ENEOS REPORT

ESG DATA BOOK

2021

ENEOS Holdings, Inc.

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Editorial Policy

This website was developed to inform stakeholders of specific challenges, approaches and initiatives of the ENEOS Group in terms of environmental, social and governance (ESG).
In the editorial process, we referenced the Global Reporting Initiative (GRI) Standards, a set of international reporting guidelines, and the Environmental Reporting Guidelines (2018 edition) published by Japan's Ministry of the Environment, as well as the assessment items of major ESG rating organizations. Each year, we continue to expand our disclosure of important ESG-related information.
We also publish the Integrated Report, which includes information about our medium- to long-term growth strategy (value creation story). We encourage readers to use the Integrated Report in conjunction with this website.

Scope

This website covers ENEOS Holdings, Inc., ENEOS Corporation, JX Nippon Oil & Gas Exploration Corporation, JX Nippon Mining & Metals Corporation (hereinafter, "ENEOS Holdings and principal operating companies"), as well as other subsidiaries and affiliated companies, for a total of 677 companies.
In cases where the scope is different from the above, the relevant scope is indicated.

Period Covered

This website covers fiscal 2020 (April 1, 2020 to March 31, 2021).
However, some information that pertains to April 2021 and later is also included.

Reporting/Disclosure Date

January 2022
(Previous issue: January 2021, next disclosure: January 2023)

Guidelines Used as Reference

- Global Reporting Initiative (GRI) Sustainability Reporting Standards
  Comparative Table with GRI Standards
- Environmental Reporting Guidelines (2018 edition), Ministry of the Environment, Japan
- Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)

Enhancing Reporting Reliability

Environmental and social information for fiscal 2020 on this Data Book website indicated with ☑ has been assured by an independent practitioner to ensure objective and reliable reporting.

Inquiries

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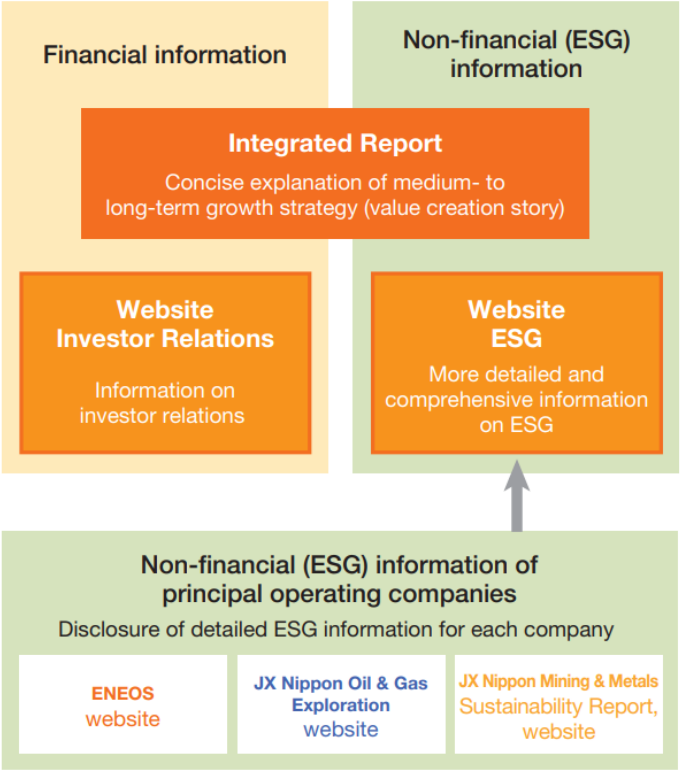
Disclosure Media Framework



ENEOS Group Philosophy

Note: The ENEOS Group Philosophy is also referred to as "the Group Philosophy" in this report.

