



Security Code Tokyo 5020

May 13, 2022

Supplementary Information

— ENEOS Group —

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[Reference]

**Our Long-Term Vision and Medium-Term Management Plan
can be accessed through the link below**

<https://www.hd.eneos.co.jp/english/company/system/plan.html>

Overview of the ENEOS Group



ENEOS Group

Aiming to develop into one of the most prominent and internationally-competitive energy and materials company groups in Asia

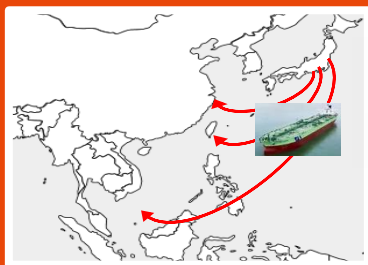
ENEOS Holdings, Inc.

ENEOS



Market share of domestic sales of petroleum products

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



Petrochemicals Supply Capacity

Paraxylene
No. 1 in Asia **3.23** million tons/year*

Propylene
No. 1 in Asia **1.64** million tons/year



Power Generation Capacity

2.11 GW (as of Mar. 31, 2022)
[Incl. Renewable Energy **601** MW]

* External sales basis

JX Nippon Oil & Gas Exploration

Crude oil and natural gas production (project company basis)

(Excl. the U.K volume) **92.8** thousand barrels/day
Crude oil equivalent (FY2021 actual)

JX Nippon Mining & Metals

Equity entitled copper mine production

195 thousand tons/year
contained in copper concentrate (FY2021 actual)

Domestic refined copper production capacity

450 thousand tons/year

Functional Materials and Thin Film Materials

Products with world No.1 market shares

Subsidiaries

NIPPO

Financial Results

Financial Summary IFRS

	FY2020	FY2021	FY2022
	Full Year	Full Year	Full Year
(JPY billion)	Actual	Actual	Forecast
Net Sales	7,658.0	10,921.8	12,800.0
Energy	5,998.5	8,935.0	10,870.0
Oil and Natural Gas E&P	112.4	243.1	160.0
Metals	1,092.1	1,293.0	1,370.0
Other	455.0	450.7	400.0
Operating Income (Loss)	254.2	785.9	340.0
Energy	121.1	477.5	90.0
Oil and Natural Gas E&P	2.8	97.0	70.0
Metals	78.1	158.2	130.0
Other	52.2	53.2	50.0
Finance Income (Loss)	(23.3)	(14.1)	(30.0)
Energy	(4.6)	(4.5)	(8.0)
Oil and Natural Gas E&P	(10.4)	(7.9)	(4.5)
Metals	(6.1)	5.7	(9.0)
Other	(2.2)	(7.4)	(8.5)
Profit attributable to owners of the parent	114.0	537.1	170.0
Energy	63.6	342.0	60.0
Oil and Natural Gas E&P	(35.5)	85.1	28.5
Metals	64.5	93.1	75.0
Other	21.4	16.9	6.5
Profit attributable to owners of the parent (Excl. inventory valuation effects)	135.6	239.1	167.0
Capex	325.7	498.2	776.4
Depreciation and Amortization ¹	249.7	252.2	280.0

Operating Income by Segment IFRS

	FY2020	FY2021	FY2022
	Full Year	Full Year	Full Year
(JPY billion)	Actual	Actual	Forecast
Operating Income (Loss)	254.2	785.9	340.0
Energy Segment	121.1	477.5	90.0
Petroleum Products	124.2	126.2	83.0
Petrochemicals	(25.8)	(6.8)	(2.0)
Electric Power	(27.2)	(19.0)	(26.0)
Materials	11.2	6.8	35.0
Inventory Valuation	38.7	370.3	0.0
Oil and Natural Gas E&P Segment	2.8	97.0	70.0
Metals Segment	78.1	158.2	130.0
Functional Matls, Thin Film Matls and other	31.1	54.5	57.0
Mineral Resources	34.9	72.1	80.0
Smelting and Recycling	27.3	41.0	32.0
Non-allocated corporate expenses and other	(15.2)	(9.4)	(39.0)
Other	52.2	53.2	50.0

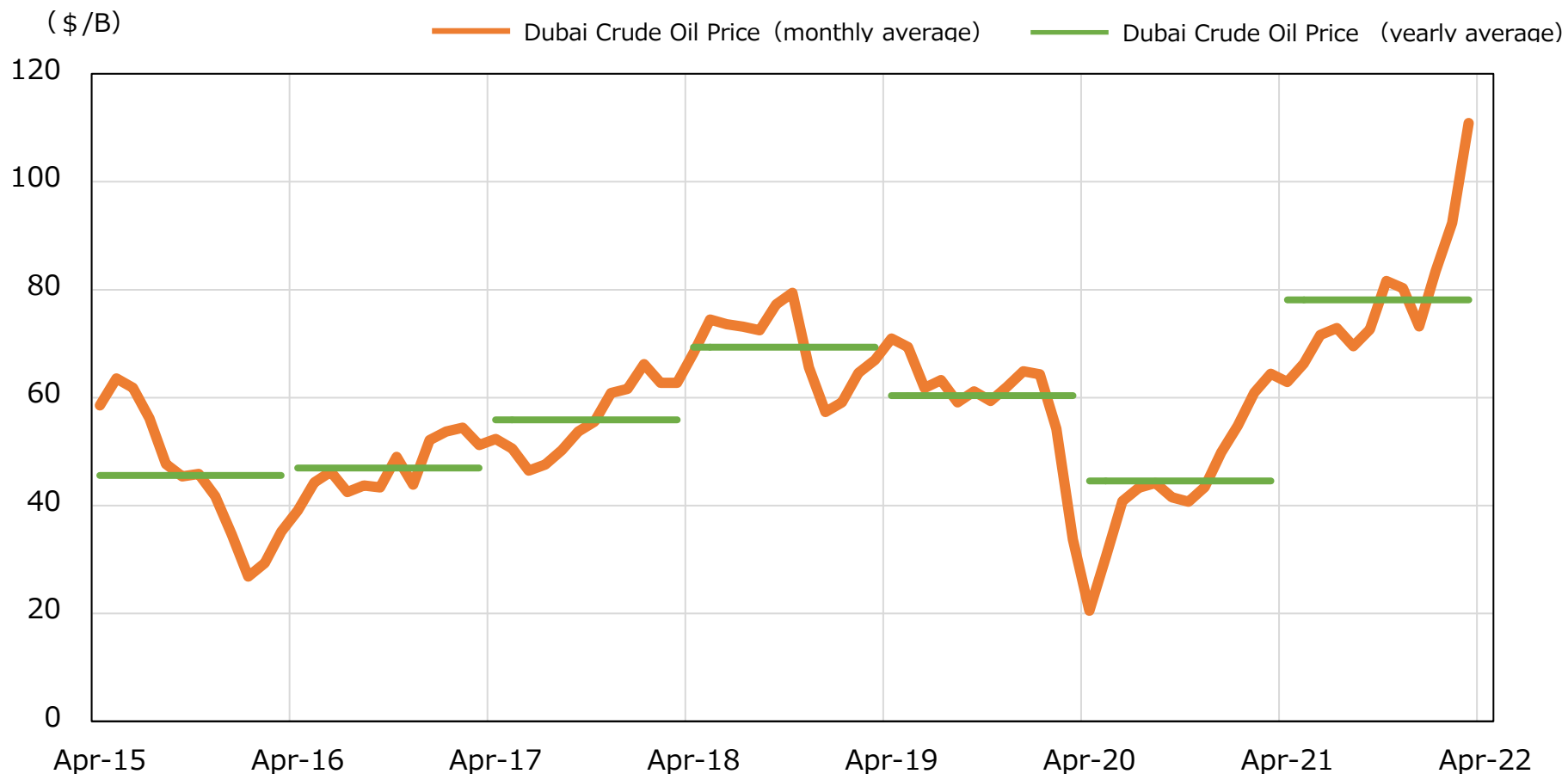
Balance Sheets IFRS

	Mar. 2021	Mar. 2022
(JPY billion)	Actual	Actual
Assets	8,058.8	9,648.2
Current assets	3,039.6	4,308.6
- Cash and deposits	419.0	550.5
Non-current assets	5,019.2	5,339.6
Property, plant and equipment	3,551.1	3,543.1
Goodwill	181.5	251.2
Intangible assets	342.4	519.0
Other	944.2	1,026.3
Liabilities	5,306.3	6,414.1
Interest-bearing debt	2,036.9	2,735.5
Other liabilities	3,269.4	3,678.6
Equity	2,752.5	3,234.1
Total equity attributable to owners of the parent	2,325.0	2,860.8
Non-controlling interests	427.5	373.3

Dubai Crude Oil Price

(\$/B)

Average	FY15	FY16	FY17	FY18	FY19	FY20					FY21				
						1Q	2Q	3Q	4Q	FY	1Q	2Q	3Q	4Q	FY
Dubai Crude Oil	46	47	56	69	60	31	43	45	60	45	67	72	78	96	78

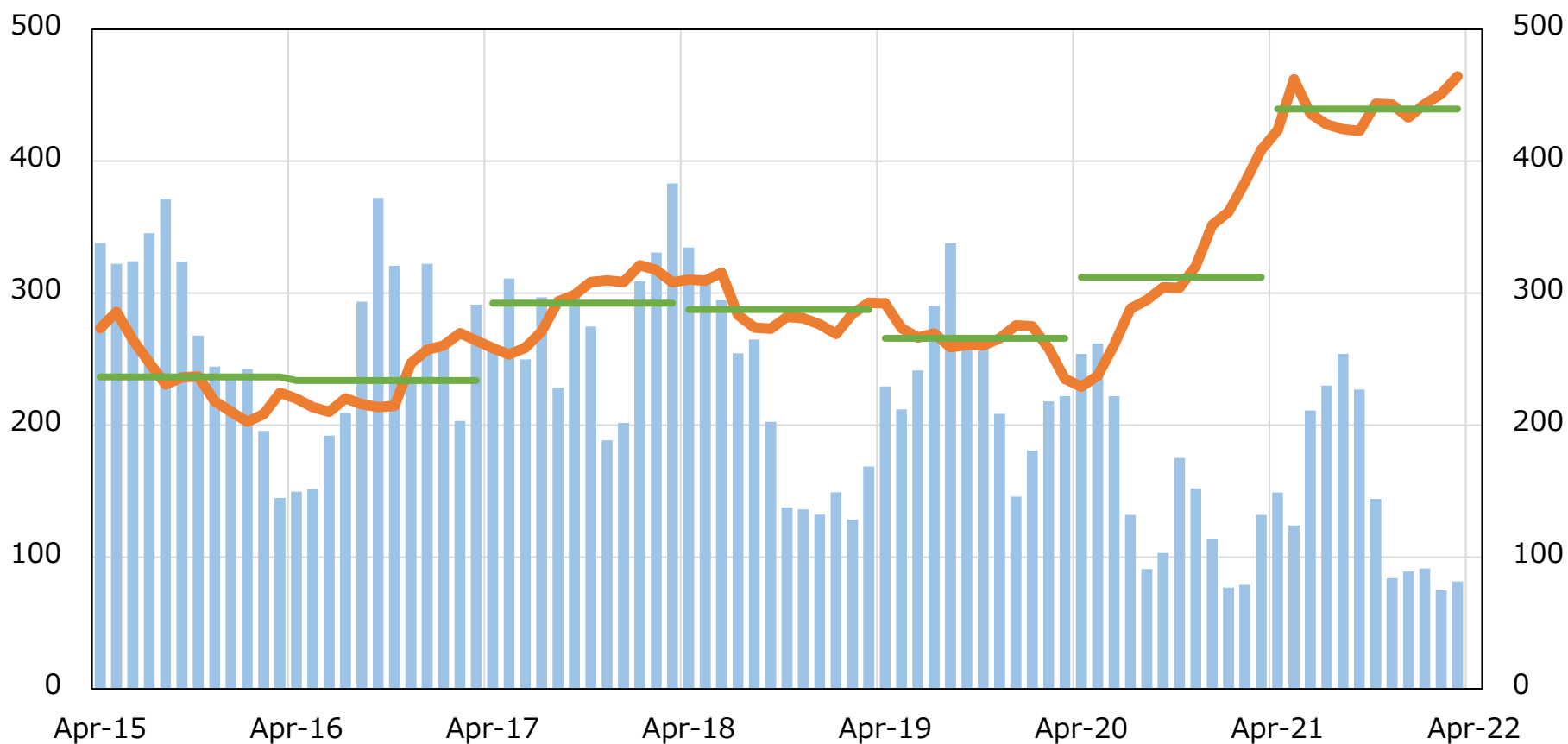


Copper Price and Inventory Level

(¢/lb)

Average	FY15	FY16	FY17	FY18	FY19	FY20					FY21				
						1Q	2Q	3Q	4Q	FY	1Q	2Q	3Q	4Q	FY
Copper	237	234	292	288	266	242	296	325	385	312	440	425	440	453	440

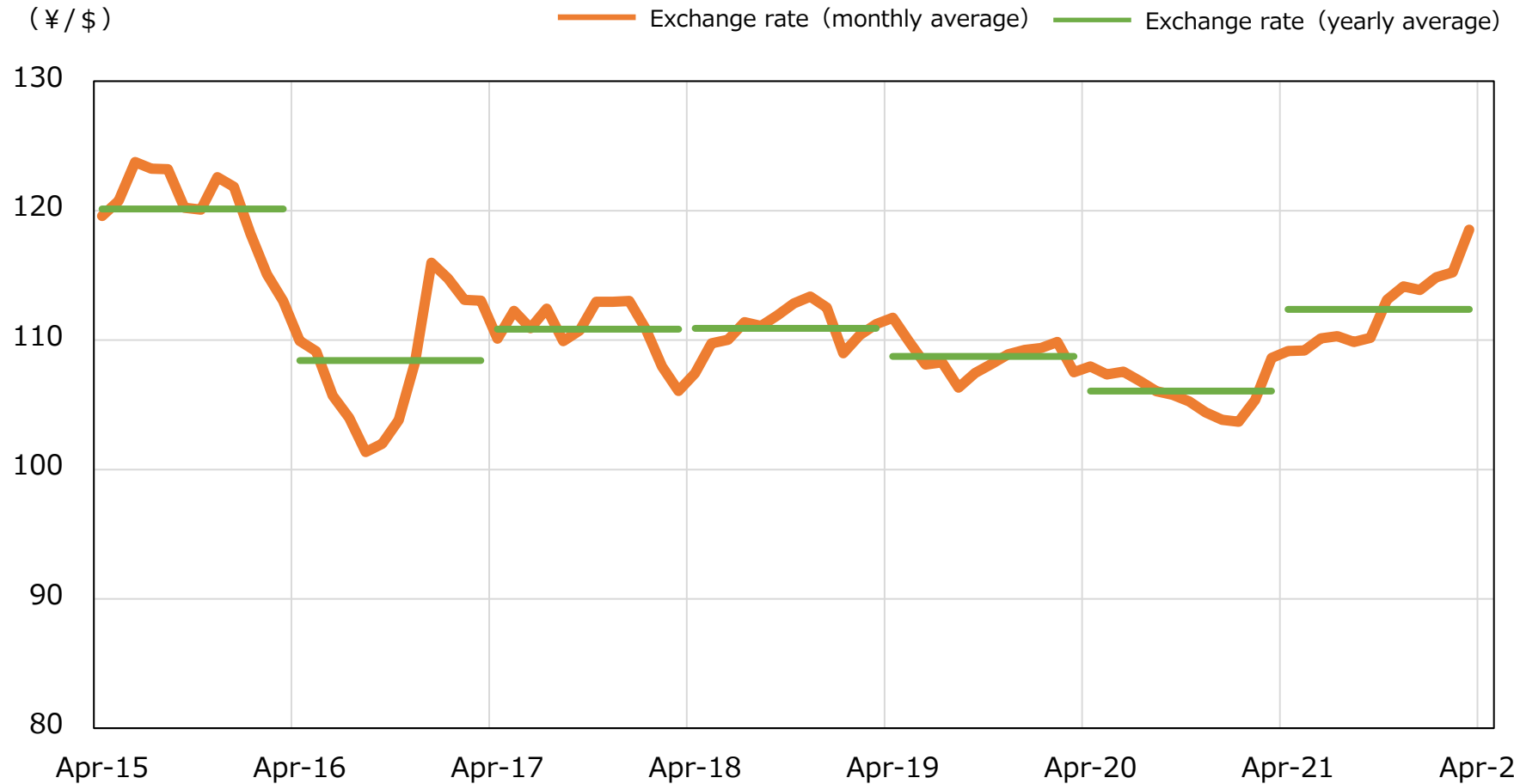
(¢/lb) — Left axis : LME Copper Price (monthly average) — Left axis : LME Copper Price (yearly average) (1,000t)
 — Right axis : LME Copper Inventory Level (end of month)



