



Security Code Tokyo 5020

August 9, 2024

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# ENEOS Group Business Overview by Segment

## Petroleum Products

### Refinery Sales



▲ ENEOS Service Station

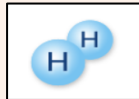
Refining/sales of petroleum products, manufacturing/sales of basic chemicals, lubricants, etc.

Market share of domestic sales of petroleum products<sup>1</sup>

approx. **50%**  
No.1 in Japan

### Actively Promote Next-Generation Energy Projects

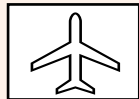
### Hydrogen



Aim for early establishment of domestic/international hydrogen supply chain

**Construction of facilities starting from 2025**  
**A hydrogen supply chain to be established by 2030**

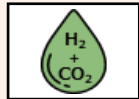
### SAF



Aim to establish an in-house manufacturing system

**Unit 1: 400 thousand KL/year, scheduled to start operation in 2027 or later**

### Synthetic Fuels



Aim to establish the production of synthetic fuels using in-house technology and other resources

**Low-carbon high-octane gasoline (blended with synthetic fuels) to be supplied from certain regions starting around 2027**

## High Performance Materials



▲ Low fuel consumption tire materials

Manufacture/sale of high-performance materials such as elastomers

**Product lineups that contribute to reduction of environmental impacts and hold world-class market shares**

## Electricity



▲ Kawasaki Natural Gas Power Plant

Generation and sale of commercial and residential electricity / city gas (ENEOS Denki / ENEOS City Gas) and promotion of VPP business

## Renewable Energy



▲ Uruma Mega Solar

Development, generation, and sales of renewable energy

**Power generation capacity**  
(In operation + under construction)

**1.27GW**  
(As of June.30, 2024)

## Oil and Natural Gas E&P

### Oil and Natural Gas E&P



▲ Rang Dong oil field

Development, production, and sale of petroleum and natural gas

Oil and natural gas production (project company basis)

**88.4** thousand barrels/day

Crude oil equivalent (FY2023 actual)

### CCS<sup>2</sup>/CCUS<sup>3</sup>



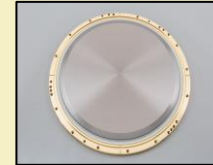
▲ Petra Nova CCUS project

Promotion of CCS/CCUS projects

**Promoting initiatives for the early implementation of CCS / CCUS both domestically and internationally**

## Metals

### Semiconductor Materials

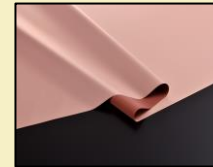


▲ Sputtering Targets for Semiconductors

Manufacture and sale of products that can be applied to various high-performance devices such as leading-edge IT equipment (semiconductors, etc.), medical devices, and electric vehicles

**Semiconductor Materials/ ICT Materials Products with world No.1 market shares**

### ICT Materials



▲ Treated Rolled Copper Foil

Manufacture and sale of rolled copper foils and copper alloy bars used in mobile devices and other applications

### Metals & Recycling



▲ Copper smelting

Natural resources production and sale at copper mines, copper smelting, recycling businesses, etc.

## Other

NIPPO (asphalt paving), etc.

<sup>1</sup> Sum of gasoline, kerosene, diesel fuel and fuel oil A sales volume

<sup>2</sup> Carbon dioxide Capture and Storage

<sup>3</sup> Carbon dioxide Capture, Utilization and Storage

# Financial Results Data

# Financial Summary by Segment IFRS ①

Financial Results Data

(¥bn)	FY2023		FY2024	
	1Q	Full Year	1Q	Full Year
	Actual	Actual	Actual	Forecast (Announced in May)
<b>Net Sales</b>	<b>3,218.3</b>	<b>13,856.7</b>	<b>3,166.3</b>	<b>14,600.0</b>
Petroleum Products	2,534.5	11,687.1	2,684.5	12,770.0
High Performance Materials	74.9		86.1	320.0
Electricity	60.0		62.5	240.0
Renewable Energy	12.1		12.3	60.0
Oil and Natural Gas E&P	44.2	204.9	59.4	220.0
Metals	393.4	1,513.1	170.6	710.0
Other	99.2	451.6	90.9	280.0
<b>Operating Income</b>	<b>94.0</b>	<b>464.9</b>	<b>150.8</b>	<b>400.0</b>
Petroleum Products	10.9	263.4	77.6	190.0
High Performance Materials	2.6	7.3	6.6	11.0
Electricity	4.5	-6.1	9.3	6.0
Renewable Energy	1.2	-11.6	0.7	-3.0
Oil and Natural Gas E&P	25.9	91.5	22.8	80.0
Metals	40.1	81.1	24.9	70.0
Other	8.8	39.3	8.9	46.0
<b>Operating Income excl. inventory valuation</b>	<b>124.9</b>	<b>393.2</b>	<b>113.1</b>	<b>400.0</b>

# Financial Summary by Segment IFRS ②

(¥bn)	FY2023		FY2024	
	1Q	Full Year	1Q	Full Year
	Actual	Actual	Actual	Forecast (Announced in May)
<b>Finance Income</b>	<b>-6.1</b>	<b>-16.8</b>	<b>-4.6</b>	<b>-20.0</b>
Petroleum Products			-1.0	-6.0
High Performance Materials			-0.7	-3.0
Electricity	-4.7	-12.4	-0.1	-1.0
Renewable Energy			-0.9	-4.0
Oil and Natural Gas E&P	-0.4	0.7	-1.3	-7.0
Metals	-1.5	-6.6	-0.8	-5.0
Other	0.5	1.5	0.2	6.0
<b>Profit attributable to owners of the parent</b>	<b>45.8</b>	<b>288.1</b>	<b>81.6</b>	<b>210.0</b>
Petroleum Products			51.1	127.0
High Performance Materials			4.1	6.0
Electricity	9.5	146.3	6.5	3.0
Renewable Energy			-0.2	-6.0
Oil and Natural Gas E&P	11.1	43.9	7.5	28.0
Metals	24.3	99.5	13.0	42.0
Other	0.9	-1.6	-0.4	10.0
<b>Profit attributable to owners of the parent (Excl. inventory valuation effects)</b>	<b>67.4</b>	<b>237.9</b>	<b>55.2</b>	<b>210.0</b>
Capex	105.8	399.7	72.5	493.0
Depreciation and Amortization <sup>1</sup>	60.6	255.9	67.9	301.0

## Operating Income by Segment IFRS

(¥bn)	FY2023		FY2024	
	1Q	Full Year	1Q	Full Year
	Actual	Actual	Actual	Forecast (Announced in May)
<b>Operating Income</b>	<b>94.0</b>	<b>464.9</b>	<b>150.8</b>	<b>400.0</b>
Inventory Valuation	-30.9	71.7	37.7	0.0
Excl. inventory valuation	124.9	393.2	113.1	400.0
<b>Petroleum Products</b>	<b>10.9</b>	<b>263.4</b>	<b>77.6</b>	<b>190.0</b>
Inventory Valuation	-30.9	71.7	37.7	0.0
Excl. inventory valuation	41.8	191.7	39.9	190.0
<b>High Performance Materials</b>	<b>2.6</b>	<b>7.3</b>	<b>6.6</b>	<b>11.0</b>
<b>Electricity</b>	<b>4.5</b>	<b>-6.1</b>	<b>9.3</b>	<b>6.0</b>
<b>Renewable Energy</b>	<b>1.2</b>	<b>-11.6</b>	<b>0.7</b>	<b>-3.0</b>
<b>Oil and Natural Gas E&amp;P Segment</b>	<b>25.9</b>	<b>91.5</b>	<b>22.8</b>	<b>80.0</b>
<b>Metals Segment</b>	<b>40.1</b>	<b>81.1</b>	<b>24.9</b>	<b>70.0</b>
Semiconductor Materials	4.6	26.7	8.0	34.0
ICT Materials	2.6	1.8	5.0	12.0
Metals and Recycling	33.9	71.3	16.4	34.0
Non-allocated corporate expenses and other	-1.0	-18.7	-4.5	-10.0
<b>Other</b>	<b>8.8</b>	<b>39.3</b>	<b>8.9</b>	<b>46.0</b>

## Balance Sheets IFRS

	March 31, 2024	June 30, 2024
(¥bn)	Actual	Actual
<b>Assets</b>	<b>10,136.5</b>	<b>10,194.6</b>
Current assets	4,666.5	4,724.8
- Cash and deposits	820.0	707.0
Non-current assets	5,470.0	5,469.8
Property, plant and equipment	3,544.7	3,540.2
Goodwill	256.7	257.3
Intangible assets	491.3	482.0
Other	1,177.3	1,190.3
<b>Liabilities</b>	<b>6,432.7</b>	<b>6,394.4</b>
Interest-bearing debt	2,820.0	2,849.1
Other liabilities	3,612.7	3,545.3
<b>Equity</b>	<b>3,703.8</b>	<b>3,800.2</b>
Total equity attributable to owners of the parent	3,227.2	3,313.7
Non-controlling interests	476.6	486.5