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

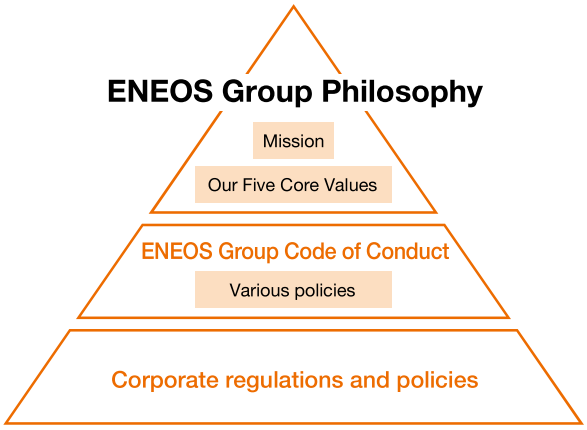
Looking to the future, we continue to grow, both as individuals and as a company, through the personal and professional development of each and every employee.

ENEOS Group Code of Conduct

The ENEOS Group Code of Conduct is also referred to as "the Group Code of Conduct" or "the Code of Conduct" in this report.

1. Positioning of ENEOS Group Code of Conduct

This ENEOS Group Code of Conduct (hereinafter referred to as the "Code of Conduct") is a set of standards that we, as the ENEOS Group directors, officers and employees, apply in order to realize the ENEOS Group Philosophy through our business activities and fulfill our social responsibilities. The Code of Conduct, as the foundation of all of our corporate regulations, shall serve as the cornerstone for making judgments in all of our business dealings.



2. Important Aspects in Living Up to the Code of Conduct

We, as the ENEOS Group directors, officers and employees, shall comply with this Code of Conduct when performing our duties.

When violations of this Code of Conduct are found, they shall not be overlooked, and each one of us must do what we can to deal with such issues.

Executives and supervisors shall fulfill their obligations according to their responsibilities so that all business operations are carried out in accordance with this Code of Conduct.

Ask yourself the following questions if you are in doubt as to what is the correct course of action in performing your day-today business operations.

- Is your conduct and the conduct of others around you in compliance with laws and regulations, the Code of Conduct, and high ethical standards?
- Can you unreservedly give an account of your conduct to the people around you, including your family and friends?
- Can you respond with confidence to questions about your conduct from third parties or the authorities, or reports by the media?

3. Applicable Scope of the Code of Conduct

In principle, this Code of Conduct is applicable to all directors, officers and employees who work at ENEOS Holdings, Inc., and its subsidiaries. We also encourage companies that are part of our value chain to comply with this Code of Conduct. These companies include, but are not limited to, suppliers of raw materials, logistics companies, construction companies, and sales companies.

4. Relation to National and Local Laws

We, as the ENEOS Group directors, officers and employees, respect this Code of Conduct, in addition to local laws and customs. National and local laws will take precedence over the Code of Conduct when the provisions of such laws are more rigorous than the Code of Conduct.

ENEOS Group Code of Conduct

1. Compliance
2. Safety and security
3. Environmental conservation
4. Health enhancement
5. Respect for human rights
6. Product and service quality
7. Equitable and fair transactions
8. Appropriate relationships with governments and public administrations
9. Avoidance of conflicts of interest
10. Corporate asset protection and management
11. Information management and disclosure
12. Establishment of a healthy work environment
13. Contribution to the development of civil society
14. Actions for violations and measures to prevent recurrence

The full text of the ENEOS Group Code of Conduct is available on our website.
https://www.hd.eneos.co.jp/english/company/conduct.html

ESG Management

Basic Approach

To achieve sustainable growth, our value must be recognized by building more credibility with our stakeholders through our response to social needs and the resolution of social issues.
The ENEOS Group has accordingly formulated the Basic Policy for ESG Management.

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.