Exchange Rate

(¥/\$)

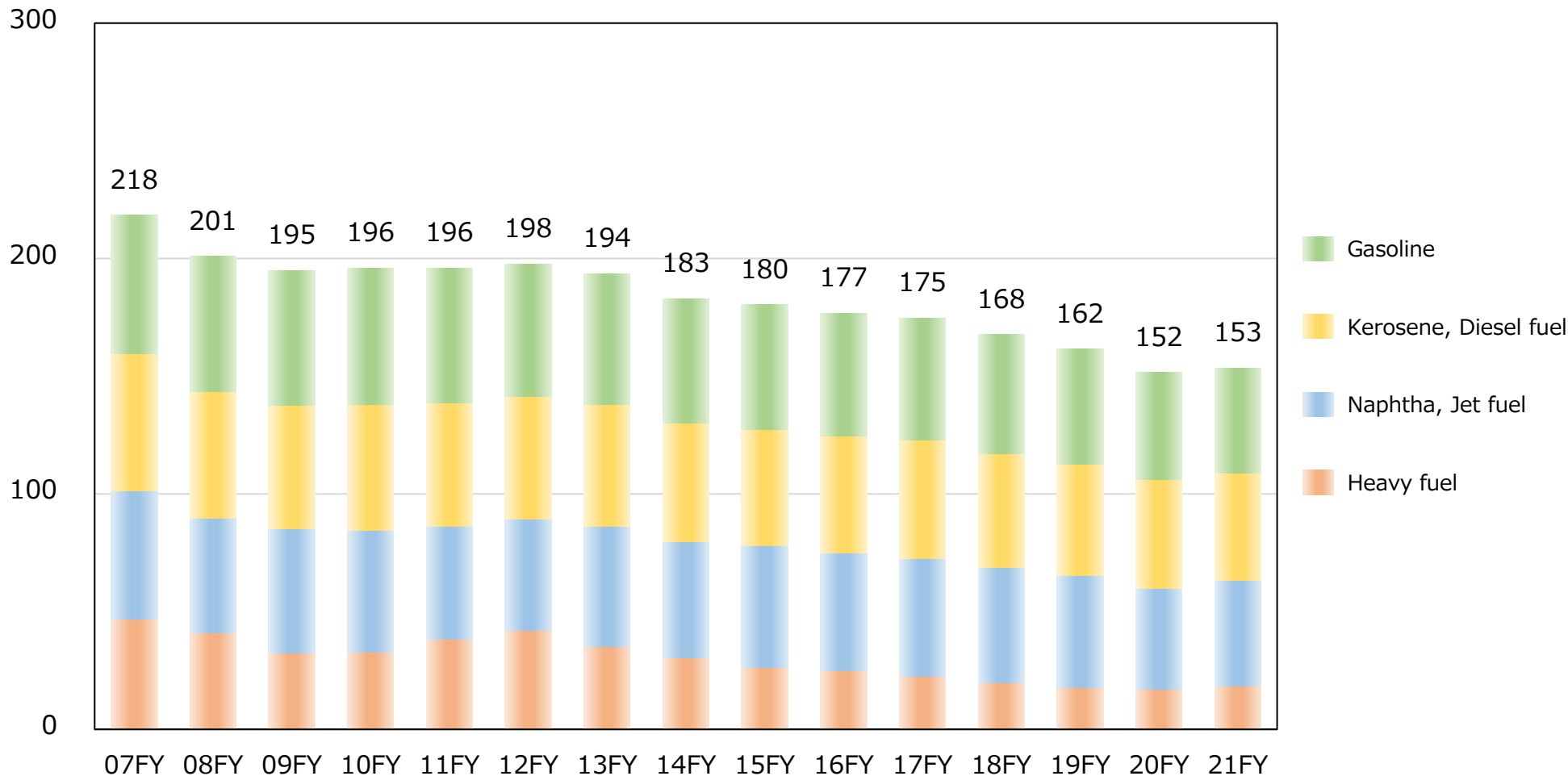
Average	FY15	FY16	FY17	FY18	FY19	FY20					FY21				
						1Q	2Q	3Q	4Q	FY	1Q	2Q	3Q	4Q	FY
Exchange Rate (¥/\$)	120	108	111	111	109	108	106	105	106	106	109	110	114	116	112



- Energy Segment -
Business Environment / Data

Domestic Petroleum Product Demand

(million KL)



Note: Excluding crude oil for electric power plants.

Source: Petroleum Association of Japan and Company data

ENEOS Group Market Share and Demand in Japan, CDU¹ Utilization Rate

Energy Segment
(Petroleum Products and Petrochemicals)

¹ Crude Distillation Unit

Domestic Market Share (%)

	FY20	FY21
a. Gasoline	48.6	49.8
b. Kerosene	38.8	42.3
c. Diesel Fuel	42.3	42.1
d. Fuel Oil A	46.8	45.2
a+b+c+d	45.1	45.9
Total Domestic Fuel ²	44.5	43.3

Domestic Demand (KKL)

	FY20	FY21	YoY
a. Gasoline	45,524	44,509	98%
b. Kerosene	14,498	13,518	93%
c. Diesel Fuel	32,027	32,075	100%
d. Fuel Oil A	10,226	10,135	99%
a+b+c+d	102,275	100,237	98%
Total Domestic Fuel ²	151,953	153,489	101%

² Excluding crude oil for electric power plants

Source: Petroleum Association of Japan and Company data

CDU Utilization Rate (Excluding the impact of periodic repair)

	FY18	FY19				FY20				FY21			
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
ENEOS Group ³	91%	92%	91%	88%	82%	68%	61%	69%	68%	64%	68%	75%	73%

Sales Volume by Product

		(ten thousand KL)				Changes	
		FY18	FY19	FY20	FY21	FY21 vs. FY20	FY21 vs. FY19
a.	Gasoline	2,630	2,494	2,215	2,216	+0.0%	-11.1%
	(Premium)	277	257	229	218	-4.8%	-15.2%
	(Regular)	2,340	2,224	1,977	1,989	+0.6%	-10.6%
	Naphtha	413	472	324	366	+13.0%	-22.5%
	Jet	172	164	88	111	+26.1%	-32.3%
b.	Kerosene	664	591	548	535	-2.4%	-9.5%
c.	Diesel Fuel	1,525	1,457	1,353	1,351	-0.1%	-7.3%
d.	Fuel Oil A	557	516	475	458	-3.6%	-11.2%
	Heavy Fuel Oil C	449	345	338	372	+10.1%	+7.8%
	(For Electric Power)	200	118	103	156	+51.5%	+32.2%
	(For General Use)	249	227	235	216	-8.1%	-4.8%
	a+b+c+d	5,376	5,058	4,591	4,560	-0.7%	-9.8%
	Total Domestic Fuel	6,410	6,039	5,341	5,409	+1.3%	-10.4%
	Crude Oil	15	2	0	0	-	-
	Lubricants & Specialties	329	304	311	257	-17.4%	-15.5%
	Petrochemicals (ten thousand tons)	986	833	690	729	+5.7%	-12.5%
	Exported Oil	2,014	2,180	872	1,427	+63.6%	-34.5%
	LPG (ten thousand tons)	53	63	42	54	+28.6%	-14.3%

Number of Service Stations (Fixed-Type)

➤ Number of Service Stations (Fixed-Type)

	End of FY18	End of FY19	End of FY20	End of FY21
ENEOS	12,961	12,757	12,623	12,445
Idemitsu Kosan	6,465	6,384	6,311	6,216
Cosmo Oil	2,791	2,755	2,729	2,695
Other ¹	792	775	776	761
Oil Companies	23,009 (76.5%)	22,671 (76.5%)	22,439 (77.4%)	22,117 (77.4%)
Private Brands and Other	7,061 (23.5%)	6,966 (23.5%)	6,566 (22.6%)	6,472 ² (22.6%)
Total	30,070	29,637	29,005	28,589 ²

¹ Figures are total of Taiyo Oil and Kygnus Sekiyu

² Estimated by ENEOS

➤ Number of Company-Owned Service Stations

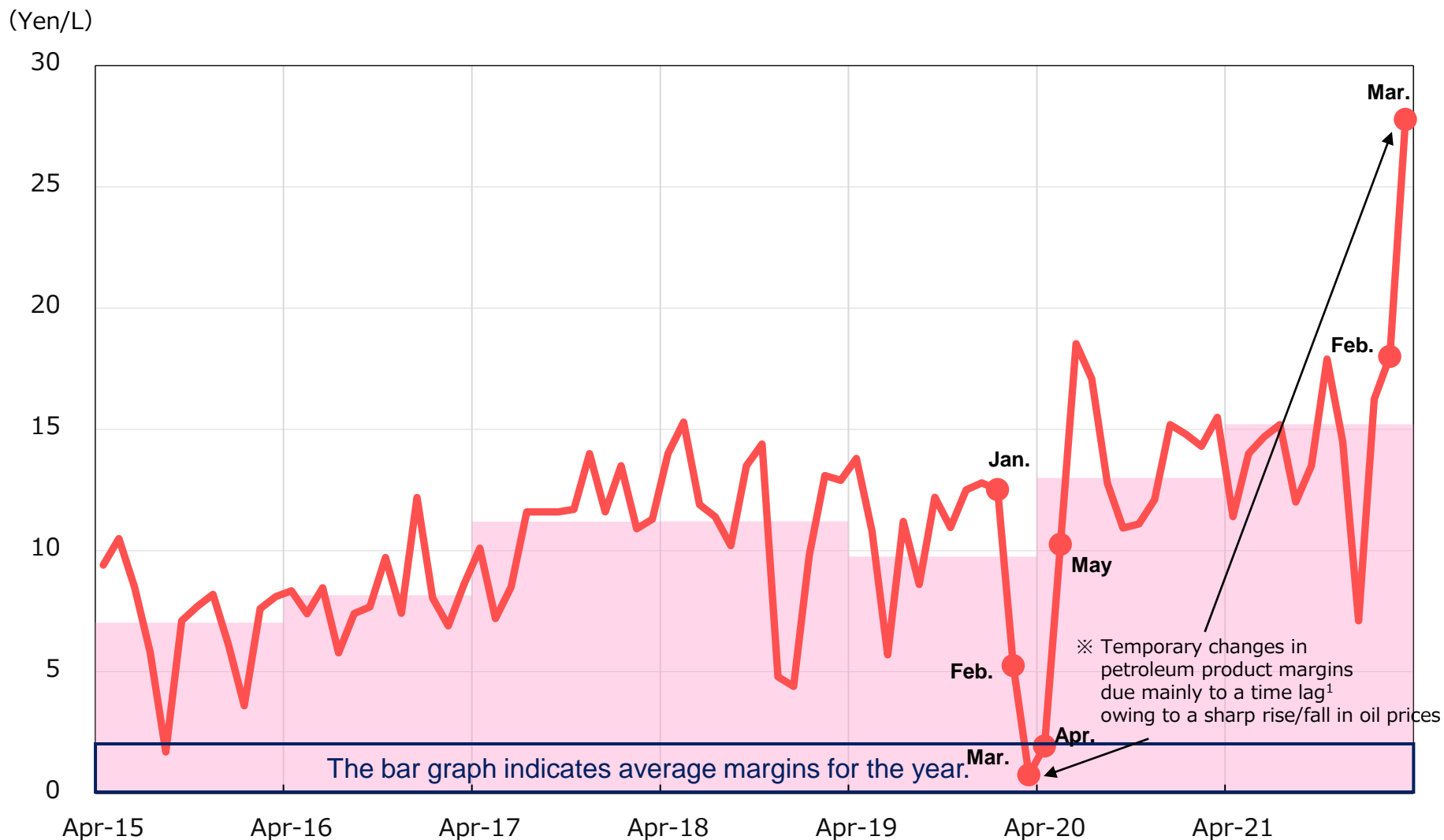
	End of FY18	End of FY19	End of FY20	End of FY21
ENEOS	2,954	2,905	2,861	2,837

➤ Number of Self-Service Stations

	End of FY18	End of FY19	End of FY20	End of FY21
ENEOS	4,361	4,429	4,483	4,545
Total in Japan ³	8,068	8,278	8,424	8,559

³ Figures include only self-service retail outlets that are affiliated with oil companies

Petroleum Product Margins (Gasoline, Kerosene, Diesel Fuel and Fuel Oil A)



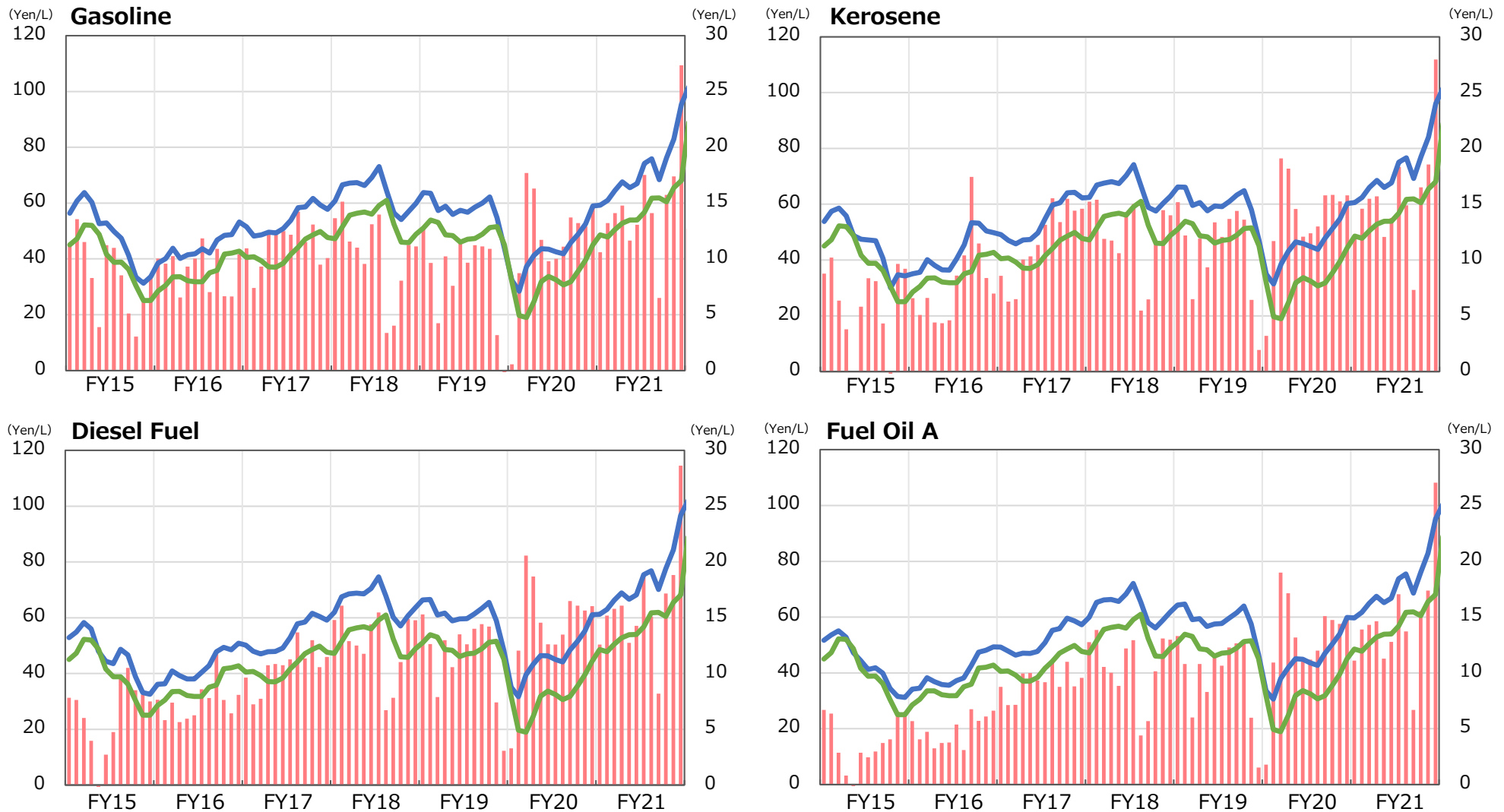
Margin = Spot Price – All Japan Crude Oil CIF (including petroleum tax and interest)

¹ Sales prices of oil products are reflected in crude oil prices in real time. On the other hand, accounting cost of sales is based on crude oil prices that are approximately one month before, such that oil product earnings are affected by a time lag between sales price and cost of sales.

