



ENEOS

ENEOS Group ESG Management

March 8, 2022

Representative Director, President
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**Long-Term Vision
to 2040
and
Medium-Term
Management Plan**



General

Low-carbon, recycling-oriented society

- Ever-increasing global warming concerns (extreme weather events and disasters worldwide)
- Rapidly decreasing cost of renewable energy and battery storage
- Natural resource conservation efforts worldwide (minor metals, plastic waste, etc.)

Digital innovation

- Rapid progress of Internet society and blockchain technology
- Dramatic improvement in productivity with AI, IoT, robotics, etc.
- Electrification (shift to EV, autonomous driving, etc.)

Lifestyle changes

- Growing world economy, especially in Asia, and people seeking abundant life
- People active until 100 years old
- Congestion in urban areas and greater need for community development
- Growth of sharing economy, preference for experiences rather than material possessions

Our business area

- Increase of non-fossil energy in global energy demand
- Global chemical demand increases, especially in Asia
- Global copper demand increases in Asian countries like India

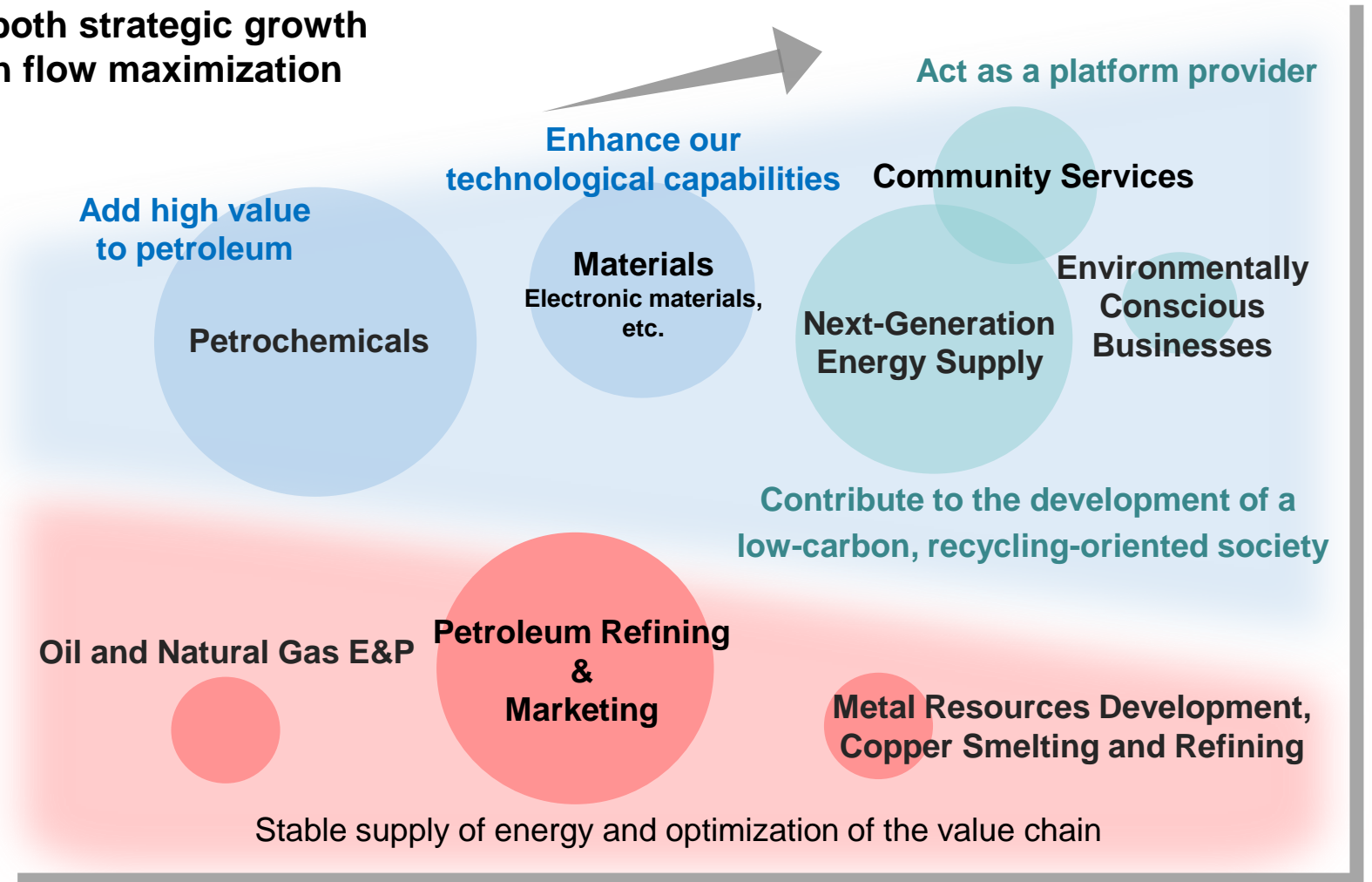
Overview of the ENEOS Group's Future Businesses to 2040

Note: Bubbles show 2040 business portfolio image

Pursue both strategic growth and cash flow maximization

Strategic investment
Growth
 Businesses
 Maximize cash flows
Base
 Businesses

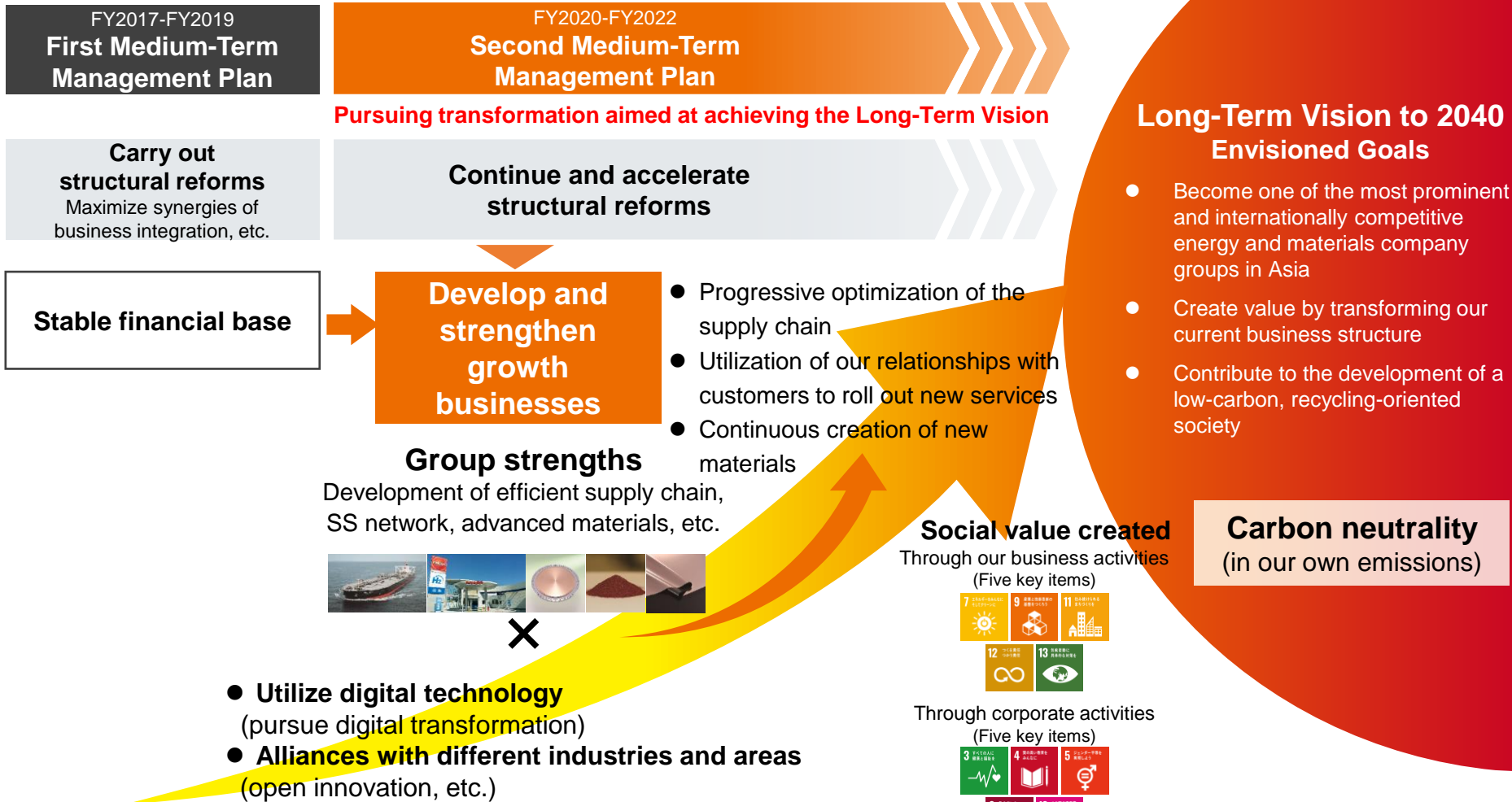
Expectation



2019 ----- Create value by transforming our current business structure ----> 2040

Positioning of Long-Term Vision and Second Medium-Term Management Plan

We develop and implement a medium-term management plan every three years as a milestone toward the achievement of the envisioned goals in our Long-Term Vision



Basic Policy of Second Medium-Term Management Plan (FY2020-2022)

- Pursue both implementation of business strategy to achieve the Long-Term Vision and management focusing on cash flow

① Generate ongoing cash flow by strengthening the competitiveness of base businesses



② Pursue selective investment to develop and strengthen growth businesses and optimize the business portfolio

③ Maintain the soundness of the financial base and allocate cash flow appropriately

Financial plan for
2nd Medium-Term
Management Plan

3-year
cumulative
total

Operating
Income
(Excl. inventory
valuation)

970 billion
yen

Net D/E ...

Capital Investment
& Financing
Sale of property

1,500 billion
yen
150

0.8× or
lower

Free Cash
Flow

150 billion
yen

ROE ...

Total Return
Ratio

50% or
higher

10% or
higher

➤ Strengthening the business foundation

- Strengthen the effectiveness of governance
(Develop the management system to enable speedier decision making and strengthen monitoring by the Board of Directors, etc.)
- Strengthen system platforms
(Realize the benefits of newly introduced ERP, strengthen security, and support diverse workstyles through the use of IT tools)
- Implement measures to develop and secure human resources
- Pursue constructive dialogue with stakeholders

ESG Management in the ENEOS Group

ESG management in the ENEOS Group means realizing the goals envisioned in the Long-Term Vision to 2040 and creating social and economic value.

Environment

Contribute to the development of a low-carbon, recycling-oriented society – by transforming our current business structure –

- Strive to become carbon neutral by 2040 (in Group emissions)
- Pursue next-generation energy supply and environmentally conscious businesses
- Continue to implement energy conservation and other environmental measures

- Long-term target for reduction in CO₂ emissions:
Reduction of 10 million tons in FY2030 (vs. FY2009)
- Continue to pursue zero emissions
- Implement soil pollution countermeasures at each site as well as forest preservation activities and other environmental initiatives

Social

Make persistent efforts to solve social challenges

- Maintain a safe and stable energy supply structure capable of responding to medium- and long-term changes in demand
- Supply advanced materials to support the development of society
- Strengthen human rights initiatives for all people involved in the supply chain

Governance

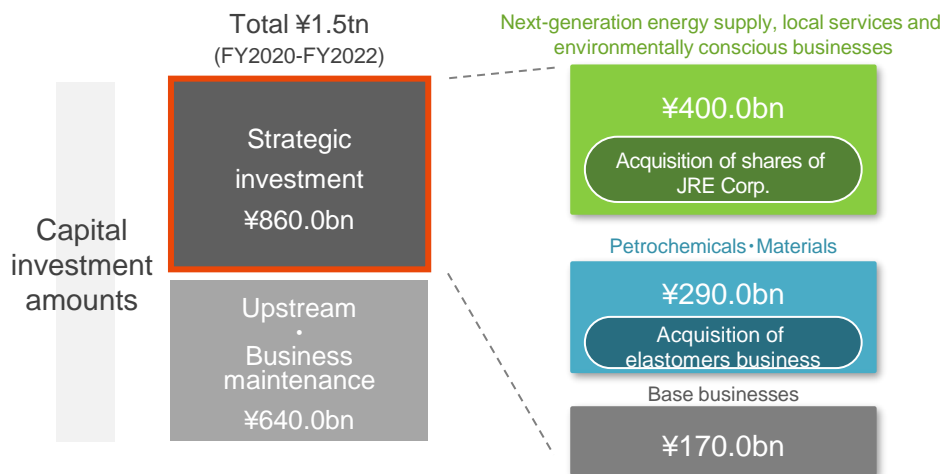
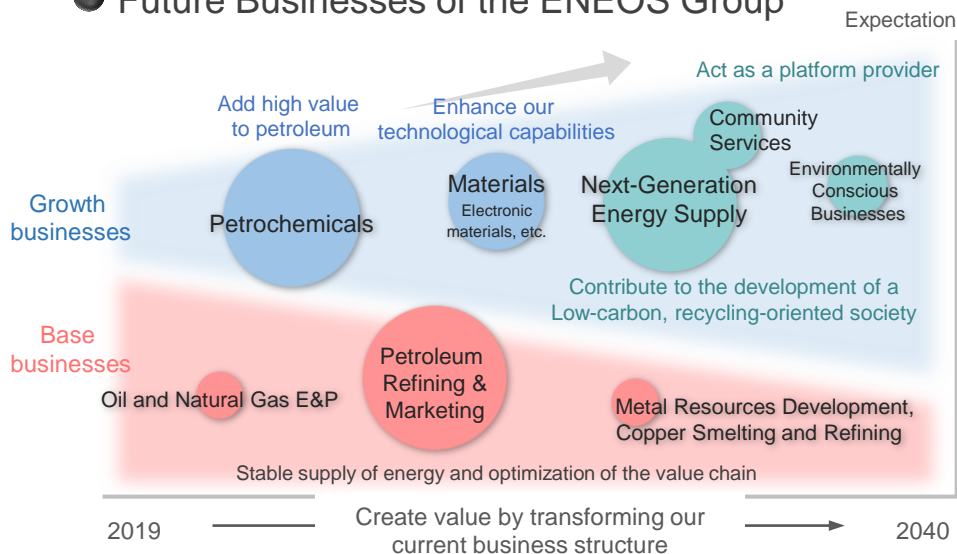
Strengthen the governance structure

