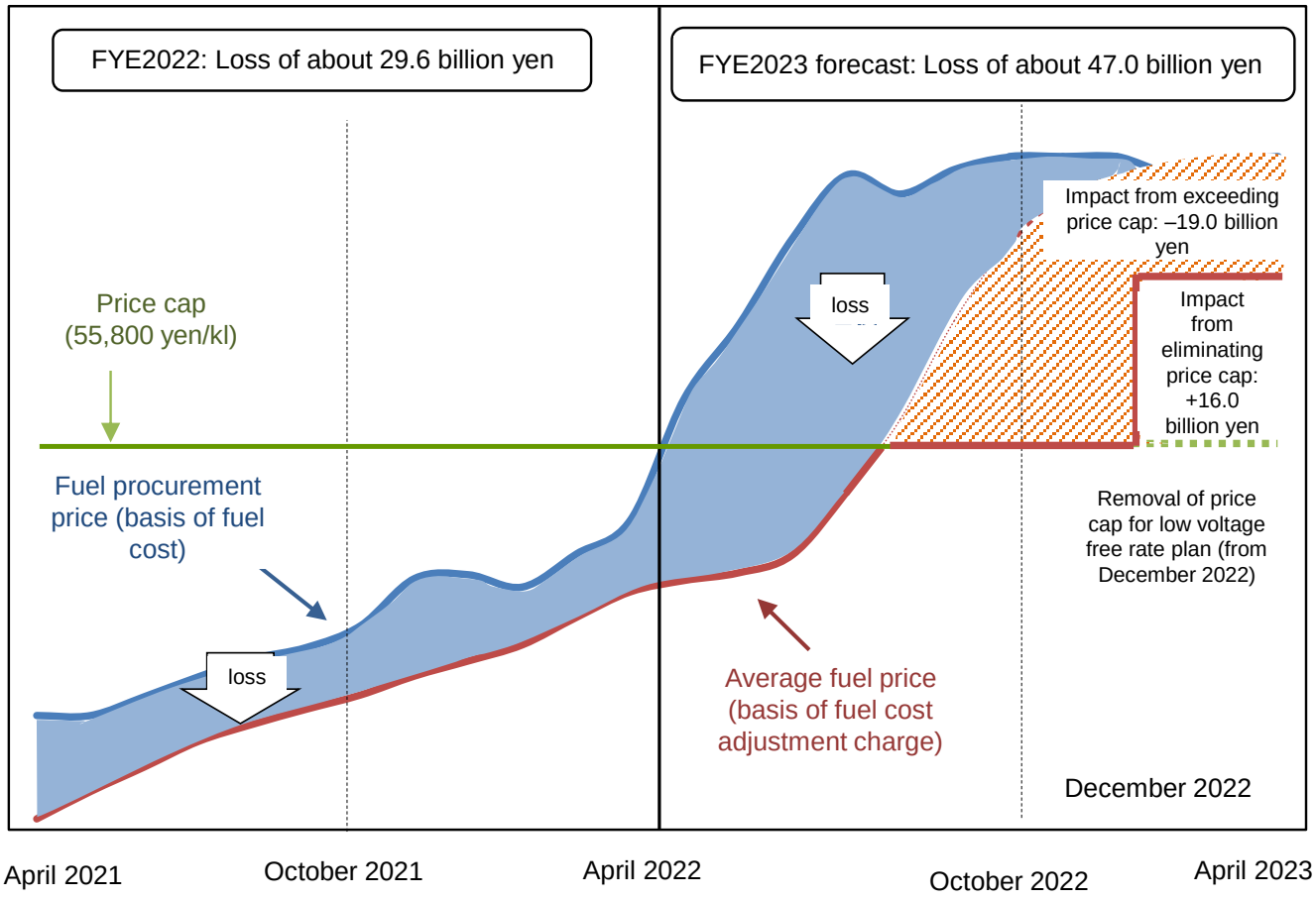
【 Results for the Six Months Ended September 30, 2022 】



Note: Time lag impact is a mechanical calculation of the difference between the “actual fuel cost adjustment amount” and the “fuel cost adjustment amount without considering the time lag.”

Time Lag Impact Incurred by Fuel Cost Adjustment System

【 FY2023 Forecast 】



Note: Time lag impact is a mechanical calculation of the difference between the “actual fuel cost adjustment amount” and the “fuel cost adjustment amount without considering the time lag.”

Expense breakdown （Two Companies Total*）

◆Personnel

（Billion yen）

	1H FY2023 cumulative period (A)	1H FY2022 cumulative period (B)	Increase/ Decrease (A)-(B)	Major factors for increase/decrease
Personnel	28.0	27.4	0.6	

【Amortization of actuarial gains and losses】

*Actuarial gains and losses are being amortized in the following 5 years in which the gains or losses are recognized by the straight-line method.
*A half of the annual depreciation expense was posted in the current midterm.

（Billion yen）

	Amount accrued	Amortization of the previous year	April 1, 2022 – March 31, 2023		
			Amortization	Unamortized Balance	Ending FY [remaining year]
FY2017	1.4	0.3	–	–	–
FY2018	(0.6)	(0.1)	(0.1)	–	–
FY2019	1.4	0.3	0.3	0.3	2024（1 years）
FY2020	3.7	0.7	0.7	1.5	2025（2 years）
FY2021	(4.6)	(0.9)	(0.9)	(2.8)	2026（3 years）
FY2022	5.3	–	1.0	4.2	2027（4 years）
Total		0.3	1.0	3.2	

*The total amount of the two companies represents the sum of the results of Hokkaido Electric Power Co., Inc. and Hokkaido Electric Power Network Co., Inc. after elimination of internal transactions.

Expense breakdown （Two Companies Total*）

◆Fuel and Purchased Power

（Billion yen）

		1H FY2023 cumulative period (A)	1H FY2022 cumulative period (B)	Increase/ Decrease (A)-(B)	Major factors for increase/decrease
Fuel and Purchased Power		216.1	85.9	130.2	[Cause of increase] ・Rise in fuel prices ［72.9］ ・Increased retail electricity sales and electricity sales to other utilities ・Increased electricity procurement costs due to higher market prices ［22.2］ [Cause of decrease] ・Increased hydro power generation ［(5.9)］
Break down	Fuel	96.5	43.7	52.8	
	Purchased Power	119.5	42.1	77.3	

Key Factors

	1H FY2023 cumulative period (A)	1H FY2022 cumulative period (B)	Increase/ Decrease (A)-(B)
Foreign Exchange Rate (yen/$)	134	110	24
CIF Crude Oil Price ($/barrel)	111.9	70.3	41.6
CIF Coal Price ($/t)	342.8	125.9	216.9

*The total amount of the two companies represents the sum of the results of Hokkaido Electric Power Co., Inc. and Hokkaido Electric Power Network Co., Inc. after elimination of internal transactions.

Expense breakdown （Two Companies Total*）

◆Maintenance

（Billion yen）

		1H FY2023 cumulative period (A)	1H FY2022 cumulative period (B)	Increase/ Decrease (A)-(B)	Major factors for increase/decrease
Maintenance		26.2	24.1	2.1	・Increase in repair costs associated with power generation facilities ［3.7］
Break Down	Generation	13.4	9.7	3.6	
	Others	12.8	14.3	(1.5)	

◆Depreciation

（Billion yen）

		1H FY2023 cumulative period (A)	1H FY2022 cumulative period (B)	Increase/ Decrease (A)-(B)	Major factors for increase/decrease
Depreciation		35.8	34.9	0.9	
Break Down	Generation	20.3	20.1	0.1	
	Others	15.5	14.7	0.7	

*The total amount of the two companies represents the sum of the results of Hokkaido Electric Power Co., Inc. and Hokkaido Electric Power Network Co., Inc. after elimination of internal transactions.

Expense breakdown （Two Companies Total*）

◆Interest Expenses

（Billion yen）

	1H FY2023 cumulative period (A)	1H FY2022 cumulative period (B)	Increase/ Decrease (A)-(B)	Major factors for increase/decrease
[Interest(on average)%] Interest Expenses	[0.65] 4.6	[0.67] 4.7	[(0.02)] (0.1)	

◆Other Expenses

（Billion yen）

	1H FY2023 cumulative period (A)	1H FY2022 cumulative period (B)	Increase/ Decrease (A)-(B)	Major factors for increase/decrease
Other Expenses	62.2	59.8	2.3	

*The total amount of the two companies represents the sum of the results of Hokkaido Electric Power Co., Inc. and Hokkaido Electric Power Network Co., Inc. after elimination of internal transactions.

Key Factors・Sensitivity Factors

Key Factors

	1H FY2023 cumulative period (A)	1H FY2022 cumulative period (B)	Increase/ Decrease (A)-(B)
Foreign Exchange Rate (Yen/$)	134	110	24
CIF Crude Oil Price ($/barrel)	111.9	70.3	41.6
Water Flow Rate (%)	106.0	88.7	17.3

Sensitivity Factors

（Billion yen）

	1H FY2023 cumulative period (A)	1H FY2022 cumulative period (B)	Increase/ Decrease (A)-(B)
Foreign Exchange Rate (1Yen/$)	0.7	0.4	0.3
CIF Crude Oil Price (1$/barrel)	0.2	0.1	0.1
Water Flow Rate (1%)	0.4	0.2	0.2

Consolidated Statements of Balance Sheets

(Unit: billion yen)

	As of Sept 30, 2022(A)	As of March 31, 2022(B)	Increase/ Decrease (A)-(B)	Major factors for increase/decrease
Assets	2,075.6	1,992.8	82.8	・Increase in inventories [50.7]
Liabilities	1,794.3	1,707.1	87.1	・Increase in interest-bearing debt [86.5]
Net Assets	281.3	285.7	(4.3)	・Dividend payments [(2.7)] ・Posting of quarterly net loss [(1.6)]

(Billion yen、%)

	As of Sept 30, 2022(A)	As of March 31, 2022(B)	Increase/ Decrease (A)-(B)
Interest-bearing Debt Outstanding	1,471.9	1,385.3	86.5
Shareholders' Equity Ratio	12.9	13.7	(0.8)

Consolidated Statements of Comprehensive Income

Consolidated Statements of Comprehensive Income

(Billion yen)

	1H FY2023 Consolidated cumulative period (A)	1H FY2022 Consolidated cumulative period (B)	Increase/ Decrease (A)-(B)
Profit(loss)	(1.5)	17.6	(19.2)
Other Comprehensive Income	0.1	(0.8)	0.9
Valuation difference on available-for-sale securities [included in “Other Comprehensive Income”]	(0.4)	(0.9)	0.4
Deferred gains or losses on hedge [included in “Other Comprehensive Income”]	0.2	0.0	0.2
Remeasurements of defined benefit plans [included in “Other Comprehensive Income”]	0.3	0.0	0.2
Comprehensive Income	(1.4)	16.8	(18.2)
Comprehensive income attributable to owners of parent [included in “Comprehensive Income”]	(1.4)	16.6	(18.1)
Comprehensive income attributable to non-controlling interests [included in “Comprehensive Income”]	0.0	0.1	(0.1)

Management Approach

Establishing a standard ground motion level

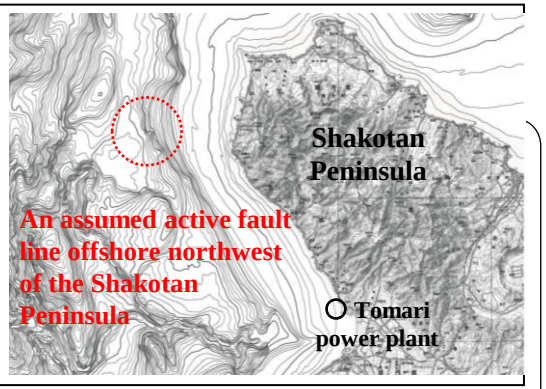
- At the screening meeting on October 21, the Nuclear Regulation Authority (NRA) provided its assessment as “generally reasonable” on our endeavors to estimate earthquake ground motions (ground motions) without specifying an epicenter.
- As a next step in the screening process to determine a standard level of earthquake ground motion (standard ground motion), HEPCO plans to compile the results of our evaluations on ground motions.