Petroleum Product Margins of Each Product

— Spot Price of each product (Left axis) — Crude Oil CIF Price (Left axis) — Margin (Right axis)

※ Temporary improvement in petroleum product margins in March 2022 due mainly to a positive time lag¹ owing to a sharp rise in oil prices

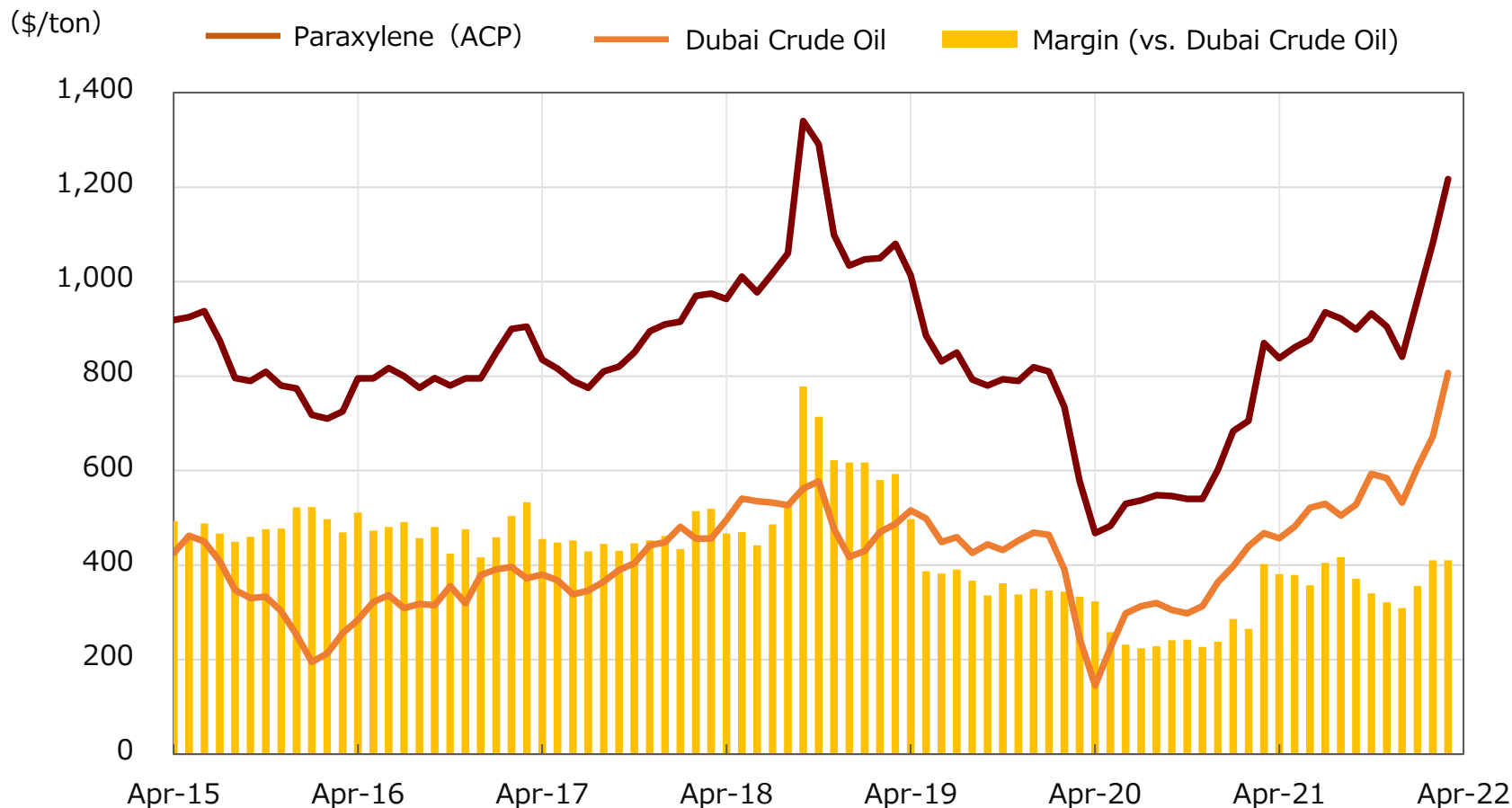


¹ Sales prices of oil products are reflected in crude oil prices in real time. On the other hand, accounting cost of sales is based on crude oil prices that are approximately one-month before, such that oil product earnings are affected by a time lag between sales price and cost of sales

Paraxylene Price and Margin (vs. Dubai Crude Oil)

(\$/ton)

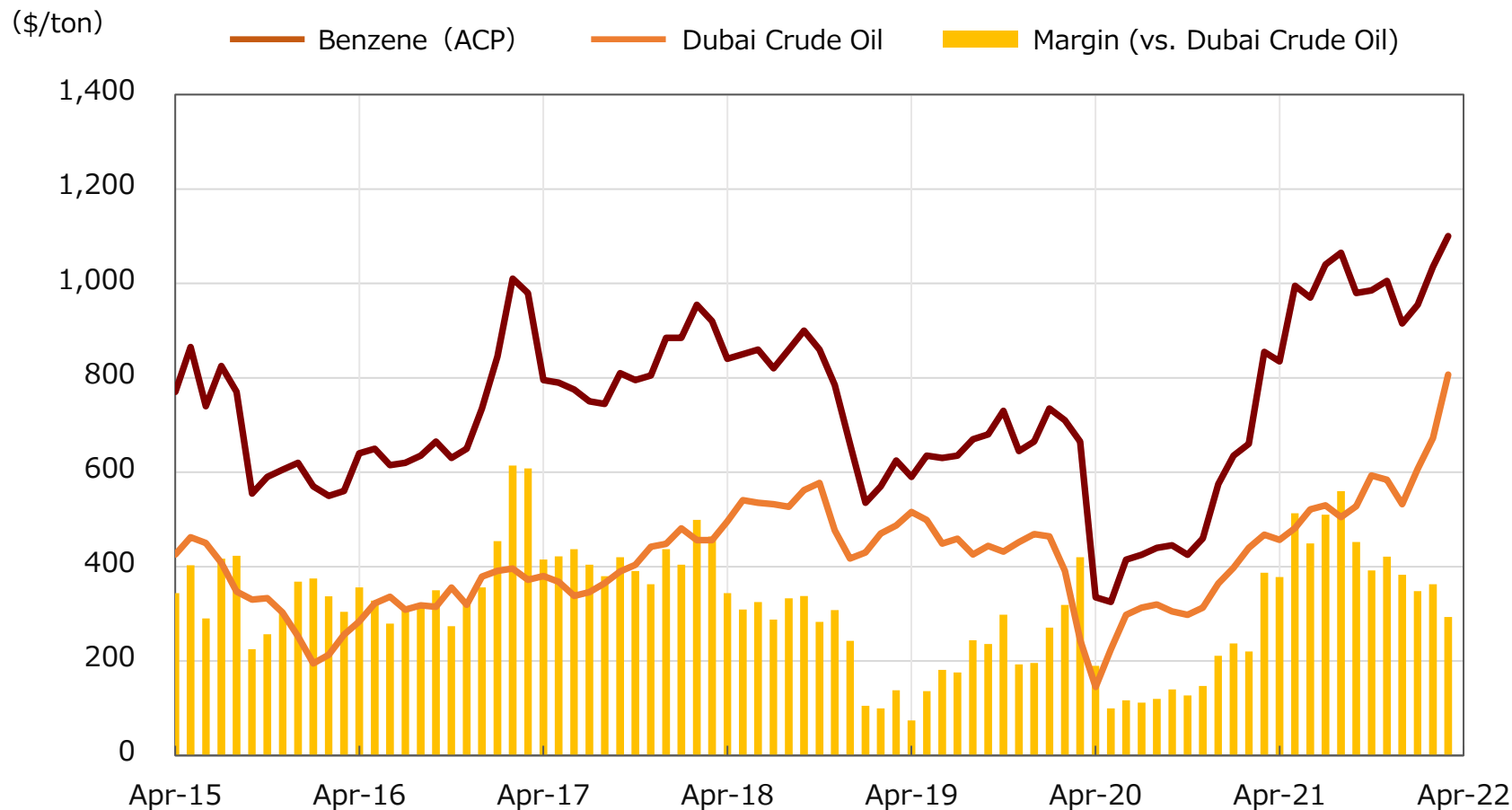
Average	FY15	FY16	FY17	FY18	FY19	FY20					FY21				
						1Q	2Q	3Q	4Q	FY	1Q	2Q	3Q	4Q	FY
Asian Contract Price	813	817	863	1,081	807	494	544	561	753	588	859	919	893	1,087	940
Margin (vs. Dubai Crude Oil)	482	477	456	579	369	271	231	236	318	264	372	398	323	392	371



Benzene Price and Margin (vs. Dubai Crude Oil)

(\$/ton)

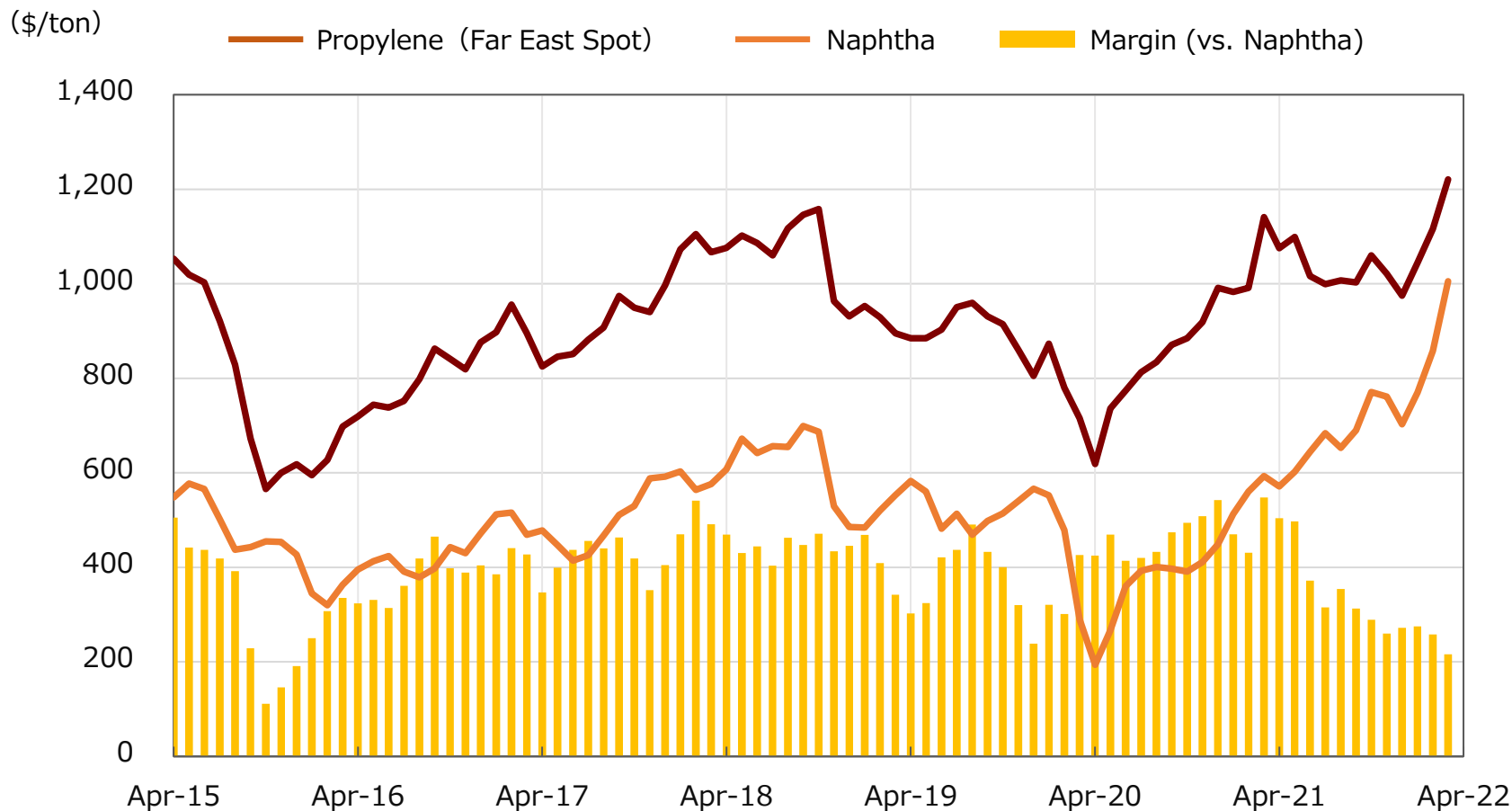
Average	FY15	FY16	FY17	FY18	FY19	FY20					FY21				
						1Q	2Q	3Q	4Q	FY	1Q	2Q	3Q	4Q	FY
Asian Contract Price	668	723	826	764	666	358	437	487	717	500	933	1,028	968	1,030	990
Margin (vs. Dubai Crude Oil)	337	383	406	262	229	136	124	162	281	176	447	507	399	335	422



Propylene Price and Margin (vs. Naphtha)

(\$/ton)

Average	FY15	FY16	FY17	FY18	FY19	FY20					FY21				
						1Q	2Q	3Q	4Q	FY	1Q	2Q	3Q	4Q	FY
Far East Spot Price	767	825	951	1,035	872	710	839	932	1,038	880	1,063	1,003	1,019	1,127	1,053
Margin (vs. Naphtha)	314	388	435	436	368	436	442	515	483	469	458	327	274	250	327

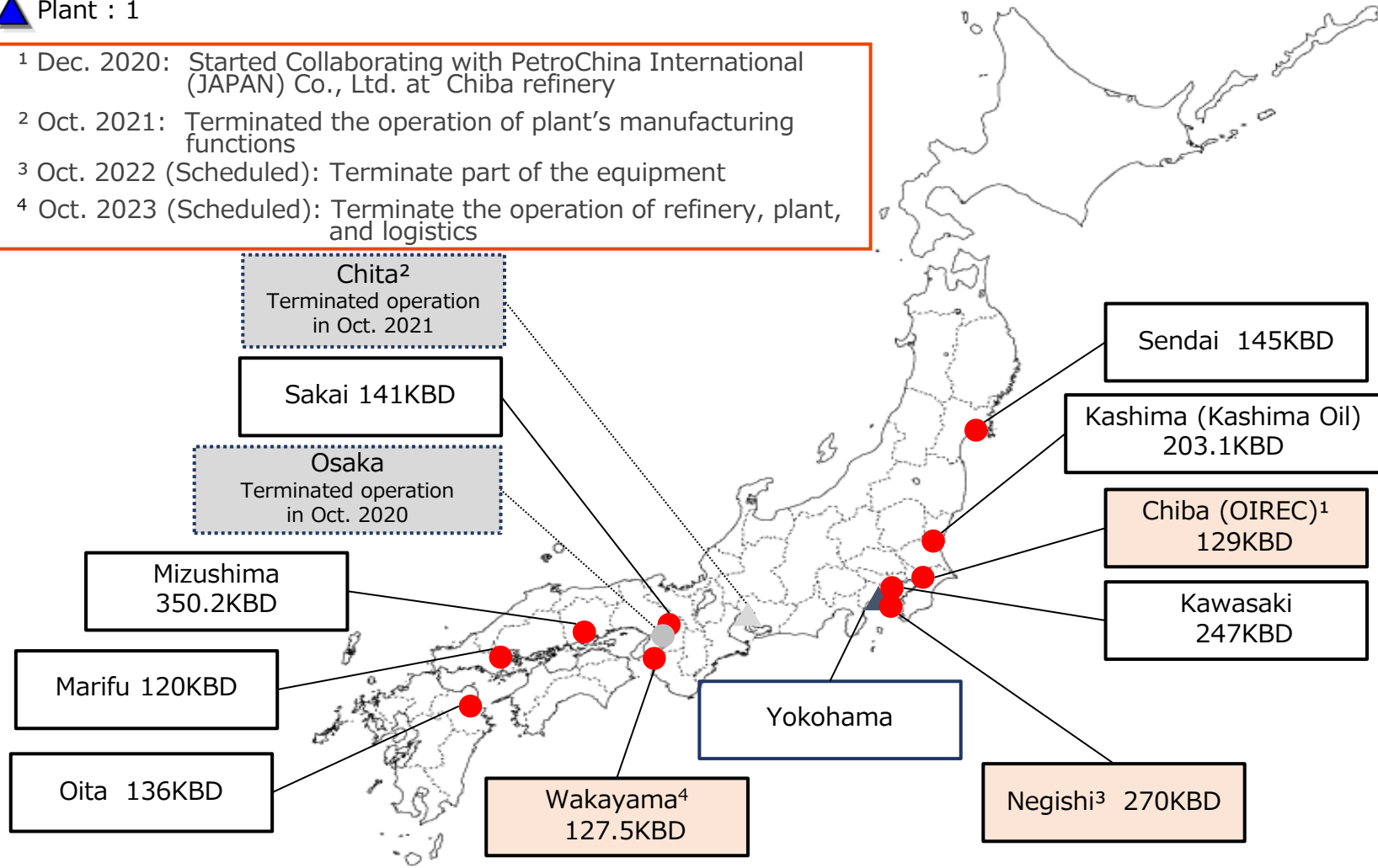


Group Refineries and Plants

- Refineries : 10
Crude refining capacity : Total 1,868.8 KBD
(As of Mar. 31, 2021)