- Develop the management system to enable speedier decision making and strengthen monitoring by the Board of Directors
- Analyze the risks and opportunities in climate change and other changes, and reflect these in the Long-Term Vision, Medium-Term Management Plan, and other plans
- Regularly check and explain whether it is optimal to maintain the listed companies as subsidiaries from the perspective of increasing corporate value and improving capital efficiency for the Group as a whole

Progress of Second Medium-Term Management Plan (FY2020-FY2022)

➤ Steady enhancement of growth businesses and business portfolio optimization in line with basic policy

● Future Businesses of the ENEOS Group



Enhancement of growth businesses



Acquisition of elastomers business

Decision made to acquire elastomers business from JSR Corporation → see p.41 for details



Enhancement of production capacity for sputtering targets for semiconductor devices

Decided to further increase production capacity for treated rolled copper foil and sputtering targets for semiconductors → see pp.21 and 22 for details



Acquisition of the entire issued shares of Japan Renewable Energy Corporation (JRE)

Acquired shares of JRE, one of the leading renewable energy companies in Japan → see p.42 for details



Acceleration of innovation through Green Innovation Fund

Four demonstration projects for building a CO₂-free hydrogen supply chain selected as GI fund projects → see p.43 for details

Optimization of our business portfolio



Restructuring of oil product production and supply system

Oct. 2022 Transfer of Chita Plant, terminate part of the equipment of Negishi Refinery
Oct. 2023 Terminate production at Wakayama Refinery



Withdrawal from the coal business

Sold overseas coal mine interests



Making NIPPO go private

Delisting planned for Mar. 2022 → see p.44 for details

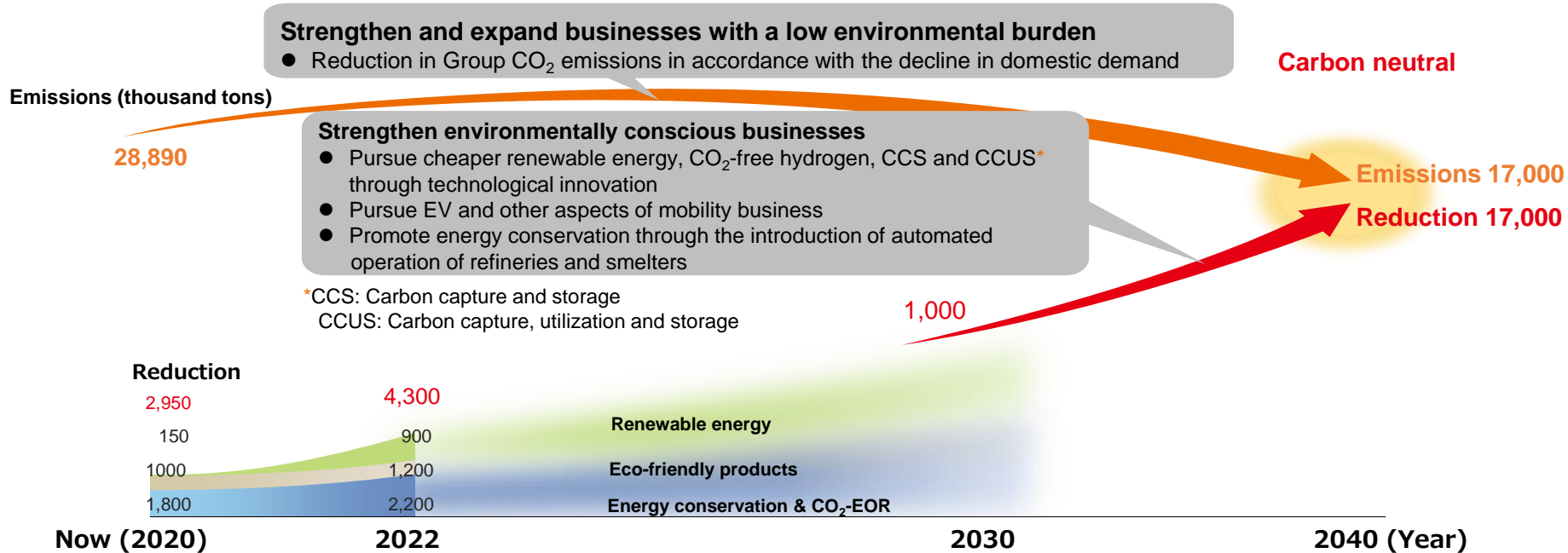


Sale of Upstream business in the UK

Transfer planned for March 2022

Working Toward Carbon Neutrality in 2040

- Aiming for carbon neutrality in our own emissions (Scope 1 and 2) by strengthening and expanding businesses with a low environmental burden and strengthening environmentally conscious businesses



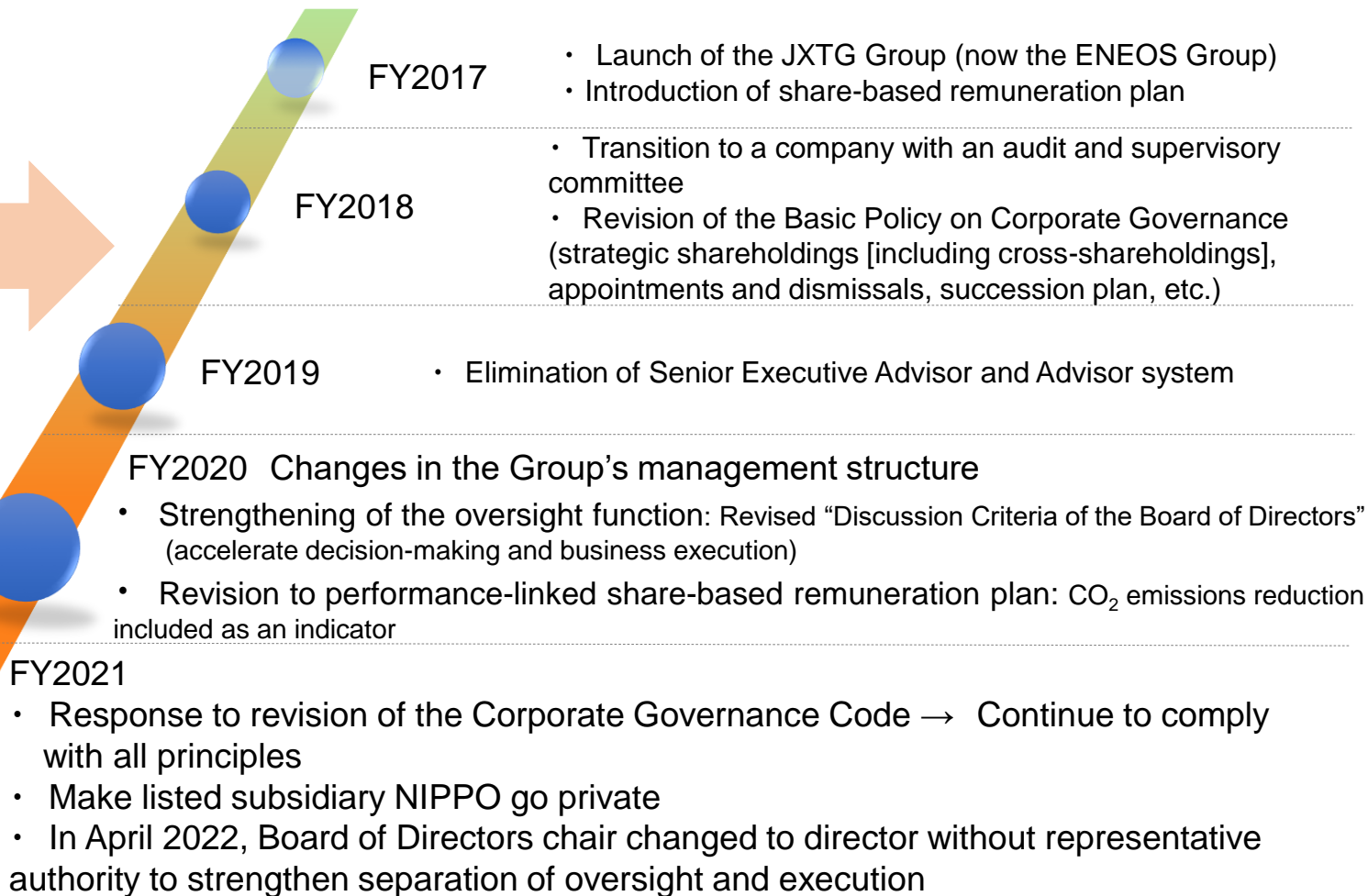
- Based on developments worldwide, we are considering CCS and forestry businesses in Japan and overseas as means to reduce emissions
- We will proactively contribute to Scope 3 carbon neutrality through our new businesses
- We established a new department that is steadily carrying out measures to achieve carbon neutrality
- Further targets and course of action toward carbon neutrality to be announced at the time of our financial results disclosure in May 2022 (plan)

Strengthening the Business Foundation for Our Envisioned Goals



Strengthening Corporate Governance

Once a year:
Evaluation of the
effectiveness of
the Board of
Directors



Changes in Officer Composition

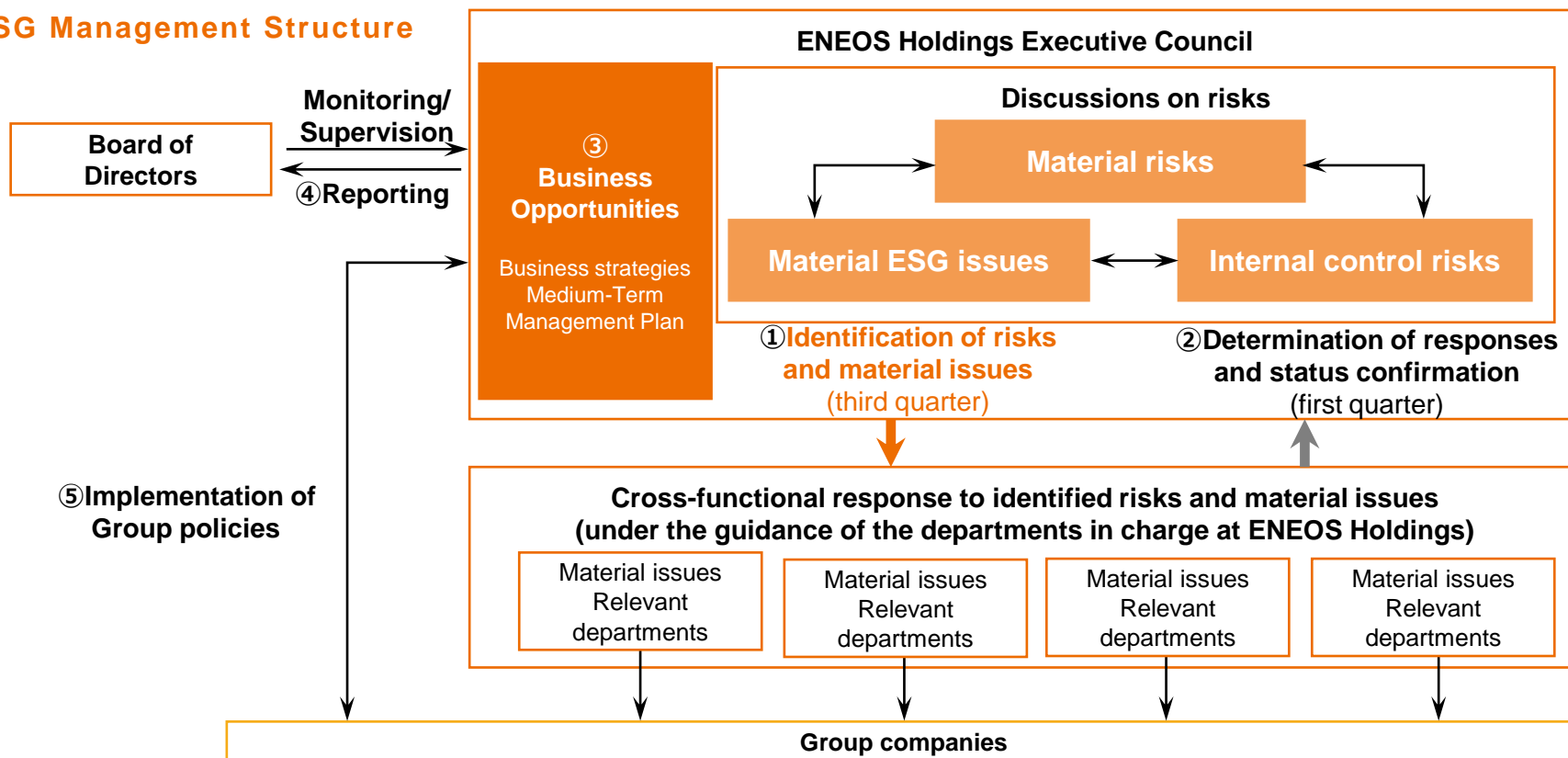
	June 2017	June 2021
Number of officers	22	16
Percentage of outside (independent) officers	31.8%	37.5%
Percentage of female officers	13.6%	18.8%

ESG Management – ESG Management Structure –

Basic Policy for ESG Management

- ESG management at the ENEOS Group involves formulating management and business strategies based on risks and business opportunities and creating both economic value (profits) and social value (resolution of social issues) through our business in order to realize the ENEOS Group Philosophy.
- The ENEOS Group is a group of companies that strives to earn the trust of stakeholders through the implementation of ESG management in our business operations.