Issues explained to NRA

Evaluation of ground motions by specifying epicenter

Evaluation of ground motions assuming an active fault line in the offshore area of the northwest Shakotan Peninsula

⇒Assessed as “generally reasonable” by NRA on October 2021



Mostly explained on October 21, 2022

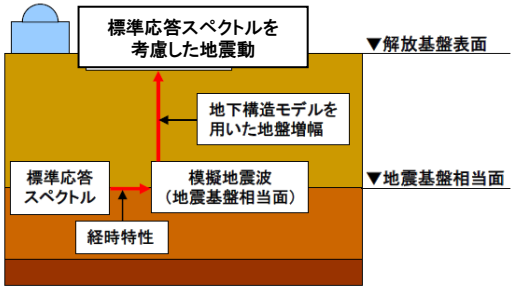
Evaluation of ground motions without specifying epicenter

・Evaluation of ground motions based on the standard design response spectrum

⇒Assessed as “generally reasonable” by NRA at the screening meeting of August 5, 2022

・Overall results of ground motion evaluation without specifying epicenter

⇒Assessed as “generally reasonable” by NRA at the screen meeting of October 21 202



Evaluation of ground motion incorporating the standard design response spectrum

In progress

Establishment of standard ground motion

・ We will set a standard ground motion based on our evaluation of ground motions with and without specified epicenters.

・We will give an explanation to NRA on issues such as reasons behind taking the active-fault approach.

A standard ground motion, which is to be used to evaluate the earthquake resistance of power plants, is established based on:

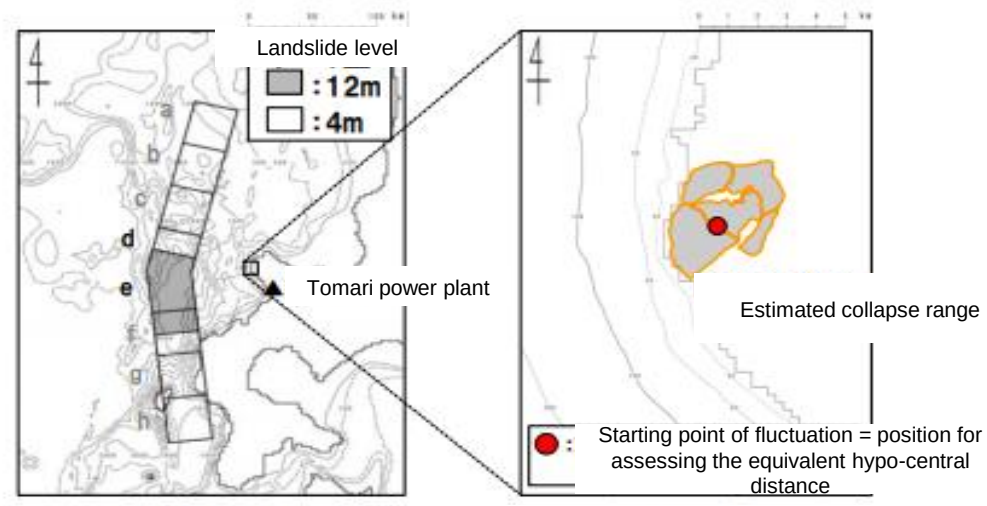
・Ground motions set for power plants assuming specific epicenters, based on the evaluation of active faults in neighboring areas; and

・Ground motions set without assuming specific epicenters, based on data regarding past earthquakes that have no clear link with active faults.

Establishing a standard tsunami wave height

- The remaining tasks required to establish a standard tsunami wave height are those related to the combined evaluation of tsunamis arising from both earthquakes and landslides. We provided an interim progress report on this subject to the NRA at the screening meeting of October 28.
- Toward the final report on the standard tsunami wave level, we will verify the appropriateness of the combined approach and the validity of wave sources that may cause significant impacts on plant sites.

Combined evaluation approach, using tsunami waves caused by both earthquakes and landslides

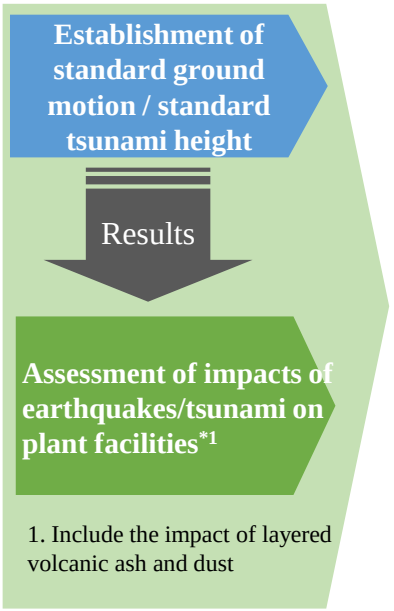


Efforts to Accelerate the Restart of Tomari Nuclear Power Plant (iii)

Remaining screening items and procedures to obtain approval to make changes to nuclear plant installation

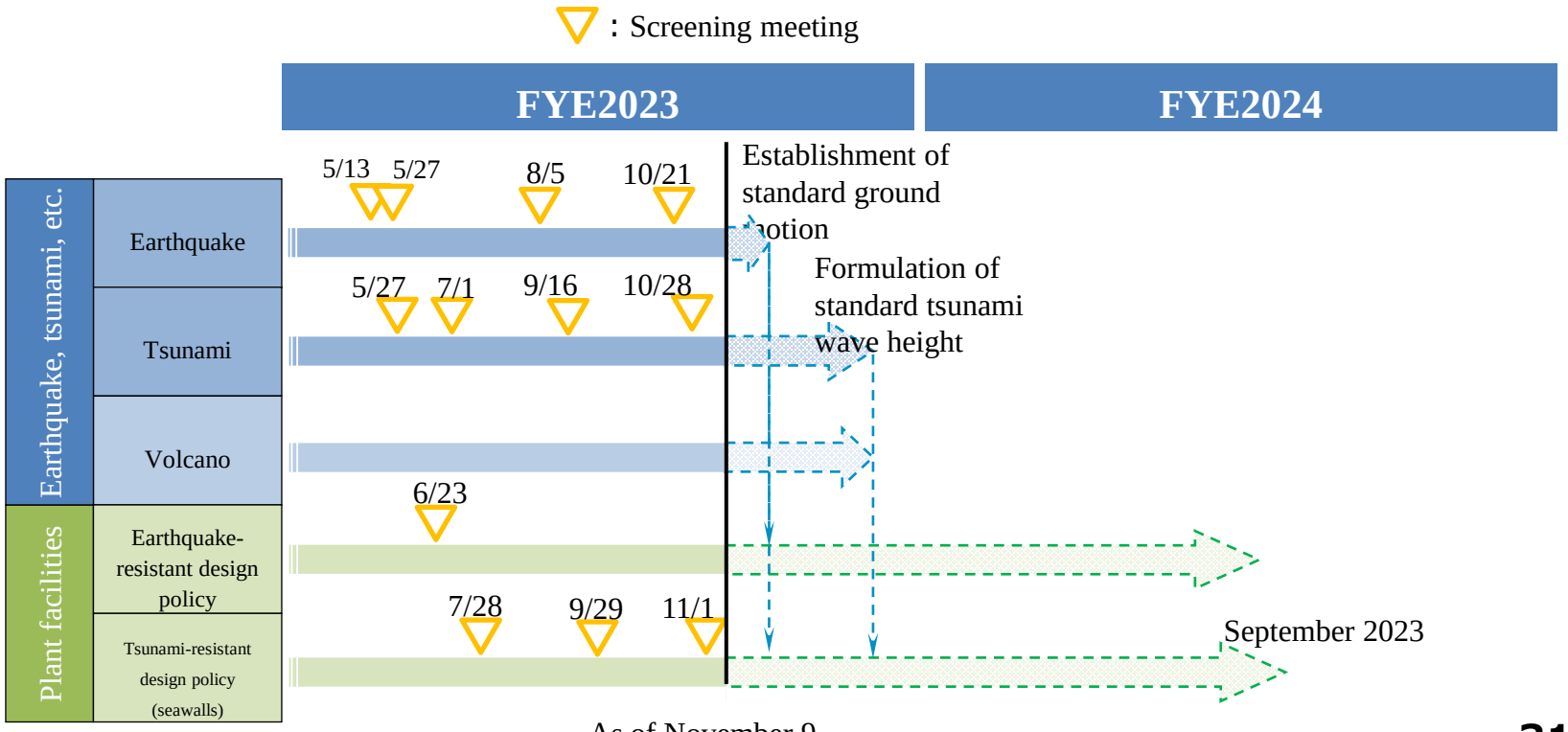
- We will continue our endeavors to establish the standard ground motion and the standard tsunami wave height and incorporate them into the power plants' earthquake- and tsunami-resistant design policies.
- Regarding power plant facilities, we consider our seawall design policy to be the key explanation item.

	Screening item	Explanation to be provided
Earthquake, tsunami, etc.	Earthquake	Evaluation related to the standard ground motion
	Tsunami	Evaluation considering the combination of tsunamis caused both by earthquakes and by landslides
	Volcano	Evaluation on the possibility of volcanic activity Evaluation of thickness of volcanic ash and dust
Plant facilities	Earthquake-resistant design policy/ Tsunami-resistant design policy	Seawall design policy
		Assessment of possible impacts assuming breakwaters are damaged by tsunamis
	Facilities subject to design standard/facilities for handling serious accidents	Impacts of earthquakes and tsunami Incorporation of up-to-date knowledge on the NRA's screening, etc.



Schedule for providing explanations on screening items

- Following the screening meeting of March 31, 2022, we revised our original schedule, incorporating views and opinions received from the NRA in sharing our operational policy, its status, and scheduling for giving an explanation. We provided an explanation on the revised plan at the meeting of November 1, 2022. We intend to complete giving the explanation on remaining issues by September 2023, considering efficient orders of explanation based on the precedence of other companies and obtaining external screening support, such as from plant manufacturers.