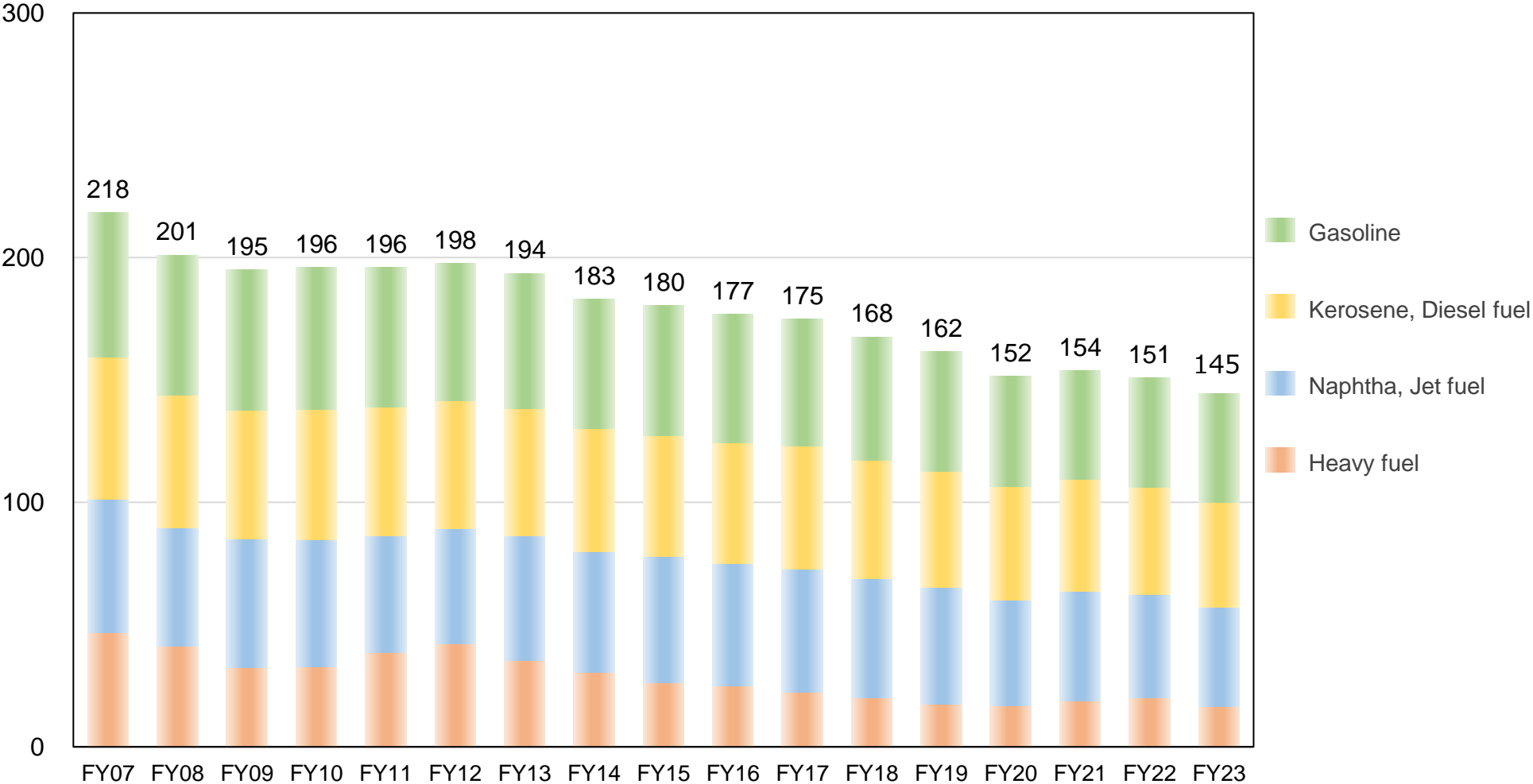


# Petroleum Products

# Domestic Petroleum Product Demand

(Source: Petroleum Association of Japan and Company data)  
 Note: Excluding crude oil for electric power plants

(million KL)



# ENEOS Group Market Share, Demand in Japan, Number of Service Stations (Fixed-Type), CDU<sup>2</sup> Utilization Rate <sup>2</sup> Crude Distillation Unit

## Domestic Market Share (%)

	FY2023 1Q	FY2024 1Q
a. Gasoline	49.4	50.1
b. Kerosene	46.5	45.8
c. Diesel Fuel	43.3	43.0
d. Fuel Oil A	46.5	45.9
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Weighted Average of a~d	46.8	46.9
Total Domestic Fuel <sup>1</sup>	45.0	44.6

<sup>1</sup> Excl. crude oil for electric power plants

## Domestic Demand (ten thousand KL)

	FY2023 1Q	FY2024 1Q	YoY (%)
a. Gasoline	1,089	1,048	96%
b. Kerosene	164	130	79%
c. Diesel Fuel	765	757	99%
d. Fuel Oil A	230	221	96%
-----			
a+b+c+d	2,248	2,156	96%
Total Domestic Fuel <sup>1</sup>	3,381	3,239	96%

Source: Petroleum Association of Japan and Company data

## Number of Service Stations (Fixed-Type)

	Mar. 31, 2024	June 30, 2024
ENEOS	11,990	11,916

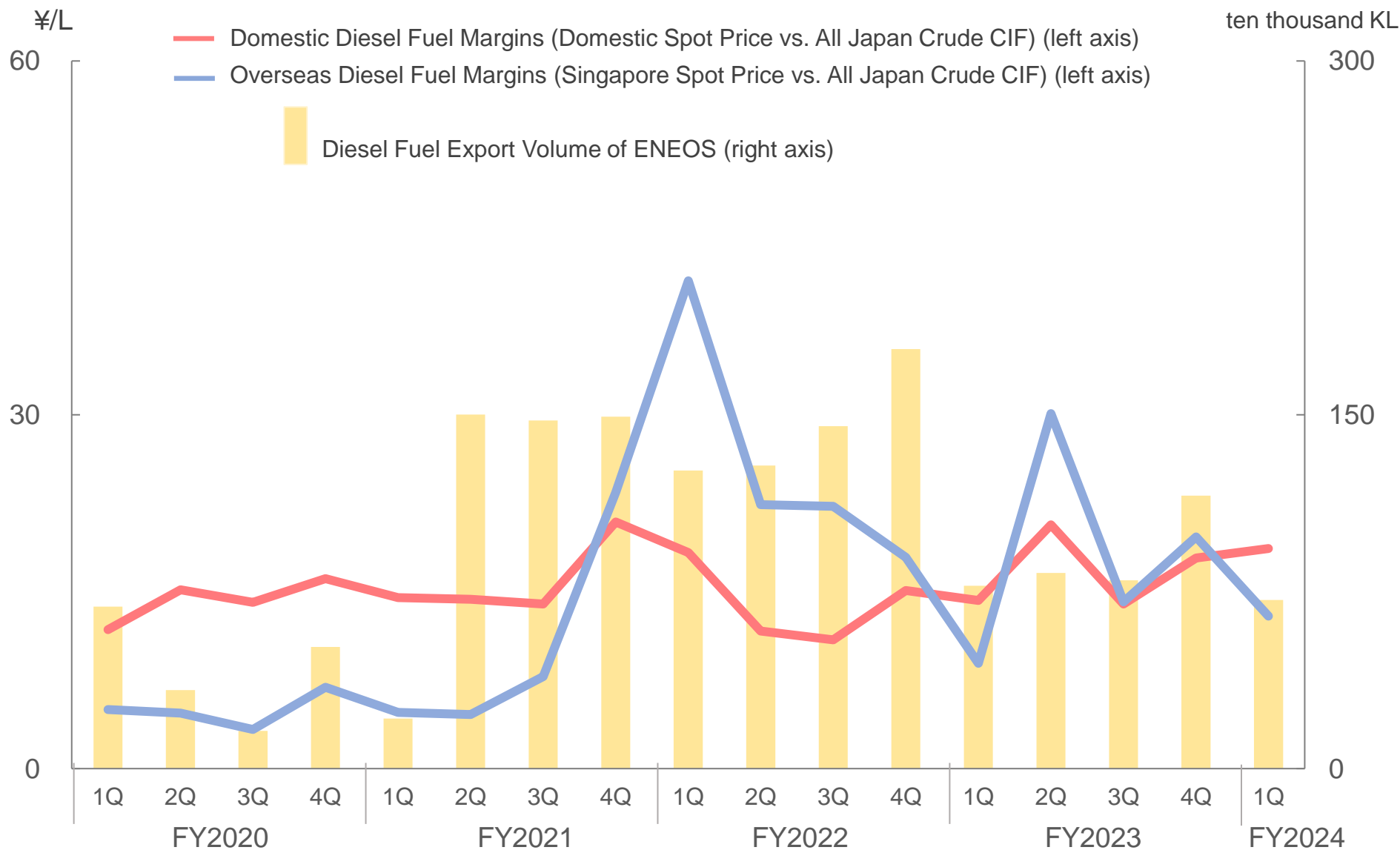
## CDU Utilization Rate (Excl. the impact of periodic repair)

	FY2023					FY2024
	1Q	2Q	3Q	4Q	Full Year	1Q
Utilization rate	78%	75%	75%	78%	76%	81%