ESG Management Structure



Note: ① - ⑤ in the chart above indicate processes for identification of risks and material issues and confirmation of response status.

ESG Management – Identification Procedure for Material ESG Issues –

- Designation and identification of issues using guidelines, assessment items of ESG assessment organizations, etc.

STEP 1

Designate ESG risks to consider

Designate ESG risks by comprehensively examining various guidelines (GRI Standards, ISO 26000, US Sustainability Accounting Standards Council (SASB, etc.), assessment items of ESG assessment organizations, and the Sustainable Development Goals (SDGs)



STEP 2

Assess the designated ESG risks

Assess the degree of materiality of the ESG risks designated in Step 1 based on the assessment weightings of ESG assessment organizations



STEP 3

Identify material ESG issues

Identify the ESG risks assessed in Step 2 that exceed the assessment reference baselines as material ESG issues

ESG Management – FY2020 Status of Response to Material ESG Issues –

Evaluation: 😊 Achieved/Steady progress ☹️ Not achieved

Category	Material ESG Issues	Target (KPI)	Results/Progress	
Environmental	Development of a low-carbon society	Reduction in CO ₂ emissions: Reduce by 3.63 million tons compared to fiscal 2009	☹️	Reduced by 3.14 million tons compared to fiscal 2009
	Development of a recycling-oriented society	Waste-to-landfill ratio: Maintain zero emissions (less than 1%)	😊	0.69%
Social	Ensuring safety	Zero serious occupational injuries (occupational fatalities)	☹️	Two serious occupational injuries
		Achieve TRIR (number of occupational injuries of non-lost-time severity or greater per one million working hours) of 1.0 or less	☹️	1.50
	Health enhancement	Achieve cancer screening rate of 70% or higher	☹️	63%
	Respect for human rights	100% participation rate in human rights training	😊	100%
	Human resource development	Implementation of effective training based on human resource development plan	😊	Completed
	Promotion of diversity and inclusion	Women comprise at least 25% of newly hired graduates by fiscal 2020	😊	32.8%
		Maintain employment rate of people with disabilities at 2.2% or higher	😊	2.5%
	Promotion of work-life management	Maintain annual paid leave days taken at 80% or higher	😊	87.4%
		Maintain 100% rate of return to work after childcare leave	☹️	99.2%
Governance	Compliance	Conduct legal compliance inspections	😊	Completed
		Implement training on important laws and regulations	😊	Completed

ESG Management – FY2021 Material ESG Issues and Targets (KPIs) –

Category	Material ESG Issues	Target (KPI)
Environmental	Contribution to the development of a low-carbon society	Reduction in CO ₂ emissions: Reduce by 4.02 million tons compared to fiscal 2009
	Contribution to the development of a recycling-oriented society	Waste-to-landfill ratio: Maintain zero emissions (less than 1%)
	Understanding and management of biodiversity risks	Understand risks at manufacturing sites and examine responses
	Understanding and management of water risks	①Serious environmental incidents: zero, ②Serious legal compliance incidents: zero, ③Understand risks at manufacturing sites and examine responses
	Control of air pollutant emissions	①Serious environmental incidents: zero, ②Serious legal compliance incidents: zero
Social	Ensuring safety/ Health enhancement	①Zero serious occupational injuries (occupational fatalities), ②Achieve TRIR (number of occupational injuries of non-lost-time severity or greater per one million working hours) of 1.0 or less, ③Increase the cancer screening rate (recommendations), ④Achieve screening rate of 70% or higher for stomach cancer, colorectal cancer, breast cancer, and cervical cancer
	Communication with stakeholders (investors, etc.)	Effective engagement with investors and others
	Compliance with international principles on human rights	①Implement human rights due diligence, including for subsidiaries, ②Implement human rights training
	Securing and developing human resources	Implement effective training and evaluation based on the human resources development plan
	Diversity and inclusion	①Maintain rate of women among newly hired university graduates at 25% or higher, ②Maintain employment rate of people with disabilities at 2.3% or higher
	Work-life management	①Maintain annual paid leave days taken at 80% or higher, ②Maintain 100% rate of return to work after childcare leave
Governance	Appropriate structuring and operation of corporate governance	①Implement evaluations of effectiveness for the Board of Directors, ②Improve corporate governance based on the corporate governance code and analysis of the results of exercising voting rights at general meetings of shareholders
	Compliance	①Conduct legal compliance inspections, ②Implement training on important laws and regulations (Anti-Monopoly Act, etc.), ③Appropriate operation of the internal reporting system
	Social responsibility in the supply chain	①Implement CSR procurement surveys at overseas sites in addition to domestic sites, where surveys have already been conducted, ②Communicate the Group's procurement policies and procurement guidelines for business partners
	Effective risk management	Steady execution of the risk management process

ESG Management

– Financial Impacts of Climate Change Risks and Opportunities–

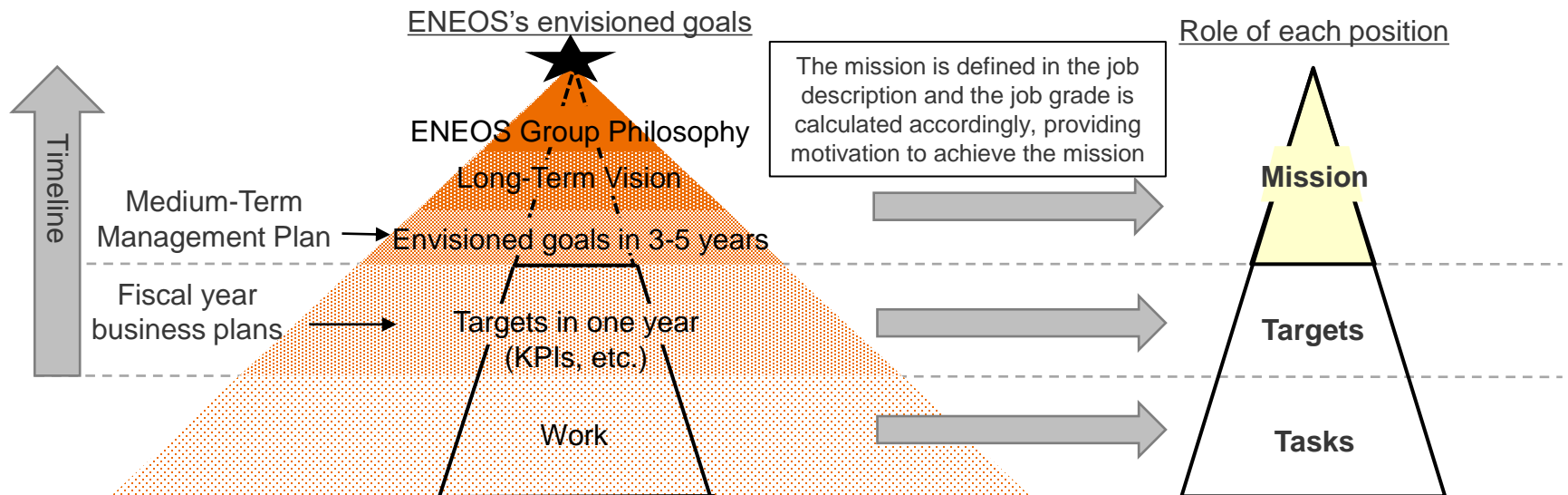
Transition risks	Higher costs for achieving carbon neutrality	90 byen/year (projected) Cost assuming purchase of carbon credits to offset 17 million tons, the reduction amount we are aiming for by 2040 (17 million tons × \$52/tCO ₂)
	Declining demand for petroleum due to advancements in EV technology	40 byen/year (projected) Reduction in operating income assuming a 40% reduction in domestic petroleum demand in 2040 compared with 2019
	Declining demand for petroleum due to growing environmental awareness	
	Stranding of upstream assets	Risks are limited
Physical risks	Increasing frequency and severity of wind and flood damage caused by extreme weather events (major typhoons)	2 byen/typhoon (actual) Actual repair costs for refineries and plants per major typhoon
	Rising sea levels caused by global warming	1 byen/year (actual) Actual costs for measures to deal with rising sea levels in FY2018 and FY2019
Opportunities	Increasing demand for raw materials for recycling	30 byen/year (actual) FY2020 operating income for smelting and recycling businesses
	Increasing demand for renewable energy, hydrogen and EVs	100 byen/year (projected) Calculation based on projected market size, ENEOS share and operating income rate
	Expansion of initiatives to reduce environmental impacts in the mobility industry	10 byen/year (projected) Projected FY2023 operating income for elastomers business
	Increasing demand for functional and thin-film materials needed for electrification, which has a low environmental impact	30 byen/year (actual) FY2020 operating income for functional and thin-film materials business

HR System Reform for the Achievement of Our Long-Term Vision

- In April 2022, we will implement the ENEOS job grade system* for management positions in order to strengthen willingness to take on challenges and a spirit of transformation

*ENEOS job grade system: System in which job grade and salary are determined according to work evaluation

- The value of businesses and jobs is determined based on management policy, and expectations, compensation, etc., are based on job value, regardless of employee age or experience
- Under this system, we encourage and provide support for employees in determining their careers independently (introduce framework in which employees can apply for desired positions)
- Strike a balance between job value and remuneration; employees are compensated for achieving results, thereby motivating them to increase the value of their work independently as they move as they move toward their desired positions, and to transform their mindset and behavior to be more achievement-oriented



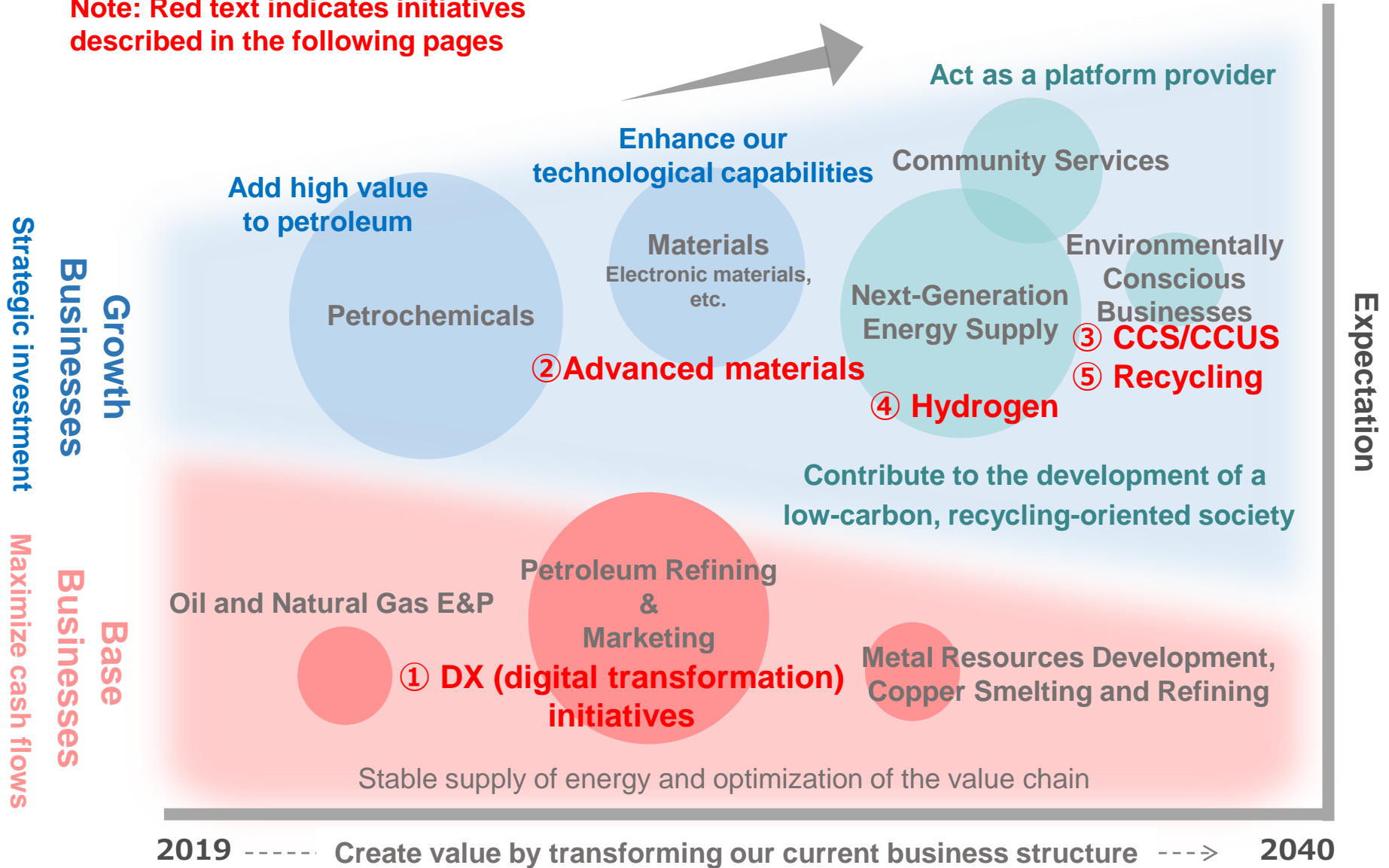
Creating Business Opportunities for Our Envisioned Goals