Retail Electricity Sales: Dealing with Surging Fuel Prices

- Due to a surge in fuel prices, we have temporarily stopped accepting new applications for high voltage and extra-high voltage electricity. We intend to start accepting new applications under standard terms and conditions in April 2023. Fuel cost adjustment for low-voltage electricity has reached the maximum limit since August. Under the free rate plan, we will remove the cap starting with the December rate.
- We will continue to monitor fuel prices closely. Having implemented measures to further improve operational efficiency through the Committee for the Enhancement of the Business Foundation, we are considering every option to mitigate negative factors, such as the pricing system noted above.

	Proportion to retail sales volume in FYE2023	Upper limit of cost adjustment	Direction of our response
High and extra-high voltage	About 60%	No	- Not accepting new applications since May 2022 - Aiming to start supplying electricity under standard terms and conditions in April 2023
Low voltage (Free rate)	About 20%	No	- Elimination of upper limit starting for December rate (from November meter reading)
Low voltage (regulated)	About 20%	In place	

Subsequent Events After July 29 1Q Results Announcement

Date	Description	Related slides
August 29, 2022	Revision of the fuel cost adjustment system in connection with electricity pricing (free rate plan, low-voltage electricity)	P. 32
September 14, 2022	Development/implementation of AI-assisted support system for optimal boiler combustion: Tomato-Atsuma Power Plant Unit No. 4	P. 34
September 28, 2022	Commencement of Moiwa Power Plant replacement construction	P. 35
October 27, 2022	Study on establishing a large-scale green hydrogen supply chain in Hokkaido	P. 39
November 9, 2022	Joint research related to the blue carbon project in the Rumoi coastal and marine area	P. 36

Development and Implementation of AI-assisted support system for optimal boiler combustion

- HEPCO and IHI jointly developed an artificial intelligence (AI)-assisted support system to achieve optimal boiler combustion.* The system has been in operation at Tomato-Atsuma power plan's No. 4 unit.
- Adjustments to boiler combustion have normally been based on human expertise. As part of our efforts for digital transformation, we have introduced an AI-based system that can maintain and optimize the status of boiler combustion, which fluctuate every day.
- The system will likely improve boiler efficiency, while reducing costs of running boiler-related equipment and machinery.

*Boiler combustion adjustments are made to optimize the status of combustion by distributing air to each part of the boiler to change the position of flames, etc., if uneven combustion is identified based on various operation data or by visual observation.

System overview

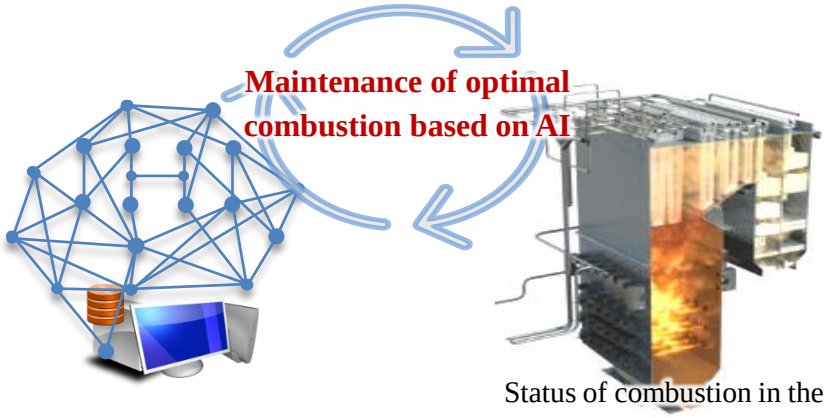
Existing

- ✓ Adjustments are made in sync with periodic boiler inspections held roughly semiannually.
- ✓ Adjustments are based on the expertise of the power plant staff and IHI's technical staff.

New system

- ✓ AI notifies optimal settings to the power plant staff
- ✓ The power plant staff will make adjustments and optimize boiler consumption daily.

Notification by AI of optimal settings to the thermal power plant staff



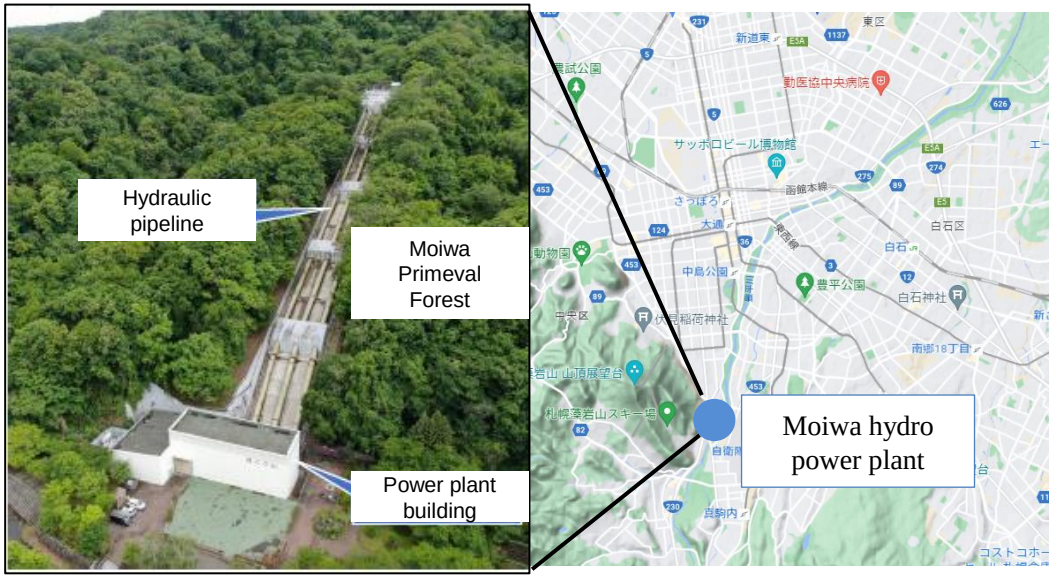
AI-assisted system for optimal boiler combustion

Commencement of Moiwa Power Plant's Replacement Construction

- Moiwa Hydro Power Plant, located in close proximity to central Sapporo, has been operating for 86 years. The plant is aged and deteriorating. The plant's buildings, hydraulic pipes, etc., will be updated.
- We will contribute to achieving carbon neutrality and expanding renewable energy usage, such as by maximizing the use of our existing hydro power plants.

- We will continue reducing carbon emissions by renewing the aged Moiwa plant for long-term use, rather than scrapping.
- Replacement with higher-efficiency water turbines and generators will likely increase the plant's maximum output from 12,600 kilowatts to 13,400 kilowatts, raising the annual power generation by about 7,000,000 kilowatts.

	Existing	After construction
Location	Sapporo City, Hokkaido Prefecture	
River name	Toyohira River of the Ishikari River system	
Method of power generation	Pondage type/dam and conduit type	
Max water use	15.58 m^3/s	
Effective head	97.10 m	96.80 m
Max output	12,600 kW	13,400 kW
Commencement of construction (preparation work)	–	August 1, 2022
Launch date	September 1936	March 2029 (planned)



Joint Research on the Marine Blue Carbon Project in the Moiwa Coastal and Marine Area

- We have developed low-carbon algal reef* material (substrate), using ash from biomass combustion, by applying our in-house coal ash utilization technology used in thermal power generation. Compared to typical concrete-based reef, our material has lower carbon emission in the manufacturing process. It also contains ingredients that facilitate kelp growth.
- Rumoi City and HEPCO plan to jointly conduct a verification test on real sea cultivation of low-carbon algal reefs which promote the growth of marine plants (algae), and continue our research toward the commercialization of blue carbon, absorbed and stored by marine ecosystems.
- Through this research, we aim to resolve challenges faced by the region, such as the recovery of marine resources and the revitalization of the fishing industry.

*An algal reef is a block processed to make it easier for marine plants (algae) to stick under the sea.

Verification test overview

1. Main research/test items

(1) Production of algae seeds/seedlings
(2) Making substrates
(3) Seed/seedling attachment test (indoor)
(4) Real sea area cultivation test using substrates in which seeds and seedlings have taken root
(5) Monitoring

2. Research period (planned)

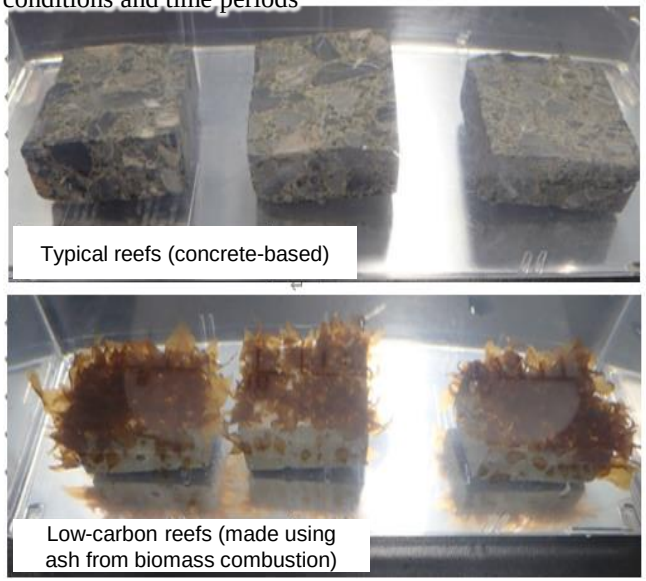
October 2022–March 2024

3. Locations of verification tests

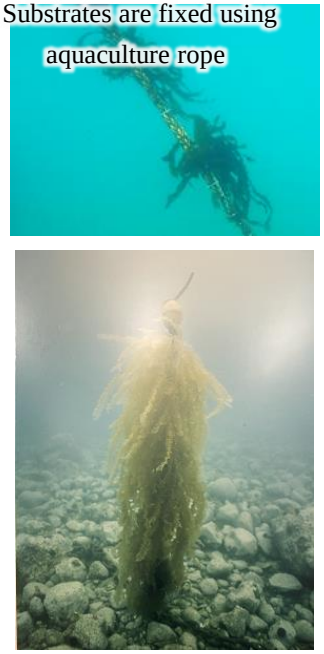
Rumoi Fishing Port and Mitomari Fishing Port, Rumoi City

Indoor cultivation test

Comparison of cultivation using typical concrete-based reefs and low-carbon, biomass-based reefs with the same number of seeds/seedlings attached and cultivated under identical conditions and time periods



Real sea cultivation test



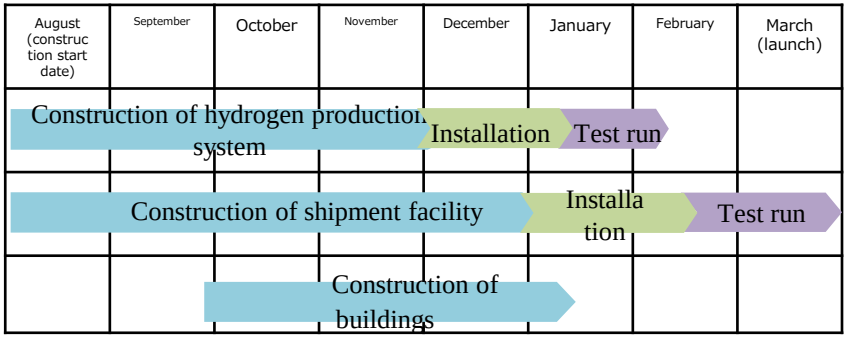
Reference Materials

Reference: Progress of Electrolysis-based Hydrogen Production Facility Project

- We have decided to introduce a 1MW hydrogen production facility that manufactures hydrogen through electrolysis of water in Tomakomai, Hokkaido.
  (Press release on April 28, 2022)
- At present, construction of the building has started, and installation and trial operation of the main equipment will start in December, and operations are scheduled to start in March next year.