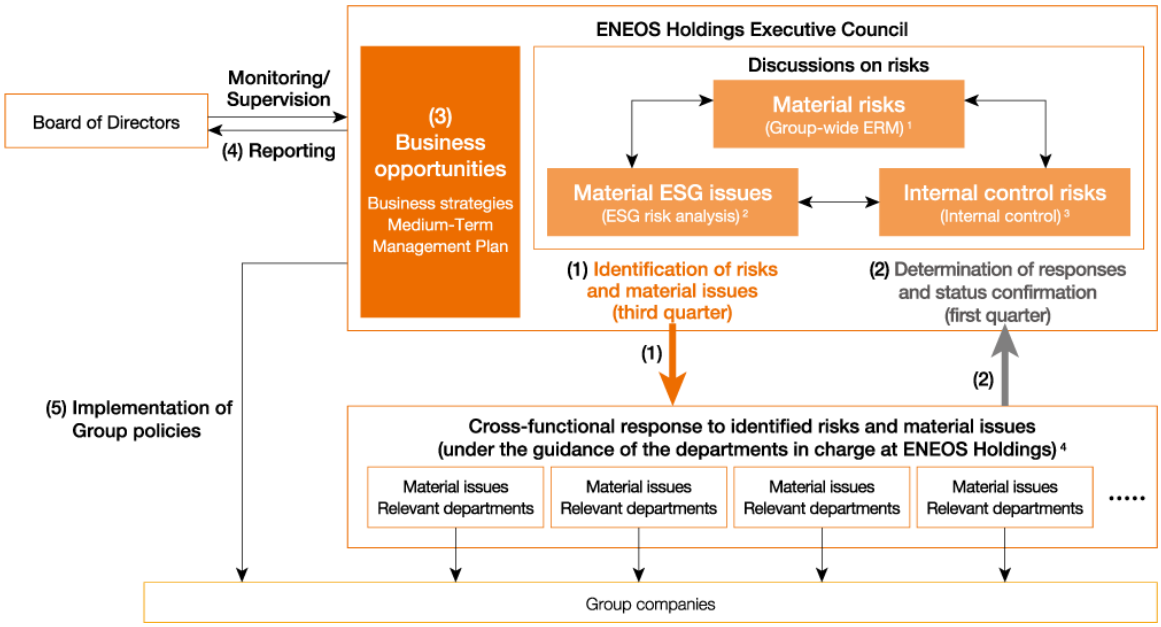
ESG Management Structure

Pursuant to its Basic Policy for ESG Management, the ENEOS Group has established a structure in which the ENEOS Holdings Executive Council, chaired by the president of ENEOS Holdings, analyzes management risks and business opportunities and confirms the status of responses to identified risks and material ESG issues.

Process for Identifying Risks and Material Issues and Confirming Response Status

1. Comprehensive discussions (held annually in the third quarter) (see (1) in diagram below)
   The Executive Council comprehensively discusses the following matters to ensure effective discussion and quick decision-making.
   - Material risks identified through the enterprise risk management (ERM) system
   - Material ESG issues identified through ESG risk analysis
   - Internal control risks identified through the internal control system
2. Determination of responses and status confirmation (annually in the first quarter) (see (2) in diagram below)
   Under the guidance of the departments in charge at ENEOS Holdings, the relevant departments and principal operating companies work together in a cross-functional manner to develop and implement responses for the identified risks and material issues.
   The Executive Council confirms the status of responses for the previous fiscal year and determines the responses for the current fiscal year.
3. Discussion of business opportunities (as needed) (see (3) in diagram below)
   The Executive Council appropriately incorporates discussions of business opportunities into deliberations on the Medium-Term Management Plan and fiscal year business plans as well as the budgets based on these plans.
4. Reporting to the Board of Directors (as needed) (see (4) in diagram below)
   The Board of Directors passes resolutions on management, medium-term management plans and budgets, and also performs monitoring and supervision by receiving reports (once a year, in principle) on risks and material issues determined by the Executive Council and on the status of responses.
5. Sharing with Group companies (as needed) (see (5) in diagram below)
   We share and communicate the identified risks and material issues with all Group companies, and each Group company reflects them in their business strategies.