▲ Plant : 1

- ¹ Dec. 2020: Started Collaborating with PetroChina International (JAPAN) Co., Ltd. at Chiba refinery
- ² Oct. 2021: Terminated the operation of plant's manufacturing functions
- ³ Oct. 2022 (Scheduled): Terminate part of the equipment
- ⁴ Oct. 2023 (Scheduled): Terminate the operation of refinery, plant, and logistics



Vietnam

- Signed a Share Subscription Agreement with Vietnam National Petroleum Group (Petrolimex) in 2016, becoming an 8.0% shareholder, and signed a Strategic Cooperation Agreement to enhance enterprise value of both companies. ENEOS became a 13.1% shareholder of Petrolimex with additional acquisition from 2020.
- Exploring measures to increase the corporate value of Petrolimex and various business opportunities in petroleum supply chain from refining to marketing by utilizing ENEOS's expertise gained through its long business experience in Japan.
 - In April 2018, signed a memorandum of understanding to carry out a feasibility study on a cooperative project utilizing Marifu Refinery, and aim to establish a joint venture
 - In July 2019, in the presence of government officials from Japan and Vietnam, signed a memorandum of understanding to carry out a feasibility study on a cooperative project for establishing LNG business in Vietnam
 - In February 2021, signed a memorandum of understanding regarding the expansion and implementation of new joint measures in Vietnam
 - In April 2021, appointed a General Representative of our local subsidiary in Vietnam, and doubled the number of local personnel to enhance its function and structure
- Vietnam's petroleum product demand* is approximately 380KBD (as of 2020), which is expected to grow to 600KBD by 2030 along with economic growth. *gasoline, jet fuel, diesel fuel, fuel oil

Australia

- Entered into the petroleum downstream business in Australia in 2015
 - Domestic demand in Australia is strong due to population growth and natural resource development projects
 - Exports from Japan to Australia have a cost advantage
- Further optimization and expansion of sales network mainly through acquisition of petroleum product sales companies
 - Acquisition of Petro National Pty Ltd and Oilsplus Holdings Australia Pty Ltd in 2017
 - Acquisition of South West Fuel Centre Pty Ltd in 2019
 - Business integration of Petro National Pty Ltd, Oilsplus Holdings and South West Fuel Centre Pty Ltd on July 1, 2021.

- Completed acquisition of the entire shares of JRE Corporation, and aim to become Japan's leading renewable energy provider by combining our expertise as an energy company and JRE's business development capabilities
- Aiming for realization of stable electricity supply by constructing optimal generation portfolio of renewables and domestic thermal energy

Structure of Electric Power Source (As of Mar. 31, 2022 Equity-based)

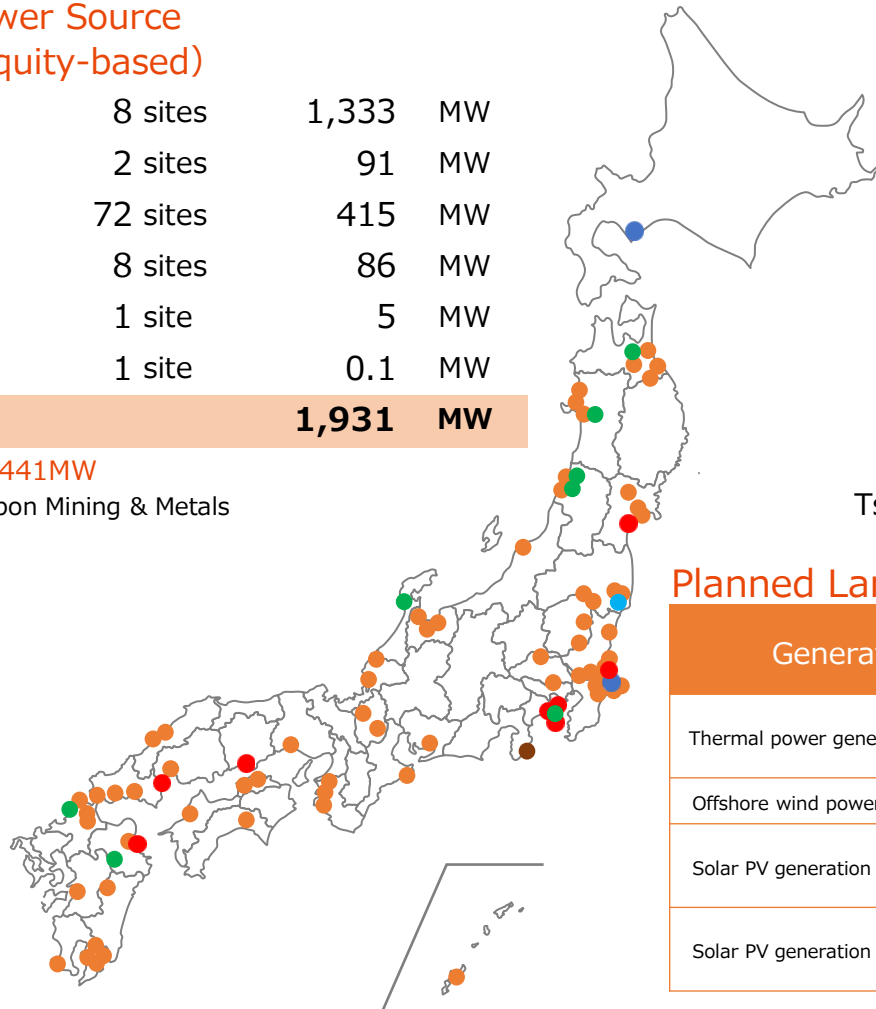
● Thermal generation	8 sites	1,333	MW
● Biomass generation	2 sites	91	MW
● Solar PV generation	72 sites	415	MW
● Wind generation	8 sites	86	MW
● Hydro Generation ¹	1 site	5	MW
● Geothermal Generation ¹	1 site	0.1	MW
Total		1,931	MW

※Incl. JRE's generation capacity:441MW

1 Incl. generation capacity of JX Nippon Mining & Metals



Uruma Mega-solar



Tsuruoka Hachimoriyama
Wind Farm



Murooran Biomass

Planned Large-scale Generation projects

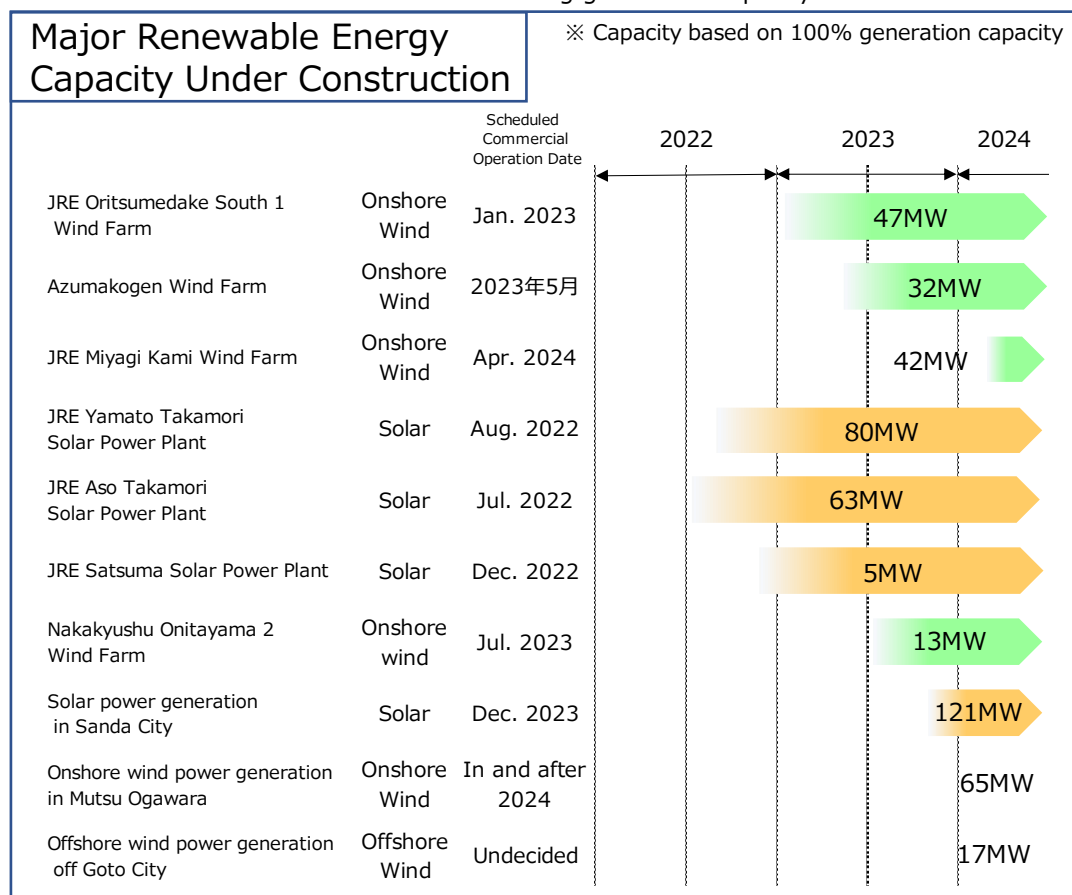
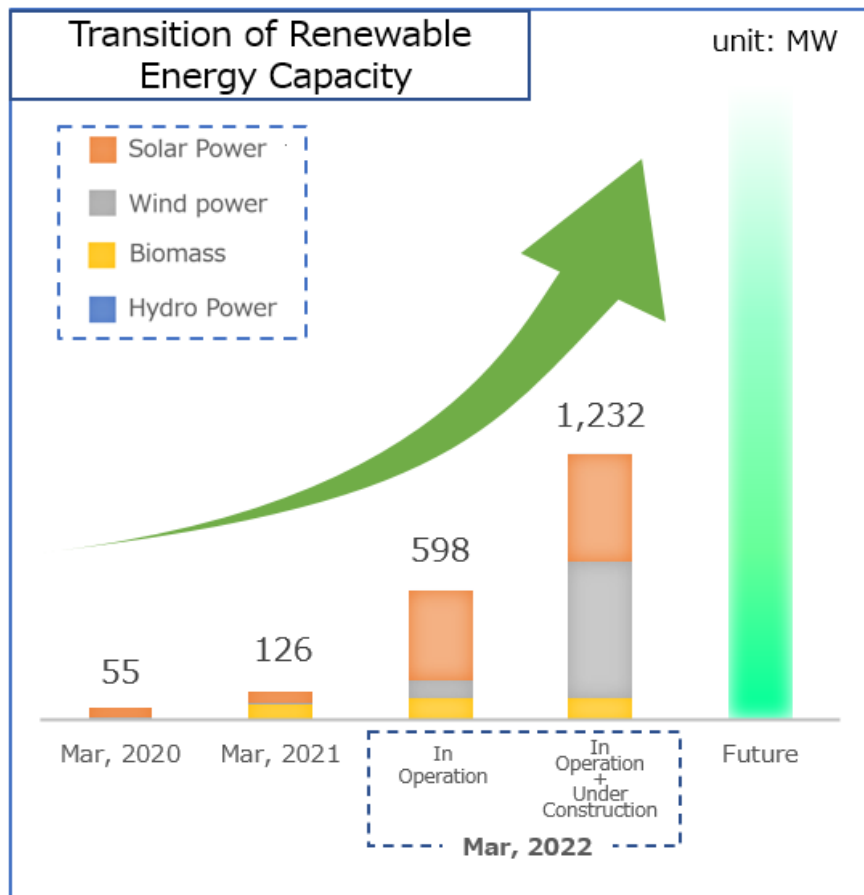
Generation Project	Generation Capacity	Date of Start
Thermal power generation in Goi	780 MW ×3 stations	2024~2025
Offshore wind power generation in Taiwan	640 MW	2022~2023
Solar PV generation in Texas	140 MW	Latter half of 2022
Solar PV generation in Queensland, Australia	204 MW	Latter half of FY2022

✓ Focus on acquiring further renewable energy capacity

Achieved the total renewable power generation capacity target set in the Second Medium-Term Management Plan; over 1,000 MW ¹

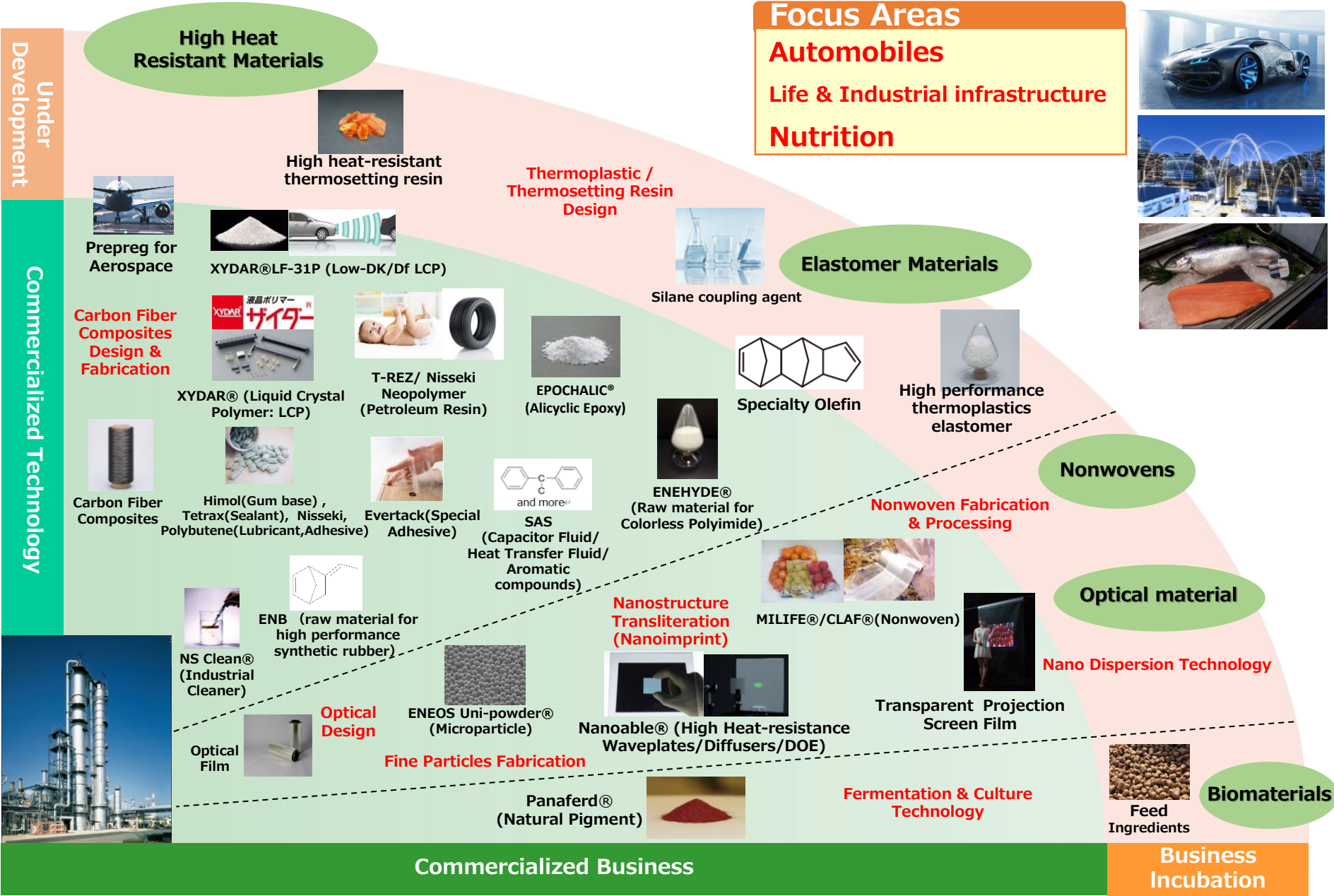
Aim to acquire more renewable power generation capacity to realize a decarbonized and recycling-oriented society

¹ Including generation capacity under construction



※ Capacity based on ownership ratio

General Introduction of High-Performance Materials



Took over JSR Corporation’s Elastomers business on April 1, 2022, and the new Elastomers business as a core of our Materials business started under the ENEOS Group.