# Sales Volume by Product

		(ten thousand KL)		Difference
		FY2023 1Q	FY2024 1Q	vs. FY2023 1Q
a.	Gasoline	538	526	-2.2%
	(Premium)	51	47	-7.8%
	(Regular)	485	476	-1.9%
	Naphtha	101	93	-7.9%
	Jet Fuel	37	38	+2.7%
b.	Kerosene	64	55	-14.1%
c.	Diesel Fuel	331	325	-1.8%
d.	Fuel Oil A	107	101	-5.6%
	Heavy Fuel Oil C	75	68	-9.3%
	(For Electric Power)	25	21	-16.0%
	(For General Use)	50	47	-6.0%
	a+b+c+d	1,040	1,007	-3.2%
	<b>Total Domestic Fuel</b>	<b>1,253</b>	<b>1,206</b>	<b>-3.8%</b>
	Exported Oil	290	301	+3.8%
	Petrochemicals (ten thousand tons) <sup>1</sup>	158	138	-12.7%
	Lubricants	32	24	-25.0%

# Domestic and Overseas Margins (Diesel Fuel)



# Major Petrochemicals Prices and Margin Trends

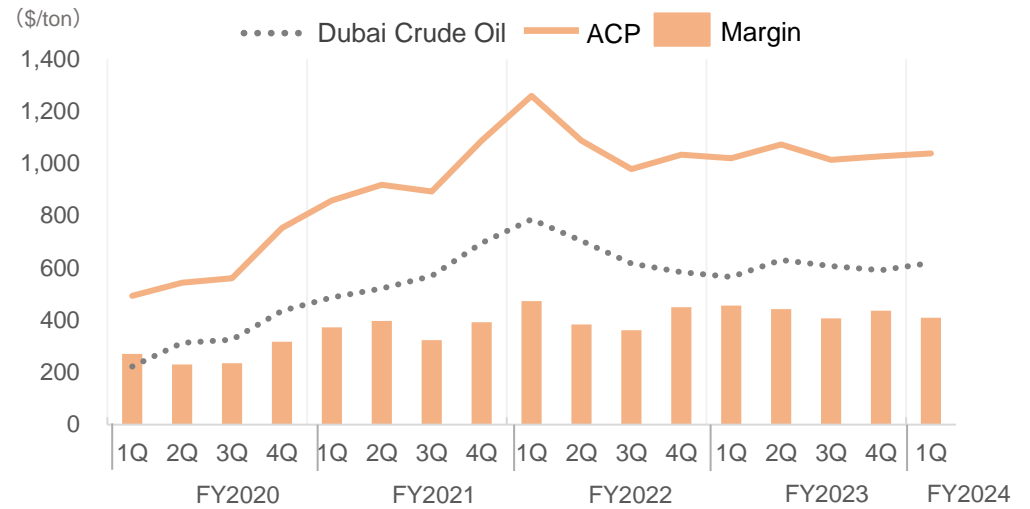
## Paraxylene

(\$/ton)

Average	FY2023					FY2024
	1Q	2Q	3Q	4Q	FY	1Q
ACP	1,020	1,073	1,014	1,027	1,034	1,039
Margin	455	442	407	436	435	410

ACP=Asian Contract Price

Margin = vs. Dubai Crude Oil



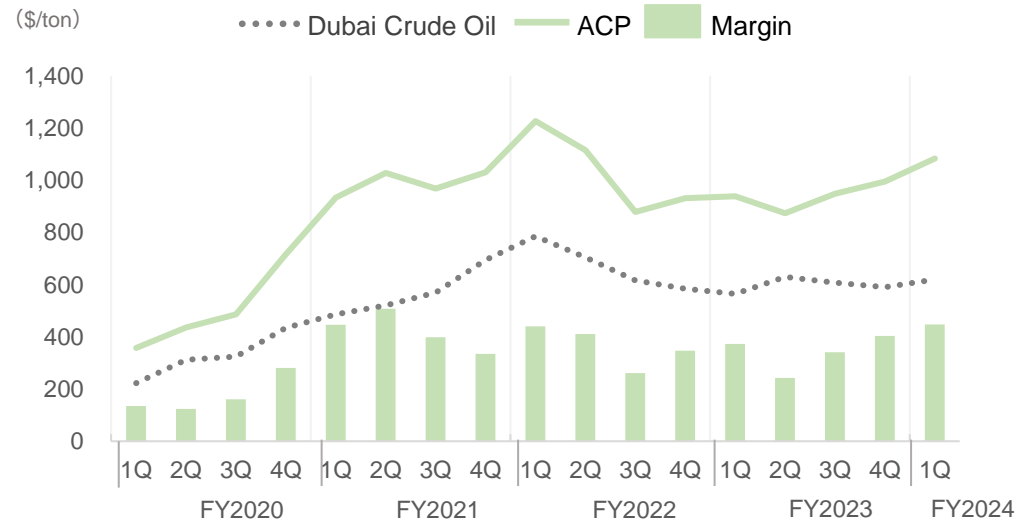
## Benzene

(\$/ton)

Average	FY2023					FY2024
	1Q	2Q	3Q	4Q	FY	1Q
ACP	938	873	948	995	939	1,083
Margin	373	243	341	404	340	448

ACP=Asian Contract Price

Margin = vs. Dubai Crude Oil

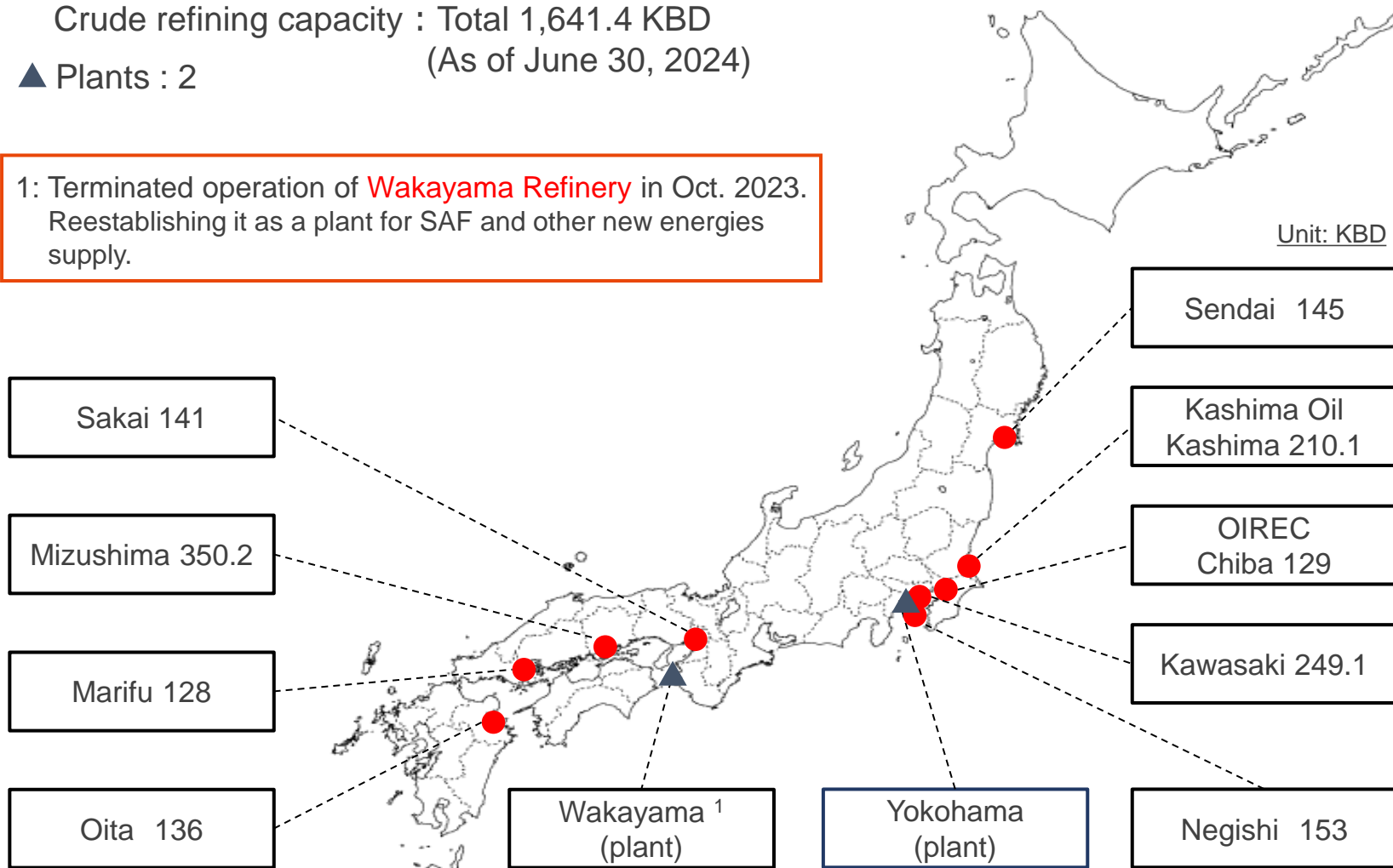


# ENEOS Group Refineries and Plants

- Refineries : 9  
Crude refining capacity : Total 1,641.4 KBD  
(As of June 30, 2024)
- ▲ Plants : 2

1: Terminated operation of **Wakayama Refinery** in Oct. 2023.  
Reestablishing it as a plant for SAF and other new energies supply.