(Initiatives for a Decarbonized, Recycling-oriented Society)



Examples of Initiatives for a Decarbonized, Recycling-oriented Society

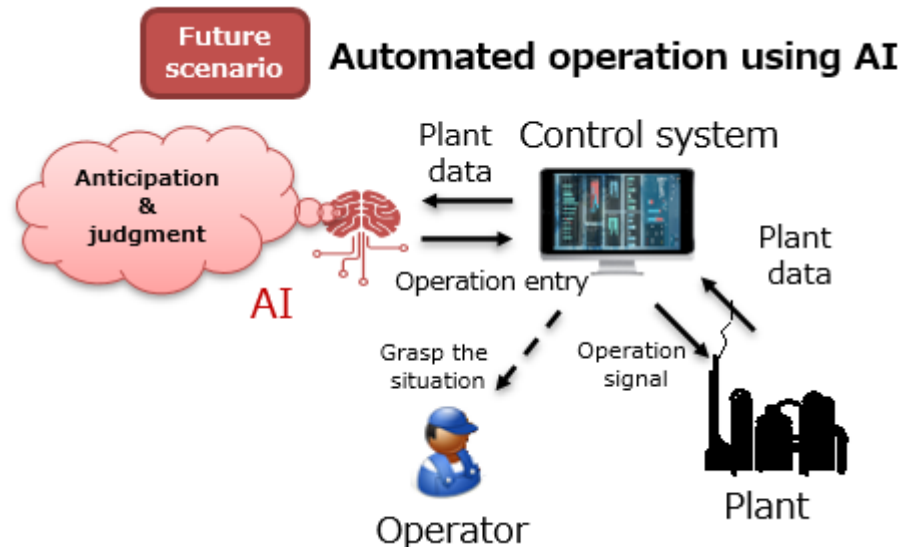
Note: Red text indicates initiatives described in the following pages



① DX (Digital Transformation) Initiatives

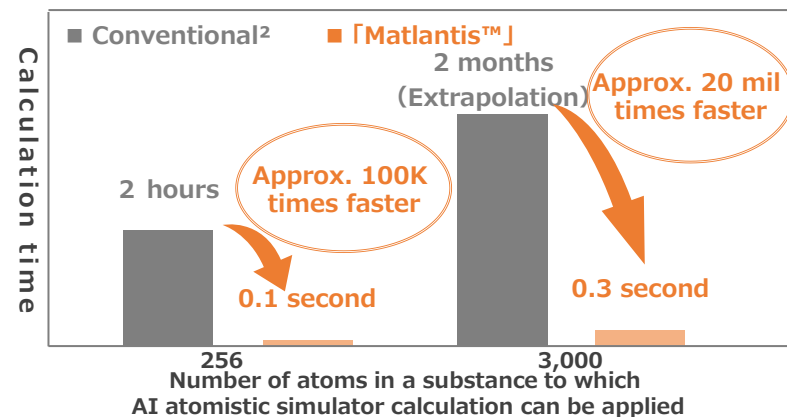
➤ Pursuing initiatives for automated operation of refineries

- Developed an AI system for automated plant operation; succeeded in continuous automated operation at a petrochemical plant for 2 days, a first in Japan
- Aiming for the introduction of an AI model for plant operation with broader applications to increase production efficiency and conserve energy



➤ Launched Matlantis™, a cloud-based, super-high-speed AI atomistic simulator that uses MI¹ technology developed with Preferred Networks, Inc.

- Increases the speed of calculation to tens of thousands times faster than that of conventional simulators
- Possible applications for a wide variety of substances
- Contributes to creation and innovation by speeding up the development of raw materials in various materials development fields



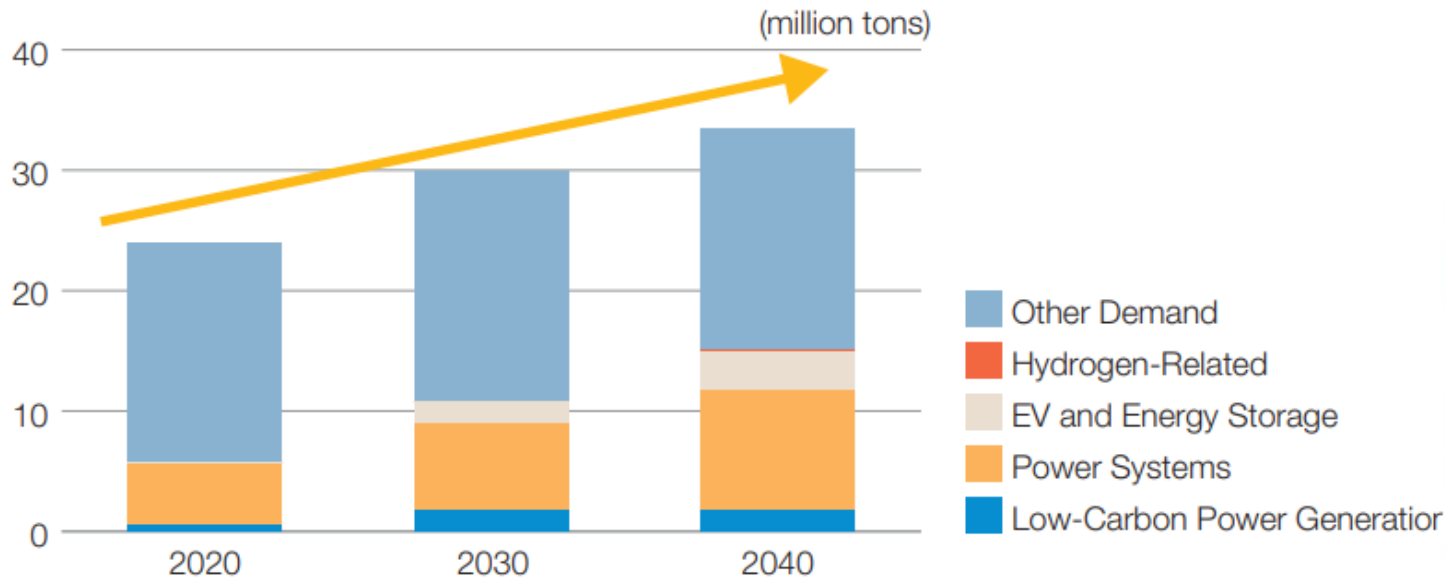
¹ Materials Informatics: Materials development using computational science and information science

² Conventional calculation method called DFT

② Advanced Materials

- **Copper materials contribute to the realization of a decarbonized society, where electrification plays an important role.**

Global Copper Demand



(Source) *The Role of Critical Minerals in Clean Energy Transitions, (SDS scenario); IEA*

- **Advanced materials such as high-function alloys and materials for semiconductor parts are indispensable as they are also used in electronics and batteries.**
- **With the advancement of decarbonization due to the growth of renewable energy, EV, etc., and smartification due to IoT and AI technology, a steady increase in demand for advanced materials is expected.**

② Advanced Materials

- With advanced metals processing technology accumulated over many years and world-class non-ferrous metals manufacturing technology, the ENEOS Group has a competitive edge in global markets for the following advanced materials

Global market shares (FY2020)

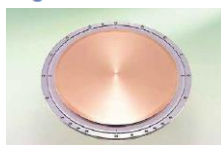
■ Treated rolled copper foil

Approx.
80%
of global market share



■ Sputtering targets for semiconductors

Approx.
60%
of global market share



■ High-purity tantalum powder for electronic materials

Approx.
50%
of global market share



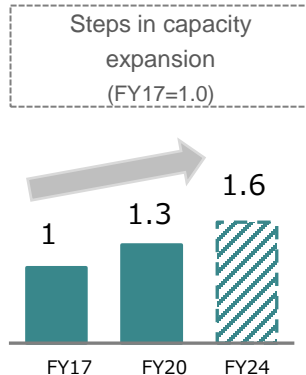
- Although we have gradually increased production capacity for rolled copper foil and sputtering targets for semiconductors, two of our main products, we have decided to make additional investment (total ¥48 bn) to enable us to respond flexibly to rapidly increasing demand

Treated Rolled Copper Foil

- ✓ New factory with production line for rolling processes (investment amount: ¥16.0bn)



▲ Image of new factory for treated rolled copper foil (Hitachi City, Ibaraki Pref.)

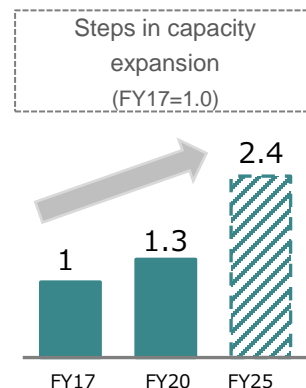


Sputtering Targets for Semiconductors

- ✓ New factory will enhance existing sites while carrying out melting and casting and rolling processes (investment amount: ¥32.0bn)



▲ Image of new factory for sputtering targets for semiconductors (Hitachi City, Ibaraki Pref.)



③ CCS/CCUS

- **Technology for CCS/CCUS, which captures, utilizes and stores CO₂, plays an important role in the realization of a decarbonized society**
- **The ENEOS Group demonstrated CCS/CCUS as a business ahead of other companies, making us a frontrunner with proven performance**
- **Using the technology and operational expertise we have gained, we are accelerating our initiatives in Japan and overseas**

The Petra Nova CCUS project, which reduces CO₂ emissions while increasing crude oil production

- Since Dec. 2016, we have been carrying out a project in which CO₂ generated by a thermal power plant in the US is captured and recovered, then injected into a legacy oil field, increasing crude oil recovery
- World's largest plant where CO₂ is being recovered from flue gas
- A total of 3.7 million tons of CO₂ has been injected so far



Collaboration with other companies

- Joint research and development with Indonesian state oil company Pertamina (FY2018)
- Joint research and development with Malaysian state oil company Petronas (FY2020)
- Decided to participate in offshore CO₂ recovery and storage hub project in Australia (FY2021)
- Received approval for a development plan that includes CCUS in the Indonesia Tangguh LNG project, which is being carried out through a business alliance that includes our company (FY2021)
- Executed a collaboration agreement with US company 8 Rivers Capital, which has proprietary CCS/CCUS technology (FY2021)

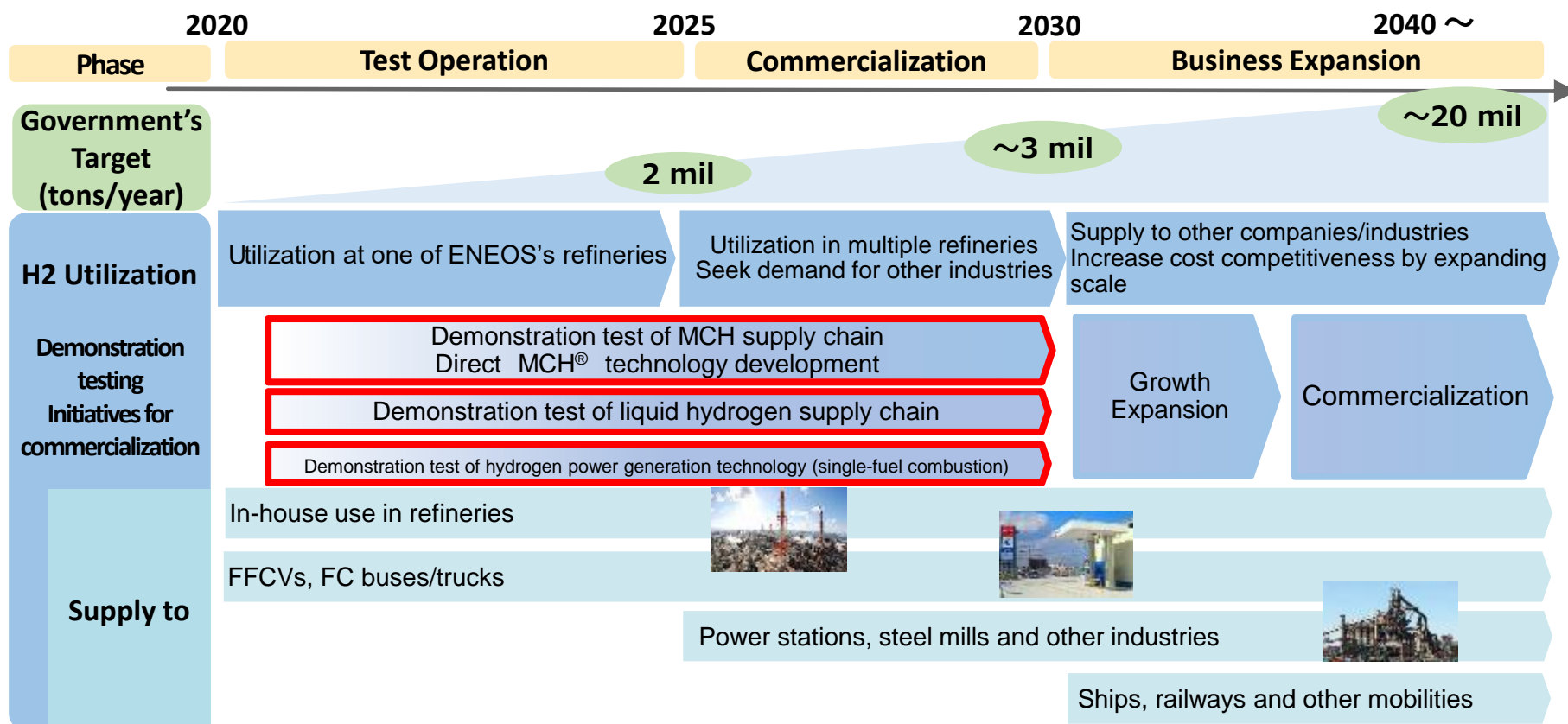
④ Hydrogen – Hydrogen Strategies to 2040 –