ENEOS Group ESG Management Structure



1 For details, see Enterprise Risk Management (ERM).

2 For details, see Verifying and Identifying Material ESG Issues.

3 For details, see Internal Control.

4 Example: Internal Control Department and Legal & Corporate Affairs Department work together to build and operate a comprehensive internal control structure

Verifying and Identifying Material ESG Issues

The ENEOS Group identifies material ESG issues every year based on various guidelines as well as the assessment items and weightings of ESG assessment organizations.
Following the identification procedures, 15 material ESG issues were identified for fiscal 2021. In addition, departments responsible and KPIs are set for each material ESG issue, and the progress of KPIs and the results of measures for material ESG issues are reported to the Executive Council and the Board of Directors.

Identification Procedure for Material ESG Issues

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

Material ESG Issues Identified for Fiscal 2021

In descending order of assessment score

Category	Material ESG issues
Environmental	Contribution to the development of a low-carbon society
Social	Ensuring safety / Health enhancement
Governance	Appropriate structuring and operation of corporate governance
Governance	Compliance
Social	Communication with stakeholders (investors, etc.)
Social	Compliance with international principles on human rights
Social	Securing and developing human resources
Social	Diversity and inclusion
Social	Work-life management
Environmental	Contribution to the development of a recycling-oriented society
Environmental	Understanding and management of biodiversity risks
Governance	Social responsibility in the supply chain
Environmental	Understanding and management of water risks
Environmental	Control of air pollutant emissions
Governance	Effective risk management

Status of Responses to Material ESG Issues

Thirteen specific targets (KPIs) for nine material ESG issues were established for fiscal 2020. Eight of the targets were achieved and five were not.
We have identified 15 material ESG issues and established 25 targets (KPIs) for fiscal 2021.
Initiatives in this report related to targets (KPIs) for material ESG issues are denoted with a heart (♥) icon.

Fiscal 2020 Response Status

Evaluation: Achieved/Steady progress Not achieved

Category	Material ESG issues	Initiative	Target (KPI)	Achievement (fiscal year)	Results/Progress	Applicable companies
Environmental	Development of a low-carbon society	Reduction in CO_2 emissions (Reduction amount through own efforts)	Reduction in CO_2 emissions: Reduce by 3.63 million tons compared to fiscal 2009	2020	Reduced by 3.14 million tons compared to fiscal 2009	ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO Corporation, and their principal group companies (Total of 43 companies)
	Development of a recycling-oriented society	Reduction in landfill disposal	Waste-to-landfill ratio: Maintain zero emissions (less than 1%)	2020	0.69%	ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO Corporation, and their principal group companies (Total of 42 companies)
Social	Ensuring safety	Reduction in occupational injuries	Zero serious occupational injuries (occupational fatalities)	2020	Two serious occupational injuries	ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO Corporation, and their principal group companies (Total of 42 companies)
			Achieve TRIR* of 1.0 or less * Number of occupational injuries of non-lost-time severity or greater per one million working hours	2020	1.50	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 4 companies)

Social	Health enhancement	Ensure health of employees	Achieve cancer screening rate of 70% or higher	2020	63%	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 4 companies)
	Respect for human rights	Human rights awareness	100% participation rate in human rights training	2020	100%	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 4 companies)
	Human resource development	Development of human resources responsible for enhancing corporate value	Implementation of effective training based on human resource development plan	2020	Completed	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 4 companies)
	Promotion of diversity and inclusion	Advancement of women in the workplace	Women comprise at least 25% of newly hired university graduates	2020	32.8%	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 4 companies)
		Advancement of employees with disabilities	Maintain employment rate of people with disabilities at 2.2% or higher	2020	2.5%	
	Promotion of work-life management	Promotion of workstyle reforms	Maintain annual paid leave days taken at 80% or higher	2020	87.4%	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 4 companies)
		Utilization of work-life balance support systems/ programs	Maintain 100% rate of return to work after childcare leave	2020	99.2%	
Governance	Compliance	Legal compliance inspections	Conduct legal compliance inspections	2020	Completed	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO Corporation, and their principal group companies (Total of 57 companies)
		Compliance with important laws and regulations	Implement training on important laws and regulations	2020	Completed	