Unit: KBD



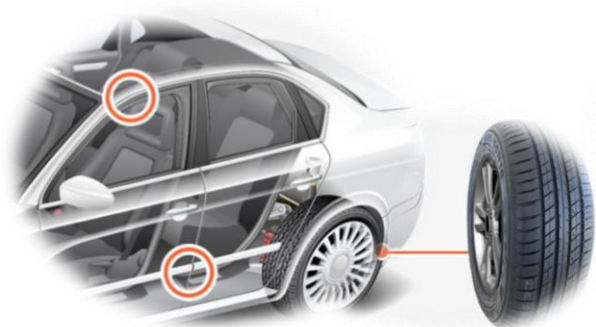
# High Performance Materials



# High Performance Materials Business

✓ In the Elastomers business, we aim to expand and maximize profitability as the core of the high-performance materials businesses.

## Main Applications of Our Products



Fuel-efficient tires, automobile parts

Daily commodities



Paper coating materials



Lithium-ion batteries



Medical applications



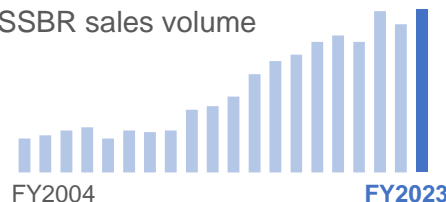
## Strategic Products

### SSBR (Solution polymerization styrene-butadiene rubber)

Sectional view of high-performance tire



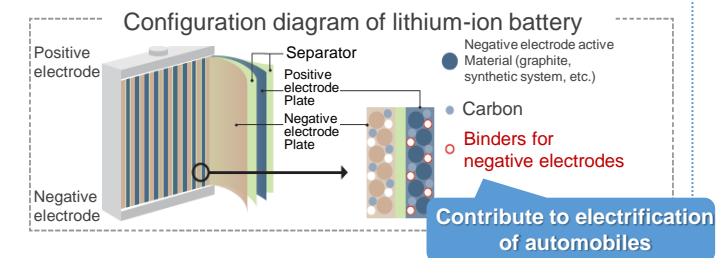
■ SSBR sales volume



Largest sales volume ever

- ✓ Indispensable raw material for fuel-efficient tire tread (the surface that contacts the road)
- ✓ High grip (brake) performance and low resistance (enables smoother rolling) contribute to fuel efficiency

## Binders for batteries



- ✓ Material used as a binder (adhesive) for the negative electrodes of lithium-ion batteries for EVs and smartphones
- ✓ Good adhesion and durability for enhancement of battery performance

# High Performance Materials Business

## Other Main Products

### ENB (Ethylidene Norbornene)



- ✓ Indispensable for production of EPDM rubber, a raw material for rubber used in automobile window frames and hoses
- ✓ Resource procurement within the ENEOS Group enables stable supply, which leads to global top market share.

### SAS (Special Aromatic Solvent)



- ✓ Used as insulating oil and thermal oil
- ✓ Meeting customer needs through our proprietary multi-plant system which produces various products

## Global Business Operations



# Electricity

# Electricity Business

✓ We aim for sustainable growth by maximizing profits through Power Generation and Electricity Retail businesses, ensuring a stable revenue foundation.

- Boosting competitiveness with the cutting-edge, high-efficiency Goi Thermal Power Plant (startup in 2024-2025)
- Constructing VPP (Virtual Power Plant) system to optimize the balance of supply and demand

## Power Generation Business

- ✓ Approximately 1,400 MW of power capacity, mainly from the Kawasaki Natural Gas Power Plant and self-generation facilities at refineries
- ✓ Goi Thermal Power Plant<sup>1</sup> under construction, which features high-efficiency thermal power generation
  - Starting operation of Unit 1 in Aug. 2024, followed by startup of Units 2&3 by 2025
  - Power generation capacity is 780MW x three units (2,340MW)
  - High-efficiency 1,650°C-class gas turbine combined cycle power generation

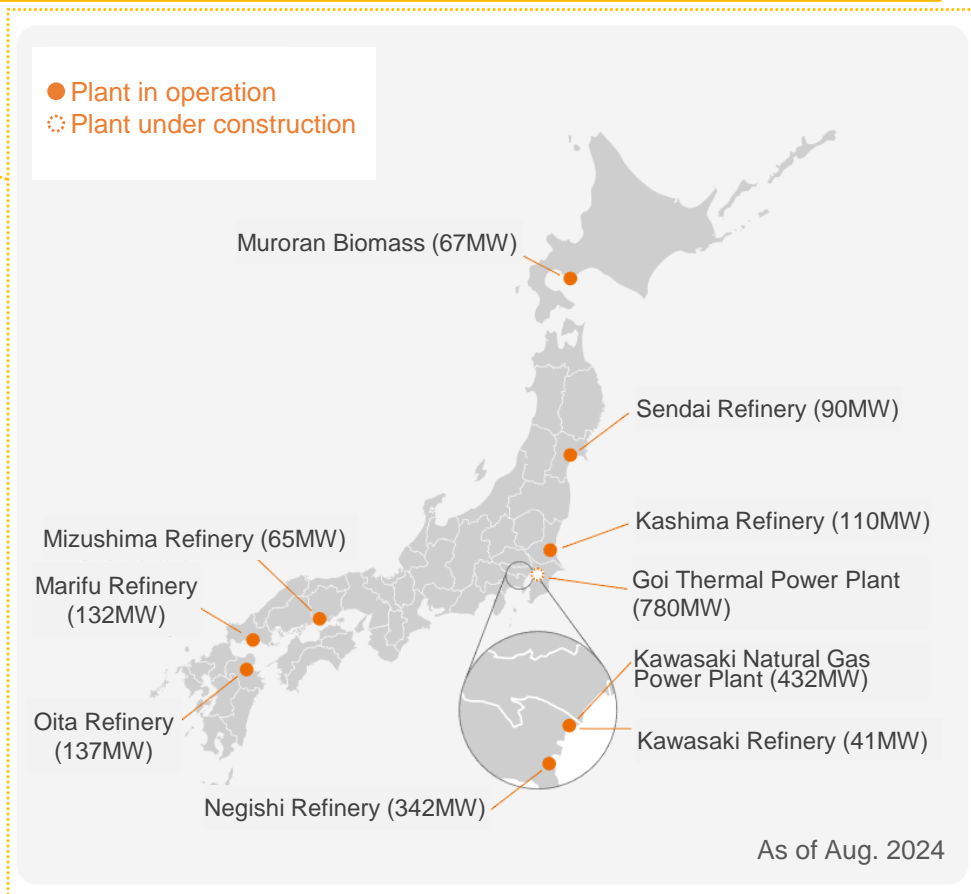
<sup>1</sup> Joint investment with the ownership of JERA Power Investment LLC : ENEOS Power Corporation: Kyuden Energy Investment GK = 9:5:1



▲ Unit 1 Overview



▲ Turbine Generators

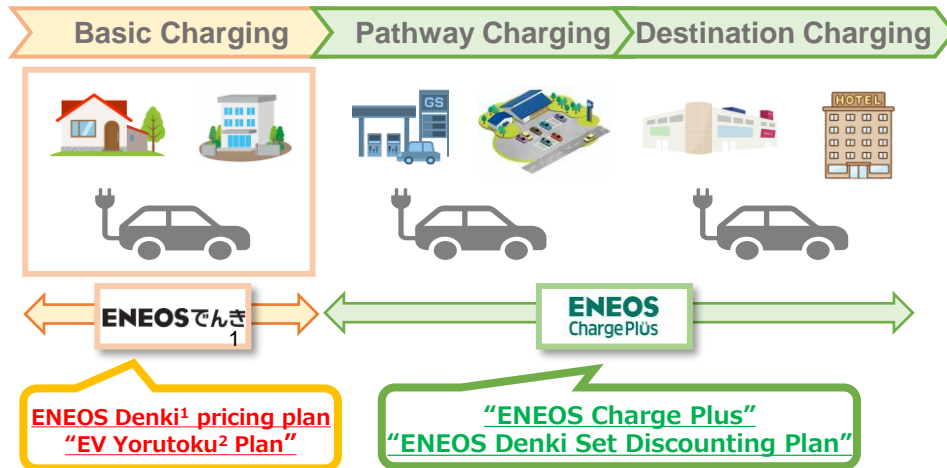


# Electricity Business

## Electricity Business

High-voltage	Entered electricity business and started supplying high-voltage electricity (for commercial/industrial use) in 2003
Low-voltage	Selling residential electricity, “ENEOS Denki,” <sup>1</sup> and expanding our services nationwide (excluding Okinawa) since April 2016

- ✓ With the future expansion of EVs in a decarbonizing society, facilitating goods and services to improve consumer value and to provide new consumer experiences for our customers who own EVs/PHEVs etc.
- ✓ Started a service called “EV Yorutoku<sup>2</sup> Plan” in May 2024, which sets different prices depending on the charging time for customers who charge their EVs/PHEVs etc. at home
- ✓ Started a new charging pricing service called “ENEOS Denki Set Discount Plan” in June 2024, which is a combination of “ENEOS Charge Plus” and “ENEOS Denki” (EV pathway charging service, first in Japan to combine discount plans of “pathway charging” and “basic charging”)

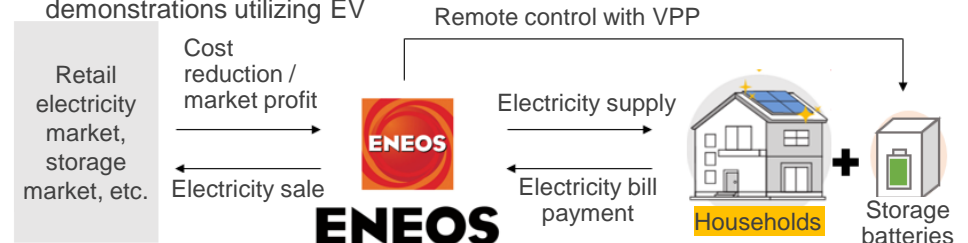


## VPP Business

- ✓ Large-scale storage batteries were installed at Negishi Refinery in August 2023 and at Muroran plant in March 2024 and have started operations.
- ✓ Select a market from retail electricity, supply-demand balancing and electricity storage for each business environment to implement optimization of storage battery control for multi-usage in several markets, utilizing optimum operation control algorithm of our own.