- With acceleration of technology development using the GI Fund, and utilizing ENEOS's strengths, such as effective utilization of our existing facilities, we are pursuing **three strategies**

Strategy 1: Build a CO2-free hydrogen supply chain (Supply hydrogen to large-scale industrial consumers in Japan and overseas)

Strategy 2: Develop a nationwide energy supply platform (Build own-production own-consumption model for hydrogen using domestic renewable energy)

Strategy 3: Expand hydrogen fuel supply for mobility (Expand supply for mobility, one of our strengths)



 Scope of utilization of the Green Innovation (GI) Fund*

*Green Innovation Fund: A 10-year project in which the Japanese government provides support, ranging from R&D to social implementation, to companies working toward "Carbon Neutrality 2050"

④ Hydrogen – Hydrogen Strategies to 2040 –



Supply Chain

Building a CO₂-free H₂ supply chain

- ✓ Explore and secure competitive hydrogen
- ✓ Use refineries as H₂ hub

Demand

Supplying H₂ for industry and mobility

- ✓ Supply to industry
 - Refineries
 - Power plants
 - Steel mills
 - Chemical plants
- ✓ Utilize and expand H₂ station network for mobility

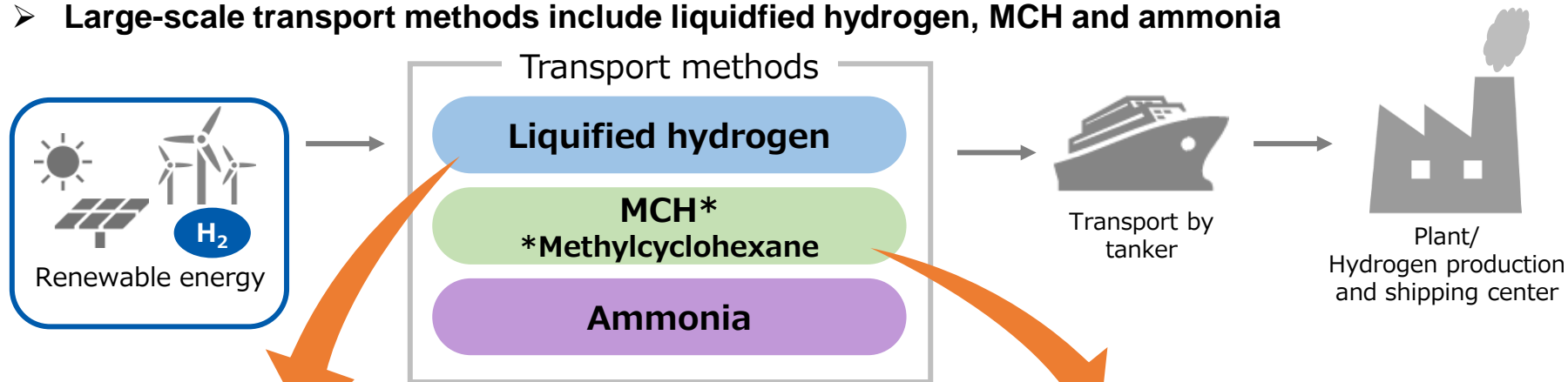
New Technology

New technology development

- ✓ Direct MCH[®] technology
- ✓ e-fuel technology
- ✓ H₂+VPP for local electricity business

④ Hydrogen – CO₂-free Hydrogen Transport Methods –


- CO₂-free hydrogen to be supplied mainly from overseas locations where energy conservation costs are low
- Large-scale transport methods include liquidified hydrogen, MCH and ammonia



Liquified hydrogen

Participating in HySTRA (CO₂-free Energy Supply-chain Technology Research Association) as a corporate member, exploring commercialization

- Establish and verify technologies for the mass transport of liquidified CO₂-free hydrogen made from unused brown coal in Australia across long distances.



Brown coal in Australia

Technology development MCH

Production method	Process	Output
Conventional	Renewable energy → Electricity → Electrolytic cell (Water in, Water out) → O ₂ and H ₂ → Tank storage → Toluene → MCH	MCH
New technology	Renewable energy → Electricity → Electrolytic cell (Toluene in, Water out) → O ₂ → MCH	MCH

Using new electrolysis technology that we developed, we succeeded simplifying the production process by producing MCH directly from toluene and water.

④ Hydrogen – Comparison of CO₂-free Hydrogen Transport Methods –

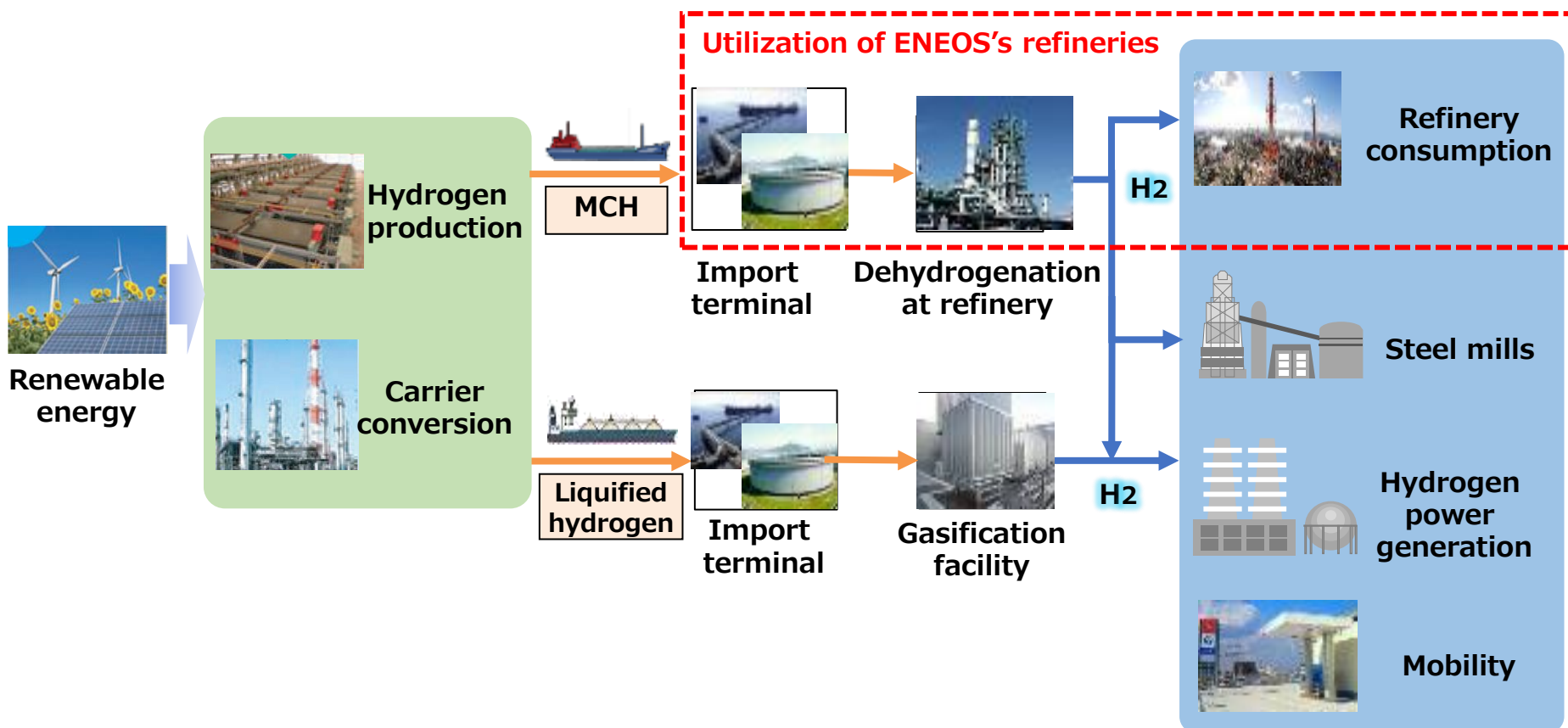
- Need to maximize use of existing infrastructure to control costs for expanded growth of hydrogen
- Focusing on MCH due to its compatibility with our facilities and technology

Features of storage and transport technology and compatibility with ENEOS's facilities

	Conversion	Marine Transport (Tanker)	Receipt (Unloading)	Hydrogen Extraction	Hydrogen Use
Liquified Hydrogen	Hydrogen Liquification	Liquid Transport	Liquid Receipt, Storage	Liquid Vaporization	Power Generation, Refineries, Hydrogen Stations
	<ul style="list-style-type: none"> • Development of large-scale liquification facilities • Room for improvement in energy efficiency for liquification • Can utilize CO₂-EOR knowledge for CCS 	<ul style="list-style-type: none"> • Development of large-scale liquified transport vessels • Can utilize CO₂-free hydrogen (boil-off) during transport 	<ul style="list-style-type: none"> • Development of large-scale liquified storage facilities • Boil-off during unloading and storage (recovery facilities needed) 	<ul style="list-style-type: none"> • Pressurization energy not needed (use pressure during vaporization) 	<ul style="list-style-type: none"> • Can use our facilities (power generation, hydrogen stations) • Liquified hydrogen supply facilities needed for use at hydrogen stations
MCH (Methylocyclohexane)	MCH Production	MCH Transport	MCH Unloading, Storage	MCH Dehydrogenation	Power Generation, Refineries, Hydrogen Stations
	<ul style="list-style-type: none"> • We have Direct MCH technology 	<ul style="list-style-type: none"> • Can use existing tankers <p>Blue: Compatibility with our facilities, etc. Red: Challenges</p>	<ul style="list-style-type: none"> • Can use refinery facilities 	<ul style="list-style-type: none"> • Utilize knowledge of catalysts • Can use refinery facilities and technology • Energy conservation for dehydrogenation heat source • Pressurization energy needed 	<ul style="list-style-type: none"> • Can use our facilities (power generation, hydrogen stations) • Need to produce high-purity hydrogen
Ammonia	Ammonia Production	Ammonia Transport	Ammonia Unloading, Storage	Ammonia Dehydrogenation	Power Generation, Refineries, Hydrogen Stations
	<ul style="list-style-type: none"> • Have established synthesis method on commercial basis 	<ul style="list-style-type: none"> • Can use LPG tankers 	<ul style="list-style-type: none"> • Can use refinery facilities • Toxic and corrosive 	<ul style="list-style-type: none"> • Energy conservation for dehydrogenation heat source 	<ul style="list-style-type: none"> • Can be used at our facilities (power generation) • Need to produce high-purity hydrogen

④ Hydrogen – CO₂-free Hydrogen Supply Chain and Refineries –

- Ports, berths, tanks and other facilities, as well as nearby demand areas, are essential for the large-scale import of hydrogen from overseas
- Refineries can be a platform for the stable supply of CO₂-free hydrogen

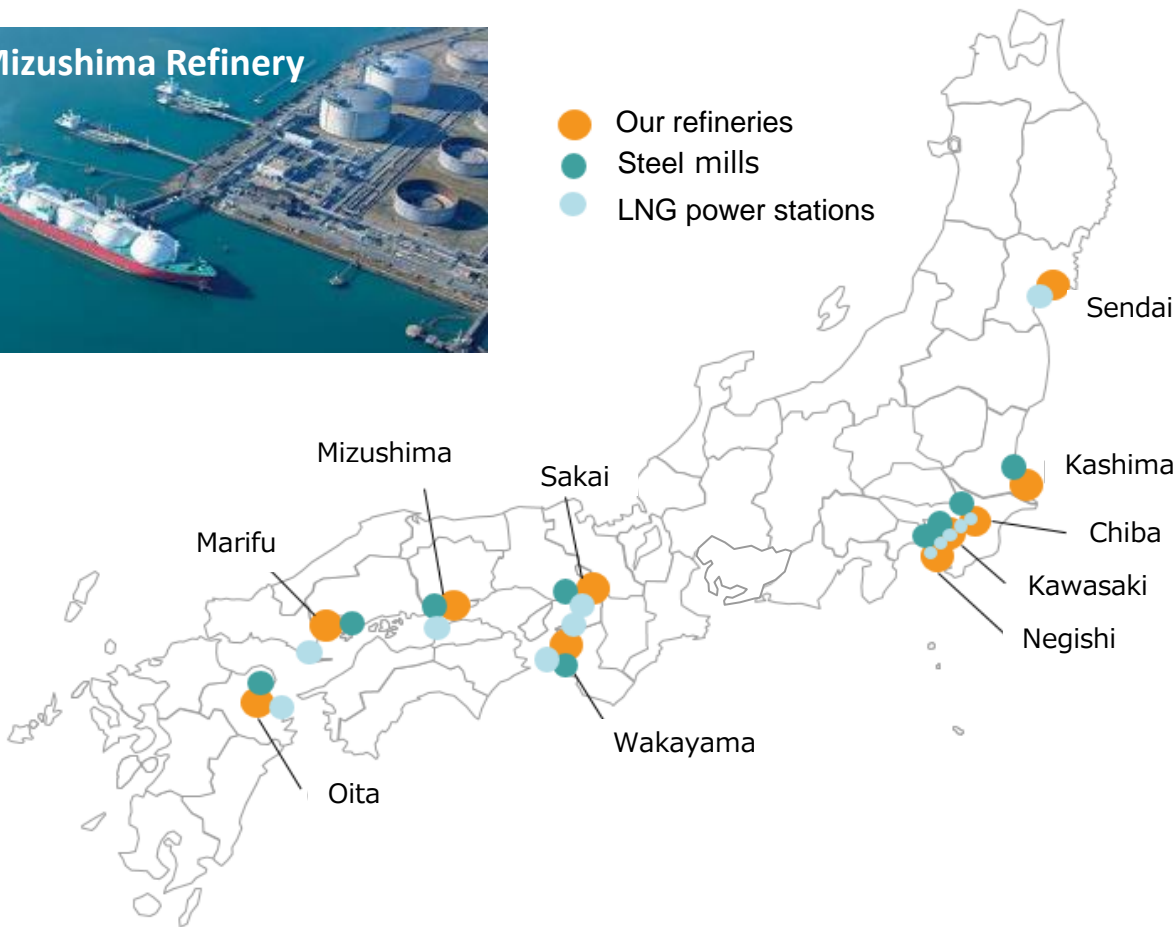


④ Hydrogen – Refinery Potential as Hydrogen Supply Hubs –

- Our refineries are located in large industry complexes, which have high potential as hydrogen hubs for local industries