Main Products and Uses of Elastomers Business

Product line	Main products	Uses (examples)
General-purpose synthetic rubber	Solution polymerization styrene/butadiene rubber (SSBR)	Fuel-efficient/high-performance tires
	Emulsion polymerization styrene/butadiene rubber	Automobile tires
	Polybutadiene rubber	Automobile tires, golf balls
Special synthetic rubber	Butyl rubber	Automobile tires
	Acrylonitrile-butadiene rubber	Automobile parts (seal materials, hoses, etc.)
	Ethylene-propylene rubber	Automobile parts (gaskets, hoses, etc.)
Thermoplastic elastomer	Polybutadiene type thermoplastic elastomer	Sole materials, medical tubes
	Styrene type thermoplastic elastomer	Resin modifiers, adhesives
	Hydrogenated polymer	Surface protective film
	Olefin type thermoplastic elastomer	Automobile parts, electric and electronic equipment
Emulsion/Functional chemical materials	Styrene-butadiene latex	Paper coating materials, paint for coated papers
	Acrylic emulsion	Sound absorbing materials for automobiles, tile carpets
	Water-based highly durable stain-resistant emulsion	Building materials (outer walls, rooves, etc.) , anticorrosive paint
	Binders for batteries	Electrodes, e.g. lithium-ion batteries



Lubricants Business

✓ Locations of Overseas Lubricants Business (As of Apr. 2022)

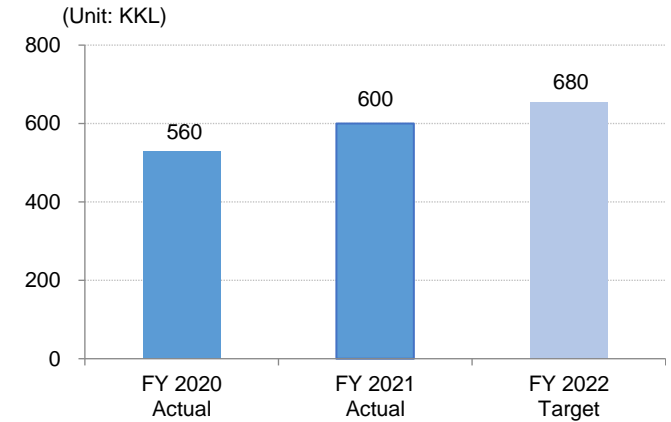
➤ Expanding overseas businesses, especially in Asia

Sales and marketing offices 28

Manufacturing plants 10

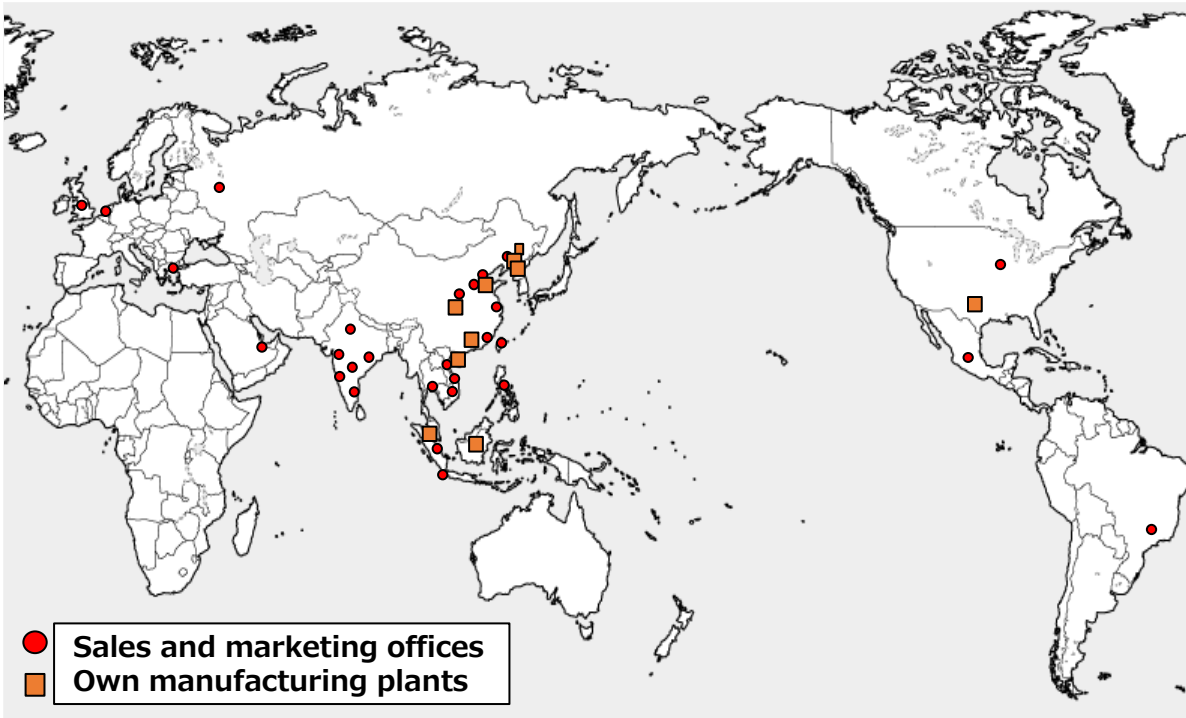
(in addition, approx. 60 contractor plants)

✓ Overseas Lubricants Sales Volume



✓ Expansion of Overseas Lubricants Business

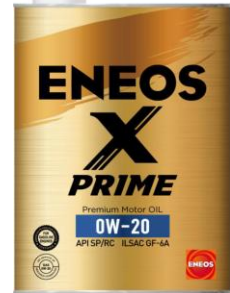
- Established a lubricants marketing company in Dubai (Jul. 2011)
- Lubricants manufacturing plant started operation in Indonesia (Apr. 2012)
- Started joint venture business for lubricants base oil with SK Group of South Korea (Oct. 2012)
- Lubricants manufacturing plant started operation in Vietnam (Feb. 2014)
- Established a lubricants marketing company in India (Aug. 2014)
- Established a lubricants marketing company in Mexico (Jan. 2015)
- Established a lubricants marketing company in the Philippines (Oct. 2019)
- Established a lubricants marketing department in the Netherlands (Jan. 2022)



● Sales and marketing offices
■ Own manufacturing plants

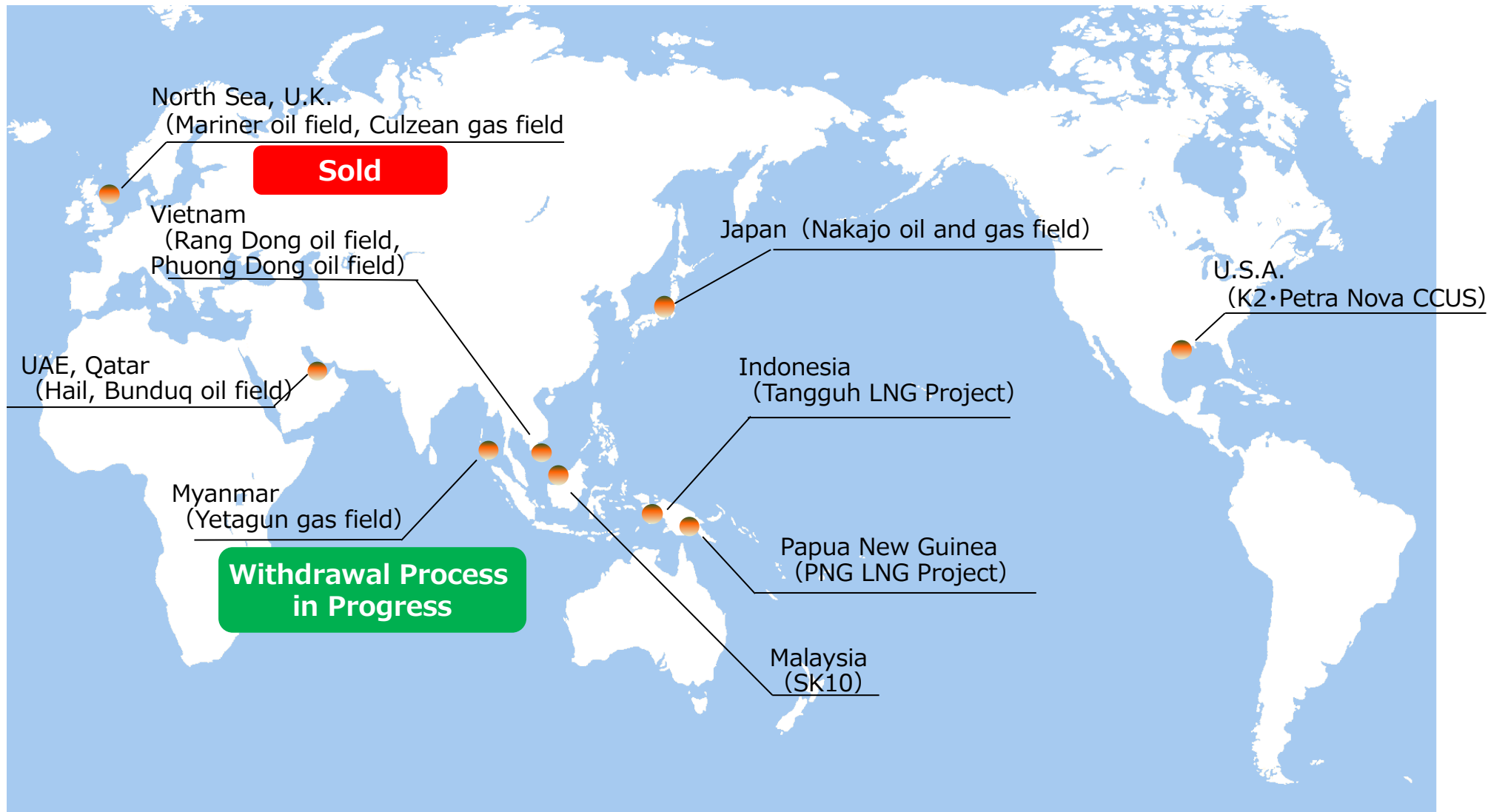
Lubricants Business

- ✓ Started marketing “ENEOS X series” in 2020
 - Adapted to renewed international standards (API/SP, ILSAC/GF-6)
 - Environmentally compatible product with fuel efficiency improved more than 1% compared to the conventional standard
 - Strengthened measures against abnormal combustion and wear in engines
 - Developed the top grade ENEOS X PRIME to provide a comfortable ride experience for customers
 - Succeeded in reducing engine noise and vibration using our proprietary additive technology
- ✓ Developed ENEOS EV FLUID, a fluid exclusively for electric and hybrid vehicles
 - Special fluids for each drive system with high insulation, cooling, and gear protection performance
- ✓ Developed a lubricant used in MotoGP, the world’s most prestigious motorcycle race



- Oil and Natural Gas E&P Segment -
Business Environment / Data

Business Areas



Sales Volume and Reserves of Principal Oil and Natural Gas E&P Projects

Country/Area	(1,000boed)			(million boe)		
	Sales Volume			Reserves*		
	FY2021			Mar.'20 end (FY2019)	Mar.'21 end (FY2020)	Mar.'22 end (FY2021)
	Total	Oil	Gas			
U.S.A.	3.1	2.7	0.4	14	12	11
Vietnam	4.6	3.6	1.0	6	5	3
Myanmar	0.6	0.0	0.6	2	1	0
Malaysia	35.9	4.4	31.5	84	69	63
Indonesia	19.5	0.5	19.0	140	133	121
Papua New Guinea	12.5	2.9	9.6	71	69	67
United Arab Emirates, Qatar and other	16.6	16.2	0.4	72	73	61
Sold North Sea, U.K.	27.9	13.6	14.3	107	90	0
Total	120.7	43.9	76.8	496	452	326

Sales Volume & Reserves : JX Nippon Oil & Gas Exploration's project companies including equity-method affiliates

* Please refer to P.42 for our Reserves Evaluation Standards

Principal Individual E&P Project Overview (U.S.A) ①

Production



	K2 (offshore)	Cooley (onshore)	MP140 (offshore)
Project Company	JX Nippon Oil Exploration (U.S.A.) Ltd.		
Shareholders (Holding Percentages)	ENEOS Holdings USA Inc.* (100%)		
Project Status	Production	Production	Production
Interest	11.6%	50.0%	35.0%
Partners	Occidental (41.8%) EcoPetrol (20.8%) ENI (13.4%) O.G. Oil & Gas (12.4%)	Hilcorp (50.0%)	GOM Shelf (65.0%)
Operator	Occidental	Hilcorp	GOM Shelf
Sales Volumes FY2021	3,100 boed (Oil 2,700b/d, Gas 2.8mmcf/d)		

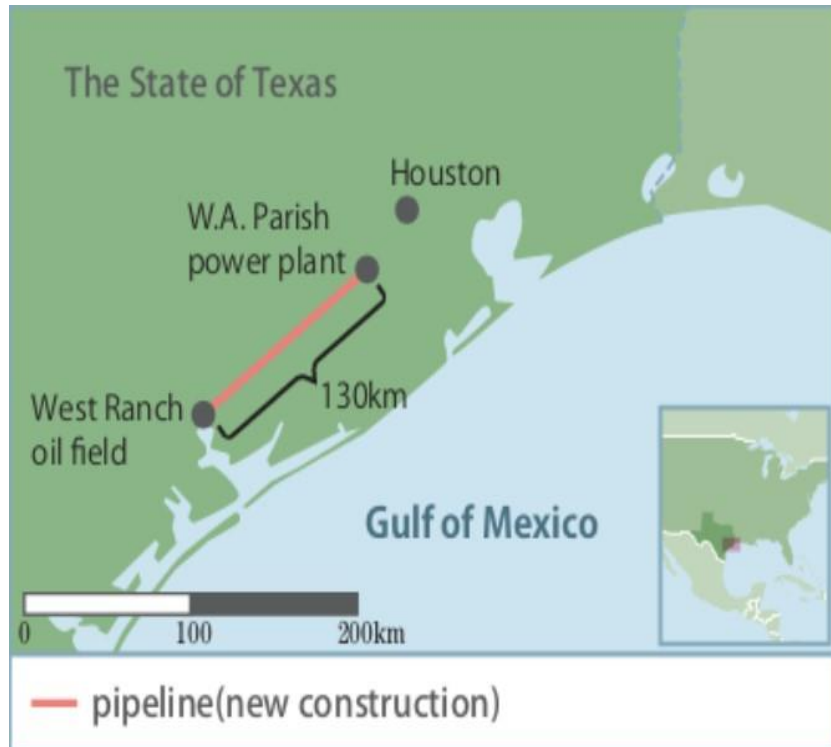
* Registered trade name changed from JX Holdings (U.S.A.) Inc. in Oct. 2020

Production

- In 1990, began exploration, development, and production operations at an onshore field in Texas and offshore blocks in both deep and shallow water in the Gulf of Mexico.
- In 2007, acquired 11.6% interest in K2 from Anadarko.