Location	Yokohama City, Kanagawa (at Negishi Refinery)	Muroran City, Hokkaido (at Muroran Refinery)	Ichihara City, Chiba (at OIREC Refinery)
Start of construction	Jun. 2022	Jul. 2022	Aug. 2023
Start of operations	Aug. 2023	Mar. 2024	FY2025~ (planned)
Battery output/storage	5MW/10MWh	50MW/88MWh	100MW/202MWh
Overviews			

- ✓ Examining/considering implementation of multiple demonstrations to accumulate controlling skill for distributed energy source for EVs and storage batteries
  - Urawa Misono area, Saitama City, Saitama: Implementing demonstration for household storage batteries
  - Kurashiki City, Okayama: Considering implementation of V1G and V2X demonstrations utilizing EV



# Renewable Energy

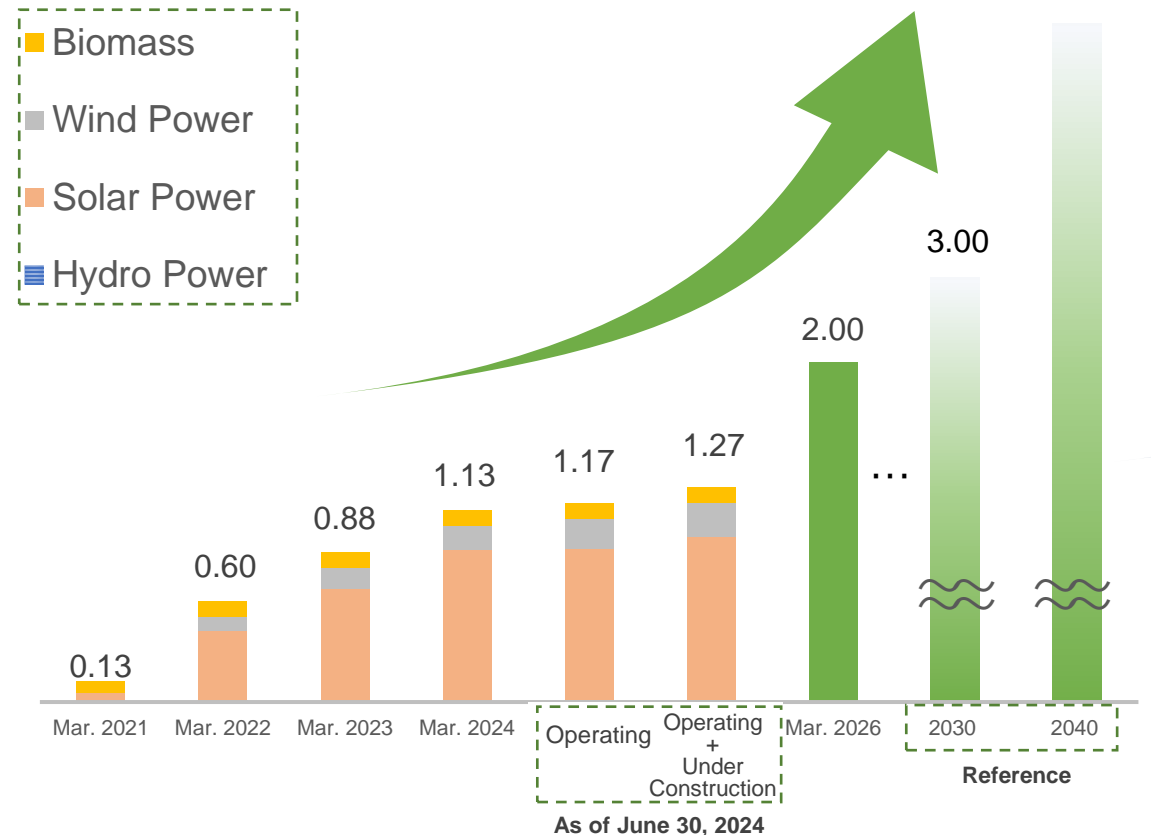
# Renewable Energy Business

✓ **With renewable energy as the business area, we establish future earnings base through new power generation development and creation of a profitable business model.**

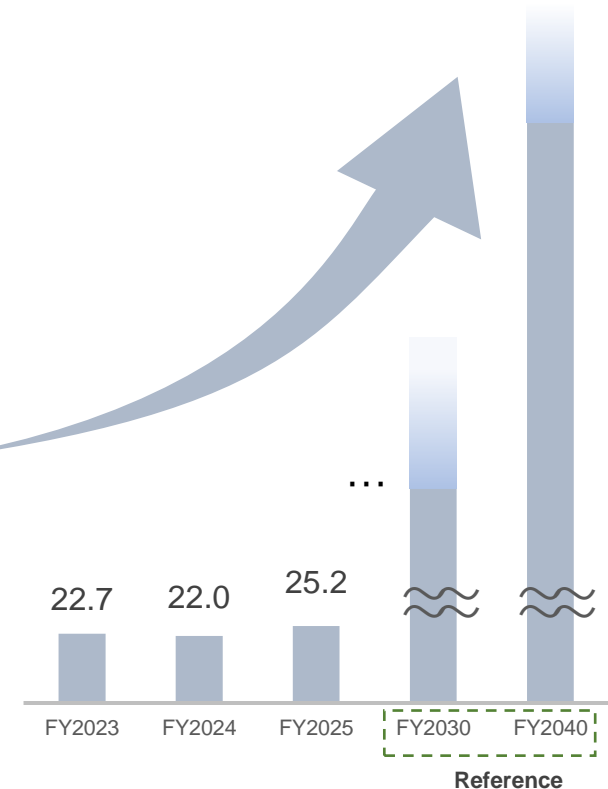
- Selected as offshore wind power producer in Happo Town and Noshiro City, Akita Prefecture, planning to start construction in FY2025.
- By maximizing the use of resources accumulated so far, aiming for 2GW<sup>1</sup> generation, mainly through solar / onshore wind power generation by the end of FY2025, and further advancement of the offshore wind power generation business.

<sup>1</sup> Incl. generation capacity under construction

## Renewable Energy Capacity<sup>2</sup> unit: GW



## EBITDA (¥bn)



# Renewable Energy Business

## Domestic renewable energy development and operation (As of June 30, 2024)

### Launched operation of “JRE Miyagi Kami Wind Farm”

(May 2024)

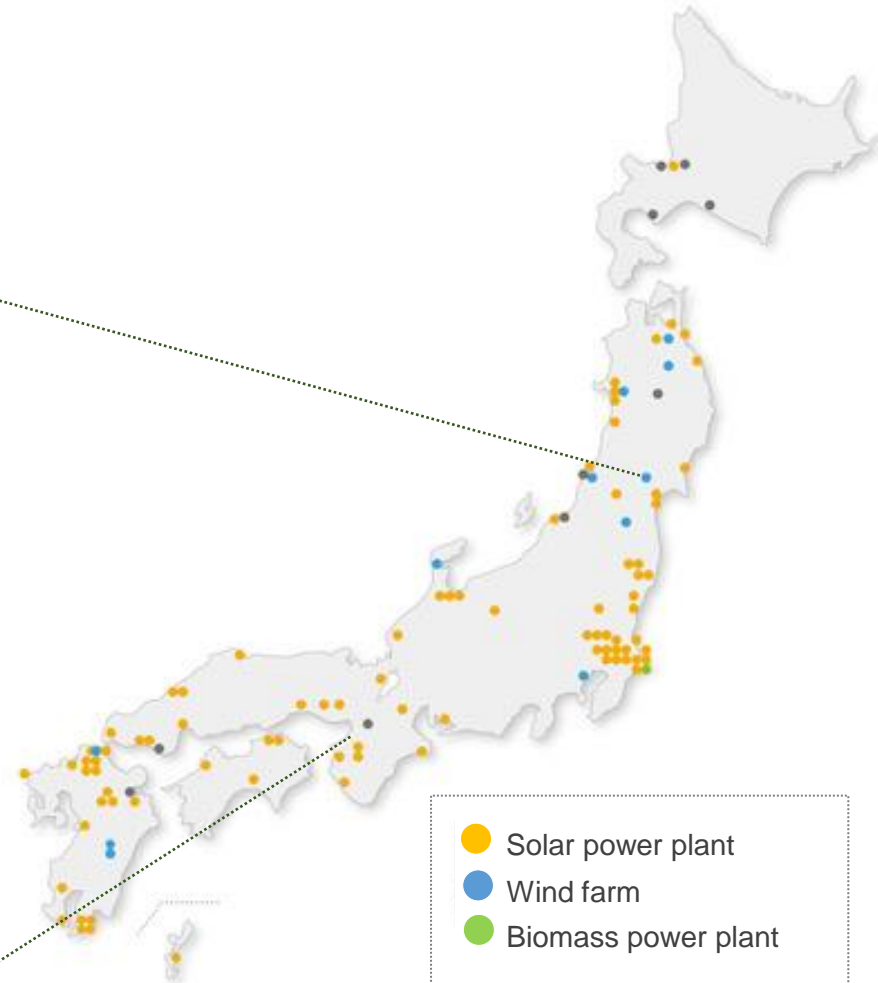
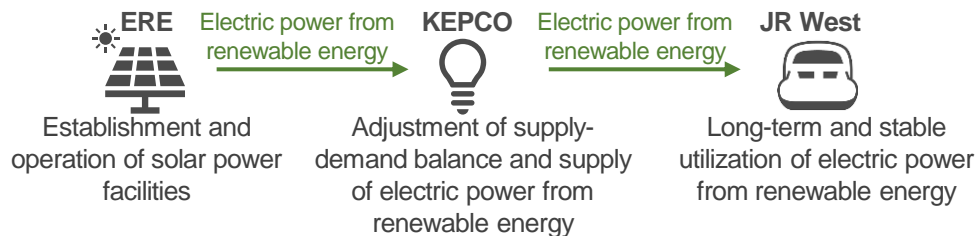
- ✓ Generation capacity of 42MW, which constitutes annual electricity usage of approx. 20k households
- ✓ CO<sub>2</sub> emissions reduction effects of approx. 44K tons annually
- ✓ Collaborated with Tohoku Electric Power in several onshore wind power projects and offshore wind power generation projects in Happo Town and Noshiro City