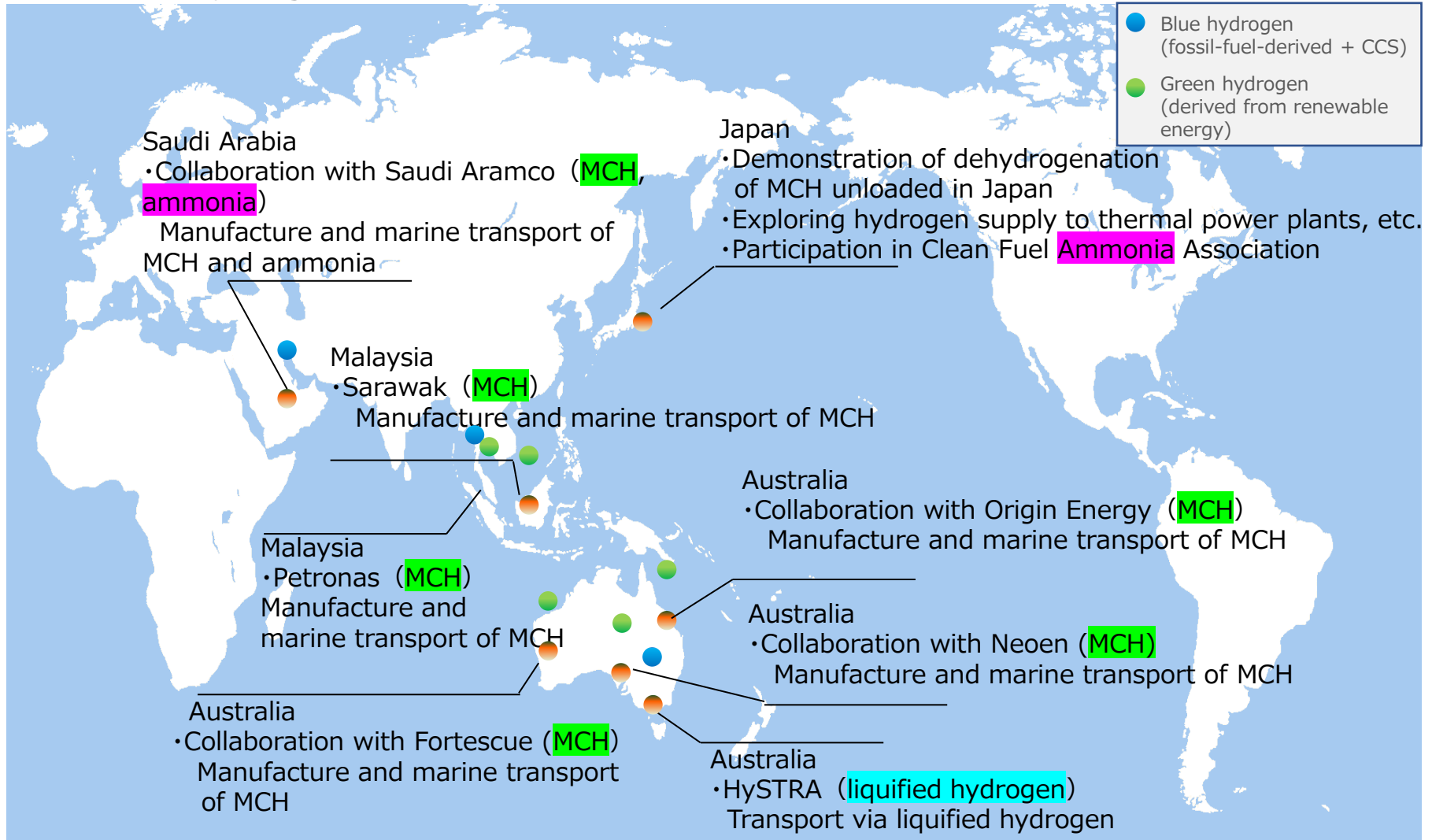


- Our refineries
- Steel mills
- LNG power stations

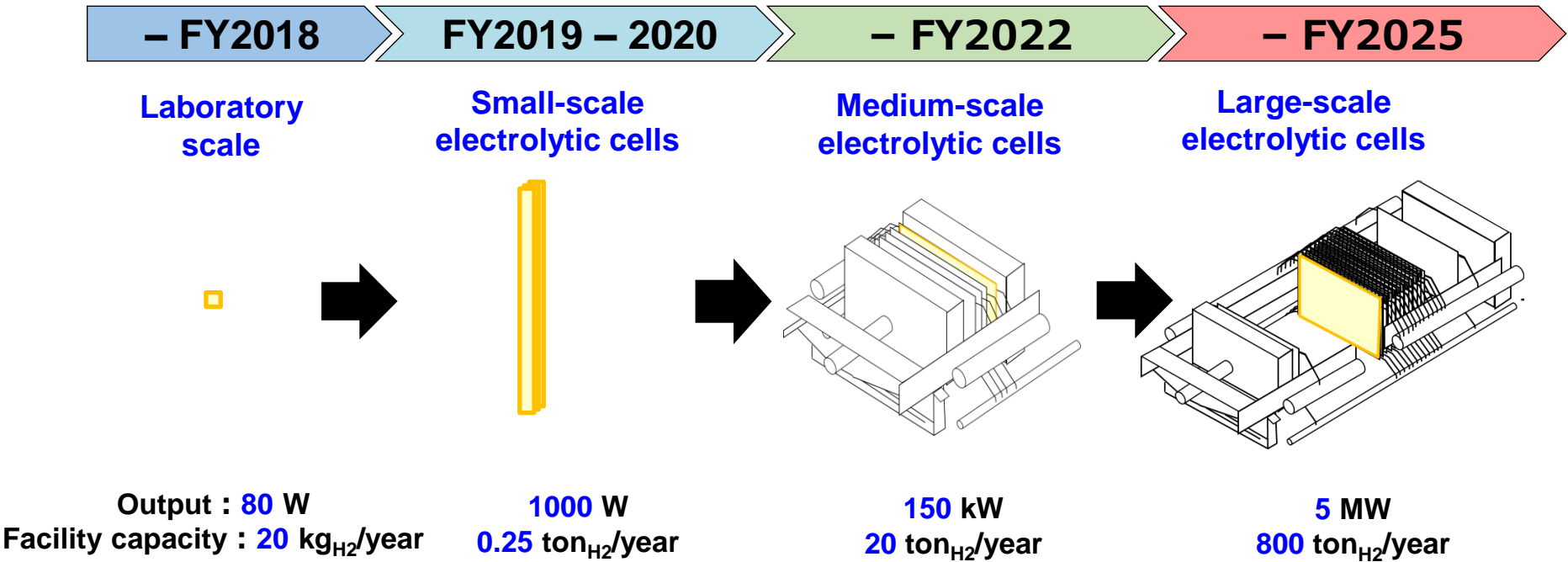


Reference: Overseas Collaboration for Development of a CO2-free Hydrogen Supply Chain

- We are aiming for the development of a supply chain with MCH, where we have advantages, as the main carrier
- We are collaborating with partners in various regions to quickly secure competitive CO2-free hydrogen

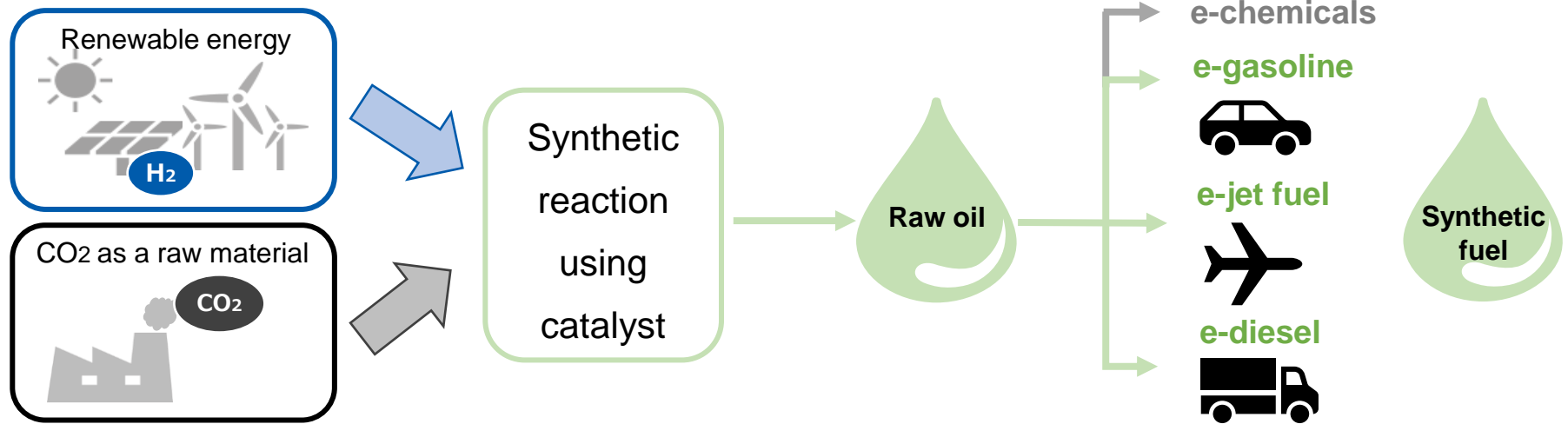


- **Simplification of the production process for MCH, an organic hydride**
 - Conventionally, two processes are necessary for MCH production
 - ① Water electrolysis to produce hydrogen
 - ② Reaction of the hydrogen with toluene to produce MCH
 - Direct MCH[®] can produce MCH from water and toluene in a single process
 - Contributes to cost reduction of MCH production
- **Working on research and development for scaling up electrolytic cells, a challenge for practical implementation**

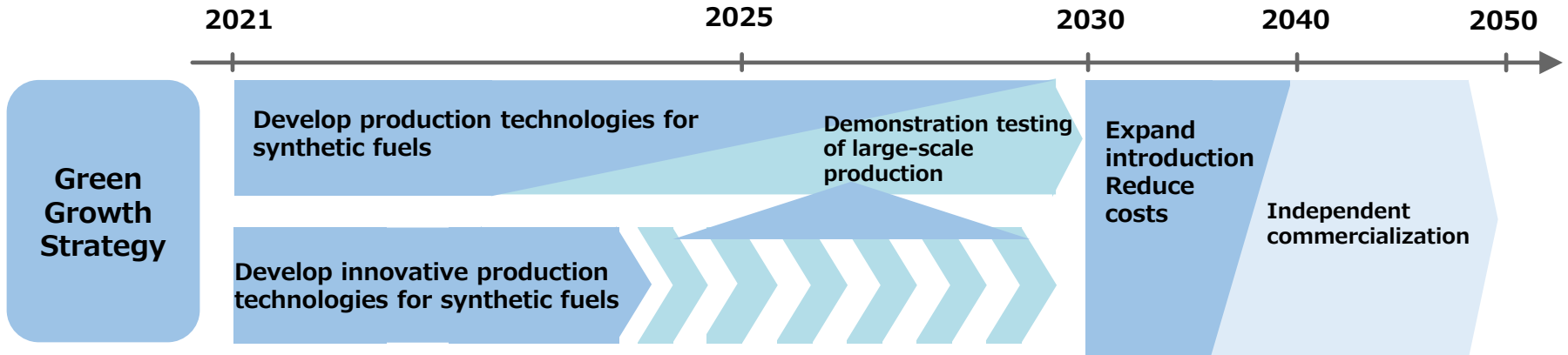


④ Hydrogen – Synthetic Fuel –

- Synthetic fuel is produced by a reaction of renewable-energy-derived hydrogen and CO₂
- Keeping pace with government initiatives, we will expand introduction and reduce costs in the 2030s and aim for independent commercialization by 2040



Introduction schedule (Green Growth Strategy Through Achieving Carbon Neutrality in 2050 [Ministry of Economy, Trade and Industry, June 18, 2021])



⑤ Recycling

- Like climate change, the risk of resource shortage and depletion due to economic development is a significant issue for society
- As an energy and materials company group, the ENEOS Group has specified “contribute to a recycling-oriented society” in the envisioned goals of its Long-Term Vision to 2040, its corporate mission, and is carrying out recycling in the following four areas

Environmental Recycling, Hybrid Smelting

- ✓ We have established two businesses, a recycling business and an environmental business, which are based on the technology and results we have accumulated.