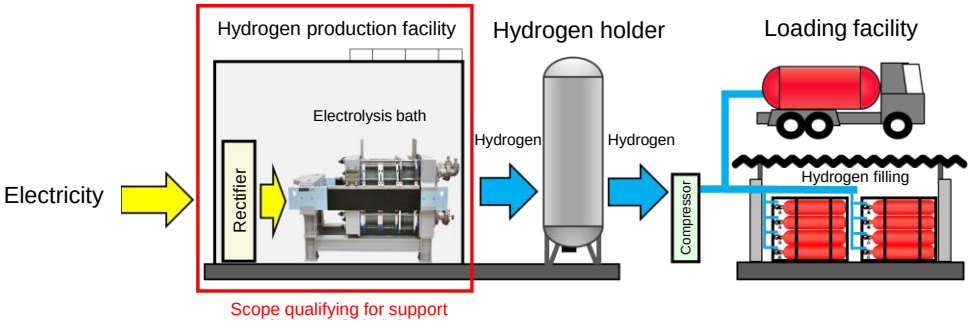
1. Project overview

(1) Name: Project to facilitate the introduction of grid-scale storage batteries, etc., and accelerate the introduction of renewable energy (under FY2021 supplementary budget)
(2) Date adopted: March 31, 2022
(3) Equipment to be introduced: 1 MW-class hydrogen production system (hydrogen output: 200Nm^3/h), shipment facility, etc.
(4) Location: 1-17 Benten, Tomakomai, Hokkaido
(5) Construction start date: August 2022
(6) Operation launch date: March 2023 (planned)



Schedule for major equipment/facility

2 . Introduction image



Status of construction (pilling) as of October 11

Reference: Efforts for Hydrogen Utilization

In collaboration with the government, Hokkaido prefecture, municipalities and companies, we are working to produce hydrogen using abundant renewable electricity sources in Hokkaido and establish a hydrogen supply chain which will utilize hydrogen in various fields.

Study on hydrogen supply chain utilizing offshore wind power at the Ishikari Bay New Port (Press release on July 28, 2021)

・Project period: FY2022 to FY2023
・Project overview: The aim of the project is to identify technological, economic and systemic issues such as efficient hydrogen production (local production), utilization in Ishikari City, Sapporo City, etc. (local consumption) and transportation in and out of Hokkaido to achieve social implementation.

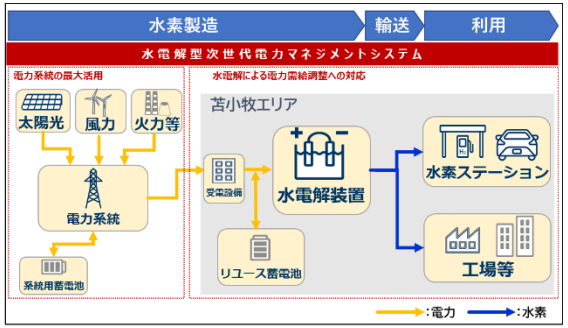
Study on establishing a model hydrogen utilization case in the area centering New Chitose Airport (Press release on June 20, 2022)

・Project period: FY2023
・Project overview: The project will clarify the role and effectiveness of hydrogen in comparison with others such as electricity, and examine the possibility of meeting hydrogen demand in New Chitose Airport with renewable energy-based hydrogen.

*写真出典：福島水素エネルギー研究フィールド
(NEDO「水素社会構築技術開発事業/水素エネルギーシステム技術開発」の一環として実施)

Study on establishing a large-scale green hydrogen supply chain in Hokkaido (Press release on October 27, 2022)

・Project period: October 2022 to September 2023
・Project overview: The project will involve an investigation into the possibility of building a domestic green hydrogen supply chain and study into the effective use of surplus electricity and its supplemental use, assuming electrolysis-based hydrogen production equipment (100 MW class) is introduced.



Reference:HEPCO Group Management Vision 2030; Management Goals for 2030

Our business environment will change substantially around the time the Tomari Nuclear Power Station, our major power source, is restarted.

While aiming to return the Tomari Nuclear Power Station to operation as early as possible under the fundamental provision of safety being assured, we have and will continue to work hard to increase management efficiency prior to the restart of the power station in order to secure profits. We will also endeavor to expand our business domains to ensure sustainable growth.

	Phase I (before the restart of Tomari NPS)	Phase II (after all units of Tomari NPS are back in operation)
Power source mix	Use thermal power as a main power source Reinforce safety of Tomari NPS prior to its restart	Use thermal power mainly for adjustment **Restart Tomari NPS** (Unit 3 → Units 1 and 2) Inexpensive electricity rates Supply low-carbon power within and outside Hokkaido
	Expand renewable power generation	
Expansion of retail sales; promotion of electrification	Implement the Retail Sales Strategy; promote total energy solutions Promote electrification of housing, industry, and transportation; and increase power demand	
Expansion of the scope of business domains	Expand the scope of business domains to include city gas sales and other businesses	
Stable supply; efficiency	Secure stable supply and enhance resilience while at the same time increasing efficiency and reducing costs	
Target profit	Consolidated ordinary income ¥23 billion+/year	Consolidated ordinary income ¥45 billion+/year

Financial target

- **Consolidated capital ratio: 15%+ We will continue our efforts to further improve the figure.**

Cash flow

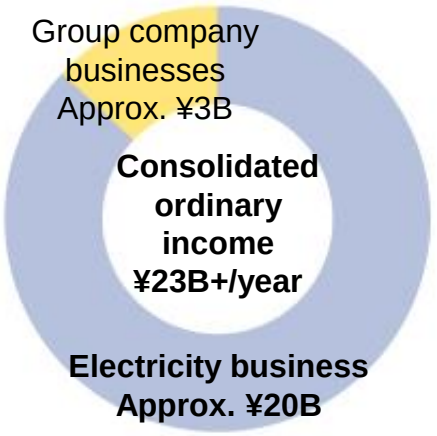
- **Investment of ¥50B+ on new priority businesses**
- **Investment for renewing existing equipment**
- **Enhancement of price competitiveness**
- **Reinforcement of financial base**
- **Return to shareholders**

  →We aim to return more profits to shareholders to meet their expectations while endeavoring to restore equity capital.

Growth indicators

- **Electricity retail and wholesale: 30TWh+/year**
- **Gas supply: 100,000t+/year**
- **Renewable energy generation (incl. generation outside Hokkaido): up by 300MW+**

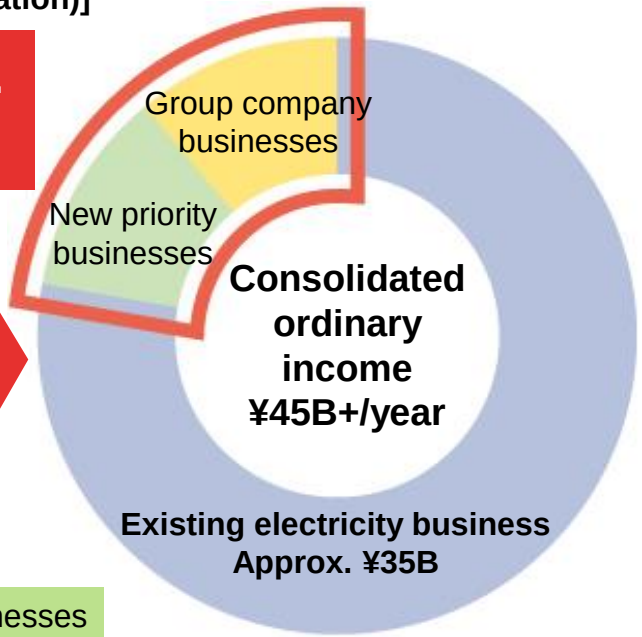
[Phase I (before the restart of Tomari NPS)]



Approx. ¥10B

Consolidated ordinary income **Almost double**

[Phase II (after all units of Tomari NPS are back in operation)]



New priority businesses

Renewable power generation, overseas electricity business, and other energy-related businesses

Cost reduction

- **Ceaseless efforts for efficiency improvement and cost reduction**

Environmental target

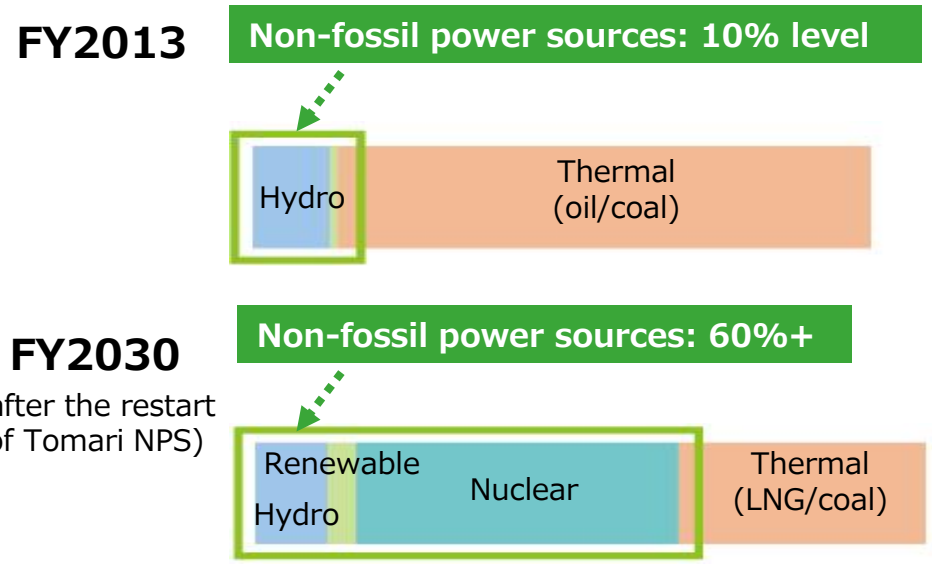
- **CO_2 emissions: Reduction by 50%+ (or 10M t+/year) from 2013 levels through the restart of Tomari NPS and the use of LNG thermal generation**

- The ratio of non-fossil power sources to the Group's total generation is expected to rise from the 10% level in FY2013 to 60%+ after all units of the Tomari Nuclear Power Station are returned to operation.
- It is expected that the restart of the Tomari Nuclear Power Station, as well as our efforts to promote renewable power generation and the use of LNG thermal power, will reduce our CO2 emissions by 50%+ (or 10 million t+/year) from FY2013 levels, while increasing total generation. This reduction will significantly exceed the Japanese government's FY2030 greenhouse gas reduction target of 26% from FY2013 levels.