### ENEOS Renewable Energy entered into corporate PPA with JR West and KEPCO for the operation of San-yō Shinkansen

(May 2024)

- ✓ ERE supplies approx. 18MW electricity generated by solar power to KEPCO, and KEPCO supplies it to JR West
- ✓ PPA enabling long-term and stable sale of renewable energy



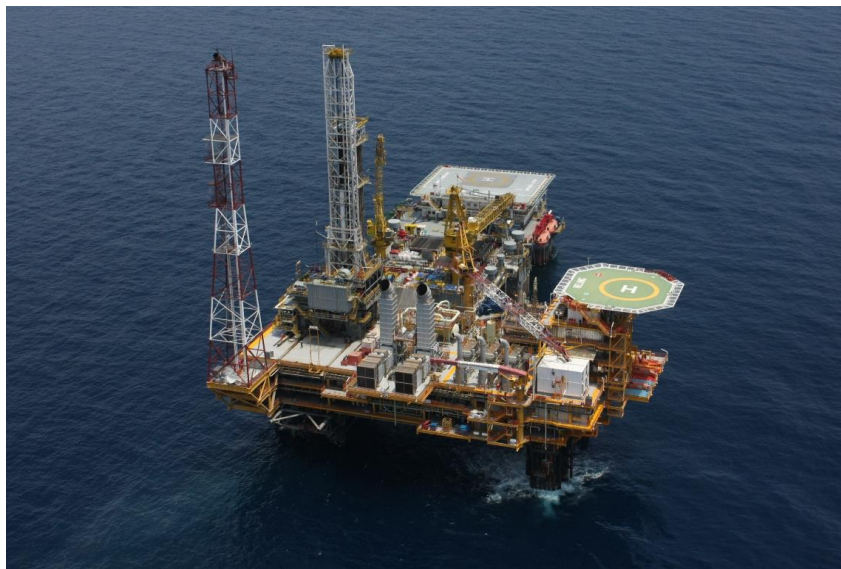
- Solar power plant
- Wind farm
- Biomass power plant
- Plant under construction



# Oil and Natural Gas E&P

- ✓ We have adopted the "Two-Pronged" approach with the oil and natural gas development and production business as one prong, and environment-friendly businesses centered on CCS/CCUS as the other prong.

## Oil and Natural Gas Development and Production Business



- ✓ The photo shows the offshore production facilities at the SK10 Block/Helang Gas Field, operated in Malaysia.

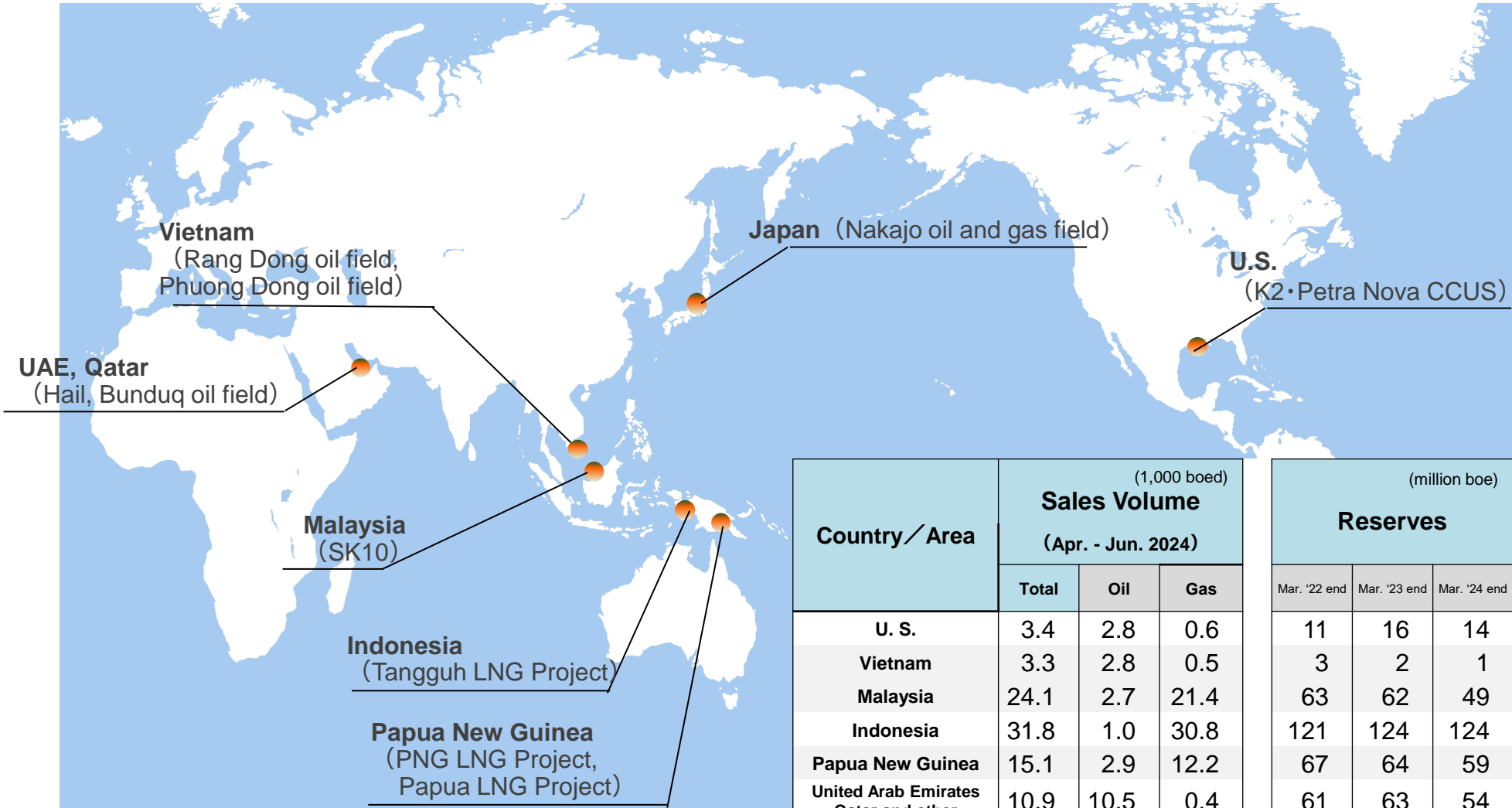
## Environment-Friendly Business Centered on CCS/CCUS



- ✓ The photo shows the CO<sub>2</sub> capture plant at the Petra Nova CCUS Project, operated in the United States.