- ✓ Working toward hybrid smelting, in which we will significantly increase the input of raw materials for recycling in copper smelting and refining (input rate of raw materials for recycling: 50% in 2040).

Recycling Automotive Lithium-ion Batteries

- ✓ Working on closed-loop recycling, in which we extract cobalt, nickel, lithium and other rare metals from used lithium-ion batteries so they can be reused as raw material for automotive batteries.
- ✓ Established technology using bench-scale equipment; started verification trials for scaling up technology in 2021.

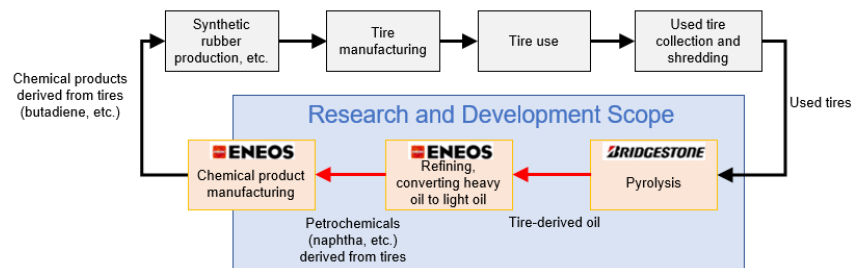


Recycling Plastic Waste

- ✓ Decided to start a joint plastic-to-oil conversion business with Mitsubishi Chemical.
- ✓ Plan to construct a chemical recycling facility with annual processing capacity of 20,000 tons, the largest-scale in Japan on a commercial basis. Commencement of plastic-to-oil conversion planned for FY2023.

Recycling Used Tires

- ✓ Utilizing the Green Innovation Fund, we began a joint project with Bridgestone for the development of technology for recycling used tires.
- ✓ Large-scale demonstrations will be carried out to 2030 with the goal of achieving mass production and early commercialization.



Thank you for your attention

Selection for inclusion in ESG-related Investment Indexes (as of December 2021)

- FTSE4Good Index Series
- FTSE Blossom Japan Index
- MSCI Japan ESG Select Leaders Index
- MSCI Japan Empowering Women Index (WIN)
- S&P/JPX Carbon Efficient Index
- SOMPO Sustainability Index
- Nadeshiko Brand



Reference

ENEOS Group Philosophy

Mission

Harnessing the Earth's power for the common good and for the day-to-day life of each individual, we will contribute to the development of our communities and help to ensure a vibrant future through creation and innovation in energy, resources, and materials.

Our Five Core Values

As a member of the community

High ethical standards

Based on our core principles of integrity and fairness, we conduct all of our business activities in accordance with our high ethical standards.

Health, safety and environment

We give the highest priority to health, safety and environmental initiatives, which are vital to the well-being of all living things.

Supporting day-to-day life

Focus on customers

We strive to meet the expectations and evolving needs of our valued customers and of society as a whole through the stable provision of products and services while creating new value as only we can.

For a vibrant future

Taking on challenges

Taking changes in stride, we rise to the challenge of creating new value while seeking innovative solutions for today and tomorrow.

Moving forward

Looking to the future, we continue to grow, both as individuals and as a company, through the personal and professional development of each and every employee.

The ENEOS Group's Businesses and Strengths

Note: Figures as of Dec. 31, 2021, except where indicated.

Strengths

Diverse, global value chain

Refining, production and supply network

Innovative technologies

Oil exploration

Exploration, development and production in 10 countries around the world

Equity-entitled crude oil and natural gas production volume

130,000 bbl/day

(FY2020 actual)



Oil transport

Stable and efficient oil transport



Oil refining

Largest oil refining capacity in Japan

Crude oil processing capacity

1.87 million bbl/day



Power generation

Responding to society's energy needs

Power generation capacity

1.64 million kW

(Renewable energy:

Approx. 0.13 million kW)

Service station (SS) operations

Market share of SS in Japan

Approx. 44% (As of March 31, 2020)

Electricity retailing

Approx. 980,000 contracts

Hydrogen stations

Responding to demand for new energy

Market share in Japan

Approx. 30% (47 locations)

Community services

Laundromats/car sharing services



Fuel oil sales

Market share of fuel oil sales in Japan Approx. 50% (No. 1 in Japan)

Petrochemicals manufacturing and sales

Paraxylene supply capacity 3.23 million tons/year (direct sales basis) (No. 1 in Asia)



Propylene supply capacity 1.64 million tons/year (direct sales basis) (No. 1 in Asia)



Lubricants manufacturing and sales

Supply to Japan and overseas markets

37 overseas locations



Functional materials manufacturing and sales

Delivering solutions and high-performance materials

Resources development

Copper mine development

Equity-entitled copper mine production volume

190,000 tons/year

(FY2020 actual)



Transport

Copper transport

Using copper concentrate and sulfuric acid carriers that reduce environmental impacts



Refining and smelting

Refined copper production

Refined copper production capacity in Japan

Approx. 450,000 tons/year



Manufacturing and sales

Functional and thin-film manufacturing and sales

Advanced materials underpinning information society

Product lineup with No. 1 market share worldwide



Recycling

Recycling

Number of recycling collection sites

9 in Japan and overseas




Environmental Initiatives – CO₂ Emissions Reduction –



Achieved/
Steady progress

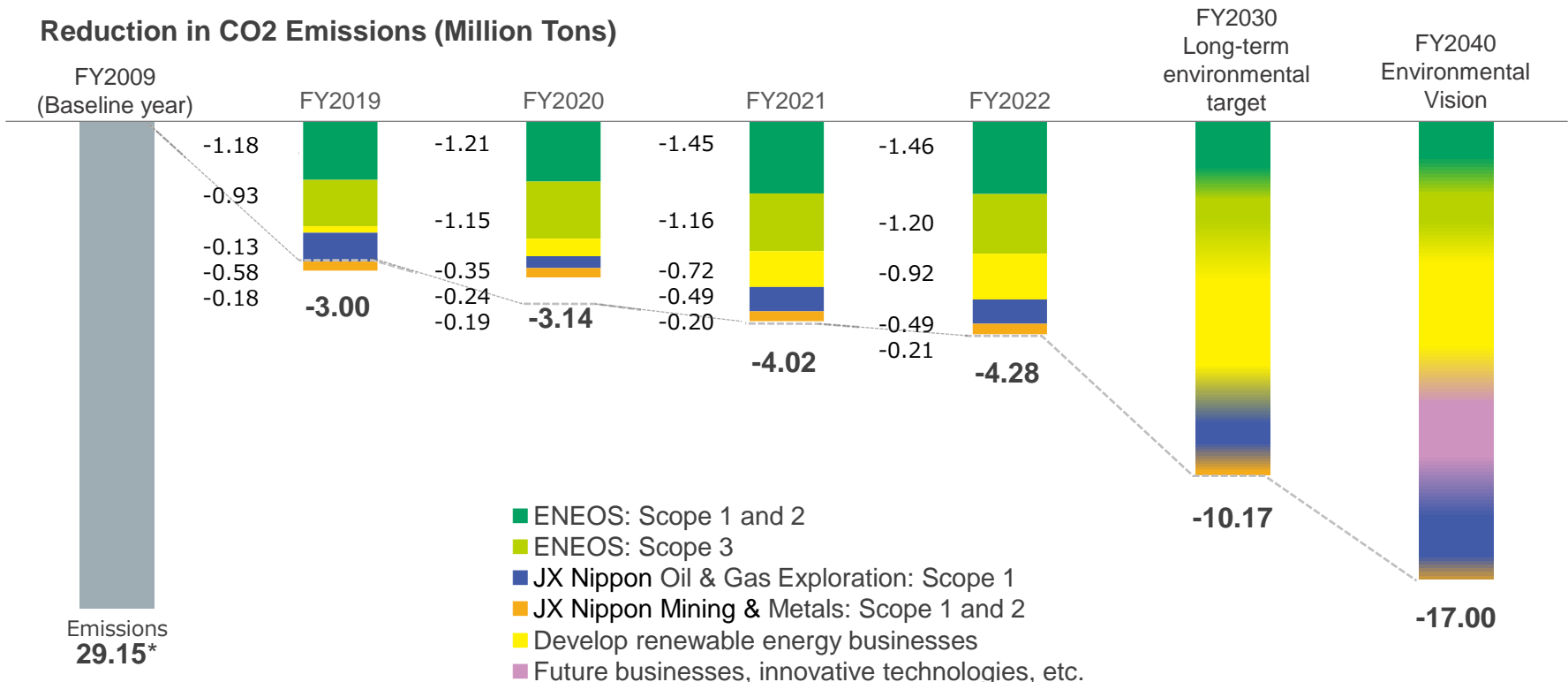


Not
Achieved

Material ESG Issues	Initiative	FY2020 Target (KPI)	FY2020 Results/Progress	FY2021 Target (KPI)
Development of a low-carbon society	Reduction in CO ₂ emissions	Reduce by 3.63 million tons compared to fiscal 2009	Reduced by 3.14 million tons compared to fiscal 2009 	Reduce by 4.02 million tons compared to fiscal 2009

- Although we fell short of our reduction target for FY2020 due to factors such as reduced operation of our refineries and CCS, we will continue to pursue CO₂ reduction for the achievement of carbon neutrality in our own emissions in 2040

Reduction in CO₂ Emissions (Million Tons)



Emissions
29.15*

* Scope 1 and 2 emissions

Social Initiatives – Ensuring Safety –



Achieved/
Steady progress

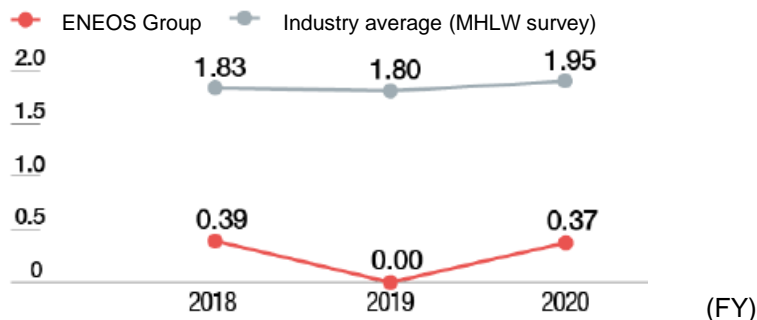


Not
Achieved

Material ESG Issues	Initiative	FY2020 Target (KPI)	FY2020 Results/Progress	FY2021 Target (KPI)
Ensuring safety	Reduction in occupational injuries	Zero serious occupational injuries (occupational fatalities)	2 	Zero serious occupational injuries (occupational fatalities)
		Achieve TRIR of 1.0 or less	1.50 	Achieve TRIR of 1.0 or less

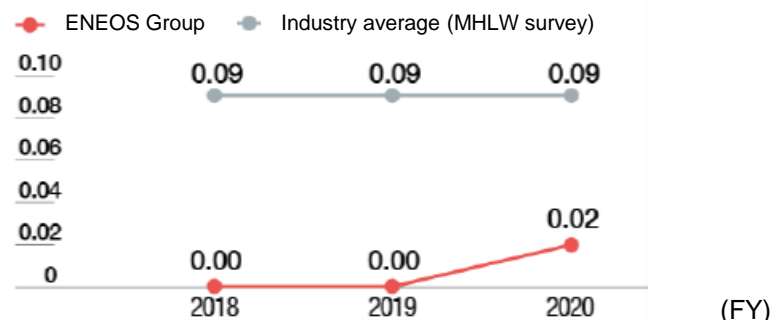
- There were 2 occupational fatalities of contractors due to falls from heights.
- In order to prevent serious occupational injuries, we have designated the following 3 items as Group-wide safety action items: preventing falls, separating people from heavy machinery and preventing heatstroke.
- We take the occurrence of occupational fatalities with the utmost seriousness, and as a safety measure for working at heights, we are strengthening internal rules and working to ensure thorough compliance.

Occupational Injury Frequency Rate*



*The number of injuries and fatalities per million cumulative hours worked indicates the frequency of occurrence of occupational injuries.

Occupational Injury Severity Rate*



*The aggregated number of workdays lost per thousand cumulative hours worked; indicates the severity of occupational injuries.