Non-fossil power sources	Thermal power sources
• Restart Tomari NPS • Expand renewable power generation business in and outside Japan	• Secure the balance between power supply and demand • Decommission aging oil and coal thermal power stations and use LNG

Reduce CO_2 emissions by
50%+ (10M t+) from FY2013 levels

[Power source mix envisioned by our generation division]



The retail sales division aims to achieve the non-fossil fuel power source ratio target of 44%+ by FY2030 as well as the CO_2 emissions reduction target set by the Electric Power Council for a Low Carbon Society.

While increasing total generation by expanding retail sales in Hokkaido and selling electricity to outside Hokkaido, we will also reduce CO_2 emissions.

■ Reference:HEPCO Group Management Vision 2030;Management Goals for 2030

2030 Vision Targets		FY2021 Actual	FY2022 Actual
Target profit (Consolidated ordinary income)	➤ Phase I: **min. 23.0B yen/year** ➤ Phase II: **min. 45.0B yen/year**	41.1B yen	**13.8B yen**
Financial target (Consolidated capital ratio)	**15%+**	13.8%	**13.7%**
Invest in new priority businesses* *Renewable power generation, overseas electricity business, and other energy-related businesses	**Total 50.0B yen** of investment	3.2B yen (cumulative total 3.2B yen)	**6.6B yen (cumulative total 9.8B yen)**
Indicators toward growth	➤ **Power retail/wholesale: min. 30.0B kWh/year (inc. outside Hokkaido; ex. NW wholesale)**	24.4B kWh	**26.2B kWh**
	➤ **Gas supply business: min. 100 kt/year**	3 kt	**8 kt**
	➤ **Renewable power generation: up min. 0.3M kW (inc. outside Hokkaido)**	Cumulative total 39K kW	**Cumulative total 41K kW**
Environmental target (CO_2 emissions reduction/year) [Actual CO_2 emissions]	**Cut min. 50% from FY2014 levels (min. -10M t/year)** [FY2014: 18.92M t]	28% reduced (-5.35M t/year) [13.57M t】	**24% reduced (-4.51M t/year)** [14.41M t】

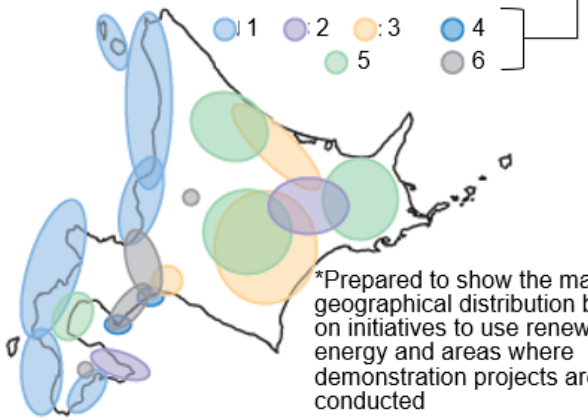
Initiatives using regional characteristics of Hokkaido

Ideal environment for expanding the introduction of renewable energy

Good wind conditions	Surrounded by seas	→ **Offshore wind power generation**
Abundant sunlight	Vast land area, much blessed with abundant sunlight	→ **Onshore wind power generation, solar power generation**
Collaboration with local industries	Forestry	→ **Woody biomass power generation**
	Farming	→ **Livestock biomass power generation**
Existence of geothermal resources		→ **Geothermal power generation**

1 Wind 2 Geothermal 3 Solar
4 By-product hydrogen 5 Biomass
6 Major energy consuming area

[Main geographical distribution of renewable energy sources, etc. in Hokkaido]



*Prepared to show the main geographical distribution based on initiatives to use renewable energy and areas where demonstration projects are conducted

From the Vision to Achieve a Hydrogen Society in Hokkaido (revised edition) developed by the Hokkaido Government

Electrification potential in energy demand

As many cities, towns, and villages are scattered throughout the vast, cold and snowy land,
- a large amount of energy is consumed for heating, hot water supply, travel, and transportation, and
- there is good potential for electrification and utilization of hydrogen for the realization of carbon neutrality since petroleum-based energy is mainstream.

Household and business sector (heating and hot water supply)	→ **Energy demand for heating and supplying hot water -> Electrification (good potential for electrification especially in heating)**
Transport sector (passengers and freight)	→ **Energy demand for transport -> Electrification, hydrogen-based fuels Introduction of electric vehicles (EVs) and fuel cell vehicles (FCVs)**
Industry sector	→ **Electrified as much as possible**

HEPCO Group's Vision

The HEPCO Group will do its utmost to meet the challenge of achieving carbon neutrality for all energy use in Hokkaido.

- ▶In addition to achieving the HEPCO Group's environmental target for 2030 (reducing CO_2 emissions from the power generation division by more than 50% from FY2014 levels), we aim to achieve zero CO_2 emissions from the power generation division in the long term.
- ▶Through the expansion of electrification and the use of green hydrogen, we aim to achieve carbon neutrality in Hokkaido, including other forms of energy other than electricity.

Image of future reduction of CO_2 emissions

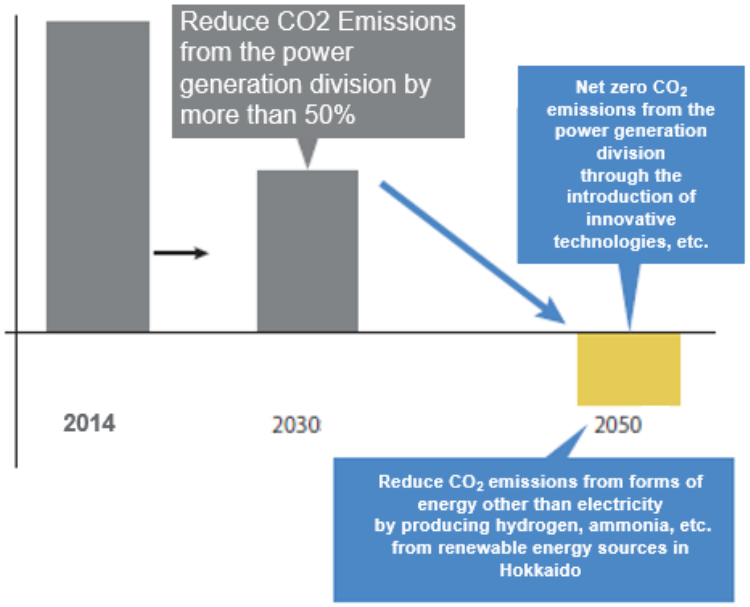
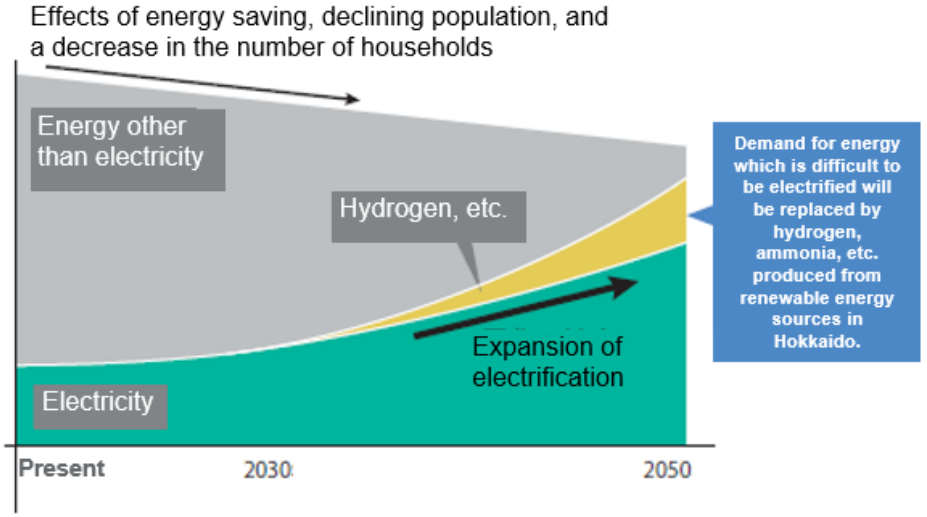


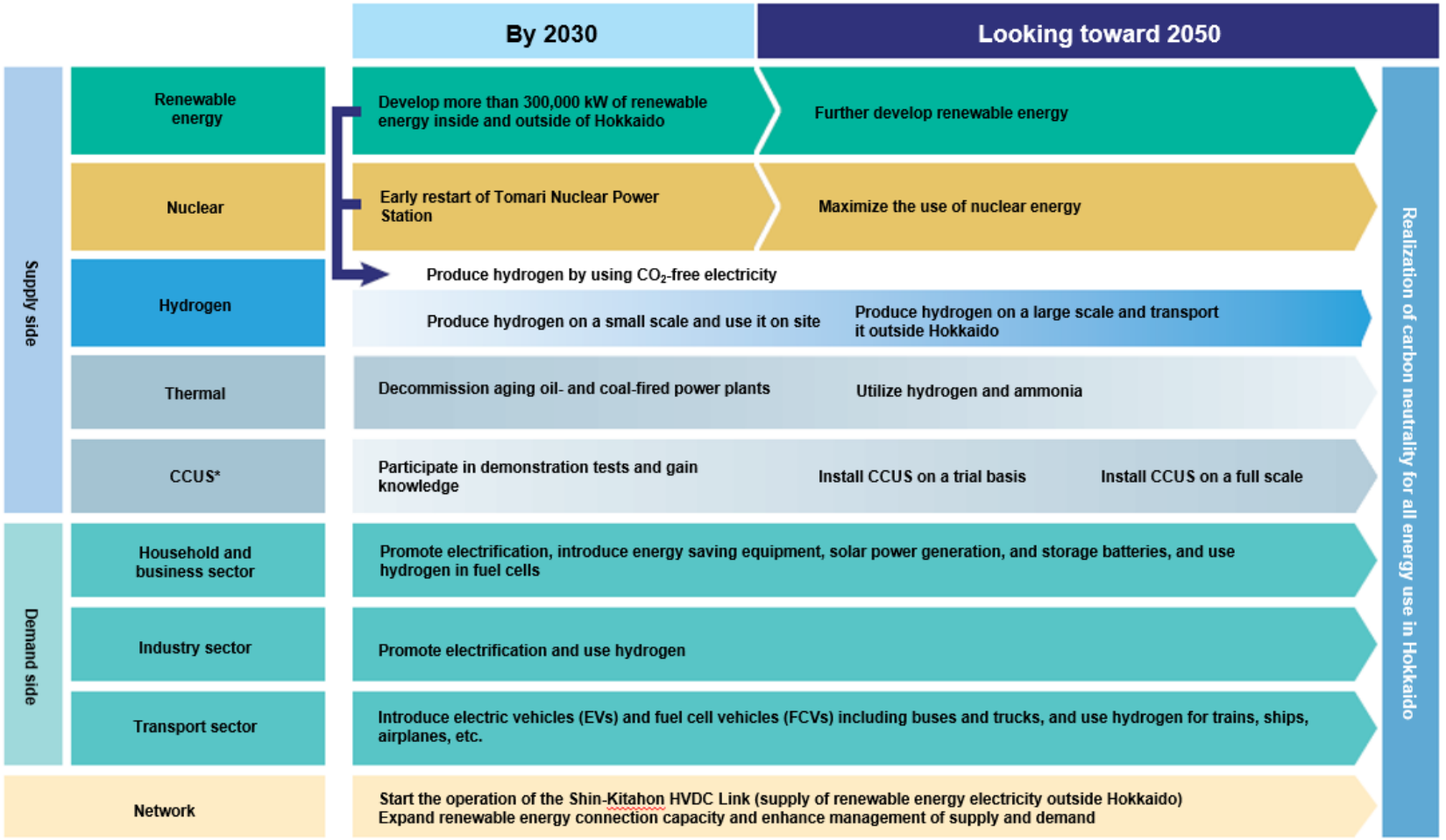
Image of future energy demand



Reference: Measures to Looking Ahead to Carbon Neutrality by 2050

Roadmap to Carbon Neutral 2050

The HEPCO Group will mobilize all available means such as the use of innovative technologies, in addition to the measures taken so far including an increase in the adoption of renewable energy and the restart of Tomari Nuclear Power Station.