Principal Individual E&P Project Overview (U.S.A) ②

Production



Constructing carbon capture system that captures 90% of carbon dioxide (CO₂) in the processed flue gas from an existing unit at the WA Parish power plant, and by injecting the captured carbon dioxide in the West Ranch oil field, trying to increase crude oil production.

	CO ₂ -EOR Project
Project Company	JX Nippon Oil Exploration (EOR) Ltd.
Shareholders ¹ (Holding Percentages: Common Stocks)	JX Nippon Oil & Gas Exploration Corporation (100%)
Project Status	Production
Interest	50.0%
Project Company	Petra Nova Parish Holdings LLC ²

- 1 JBIC holds preferred stocks issued by JX Nippon Oil Exploration (EOR) Ltd.
- 2 JX Nippon Oil Exploration (EOR) Limited and a subsidiary of NRG Energy Inc. each hold 50% interest of Petra Nova Parish Holdings LLC. Petra Nova Parish Holdings LLC holds 50% interest of the West Ranch Oil Field through its subsidiary (JX Nippon Oil Exploration (EOR) Limited indirectly holds 25% interest of the West Ranch Oil Field).

Production

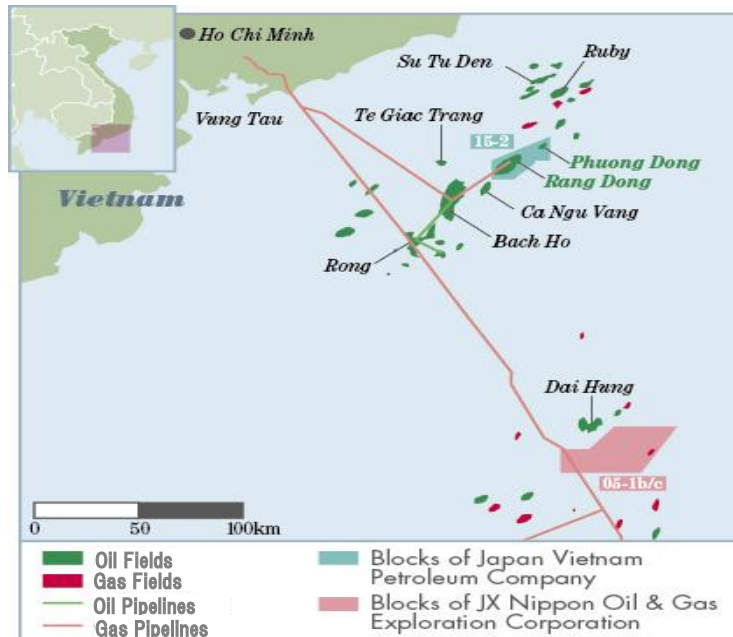
- In 2014, joined CO₂-EOR business.
- In 2016, carbon capture system began operation.
- In 2017, began production.

Principal Individual E&P Project Overview (Vietnam)

Production

Development

Exploration



	Block 15-2	
	Rang Dong Oil Field	Phuong Dong Oil Field
Project Company	Japan Vietnam Petroleum Company	
Shareholders (Holding Percentages)	JX Nippon Oil & Gas Exploration (100%)	
Project Status	Production/Development/Exploration	
Interest	39.5%	64.5%
Partners (Interest)	PVEP (30.0%) Batavia Oil (30.5%)	PVEP (35.5%)
Operator	Japan Vietnam Petroleum Company	
Sales Volumes FY2021	4,600 boed (Oil 3,600b/d, Gas 6.1mmcf/d)	

Production

Development

Exploration

Since the acquisition in 1992, the project has been one of our key operations. JVPC, our subsidiary, acts as operator in the block.

The Rang Dong Oil Field and the Phuong Dong Oil Field feature an unconventional fractured granite basement rock reservoir that is unique in the world. Our fracture evaluation technology is highly valued and is receiving worldwide recognition.

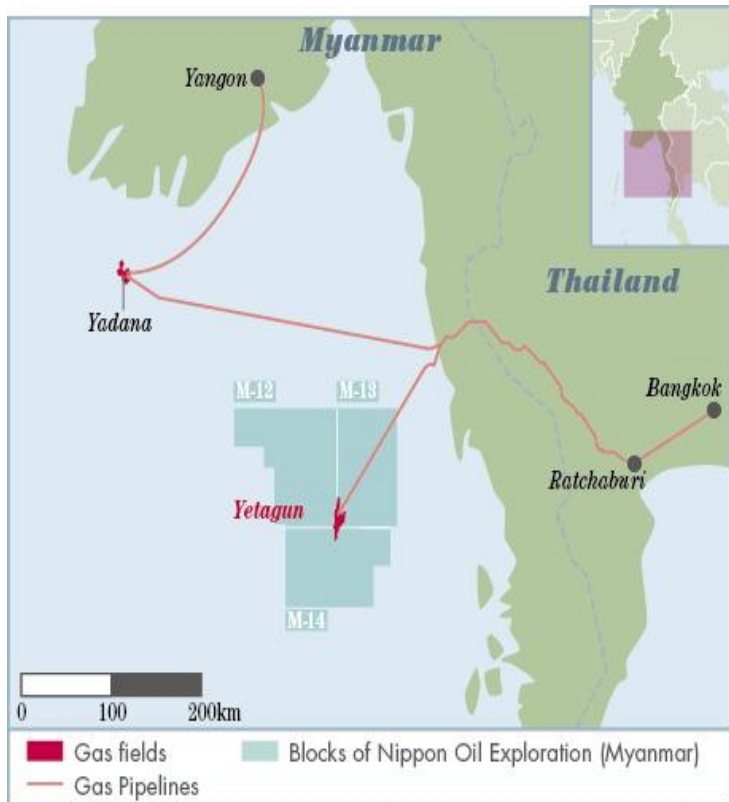
As part of our corporate activities, we have been promoting social welfare activities in Vietnam to improve the lives of the people of Vietnam.

- In 1992, JVPC acquired a working interest in block 15-2
- In 1994, JVPC discovered the Rang Dong Oil Field within block 15-2, and began production in that field from 1998.
- In July 2008, Rang Dong Oil Field achieved a cumulative production volume of 150 million barrels.
- In August 2008, JVPC began production in the Phuong Dong Oil Field.
- In November 2013, determined term extension of the Rang Dong Oil Field (5 years).
- In July 2014, block 15-2 achieved a cumulative production volume of 200 million barrels.
- In October 2014, JVPC began HCG-EOR project
- In November 2019, determined term extension of Phuong Dong Oil Field (5 years).

Principal Individual E&P Project Overview (Myanmar)

Withdrawal Process in Progress

Production



We have been participating in the Yetagun project in Myanmar since the exploration stage. After the appraisal activities and the construction of the production and shipping facilities, the project is now at a production stage.

	Block M-12, 13, 14
Project Company	Nippon Oil Exploration (Myanmar)
Shareholders (Holding Percentages)	JX Nippon Oil & Gas Exploration (40.0%) Mitsubishi Corporation (10.0%) Government of Japan (50.0%)
Project Status	Production
Interest	19.3%
Partners (Interest)	Petronas Carigali (40.9%) MOGE (20.5%) PTTEP International (19.3%)
Operator	Petronas Carigali
Sales Volumes FY2021	600boed (Oil 0 b/d, Gas 3.5mmcf/d)

Production

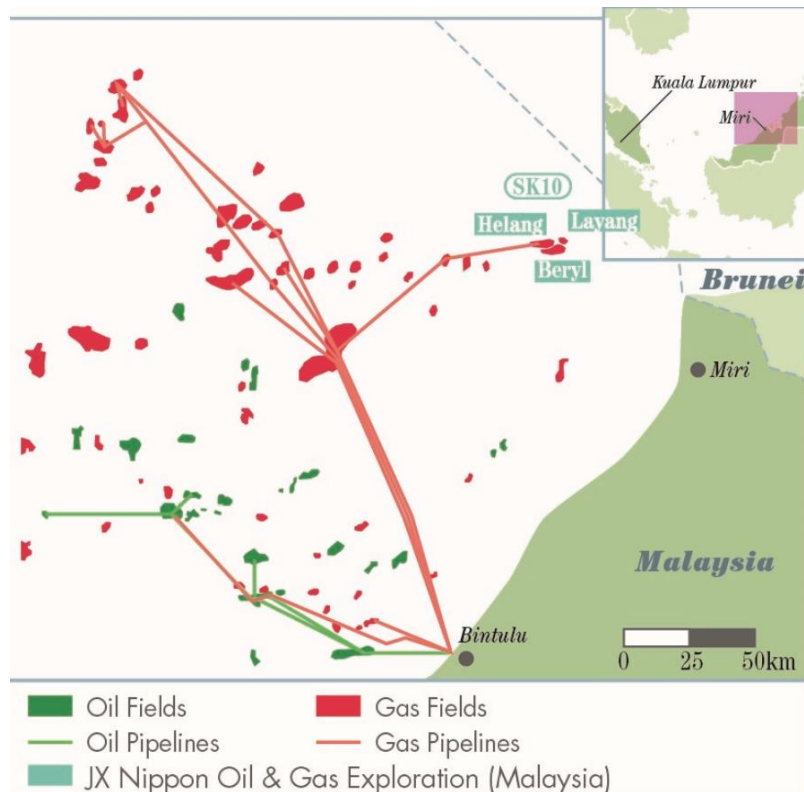
- In 1991, NOEX Myanmar acquired a working interest in blocks M-13/14 offshore Myanmar.
- In 1992, acquired a working interest in block M-12 and discovered the Yetagun Gas Field in that block.
- In 2000, production at the Yetagun Gas Field commenced, with the produced gas supplied to the Ratchaburi power plants in Thailand.
- In October 2014, began production in the Yetagun North Gas Field.
- In April 2022, informed joint venture partners of its intention to withdraw from the joint operating agreement

Principal Individual E&P Project Overview (Malaysia)

Production

Development

Exploration



Since the acquisition of Block SK10 in 1987, the project has been one of our key operations. We act as the operator in the block. The natural gas from the block is exported in the form of liquefied natural gas (LNG) to various countries, including Japan.

	SK10 (Helang Gas Field, Other)
Project Company	JX Nippon Oil & Gas Exploration (Malaysia)
Shareholders (Holding Percentages)	JX Nippon Oil & Gas Exploration (78.7%) INPEX (15.0%) Mitsubishi Corporation (6.3%)
Project Status	Production/Development/Exploration
Interest	75.0%
Partners (Interest)	Petronas Carigali (25.0%)
Operator	JX Nippon Oil & Gas Exploration (Malaysia)
Sales Volumes FY2021	35,900boed (Oil 4,400b/d, Gas 189.3mmcf/d)

Production

Development

Exploration

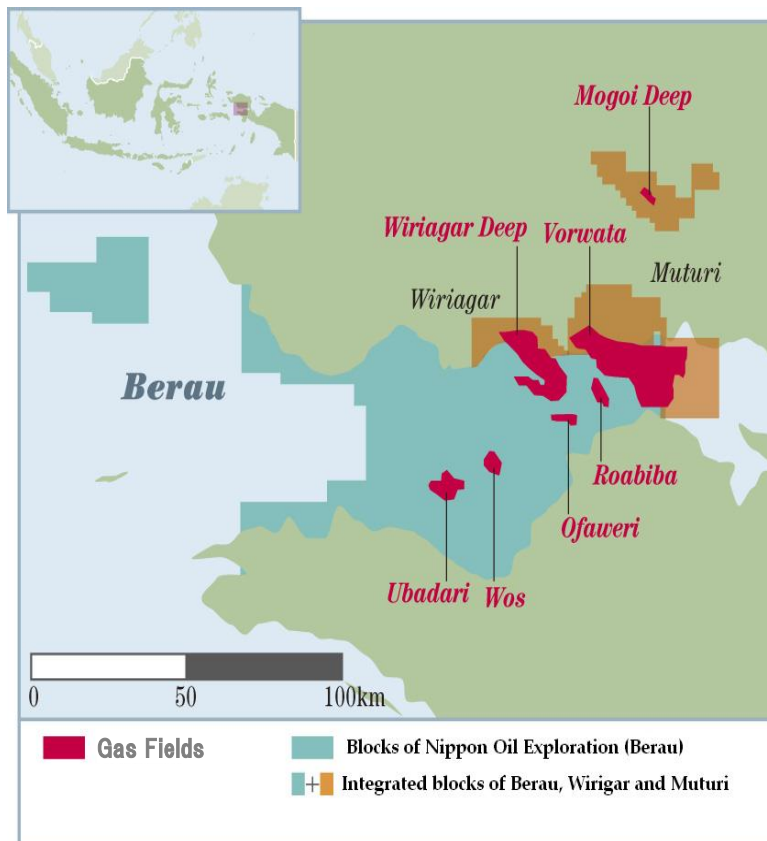
- In 1987, acquired a working interest in Block SK10 offshore Sarawak, Malaysia.
- In 1990, discovered the Helang Gas Field, where production commenced in 2003.
- In 1991, discovered the Layang Oil and Gas Field.
- In 2014, decided to develop the Layang Oil and Gas Field.
- In 2017, gas production commenced in the Layang Oil and Gas Field.
- In 2017, acquired a working interest in the Beryl Gas Field and development commenced.
- In 2018, production commenced in the Beryl Gas Field.
- In 2019, oil production commenced in the Layang Oil and Gas Field

Principal Individual E&P Project Overview (Indonesia)

Production

Development

Exploration



We have participated in the Tangguh LNG Project since the exploration stage and started LNG production in 2009. This is the second LNG project we have participated in, following the LNG Tiga project in Malaysia, and we are working to attain long-term and stable LNG production and revenue.

	Tangguh LNG Project
Project Company	Nippon Oil Exploration (Berau)
Shareholders (Holding Percentages)	JX Nippon Oil & Gas Exploration (51.0%) JOGMEC (49.0%)
Project Status	Production/Development/Exploration
Interest	12.2% (After Unitization)
Partners (Interest)	BP (40.3%) KG Berau/KG Wiriagar (10.0%) MI Berau (16.3%) LNG Japan (7.3%) CNOOC (13.9%)
Operator	BP
Sales Volumes* FY2021	19,500 boed (Oil 500b/d, Gas 114.4mmcf/d)

* Volumes attributable to the equity method affiliate are included

Production

Development

Exploration

- From 1990, excavated three test wells, and natural gas was discovered in the area. Subsequently, discovered natural gas in the Vorwata Gas Field, Wiriagar Deep structure, and other gas fields.
- From December 2002, those with interests in the Berau, Wiriagar, and Muturi blocks agreed to become partners in unitizing the blocks and undertake development work cooperatively.
- LNG production commenced in June 2009, and the first cargo was shipped in July 2009.
- In July 2016, decided to expand Tangguh LNG Facility.
- In August 2021, received approval by the Indonesian government agency for the development plan including the CCUS project.
- Construction for LNG expansion project underway.

Principal Individual E&P Project Overview (Papua New Guinea) ①

Production

Development

Exploration



	Kutubu Oil Field, Moran Oil Field, Gobe Oil Field, etc
Project Company	Merlin Petroleum Co (79.6%)
Project Status	Production/Development/Exploration
Interest	8.3%~73.5%
Partners (Interest)	ExxonMobil, Santos PNG government, landowners
Operator	Santos
Sales Volumes* FY2021	12,500 boed (Oil 2,900b/d, Gas 57.5mmcf/d)

* Including sales volume of PNG LNG

	PNG LNG Project
Project Company	Nippon Papua New Guinea LNG LLC (79.6%)
Project Status	Production
Interest	4.68%
Partners (Interest)	ExxonMobil (33.2%) Santos (42.5%), PNG government · landowners (19.6%)
Operator	ExxonMobil

Principal Individual E&P Project Overview (Papua New Guinea) ②

Production

Development

Exploration

Kutubu, Moran, Gobe oil fields and other

Production

- In 1990, Japan Papua New Guinea Petroleum acquired Merlin in Papua New Guinea. Subsequently, development and production activities have been undertaken in the Kutubu, Moran, Gobe, SE Gobe, and SE Mananda oil fields.
- In 2008, acquired additional equity of oil field from AGL Energy.

Exploration

- In January 2018, received independent certification for gas reserves of 4.36tcf in Block PRL3 (currently Block APDL13) of the P'nyang Gas Field.