Fiscal 2021 Material ESG Issues and Targets (KPIs)

Category	Material ESG Issues	Initiative	Target (KPI)	Achievement (fiscal year)	Applicable companies
Environmental	Contribution to the development of a low-carbon society	Reduction in CO_2 emissions (Reduction amount through own efforts)	Reduction in CO_2 emissions: Reduce by 4.02 million tons compared to fiscal 2009	2021	ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO Corporation, and their principal group companies (Total of 44 companies including overseas companies)
	Contribution to the development of a recycling-oriented society	Reduction in landfill disposal	Waste-to-landfill ratio: Maintain zero emissions (less than 1%)	2021	ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO Corporation, and their principal group companies (Total of 43 companies including overseas companies)
	Understanding and management of biodiversity risks	Identification of biodiversity risks and examination of responses	Understand risks at manufacturing sites and examine responses	2021	ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 3 companies)
	Understanding and management of water risks	Ensuring prevention of water pollution	Serious environmental incidents: zero Serious legal compliance incidents: zero	2021	ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 3 companies)
		Identification of water risks and examination of responses	Understand risks at manufacturing sites and examine responses		
	Control of air pollutant emissions	Ensuring prevention of air pollution	Serious environmental incidents: zero Serious legal compliance incidents: zero	2021	ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 3 companies)
Social	Ensuring safety/ Health enhancement	Reduction in occupational injuries	Zero serious occupational injuries (occupational fatalities)	2021	ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, and their principal group companies (Total of 44 companies including overseas companies)
			Achieve TRIR* of 1.0 or less * Number of occupational injuries of non-lost-time severity or greater per one million working hours	2021	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 4 companies)

Social	Ensuring safety/ Health enhancement	Ensuring health of employees	Increase the cancer screening rate (recommenda-tions) Achieve screening rate of 70% or higher for stomach cancer, colorectal cancer, breast cancer, and cervical cancer	2021	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 4 companies)
	Communication with stakeholders (investors, etc.)	Engagement with external parties	Effective engagement with investors and others	2021	ENEOS Holdings
	Compliance with international principles on human rights	Human rights due diligence	Implement human rights due diligence, including for subsidiaries	2021	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, and their principal group companies (Total of 32 companies)
		Human rights awareness	Implement human rights training	2021	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 4 companies)
	Securing and developing human resources	Development of human resources capable of enhancing corporate value	Implement effective training and evaluation based on human resource development plan	2021	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 4 companies)
	Diversity and inclusion	Advancement of women in the workplace	Maintain rate of women among newly hired university graduates at 25% or higher	2021	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 4 companies)
		Advancement of employees with disabilities	Maintain employment rate of people with disabilities at 2.3% or higher		
	Work-life management	Workstyle reforms	Maintain annual paid leave days taken at 80% or higher	2021	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 4 companies)
		Utilization of work-life balance support systems/ programs	Maintain 100% rate of return to work after childcare leave		

Governance	Appropriate structuring and operation of corporate governance	Evaluation of the effectiveness of the Board of Directors	Implement evaluations of the effectiveness of the Board of Directors	2021	ENEOS Holdings
		Improvement of corporate governance	Improve corporate governance based on the corporate governance code and analysis of the results of exercising voting rights at general meetings of shareholders		
	Compliance	Legal compliance inspections	Conduct legal compliance inspections	2021	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO Corporation, and their principal group companies (Total of 48 companies including overseas subsidiaries)
		Compliance with important laws and regulations (Anti-Monopoly Act, etc.)	Implement training on important laws and regulations (Anti-Monopoly Act, etc.)	2021	
		Operation of the internal reporting system	Appropriate operation of the internal reporting system	2021	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO Corporation, and their principal group companies (Total of 120 companies including overseas subsidiaries)
	Social responsibility in the supply chain	Implementation of CSR procurement surveys	Implement CSR procurement surveys at overseas sites in addition to domestic sites, where surveys have already been conducted	2021	Principal overseas group companies of ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 10 companies)
		Communication of the Group's policies to business partners	Communicate the Group's procurement policies and procurement guidelines for business partners	2021	ENEOS Group (including overseas companies but excluding listed companies)
	Effective risk management	Implementation of Group-wide risk management	Steady execution of the risk management process	2021	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 4 companies)