TRIR* and LTIR**

	FY2018	FY2019	FY2020
TRIR	1.25	1.01	1.50
LTIR	0.39	0.04	0.35

* TRIR (total recordable incident rate): Number of non-lost-time occupational injuries, lost-time occupational injuries and fatalities per one million hours

** LTIR (lost time injury rate): Number of lost-time occupational injuries and fatalities per one million hours

Social Initiatives




– Human Resources Development, Diversity –



Achieved/
Steady progress



Not
Achieved

Material ESG Issues	Initiative	FY2020 Target (KPI)	FY2020 Results/Progress	FY2021 Target (KPI)
Human resource development	Development of human resources responsible for enhancing corporate value	Implementation of effective training based on human resource development plan	Completed 	Implement effective training and evaluation based on human resource development plan
Promotion of diversity and inclusion	Advancement of women in the workplace	Women comprise at least 25% of newly hired university graduates	32.8% 	Maintain rate of women among newly hired university graduates at 25% or higher
	Advancement of employees with disabilities	Maintain employment rate of people with disabilities at 2.2% or higher	2.5% 	Maintain employment rate of people with disabilities at 2.3% or higher

Human Resource Development

- Development of human resources who can take on challenges on a global scale is key to the achievement of our growth strategy in a rapidly changing business environment
- We are carrying out effective training based on human resources development plans to ensure the development of a diverse workforce

Diversity and Inclusion (Advancement of Women in the Workplace)

- The advancement of women in the workplace is an important initiative for the development of a diverse workforce who can create new value
- Measures for the advancement of women in the workplace include the proactive hiring of female employees and the inclusion of women in manager training, as well as the selection of women for executive management candidate training

Action Plan on Advancement of Women in the Workplace (ENEOS), based on the Act on the Promotion of Female Participation and Career Advancement in the Workplace

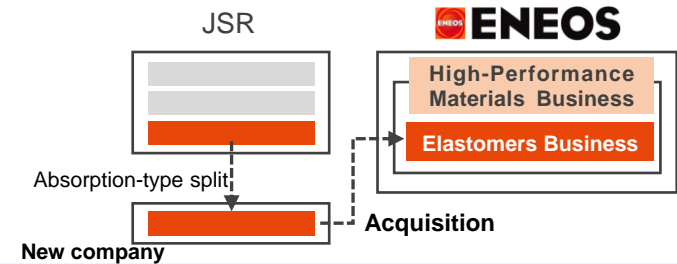
1. Ensure that the ratio of women among newly hired university graduates in fiscal 2022 is at least 32%
2. Change the behavior and mindset of employees, focusing on management, toward the promotion of diversity
3. Aim to at least double the number of women in leadership positions (from group managers to officers), compared to fiscal 2019, by April 2023

Percentage of female employees

Category	2019	2020	2021
Employees	10.9%	11.4%	12.3%
Managers	2.7%	3.2%	3.9%

Agreement reached to acquire JSR Corporation's elastomers business

Overview	✓ Revenue	: ¥143.2 billion (FY2020)
		*Domestic and overseas (China, Thailand, US, etc.) total basis
	✓ Sales volume	: approx. 530 thousand tons (FY2020)
	✓ Number of employees	: approx. 3,000 (as of March 2021)



Strengths of JSR's Elastomers Business

- Leading position in the field of high-performance materials
- Wide range of products mainly focused on synthetic rubber for tires
- "SSBR" technology with the world's highest level of performance



Strengths of ENEOS's High-Performance Materials Business

- Abundant basic chemical raw materials produced from petroleum refining
- R&D technologies in the field of monomers and polymers (high-heat-resistant materials, tire additives, etc.)
- High functional products with in-house technology (petroleum resin, ENB, etc.)

Create synergies by improving product development capabilities and reducing costs as a company that develops and manufactures technology-based products in the value chain from petroleum to materials

Implement structural reforms by reviewing existing businesses and R&D portfolio, with elastomers business at the core

Aiming to quickly establish a worldwide business scale and presence as a manufacturer of high-performance materials

Developing and Strengthening Growth Businesses

– Acquisition of Japan Renewable Energy Shares –

➤ Acquired shares of JRE Corporation, one of the leading renewable energy companies in Japan (completed in Jan. 2022)

Note: From a standpoint of creating business strategy synergies, a portion of JRE share equity was transferred to Sumitomo Mitsui Trust Bank (Feb. 2022)

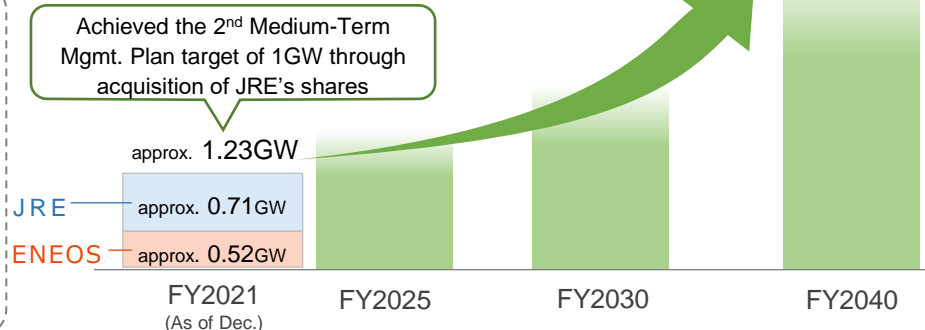
- ✓ Aiming to become a leading renewable energy company in Japan through the acquisition
 - Achieved the total renewable power generation capacity target set in the Medium-Term Management Plan; over 1GW by the end of FY2022

■ Overview of JRE

Capital	: ¥21,947 million
Consolidated net sales	: ¥22,416 million (fiscal year ended Dec. 2020)
No. of employees	: 194 (as of July 2021)
Acquisition cost of shares	: approx. ¥191.2 bn
Date of acquisition	: Jan. 14, 2022
Generation capacity	: (In operation) approx. 0.46GW (as of Dec. 2021) (Under construction) approx. 0.24GW (as of Dec. 2021)



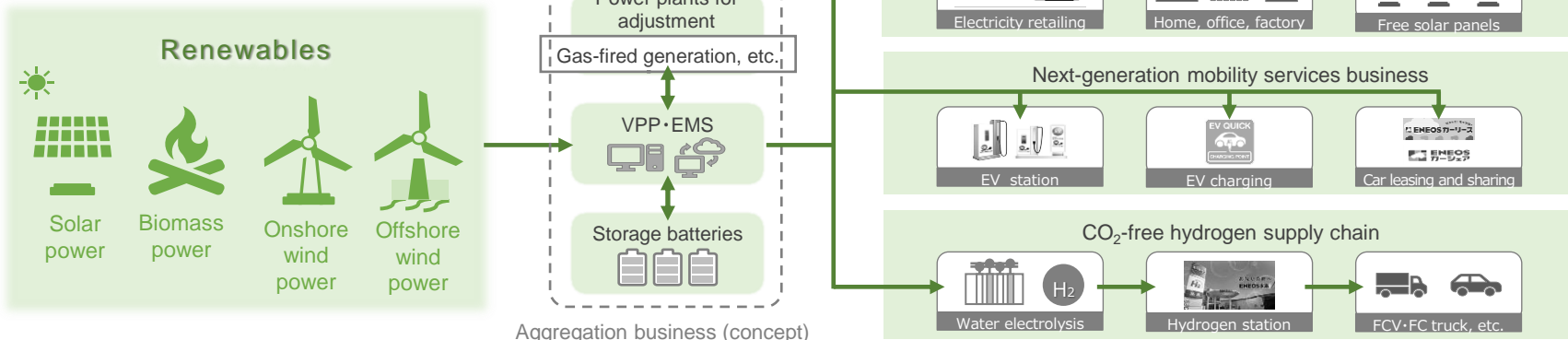
Renewable Power Generation Capacity*



* Capacity based on capital contribution ratio (total of power plants in operation and under construction)

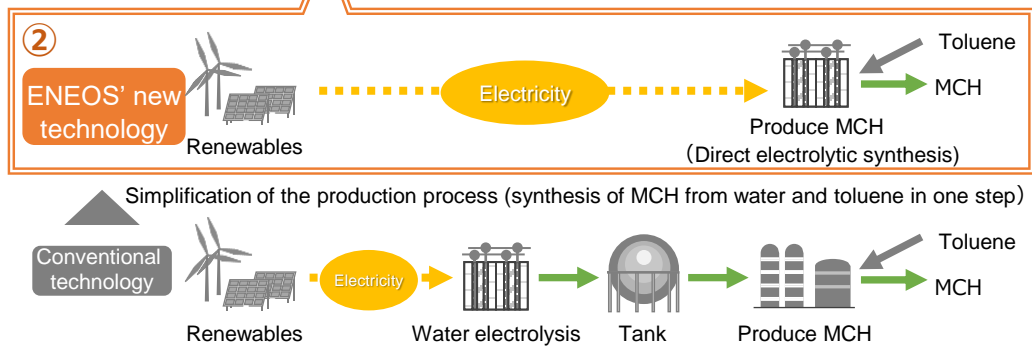
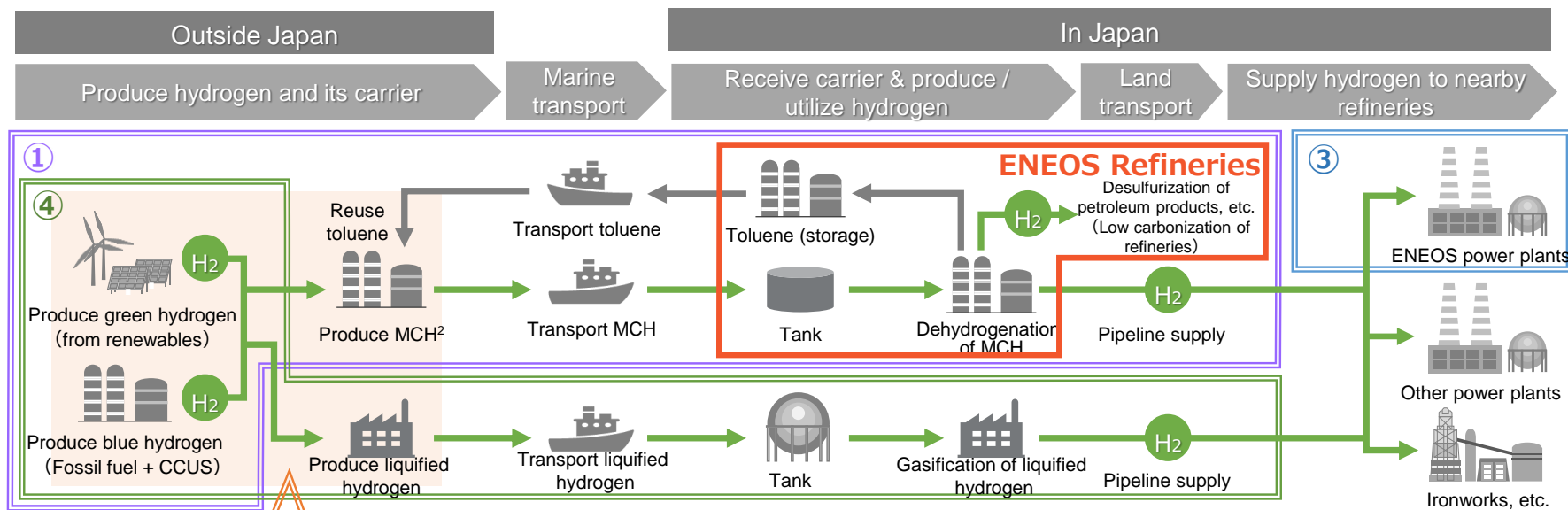
Medium- to Long-term Initiatives

Based on the renewable energy business, ENEOS will advance the next-generation energy supply business



➤ Accelerate the building of a CO₂-free hydrogen supply chain through Green Innovation Fund¹

- ✓ ENEOS's four demonstration projects for building a CO₂ free hydrogen supply chain have been selected as GI fund projects
- ✓ ENEOS will play the central role in the demonstration projects, and accelerate innovation and social implementation



Demonstration projects selected by the GI fund

- ①: Large-scale demonstration of the MCH Supply chain Only ENEOS
- ②: Development of direct MCH electrolytic synthesis technology³ Only ENEOS
- ③: Equipment demonstration of hydrogen generation Only ENEOS
- ④: Commercial demonstration of a liquified hydrogen supply chain 3-company joint venture

Kawasaki Heavy Industries, Ltd., ENEOS, Iwatani Corp.

¹ Green Innovation Fund: A 10-year project in which the Japanese government provides support, ranging from R&D to social implementation, to companies working toward "Carbon Neutrality 2050"

² MCH: Methylcyclohexane (a hydrogen carrier)

³ Direct MCH[®]

- Decision made to make NIPPO go private through a tender offer by Special Purpose Company (joint contribution with Goldman Sachs Group, Inc.)

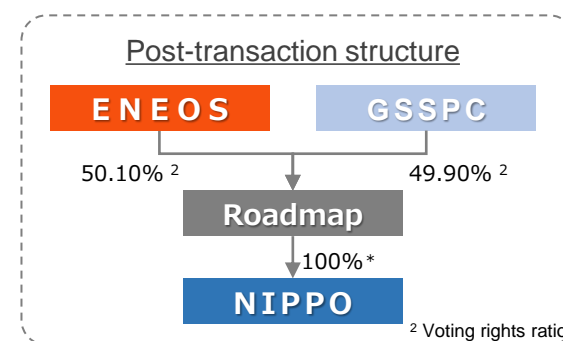
- ✓ Announced a decision to make NIPPO, ENEOS' listed subsidiary, go private and re-list it in the future in order to accelerate investments in growth businesses, and enhance the governance structure



Overview of the transactions

- Roadmap Holdings GK, in which ENEOS and Goldman Sachs' SPC (GSSPC) have jointly made a capital contribution, will implement a tender offer for the shares of NIPPO and subsequently carry out a squeeze-out (going private)
- After the transactions, NIPPO will buy all its shares held by ENEOS¹ through the acquisition of its treasury shares, then NIPPO will become Roadmap's wholly owned subsidiary

¹ Shareholding ratio: 57%



Business Environment

Acceleration of the movement toward a decarbonized society

Decline in domestic demand for fuel oil

Trend toward strengthening corporate governance

Significance/ Goal

Acceleration of Investment for growth businesses

Improvement of the governance system

Further enhancement of NIPPO's corporate value

➔ Aim to re-list as an independent company in the future

Cautionary Statement Regarding Forward-Looking Statements

This notice contains certain forward-looking statements, however, actual results may differ materially from those reflected in any forward-looking statement, due to various factors, including but not limited to, the following:

- (1) macroeconomic conditions and changes in the competitive environment in the energy, resources and materials industries;
- (2) changes in laws and regulations; and
- (3) risks related to litigation and other legal proceedings.