*CCUS (Carbon Capture, Utilization and Storage): Technology to separate and capture CO_2 for reuse or underground storage, etc.

Reference: For a More Competitive Energy Mix

	Power generation facility	Output (10,000 kW)	Start date	Operation start/suspended or decomissioned
Under construction	Kyogoku Unit 3 (Pumped storage hydropower)	20	September 2001	FY2032 or later*
	Shintoku (Hydropower)	2.31	April 2019	June 2022
In preparation for construction	Ishikariwan Shinko Unit 2 (LNG-fired thermal)	56.94	March 2027	December 2030
	Ishikariwan Shinko Unit 3 (LNG-fired thermal)	56.94	March 2032	December 2035
Suspended or Decommiss-ioned	Sunagawa Units 3 & 4 (Coal-fired thermal)	(25) [(12.5)×2Units]	–	March 2027
	Naie Units 1 & 2 (Coal-fired thermal)	(35) [(17.5)×2Units]	–	March 2027
	Onbetsu Units 1 & 2 (Oil-fired thermal)	(14.8) [(7.4)×2Units]	–	Pending

Construction of new power sources and record of suspension or decommissioning of facilities

Newly constructed	Ishikariwan Shinko Power Station Unit 1 (LNG Thermal)	56.94	August 2015	February 2019

Suspend or decommission aging facilities along with the construction of new power sources

Suspended	Naie Power Station Unit 1 and 2 (coal-fired)	(35) [(17.5) × 2units]	–	March 2019 (suspended)

Reference: Outline of Thermal Power Plants

Power generation facility		Unit	Rated output (10,000 kW)	Period of Operation*	Power generation method	Current status
Coal	Sunagawa	3	12.5	45 years and 3 months	Sub-C	Operating
		4	12.5	40 years and 4 months	Sub-C	Operating
	Naie	1	17.5	54 years and 4 months	Sub-C	Suspended
		2	17.5	52 years and 7 month	Sub-C	Suspended
	Tomatoh -Atsuma	1	35	41 years and 11 months	Sub-C	Operating
		2	60	36 years and 11 months	SC	Operating
		4	70	20 years and 3 months	USC	Operating
Oil	Tomakomai	1	25	48 years and 10 months	—	Operating
	Date	1	35	43 years and 10 months	—	Operating
		2	35	42 years and 6 month	—	Operating
	Shiriuchi	1	35	38 years and 9 months	—	Operating
		2	35	24 years	—	Operating
	Onbetsu	1	7.4	44 years and 4 months	—	Operating
		2	7.4	44 years and 4 months	—	Operating
LNG	Ishikariwan Shinko	1	56.94	3 years and 7 month	—	Operating

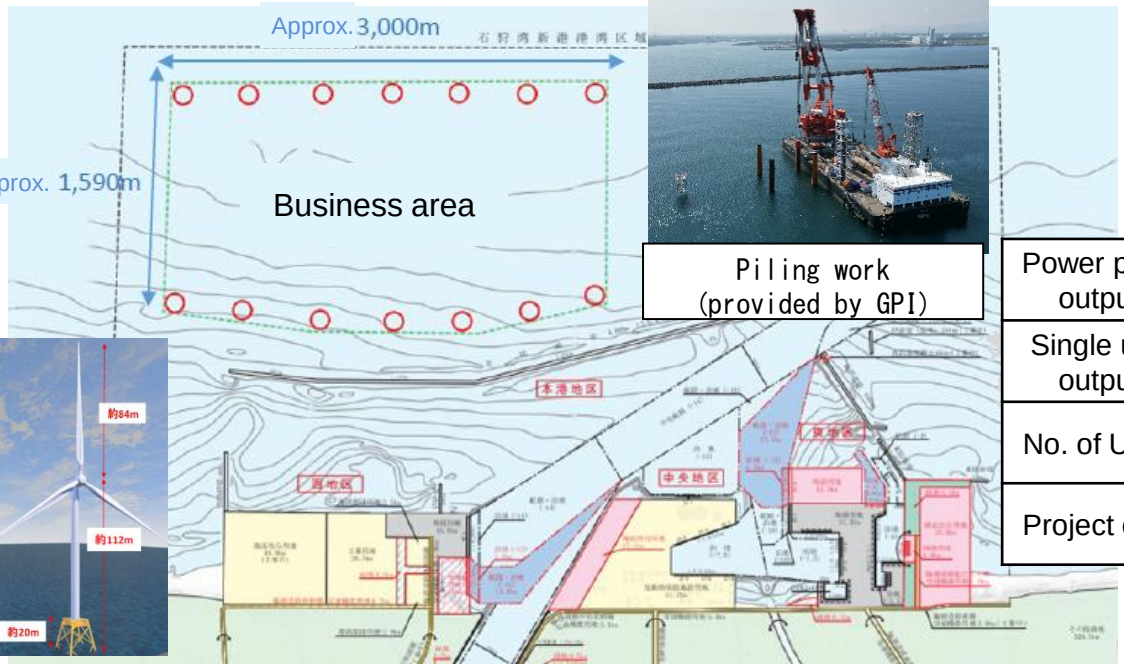
*as of the end of September 2022

Signed a partnership agreement with Green Power Investment Corporation (GPI)

- A 100,000-kilowatt, seabed-fixed offshore wind farm is under construction in a port area. We are aiming to start operating it in December 2023.
- Pilling work is complete, and preparations are ongoing for the installation of windmills and other equipment.

Outline of Ishikariwan Shinko Offshore Wind Power Plant

(provided by GPI)



Piling work (provided by GPI)

Power plant output	approx. 100,000 kW
Single unit output	8,000 kW
No. of Units	14 units
Project cost	approx. 74 billion yen

Offshore wind power generation in the Ishikari Bay general sea area

- HEPCO works with GPI to have the Ishikari Bay general sea area designated for promoting offshore wind power generation and to prepare for bidding.
- Four other areas of Hokkaido are designated to have achieved a determined level of preparation for wind power generation. Based on this, coupled with Hokkaido's high potential for wind power generation, we are also considering commercializing wind power generation for these areas.

促進区域、有望な区域等の指定・整理状況（2022年9月30日）

区域名		
促進区域（事業者選定済）	①長崎県五島市沖（浮体）	
	②秋田県能代市・三種町・男鹿市沖	
	③秋田県由利本荘市沖	
	④千葉県銚子市沖	
	⑤秋田県八峰町・能代市沖	
促進区域	**⑥長崎県西海市江島沖**	
	⑦秋田県男鹿市・潟上市・秋田市沖	
	⑧新潟県村上市・胎内市沖	
有望区域	⑨青森県沖日本海（北側）	
	⑩青森県沖日本海（南側）	
	⑪山形県遊佐町沖	
	⑫千葉県いすみ市沖	
	⑬千葉県九十九里沖	
一定の準備段階に進んでいる区域	⑭北海道檜山沖	⑳岩手県久慈市沖（浮体）
	⑮北海道岩宇・南後志地区沖	㉑福井県あわら市沖
	⑯北海道島牧沖	㉒福岡県響灘沖
	⑰北海道松前沖	㉓佐賀県唐津市沖
	⑱北海道石狩市沖	**㉔富山県東部沖（着床・浮体）**
	⑲青森県陸奥湾	

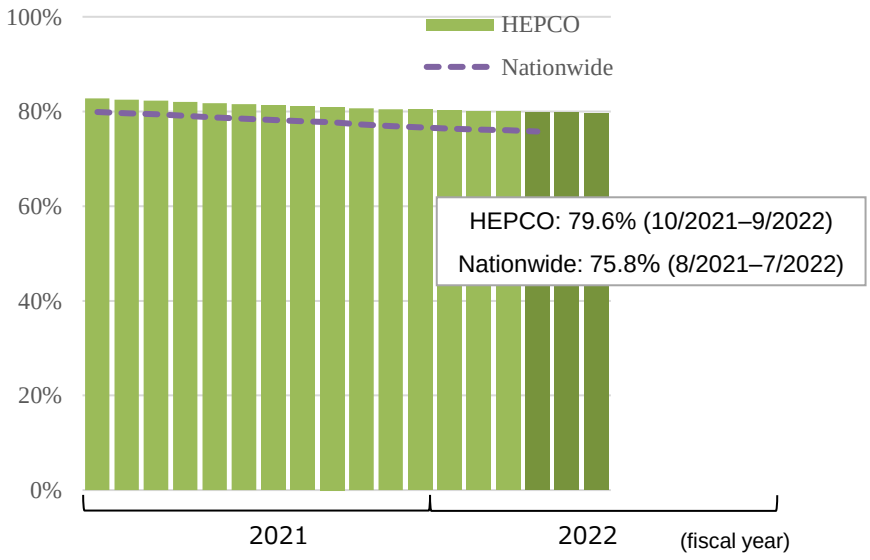
【プロセス】
(1)都道府県等からの情報収集 → (2)有望な区域等の公表 → (3)協議会の組織風況/地質調査 → (4)促進区域の指定 → (5)公募による事業者選定 → (6)FIT認定30年間の占用許可 → (7)事業の開始

出典：経済産業省 資源エネルギー庁ＨＰ「なっとく！再生可能エネルギー」

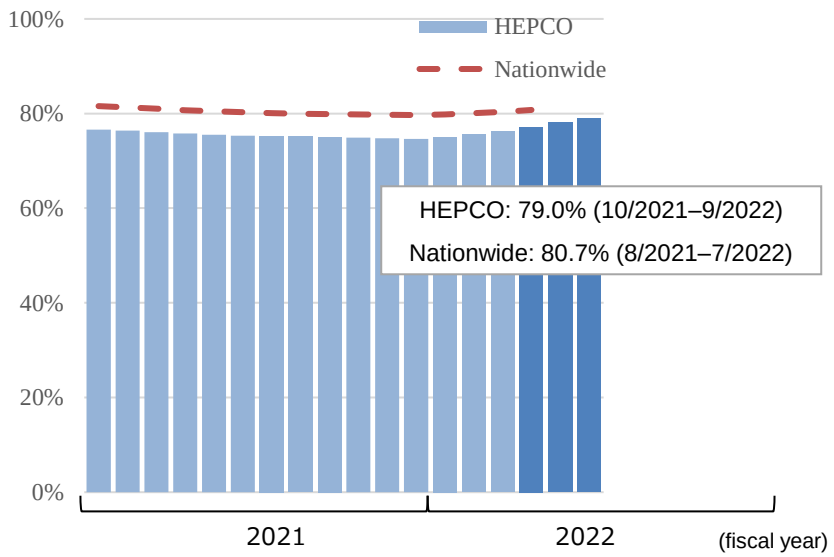
Reference: Electricity Retail Sales

- We face severe competition in the low-voltage electricity market, with customers continuing to switch providers. Our market share stood below 80% as of September 2022.
- In the high- to extra-high voltage market, our share grew in April 2022 and recovered to reach nearly 80% as of September 2022.