CCS : Carbon dioxide Capture and Storage  
CCUS : Carbon dioxide Capture, Utilization and Storage

# Sales Volume, Reserves, and Business Areas of Oil and Natural Gas E&P Projects



Country / Area	Sales Volume (1,000 boed) (Apr. - Jun. 2024)			Reserves (million boe)		
	Total	Oil	Gas	Mar. '22 end	Mar. '23 end	Mar. '24 end
U. S.	3.4	2.8	0.6	11	16	14
Vietnam	3.3	2.8	0.5	3	2	1
Malaysia	24.1	2.7	21.4	63	62	49
Indonesia	31.8	1.0	30.8	121	124	124
Papua New Guinea	15.1	2.9	12.2	67	64	59
United Arab Emirates Qatar and other	10.9	10.5	0.4	61	63	54
<b>Total</b>	<b>88.6</b>	<b>22.7</b>	<b>65.9</b>	<b>326</b>	<b>331</b>	<b>301</b>

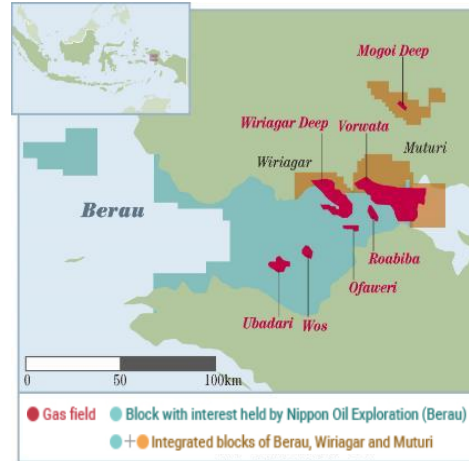
boe: Barrel Oil Equivalent  
boed: Barrel Oil Equivalent per Day

# Principal Project Overview (Oil and Natural Gas E&P Projects)

## Tangguh LNG Project (Indonesia)

Production

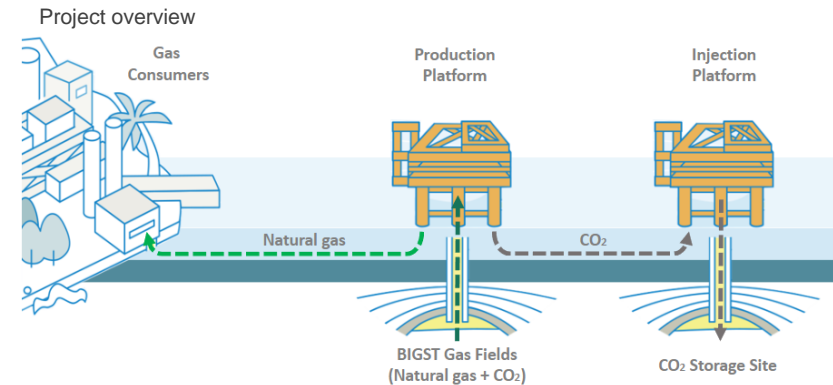
- ✓ LNG projects began production in 2009.
- ✓ As facilities for liquefying natural gas, 3 trains are in operation (the 3<sup>rd</sup> train started operation in 2023).
- ✓ LNG is also sold to customers in Japan, so this project is contributing not only to the stable energy supply of Indonesia but also Japan.



## BIGST Project (Malaysia)

Under Preparation

- ✓ Conducting studies for low-carbon oil and natural gas development combining conventional natural gas development and CCS in five gas fields which are situated offshore Peninsular Malaysia.



## PNG LNG (Papua New Guinea)

Production

- ✓ LNG projects began production in 2014.
- ✓ Connecting the gas production facility and the LNG liquefaction facility with a 700 km pipeline.
- ✓ LNG is also sold to customers in Japan.



## Papua LNG (Papua New Guinea)

Under Preparation

- ✓ LNG project development under consideration.
- ✓ We participated since 2023.
- ✓ Aiming to start LNG production with the support of the Papua New Guinea government.

## Principal Operator Projects

- ✓ Projects led and operated by our company.

### SK10

(Malaysia)

Production



### Rang Dong oil field

Phuong Dong oil field

(Vietnam)

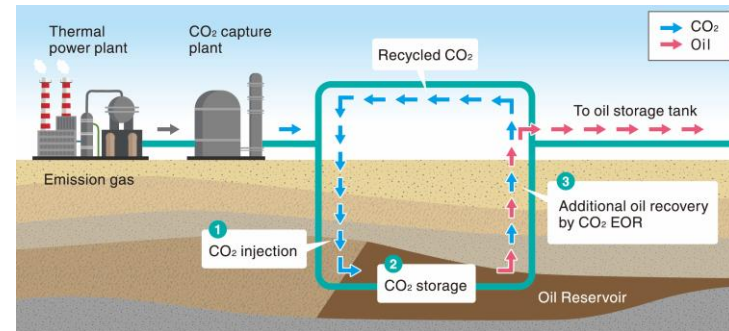
Production



Strengthening and building our value chain through our CCS/CCUS knowledge and technologies

## Petra Nova CCUS Project (U.S.)

- ✓ We capture CO<sub>2</sub> emitted from a coal-fired power station and inject it into a legacy oil field nearby, revitalizing the oil field and producing a significant amount of oil, while reducing the footprint to the global environment (CO<sub>2</sub> capture plant started operation in December 2016).
- ✓ Through this project, we have substantially increased our CCS/CCUS project operational knowledge and technologies.



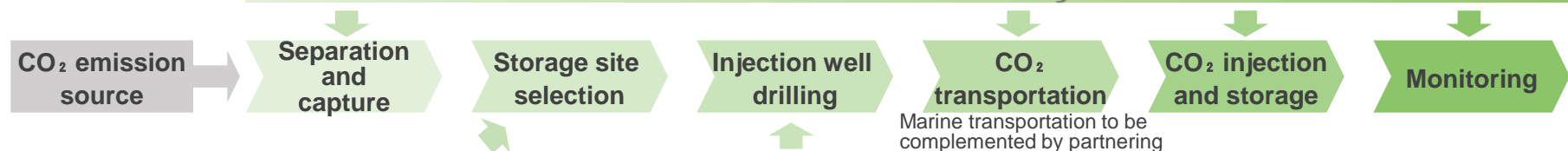
## Acquisition of Shares of Japan Drilling Co., Ltd.

- ✓ In 2023, we acquired JDC, a company with CCS/CCUS technology and experience (including drilling wells to inject and store CO<sub>2</sub> underground).



## Our knowledge and technologies for CCS / CCUS value chain

### Petra Nova CCUS Project



We will utilize the accumulated knowledge and technology in other CCS/CCUS projects.

## NOiL

### (Nakajo Open-innovation Lab)

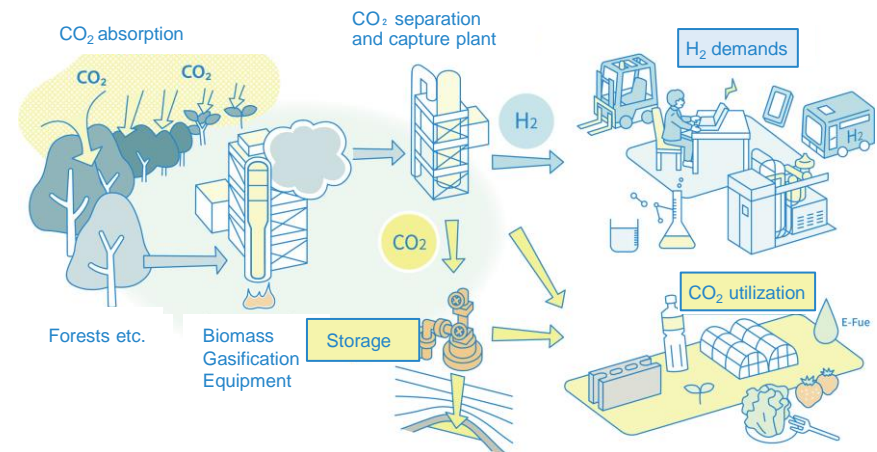
- ✓ NOiL is based in the Nakajo Oil Plant. Its objective is to collaborate and coexist with industries, government, academia, and the local community by providing technology demonstration opportunities to environmentally advanced companies, government agencies, and universities.
- ✓ NOiL's new office was completed on June 18, 2024. In addition to solar and wind power generation facilities, geothermal energy utilization equipment will also be introduced. Most of the electricity requirement for the new office is covered by renewable energy.

## Other Initiatives

- ✓ Signed a Memorandum of Understanding (MoU) with 8 Rivers (U.S. company) for joint business development in the U.S. Gulf Coast.
- ✓ Signed MoU with Australian company Santos and U.S. company Chevron for the construction of a CCS value chain.
- ✓ Signed MoU with Mitsui O.S.K. Lines for the investigation and study of maritime transport and other aspects for the construction of a CCS value chain.
- ✓ Participated in a large-scale project in Louisiana, U.S., with Sumitomo Corporation, which combines the production of SAF and the injection of CO<sub>2</sub> generated in the process through CCS (BECCS\*).



### \* BECCS : Technology that links bioenergy and CCS



# Metals

# Metals Segment Overview

## Empowering the Future: Leading in Semiconductor/ ICT Materials

- Focusing on the promising semiconductor/ ICT materials fields with high growth potential.
- Enhancing production capacity to capture market growth.