Major Initiatives

Discussions by the Board of Directors

In fiscal 2020 and fiscal 2021, the following ESG-related matters were reported to the Board of Directors.

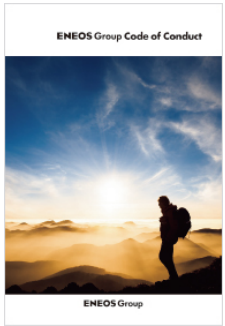
FY2020	FY2021 1H
1. Fiscal 2019 performance results and fiscal 2020 action plans 2. Responses to specific issues • TCFD recommendations • Business and human rights • CSR procurement	1. Transition to an ESG management structure 2. Fiscal 2020 performance results and fiscal 2021 action plans 3. Responses to specific issues • TCFD recommendations • Business and human rights

Measures to Raise Awareness of the Group Philosophy and Code of Conduct

The ENEOS Group believes that understanding and implementation of the ENEOS Group Philosophy and the ENEOS Group Code of Conduct by all officers and employees plays an important role in the fulfillment of our social responsibilities. Therefore, we have implemented various measures to enable all officers and employees to reference the Group Philosophy and the Code of Conduct at any time in order to maintain their awareness.

Measures to Raise Awareness of the Group Philosophy and Code of Conduct

Purpose	Measures
Ensure awareness	Distribution of Group Philosophy cards and Code of Conduct handbooks
	Posters
	Digital signage in company workplaces
	Translation of Group Philosophy into 10 languages (English, Chinese [Simplified/ Traditional], Korean, Spanish, Portuguese, German, Vietnamese, Thai, Indonesian) and distribution
Promote understanding	Dissemination of information through the Group employee magazine and intranet
	Training on Group Philosophy and Code of Conduct for newly hired employees
Monitoring	Confirmation using awareness surveys targeting all officers and employees



Code of Conduct handbook

Group Philosophy card

Stakeholder Engagement

The ENEOS Group conducts its business activities through its relationships with stakeholders, including shareholders, investors, customers, business partners and employees. We actively engage in dialogue with stakeholders and work to ensure that our business activities meet their expectations and requirements.