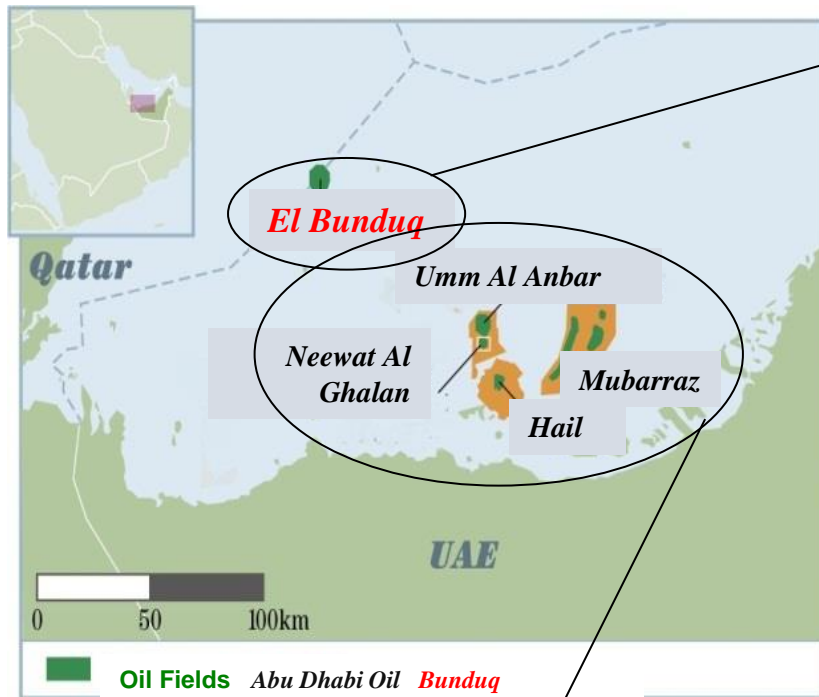
PNG LNG Project

We have been involved in the PNG LNG Project since the beginning of the project. In December 2009, we made a final investment decision on the Project, and production commenced in April 2014. The Project shipped its first LNG cargo in May 2014. The PNG LNG Project has the full support of the PNG government, and we expect it to contribute to our revenues in the future.

Production

- In 2008, acquired an additional interest in the PNG LNG Project from AGL Energy
- In December 2009, PNG LNG Project participants made a final investment decision to proceed with development.
- In May 2014, the PNG LNG Project shipped its first LNG cargo.

Principal Individual E&P Project Overview (UAE, Qatar)



Production

	El Bunduq
Project Company	United Petroleum Development (Bunduq Company Limited)
Partners (Interest)	JX Nippon Oil & Gas Exploration (50%) Cosmo Energy Exploration & Production Co., Ltd. (50%)
Project Status	Production
Interest	100%
Operator	Bunduq Company Limited

Production

- In 1970, United Petroleum Development acquired a working interest in El Bunduq Oil Field.
- In 1975, oil production commenced in El Bunduq Oil Field.
- In 1983, oil production was resumed by a secondary recovery scheme using water injection.
- In 2006, El Bunduq achieved a cumulative production volume of 200 million barrels.
- In 2018, effectuation of New Concession Agreement.

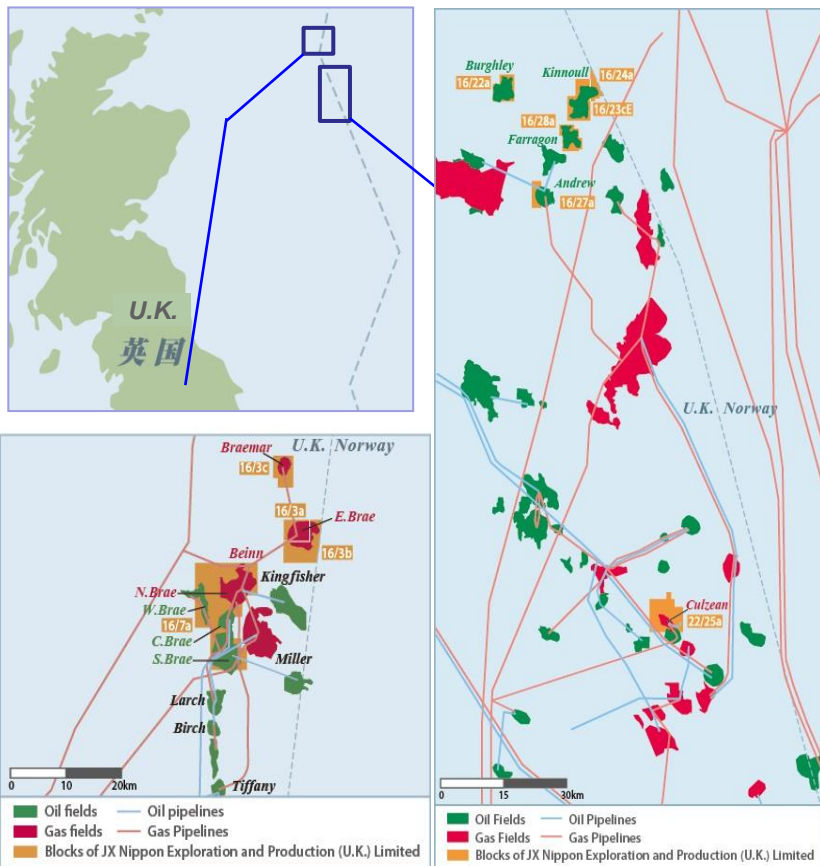
Production

- In 1967, acquired a working interest in block of Mubarraz.
- In 1973, oil production commenced in Mubarraz Oil Field.
- In 1989, oil production commenced in Umm Al Anbar Oil Field.
- In 1995, oil production commenced in Neewat Al Ghalan Oil Field.
- In 2009, 3 fields achieved cumulative production volume of 300 million barrels.
- In 2012, effectuation of New Concession Agreement.
- In November 2017, oil production commenced in Hail Oil Field.

	Mubarraz, Umm Al-Anbar, Neewat Al-Ghalan, Hail
Project Company	Abu Dhabi Oil
Partners (Interest)	JX Nippon Oil & Gas Exploration (32.2%) Cosmo Abu Dhabi Energy Exploration & Production Co., Ltd. (64.4%) Chubu Electric Power Co., Inc. (1.7%) Kansai Electric Power Co., Inc. (1.7%)
Project Status	Production
Interest	100%
Operator	Abu Dhabi Oil

Principal Individual E&P Project Overview (U.K.) ①

Sold



We had 6 fields producing oil and gas, and we had projects such as the Culzean Gas Field and Mariner Oil Field underway.

※ Before the transaction of the sale of JX Nippon Exploration and Production (U.K. Limited)

Production

Exploration

	Brea, Andrew, Kinnoull and other fields	Culzean gas field
Project Company	JX Nippon Exploration and Production (U.K.) Ltd.	
Shareholders	JX Nippon Oil & Gas Exploration (100%)	
Project Status	Production	Production/Exploration
Interest	5.4%-30%	18.01%
Partners	BP, Repsol Sinopec, RockRose and others	TotalEnergies* ¹ (49.99%) BP (32.00%)
Operator	BP, TAQA, and others	Total
Sales Volumes*²	27,900 boed	
FY2021	(Oil 13,600b/d, Gas 86.0mmcf/d)	

*1 register trade name was changed in May 2021 from Total

*2 including the production from Mariner Oil Field

Production

Terminated

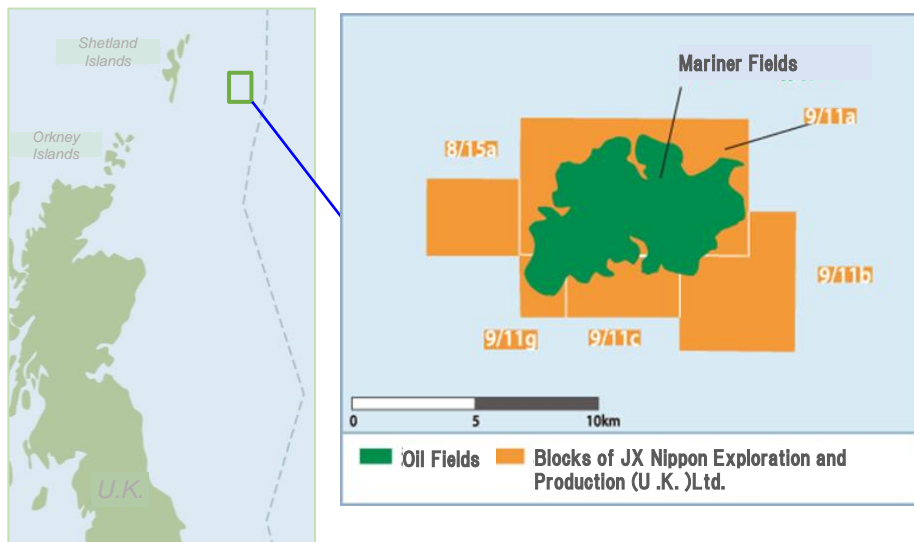
- From 1994 to 2002, acquired a working interest in individual blocks.
- In December 2012, acquired some interest in production of multiple assets from ENI.
- In December 2014, Kinnoull started production.
- In October 2017, sold entire working interest in the Blane Oil Field.
- In July 2018, sold entire working interest in the Ninian Oil Field.
- In December 2018, sold entire working interest in the Merganser Gas Field.
- In June 2019, Culzean started production.
- In November 2021, signed an agreement with NEO Energy Upstream UK Limited ("NEO") for the sale of 100% share of JX Nippon Exploration and Production (U.K.) Limited.
- In March 2022, Completed the transaction of the sale of 100% share of JX Nippon Exploration and Production (U.K.) Limited with NEO

Principal Individual E&P Project Overview (U.K.) ②

Sold

Production

Exploration



	Mariner Field	Mariner East Field
Project Company	JX Nippon Exploration and Production (U.K.) Ltd.	
Shareholders (Holding Percentages)	JX Nippon Oil & Gas Exploration (100%)	
Project Status	Development	Exploration
Interest	20.00%	20.00%
Partners	Equinor (65.11%) Siccar Point (8.89%) ONE-Dyas (6.00%)	Equinor (65.11%) Siccar Point (8.89%) ONE-Dyas (6.00%)
Operators	Equinor	Equinor

※ Before the transaction of the sale of JX Nippon Exploration and Production (U.K. Limited)

Exploration

Terminated

Exploration field: Mariner East Field

Mariner East Field was discovered in the 9/11b field. Since it is adjacent to the Mariner Field, we were considering to utilize the production facilities of the Mariner oil field for production.

Production

Terminated

- In December 2012, acquired the explorational interest in Mariner Oil Field from ENI.
- In February 2013, decided to develop.
- In August 2016, sold part of the working interest.
- In August 2019, started production.
- In November 2021, signed an agreement with NEO Energy Upstream UK Limited ("NEO") for the sale of 100% share of JX Nippon Exploration and Production (U.K.) Limited.
- In March 2022, completed the transaction of the sale of 100% share of JX Nippon Exploration and Production (U.K.) Limited with NEO

The ENEOS Group's Reserve Standards

The ENEOS Group's criteria for evaluating reserves conforms to the PRMS (Petroleum Resources Management System) Standards drafted by the SPE (Society of Petroleum Engineers), WPC (World Petroleum Congress), AAPG (American Association of Petroleum Geologists), and SPEE (Society of Petroleum Evaluation Engineers).

The ENEOS Group's reported reserves are in line with reserves as defined by PRMS Standards. The degree of certainty of the reserve values is categorized, in order, as either Proved, Probable, or Possible. Following trends common at other industry firms, the ENEOS Group has used Proved and Probable reserves to arrive at its total reserves.

Definition of Proved Reserves

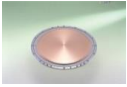
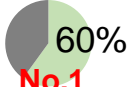
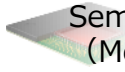

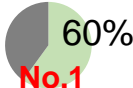


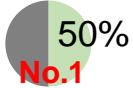
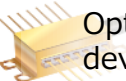

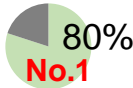


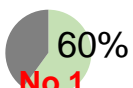
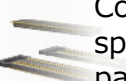

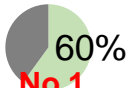


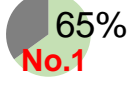


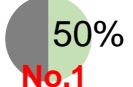

Reserves judged to have a high level of certainty from analysis of geoscience and production/petroleum engineering data, based on economic conditions, operational methods and laws and regulations assumed by the ENEOS Group in light of discovered reservoirs—there is at least a 90% probability that actual recovered volume will equal or exceed estimates of oil and natural gas deposits reasonably evaluated as commercially recoverable.

Definition of Probable Reserves

There is at least a 50% probability that additional oil and natural gas reserves will equal or exceed actual recovered volume of the total of estimated proved and probable reserves. While these additional reserves are evaluated in the same manner as proved reserves, the probability of recoverability of probable reserves is lower than proved reserves, but higher than possible reserves.

- Metals Segment -
Business Environment / Data

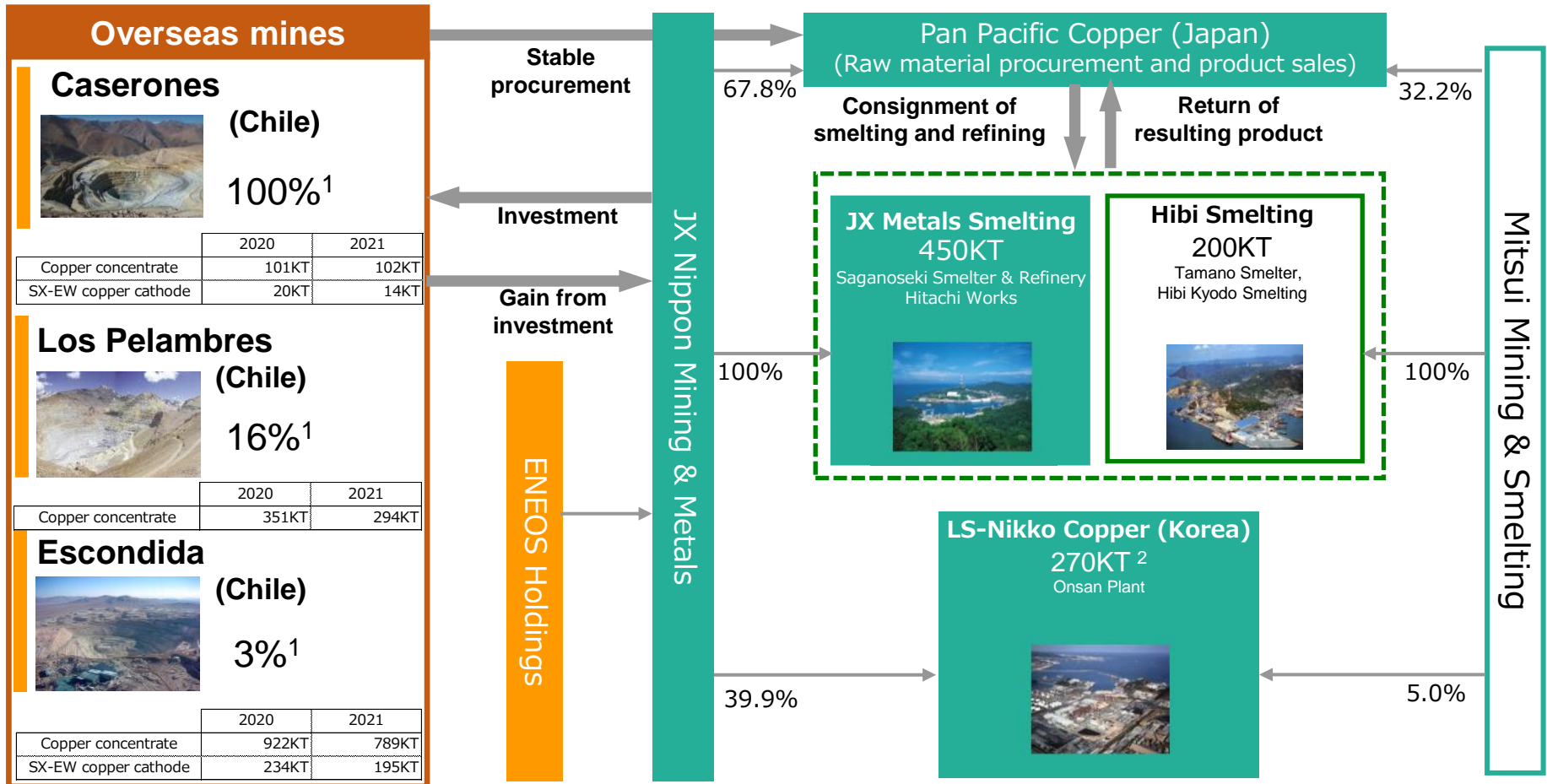
Functional Materials/Thin Film Materials/Tantalum and Niobium Business Global Market Shares of Our Principal Products