Hitachinaka Factory (Ibaraki)  
(Under construction)



JX USA Mesa Factory (U.S.)  
(Under construction)

- Possessing next-generation revenue-generating products

Crystalline materials (compound semiconductors)



InP substrate



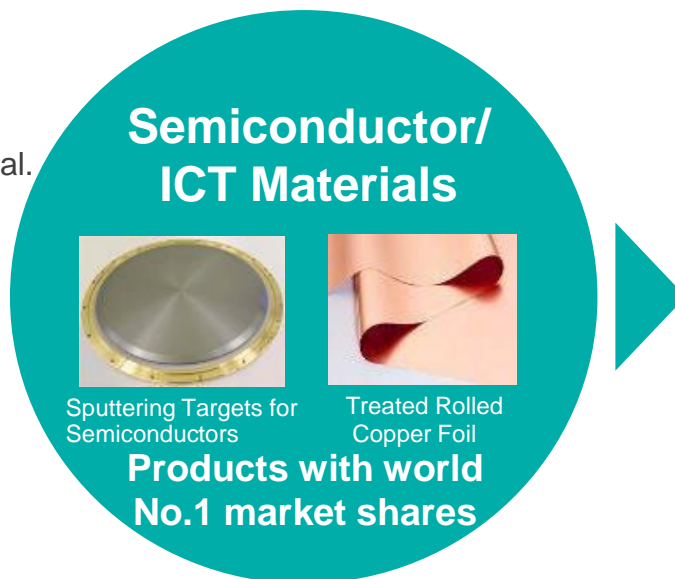
CdZnTe substrate

Next-generation semiconductor materials



High purity metal chlorides  
...etc

## Core of Growth Strategy



Supplying the necessary raw materials (copper, rare metals)  
for advanced materials with sustainable supply

## Resources

Secure resource supply chain, including rare metals



Copper concentrates



Tantalum concentrates

## Metals

Technological development towards achieving 50% raw materials for recycling in copper smelting (by 2040)



Copper smelting



High-purity tantalum powders

## Recycling

Expansion of collection and processing capacity for recycled materials



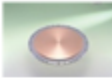

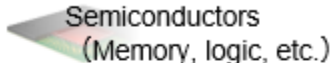


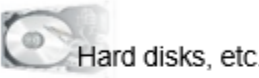


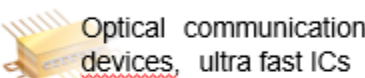

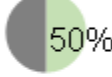
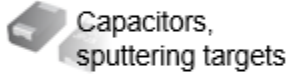


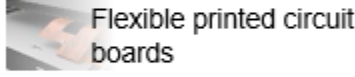


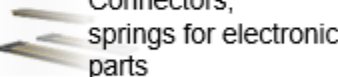


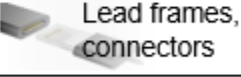


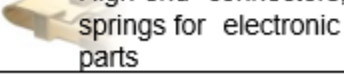
Electronic parts scrap



Used vehicles LiB  
(Under verification)



## Semiconductor Materials and ICT Materials (Main Products and Applications)

Product	Global market share (As of FY23)	Primary applications	End-use applications			
			Smartphones	PCs- appliances	Communications infrastructure and data centers	Automobiles
 Sputtering Targets for Semiconductors	 60%	 Semiconductors (Memory, logic, etc.)	✓	✓	✓	✓
 Sputtering Targets for Magnetic Devices	 60%	 Hard disks, etc.		✓	✓	
 InP Compound Semiconductors	 30%	 Optical communication devices, ultra fast ICs			✓	✓
 High Purity Tantalum Powders	 50%	 Capacitors, sputtering targets	✓	✓	✓	✓
 Treated Rolled Copper Foil for FPCs	 80%	 Flexible printed circuit boards	✓	✓		✓
 Titanium Copper Alloys	 65%	 Connectors, springs for electronic parts	✓	✓		✓
 High Strength / High Conductivity Corson Alloys	 60%	 Lead frames, connectors	✓	✓	✓	✓
 Phosphor Bronze Foil (thickness less than 0.1 mm)	 60%	 High-end connectors, springs for electronic parts	✓	✓		✓

Notes: Estimated by JX Advanced Metals

Further demand growth expected  
with the development of  
a data-driven society

# JX Advanced Metals Group Affiliates

## TANIOBIS GmbH (Semiconductor materials)

- TANIOBIS GmbH is one of the world's top suppliers of tantalum and niobium products, including high-purity metal powders and oxide powders. These are used in capacitors, sputtering targets for semiconductors, SAW devices, and other electronic devices essential to the advancement of the IoT society.
- Demand growth is expected in electronic parts, where tantalum and niobium are used, through the spread of new technology such as next generation technology for cellular networks (5G) and advanced driver-assistance systems (ADAS).



Goslar (Germany)



Tantalum powders

## Toho Titanium Co., Ltd. (ICT materials)

- The Toho Titanium Group manufactures titanium sponge and titanium ingots for aerospace and general industrial applications, as well as high-purity titanium for electronic materials, and fabricated titanium products.
- In its catalysts and chemicals business, Toho Titanium is utilizing materials produced in the titanium production process and its titanium production technologies to expand into other fields, which include production of catalysts for polypropylene production, high-purity titanium dioxide and ultra-fine nickel powder for electronic materials.



Chigasaki Plant



Ultra-fine nickel powders

## TATSUTA Electric Wire and Cable Co., Ltd. (ICT materials)

- The TATSUTA Electric Wire and Cable Group manufactures electric wires and cables. The technical knowhow from this business is applied to such diverse range of fields as EMI shielding film, conductive paste, water leakage detection sensors, and medical equipment.
- The EMI shielding film, a product developed independently by TATSUTA, is widely used as an indispensable component of smartphones and tablets.



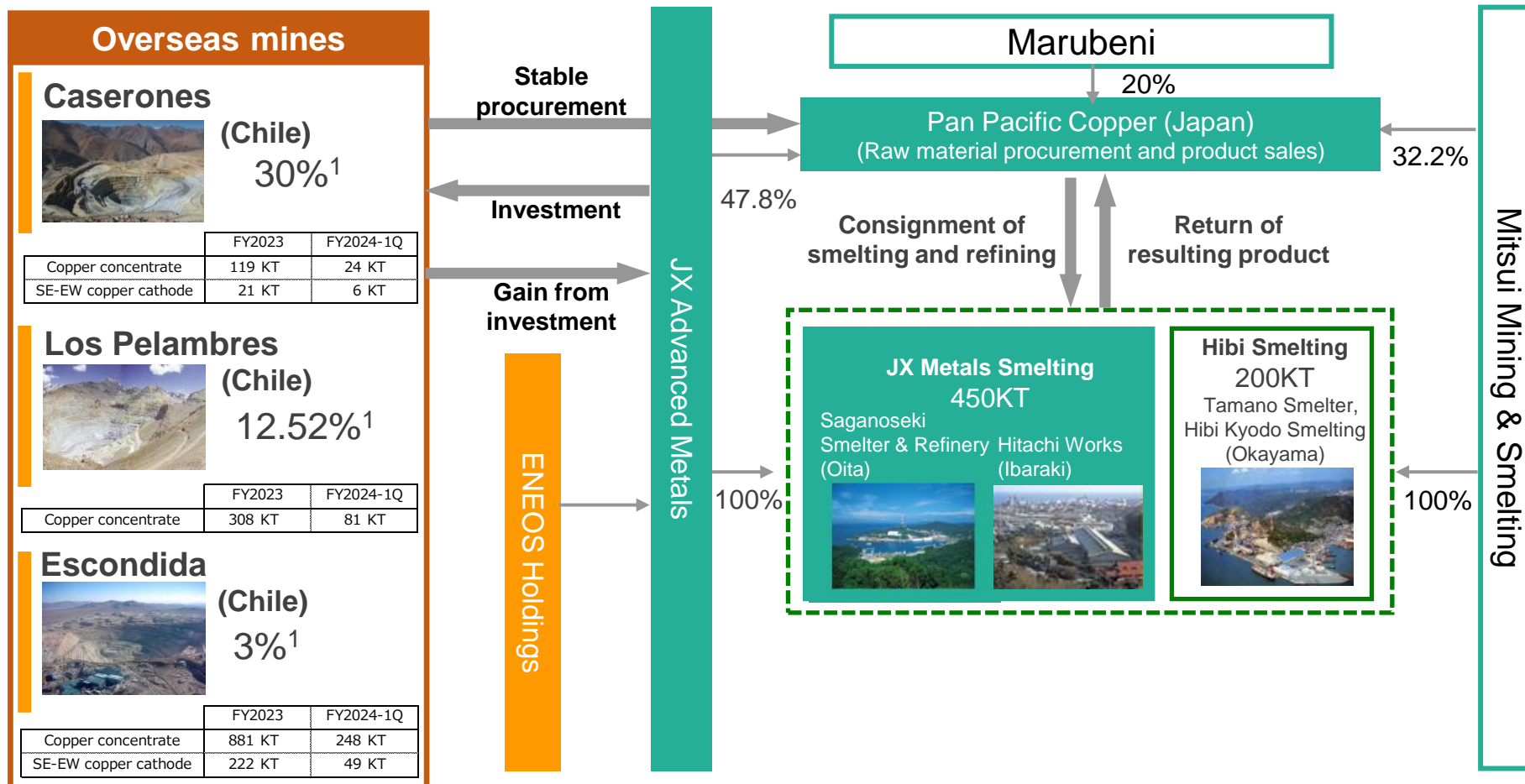
Head Office & Osaka Works



EMI shielding film

\*On June 21, 2024, JX Advanced Metals commenced a tender offer under the Financial Instruments and Exchange Act of Japan to obtain all of the common shares of TATSUTA Electric Wire and Cable Co., Ltd. as part of a transaction to make TATSUTA Electric its wholly-owned subsidiary with the aim of creating further synergies in the field of advanced materials.

# Copper Business



<sup>1</sup> Shares indirectly owned by JX Advanced Metals Corporation (as of Jul. 2024)

# Resource Recycling Initiatives

- We utilize the copper smelting process to recover copper, precious metals, and rare metals from recycled raw materials.
- We are conducting trials of lithium-ion battery (LiB) recycling to prepare for large volumes of end-of-life LiBs from automobiles.
  - **Contribute to the development of a resource-recycling society by effectively utilizing limited metal resources.**