Stakeholders	Activities	Main means of communication	Main contacts
Shareholders and Investors	ENEOS Holdings is committed to the prompt, proper, and fair disclosure of information to shareholders and investors in accordance with its Disclosure Policy.	● General meetings of shareholders, briefings on financial results, briefings for individual investors, and ESG briefings ● Disclosure of information through the Integrated Report, the ESG Data Book, shareholder reports, and our websites	● Contact on the ENEOS Holdings website https://ssl.eneos.co.jp/hd/inquiry_en/input/ ● Contacts in the ENEOS Holdings investor relations division (phone, email, meetings, etc.)
Customers	The ENEOS Group is committed to developing and delivering products and services that fulfill customer needs and expectations and earn customer trust and satisfaction.	● Communications through marketing activities ● Provision of safe, reliable, and valuable products and services ● Disclosure of information on websites ● Inquiry channels through phone and websites	● Contact on the ENEOS Holdings website https://ssl.eneos.co.jp/hd/inquiry_en/input/ ● Contacts in Group company sales divisions (phone, email, meetings, etc.) ● ENEOS Customer Service Center (toll-free)
Business Partners	The ENEOS Group makes purchasing information available to business partners on its websites, actively provides business opportunities, and strives to ensure fair business opportunities.	● Communications through procurement activities ● Use of websites ● CSR procurement surveys	● Contact on the ENEOS Holdings website https://ssl.eneos.co.jp/hd/inquiry_en/input/ ● Contacts in Group company procurement divisions (phone, email, meetings, etc.)
NPOs/NGOs	The ENEOS Group has built cooperative relationships with NPOs and NGOs and actively undertakes environmental preservation and social contribution activities.	● Collaboration on biodiversity preservation activities ● Collaboration on child-rearing support activities ● Verification from third-party perspective in human rights due diligence	● Contact on the ENEOS Holdings website https://ssl.eneos.co.jp/hd/inquiry_en/input/
Local Communities/ Global Society	The ENEOS Group strives to engage in responsible corporate activities by responding to the needs and expectations of and engaging in active communication with the local communities in the areas where it conducts its business operations, as well as international society.	● Information sessions for members of local communities, participation in and sponsorship of events ● Volunteer activities ● Establishment of support systems for oil-, gas-, and copper-producing countries ● Involvement in international initiatives	● Contact on the ENEOS Holdings website https://ssl.eneos.co.jp/hd/inquiry_en/input/ ● Contacts in business offices in areas where we conduct business operations (phone, email, meetings, etc.)
Employees	The ENEOS Group considers employees to be critical stakeholders in its operations and has established various systems to ensure that each employee can work with peace of mind and to his or her full potential.	● Periodic dialogue between labor unions and management ● Dissemination of information through the Group employee magazine and the company intranet ● Periodic implementation of awareness surveys ● Implementation of classification-leveled training ● Solicitation of opinions, recommendations and requests for the company (annually) ● Surveys on various measures (as needed)	● Internal reporting system (hotline) Note: May also be used by employees of contractors ● Periodic interviews with supervisors ● Through labor unions

Engagement with Stakeholders

The Group solicits the views of outside experts and stakeholders regarding specific ESG-related themes and responds accordingly. To date, the Group has carried out engagement with outside experts and stakeholders as indicated in the table below.
Separate from this engagement, we held an ESG briefing for investors in December 2020, and we also conduct engagement with Climate Action 100+, a climate change action initiative of institutional investors.
We will continue our engagement with outside experts and stakeholders in our contribution to the resolution of social issues.

Fiscal year	Event	Speaker	Theme	For
FY2019	Reporting session on human rights due diligence	Ms. Ito and Ms. Sato of NGO Human Rights Now	Business and human rights	Related departments
FY2020	ENEOS Environment and Safety Forum	Mr. Terasaki, Senior Researcher of MS&AD InterRisk Research & Consulting, Inc.	Risk management in the era of climate change	Officers and employees
FY2021	Reporting session on human rights due diligence	Ms. Ito and Ms. Sato of NGO Human Rights Now	Business and human rights	Related departments

Principal Declarations and Initiatives the ENEOS Group Participates in and Supports

UN Global Compact (UNGC)

Four Group companies (ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, and JX Nippon Mining & Metals) participate in the UN Global Compact, supporting the compact's 10 principles in the four categories of human rights, labor standards, the environment, and anti-corruption.

The Ten Principles of the UN Global Compact

Human Rights	Businesses should support and respect the protection of internationally proclaimed human rights; and	Principle 1
	make sure that they are not complicit in human rights abuses.	Principle 2
Labour	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	Principle 3
	the elimination of all forms of forced and compulsory labour;	Principle 4
	the effective abolition of child labour; and	Principle 5
	the elimination of discrimination in respect of employment and occupation.	Principle 6

Environment	Businesses should support a precautionary approach to environmental challenges;	Principle 7
	undertake initiatives to promote greater environmental responsibility; and	Principle 8
	encourage the development and diffusion of environmentally friendly technologies.	Principle 9
Anti-Corruption	Businesses should work against corruption in all its forms, including extortion and bribery.	Principle 10

Task Force on Climate-related Financial Disclosures (TCFD)

In May 2019, we signed the TCFD recommendations, and we disclose information on climate change in accordance with the TCFD recommendations to the greatest extent possible.