HEPCO's market share in the **low-voltage** market in the Hokkaido area by volume (kWh)*



HEPCO's share in the **high to extra-high voltage** market in the Hokkaido area by volume (kWh)*



*Nationwide: Average share (kWh) in each supply area of former general electric power companies

*Calculated based on data in the electricity trading bulletin released by the Electricity and Gas Market Surveillance Commission

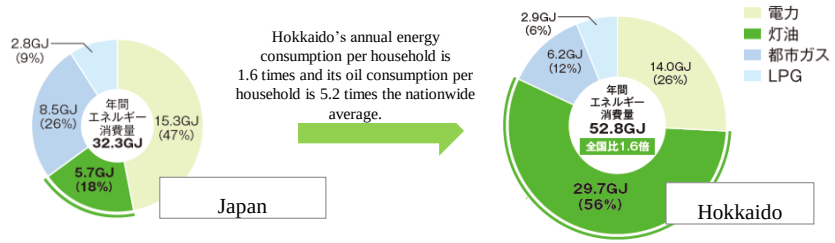
*Moving average for the total for the past 12 months (including HEPCO estimates)

Reference: Promotion of Electrification and Energy Conservation

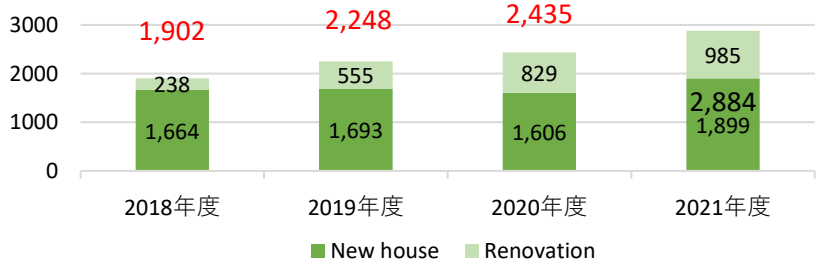
Promotion of electrification

- Hokkaido's energy consumption for home heating is higher than other prefectures. Its proportion of petroleum-based energy consumption is also high. Thus, electrification has very high potential in Hokkaido.
- We plan to promote electrification by promoting smart housing and use of air conditioning.

Annual energy consumption by type in the household sector (FYE2021 actual)

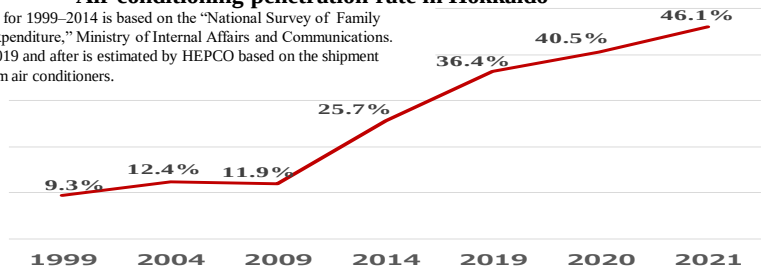


Households adopting smart electrification



Air conditioning penetration rate in Hokkaido

Note: The data for 1999–2014 is based on the "National Survey of Family Income and Expenditure," Ministry of Internal Affairs and Communications. The data for 2019 and after is estimated by HEPCO based on the shipment volume of room air conditioners.



Efforts for ZEB

- HEPCO is a registered net zero energy building (ZEB) planner since FYE2018. We offer proposals for ZEBs aligned with customer needs.
- HEPCO provides ZEB construction support, including system proposals, by leveraging the HEPCO group's overall strengths.
- We also aim to expand the support business to capture post-construction businesses, including energy analysis, improvement work, and electricity supply.

HEPCO provides ZEB consulting services for 10 of the 24 properties registered as ZEB model cases in Hokkaido.

Specific ZEB example

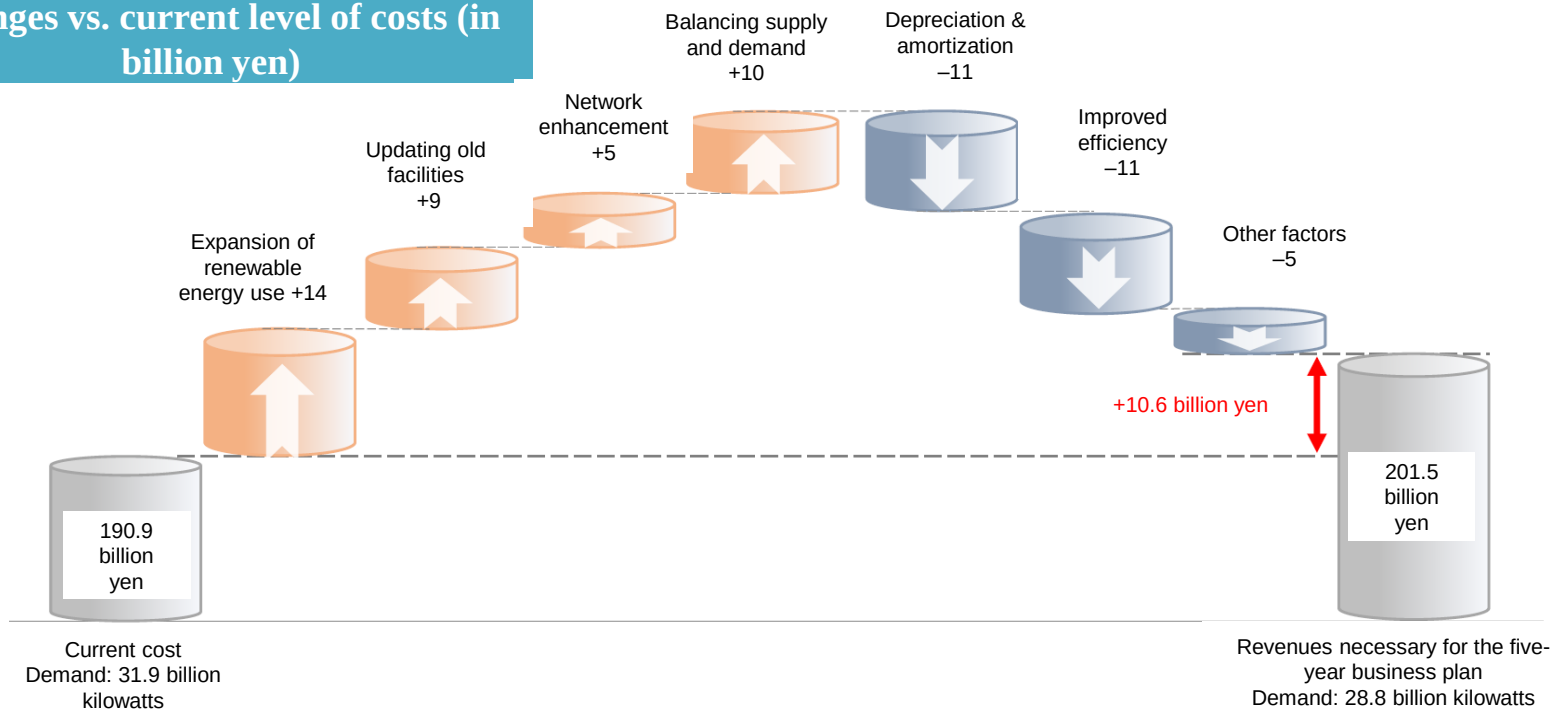
- ✓ We have obtained ZEB Ready certification for large, mixed-use property difficult to convert to ZEB. This is the largest ZEB property in Hokkaido.
- ✓ The property is equipped with high-performance insulation, highly efficient air-conditioning systems and heat sources with heat pumps, and total heat exchangers to reduce the energy use by air conditioning.

Sapporo Susukino Ekimae Complex Development Project (tentative name, expected completion in fall 2023)

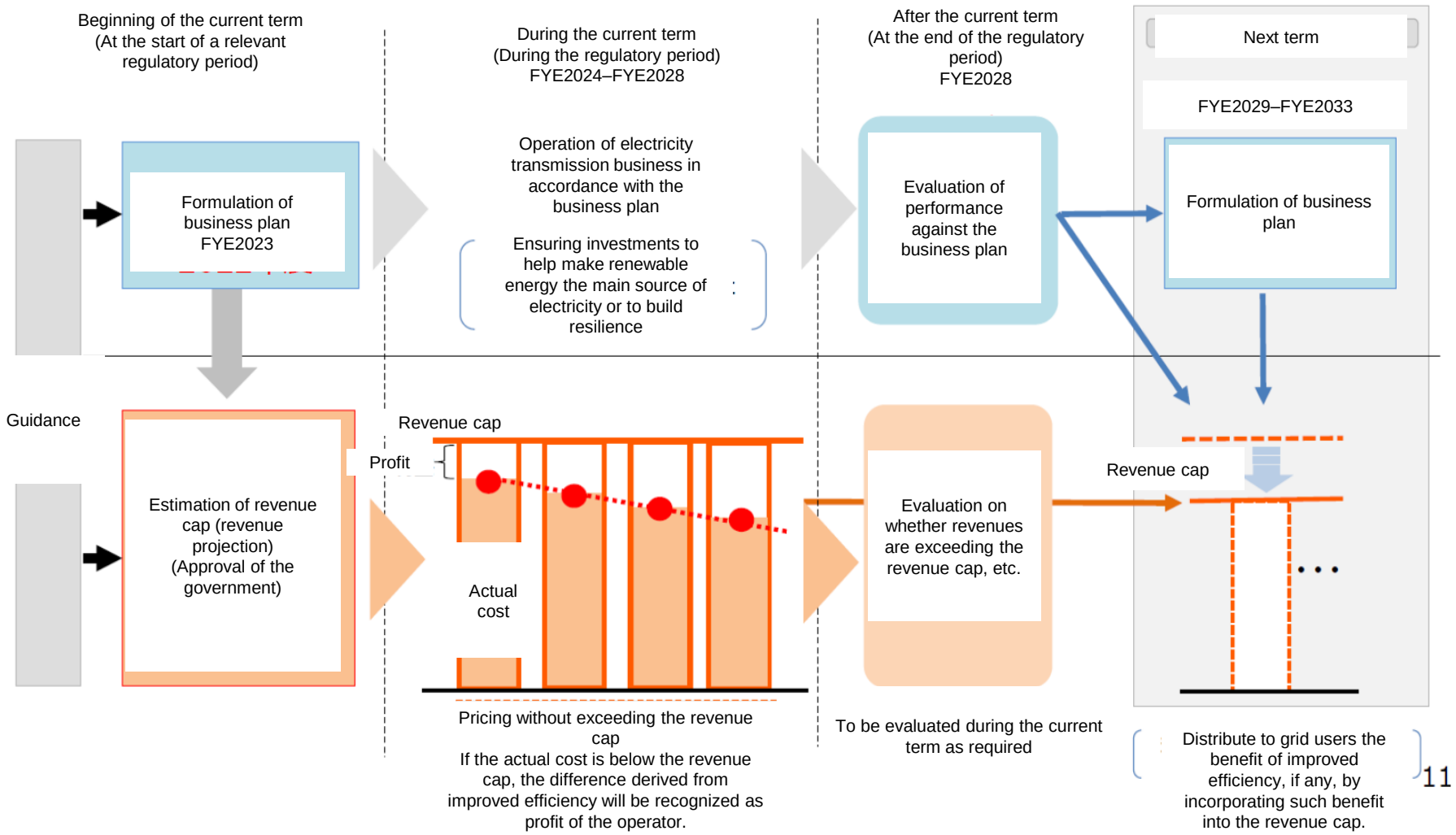
Reference: New Network Tariff Regulation System (Revenue Cap System) (i)