Product	Global market share As of FY21	Primary applications	End-use applications			
			Smartphones	PCs· appliances	Communications infrastructure and data centers	Automobiles
 Sputtering Targets for Semiconductors	 60% No.1	 Semiconductors (Memory, logic, etc.)	✓	✓	✓	✓
 Sputtering Targets for Magnetic Devices	 60% No.1	 Hard disks, etc.		✓	✓	
 InP Compound Semiconductors	 50% No.1	 Optical communication devices, ultra-fast ICs			✓	✓
 Treated Rolled Copper Foil for FPCs	 80% No.1	 Flexible printed circuit boards	✓	✓		✓
 Phosphor Bronze Foil (thickness less than 0.1 mm)	 60% No.1	 Connectors, springs for electronic parts	✓	✓		✓
 High Strength / High Conductivity Corson Alloys	 60% No.1	 Lead frames, connectors	✓	✓	✓	✓
 Titanium Copper Alloys	 65% No.1	 High-end connectors, springs for electronic parts	✓	✓		✓
 High Purity Tantalum Powders	 50% No.1	 Capacitors, sputtering targets	✓	✓	✓	✓

Note: Global market share estimated by JX Nippon Mining & Metals

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

Copper Business



¹ Shares indirectly owned by JX Nippon Mining & Metals (as of Mar. 2022)

² Total capacity is 680KT. JX Nippon Mining & Metals has 39.9% equity. (as of Mar. 2022)

Caserones Copper Mine (Chile)

Acquisition date May 2006

Acquisition price \$137 million

Initial investment \$4.2 billion

Ownership

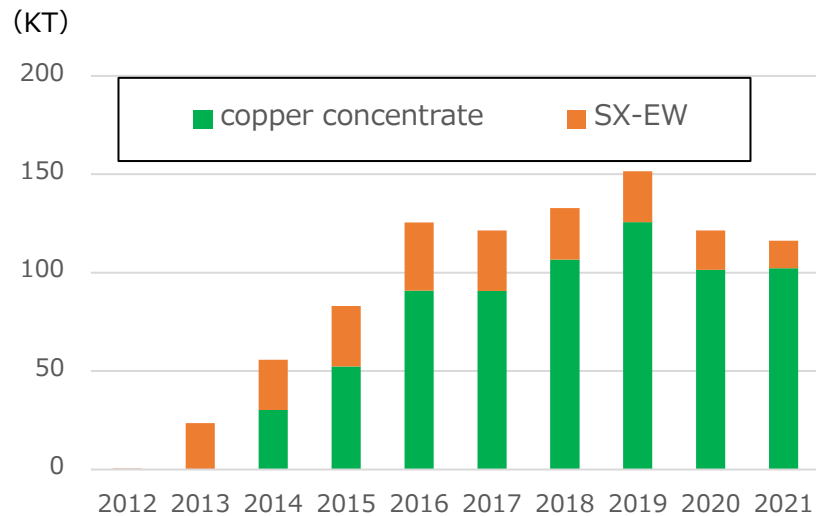
JX Nippon Mining & Metals: 100% (as of Mar. 2022)

Start of production

In Mar. 2013, started SX-EW copper cathode production

In May 2014, started copper concentrate production

Production trends

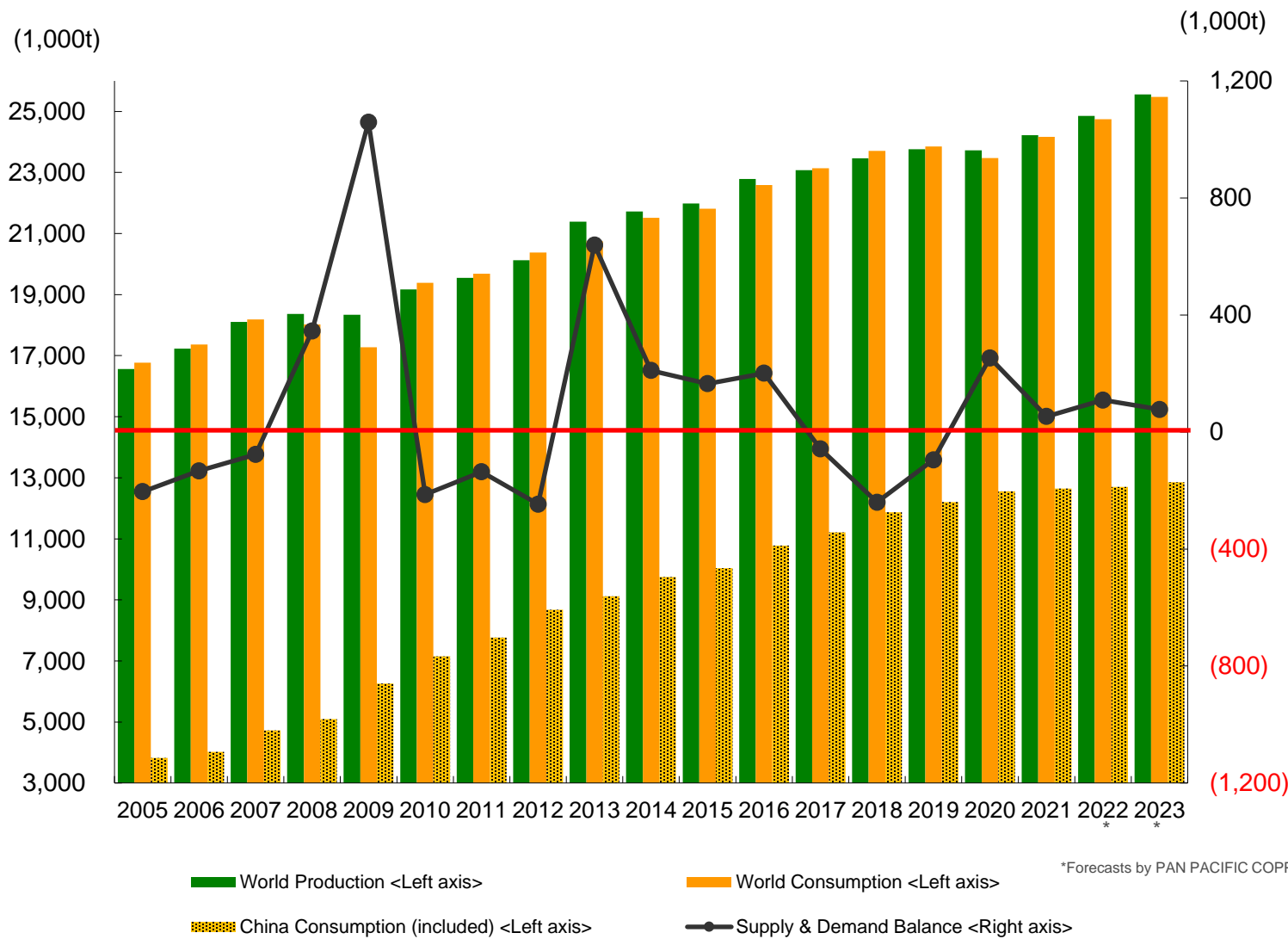


SAG (semi-autogenous grinding) Mill

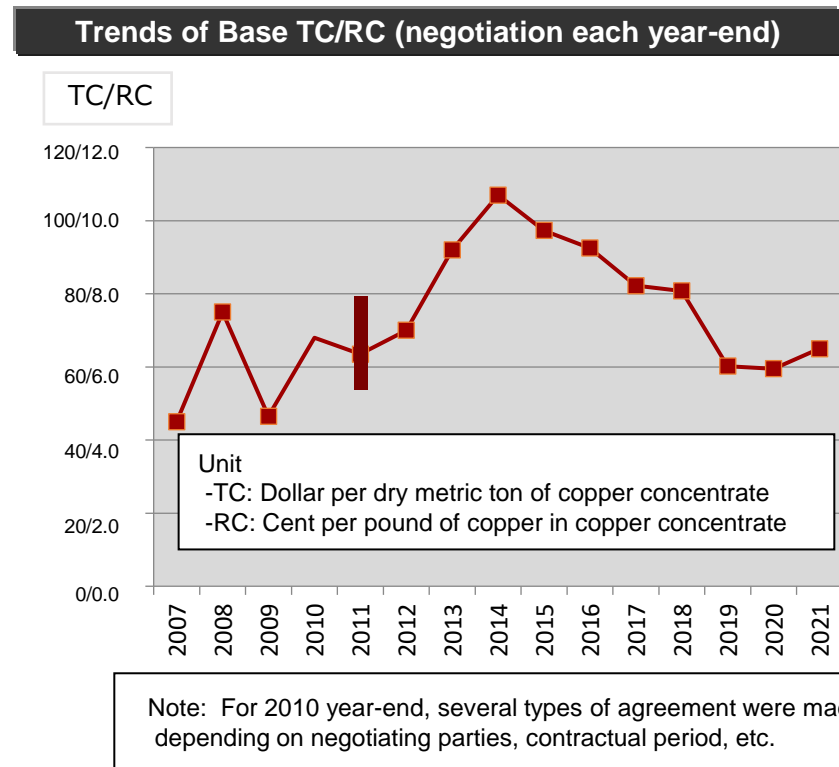
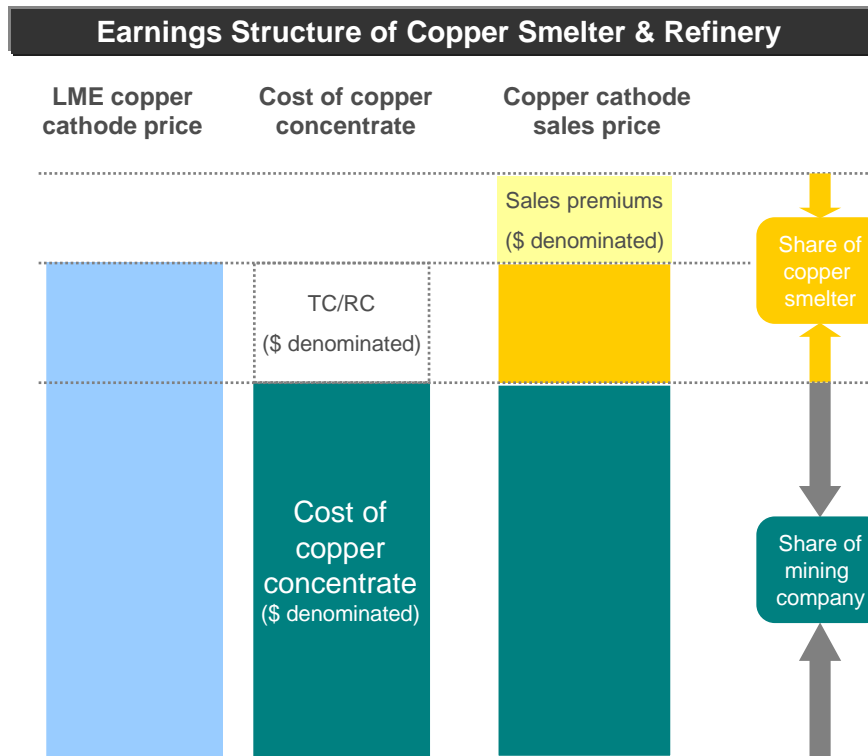


Flotation Plant
(facility for recovering copper concentrate from crude ore)

Worldwide Copper Cathode Supply & Demand



Earnings Structure of Copper Smelting and Refining Business



Cost of copper concentrate

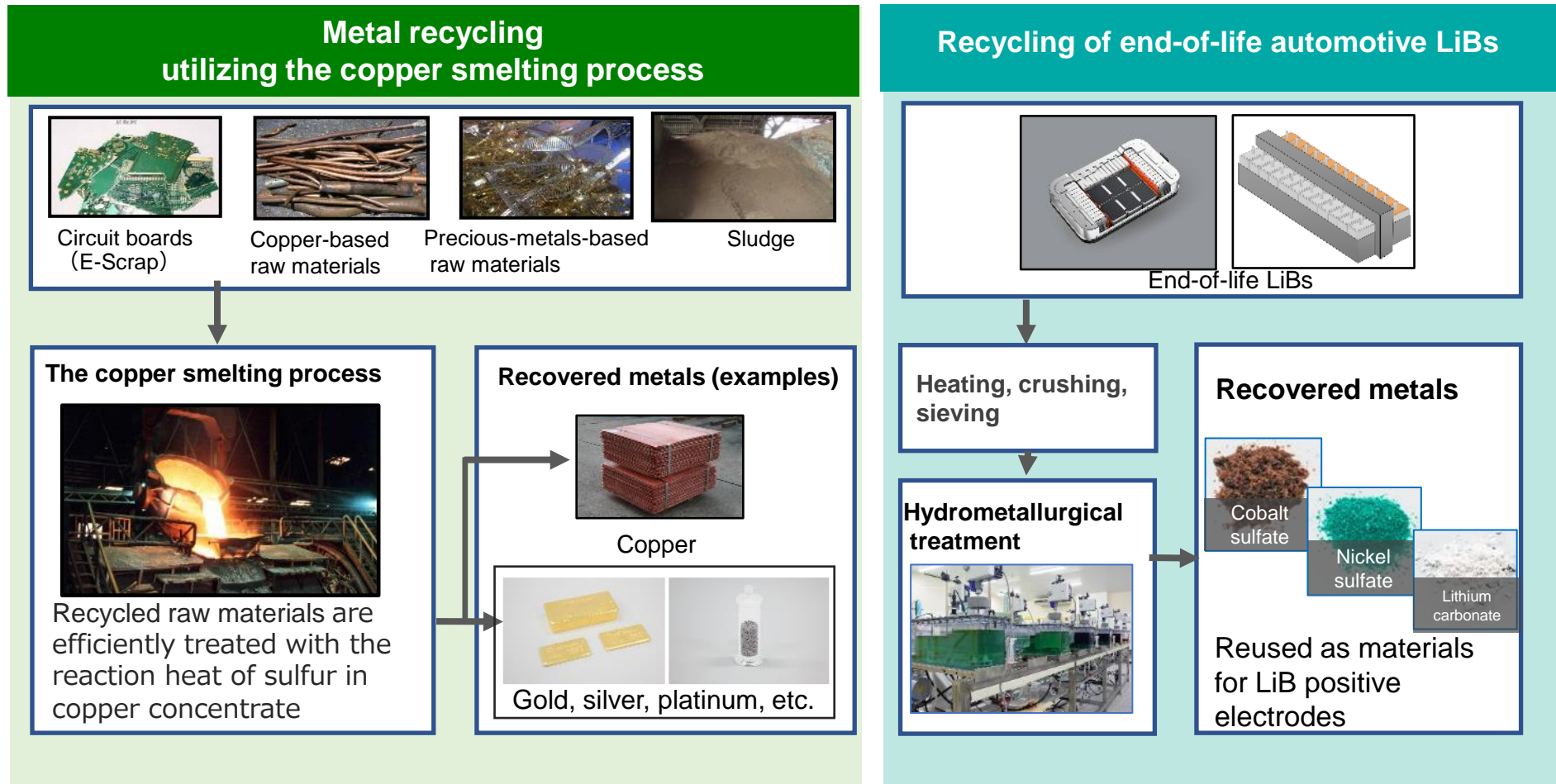
The price of copper concentrate, which custom smelters pay to mining companies, is the LME copper cathode price less TC/RC, which is smelting and refining margins. TC/RC under long-term contracts is normally determined through annual negotiation between copper smelters and mining companies.

Copper cathode sales price

The actual sales price of copper cathode produced by copper smelters is the LME price plus sales premium, which is established by reference to various factors, including importation costs and quality.

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.**



Metals Group Affiliates

TANIOBIS GmbH

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. Taking advantage of its outstanding technological capabilities, marketing capacity, and expertise, TANIOBIS has been actively developing new businesses targeting areas such as the medical field.



Goslar (Germany)



Tantalum powders

Toho Titanium Co., Ltd.

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 for electronic materials, and ultra-fine nickel powder for multi-layer ceramic capacitors (MLCC).



Chigasaki Plant



Ultra-fine nickel powders

TATSUTA Electric Wire and Cable Co., Ltd.

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