- Hokkaido Electric Power Network is a transmission system operator that has developed a business plan for the next five years, in view of a new consignment fee system to be introduced in FY2024. In July 2022, the company submitted a plan regarding the amount of revenue necessary to implement the business plan, which is currently under review.
- In the business plan under review, the required revenue totals 201.5 billion yen, up 10.6 billion yen compared to the current cost level. This is due to an increase in costs related to the expansion of renewable energy, investments for aged facilities and supply-demand adjustments to stabilize electricity supplies, which more than offset a decline in costs, such as from efforts to achieve maximum possible operational efficiency.
- Upon review and approval of maximum revenues (the revenue cap), the company will submit applications for consignment fees in the amount not exceeding this revenue cap.

Changes vs. current level of costs (in billion yen)



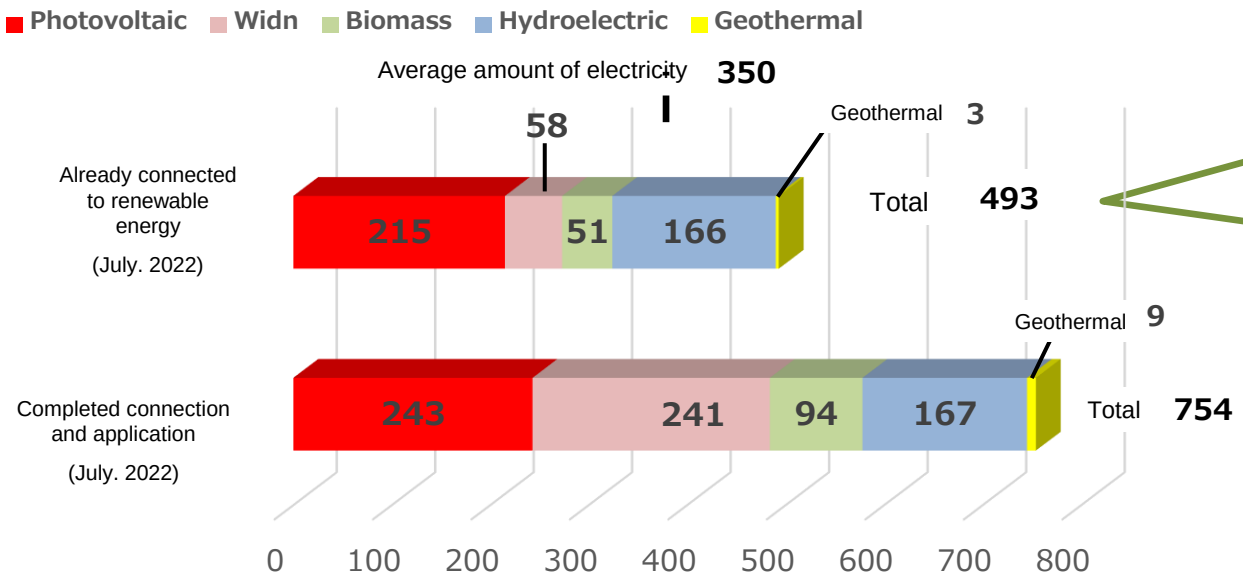
Reference: New Network Tariff Regulation System (Revenue Cap System) (ii)



出典：図は2021年11月15日 第10回料金制度専門会合資料より引用、一部修正

ほくでんネットワーク

Amount of renewable energy introduced (as of the end of July 2022)



As of the end of July 2022, the amount of renewable energy that was introduced totaled roughly 4,930,000 kW.

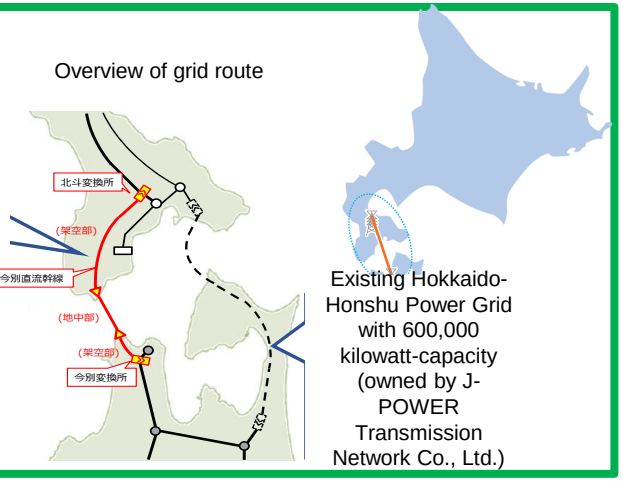
Of this, the total amount of photovoltaic and wind power introduced was about 2.73 million kW. This is the equivalent to about 80% of the average amount of electricity used in the Hokkaido area in 2021 (around 3.50 million kW).

Enhanced New Hokkaido-Honshu Interregional Power Grid

- We started a construction project to increase the capacity of the New Hokkaido-Honshu Power Grid (Honshu is the main island of Japan) by 300,000 kilowatts, which is scheduled to start operating in March 2028.
- The total capacity of power grids between Hokkaido and Honshu is expected to total 1.2 million kilowatts. This will likely contribute to the expansion of renewable energy installations.

The capacity of New Hokkaido-Honshu Power Grid will be increased by 300,000 kilowatts to 600,000 kilowatts

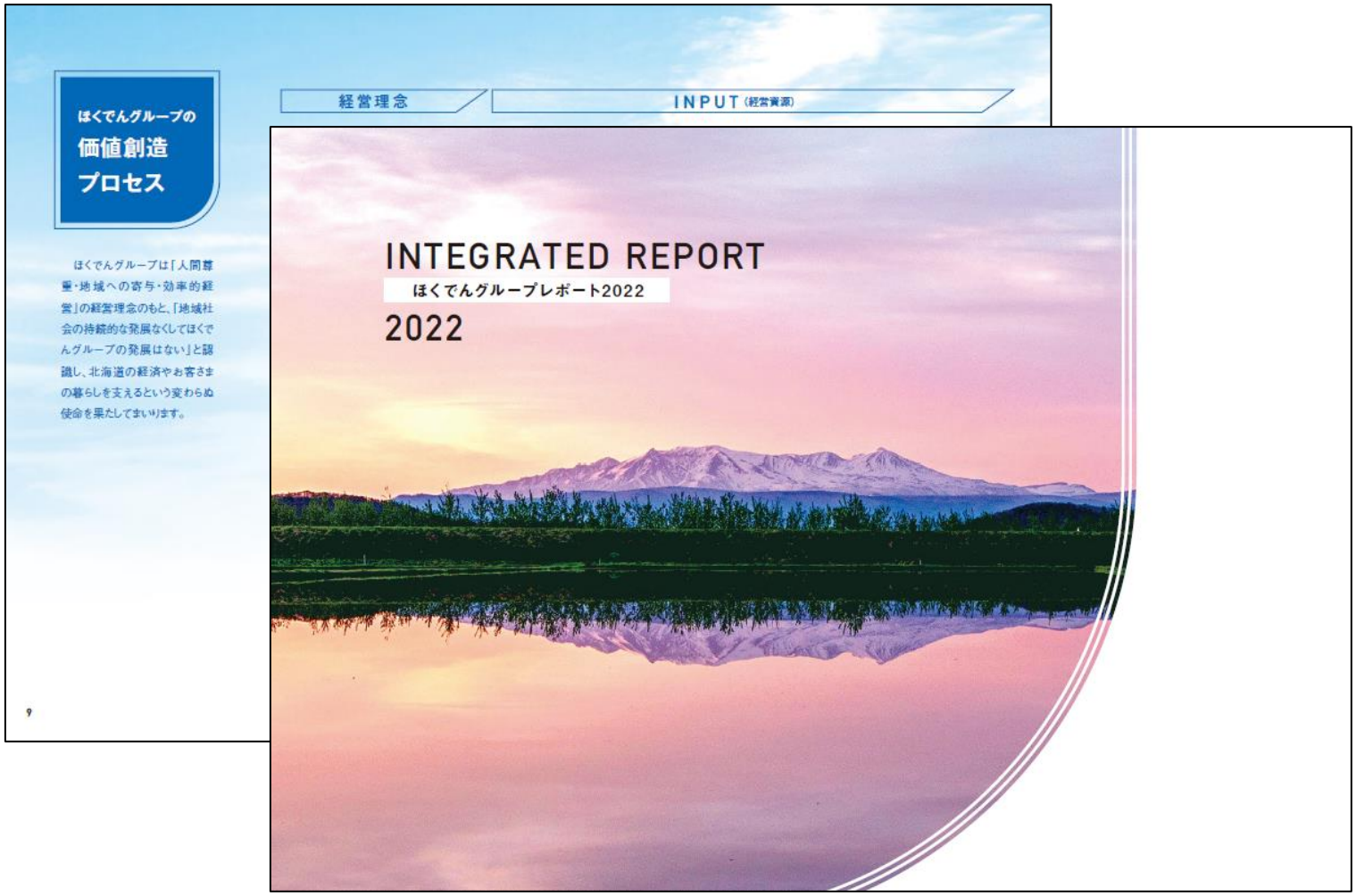
Overview of grid route



Existing Hokkaido-Honshu Power Grid with 600,000 kilowatt-capacity (owned by J-POWER Transmission Network Co., Ltd.)

Hepco Group Report 2022 (Integrated Report)

(Published October 27, 2022)



URL: https://www.hepco.co.jp/corporate/ir/ir_lib/ir_lib-02.html

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