Initiatives and Organizations We Participate In

- Challenge Zero
- World Business Council For Sustainable Development (WBCSD)
- IPIECA—a global oil and gas industry association for advancing environmental and social performance
- CDP
- International Council on Mining & Metals (ICMM)
- Extractive Industries Transparency Initiative (EITI)
- Council for Better Corporate Citizenship (CBCC)
- Japan Business Initiative for Biodiversity (JBIB)
- Business for Nature Call to Action
- Alliance to End Plastic Waste (AEPW)

Communication with Industry Organizations

	Organization name	Position held by Group Executive, etc.
ENEOS Holdings	Japan Business Federation (Keidanren)	Vice Chair, Chair of Committee on Environment and Safety
ENEOS	Petroleum Association of Japan	President, Managing Director
	Japan Petrochemical Industry Association	Director
	Japan Chemical Industry Association	Policy Coordinating Committee member, Labor Committee member, Technical Affairs Committee member
JX Nippon Oil & Gas Exploration	Japan Petroleum Development Association	Vice Chairman
	Japan Natural Gas Association	Director
JX Nippon Mining & Metals	Japan Mining Industry Association (JMIA)	Director
	The Sulphuric Acid Association of Japan	Senior Managing Director
	Japan Copper and Brass Association (JCBA)	Director
	Japan Society of Newer Metals	Director
	Japan Catalyst Recovering Association	Chairman

Selection for Inclusion in ESG-Related Investment Indexes

(As of September 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* 2021

* An initiative of Japan's Ministry of Economy, Trade and Industry (METI) and the Tokyo Stock Exchange (TSE) for introducing TSE-listed enterprises that are outstanding in terms of encouraging the empowerment of women in the workplace as attractive stocks to investors

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Environmental

Corporate activities are contingent upon a healthy global environment. Recognizing that preservation of the global environment is an important issue shared by all humankind, the ENEOS Group has included environmental conservation as a standard in its Group Code of Conduct and as part of its efforts to contribute to the development of a sustainable society through its business activities.
For environmental data, please refer to the Data page.

Environmental Management
Basic approach, structure and other information

Prevention of Global Warming
Basic approach and initiatives

The 3Rs (Reduce, Reuse, Recycle)
Basic approach and initiatives

Management of Chemical Substances
Basic approach and initiatives

Prevention of Environmental Pollution
Basic approach and initiatives

Biodiversity
Basic approach and initiatives

Our Response to Climate Change Risks and Opportunities (TCFD)

Environmental

Environmental Management

Basic Approach

As part of its responsibilities as a corporate group involved in the supply of energy and materials, the ENEOS Group maintains a proper understanding of the impact of its business activities on climate change risks and natural capital. Environmental conservation has been included as a standard in the ENEOS Group Code of Conduct, and the Group has also established an Environmental Vision for fiscal 2040 and a Medium-Term Environmental Management Plan, and is implementing initiatives for the development of a sustainable society.
In May 2019, ENEOS Holdings signed a statement of support for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), and we are working to enhance and expand our disclosures concerning climate change. For details, see Our Response to Climate Change Risks and Opportunities (TCFD).

ENEOS Group Code of Conduct (excerpt)

3. Environmental conservation
   (1) We recognize that we are stewards of the environment and its limited resources. We strive to conserve biodiversity and natural capital, including, but not limited to, water, soil, and the atmosphere, and contribute to the development of a sustainable society.
   (2) We strive to promote renewable energy and energy conservation in order to contribute to the development of a low-carbon society.
   (3) We strive to contribute to the establishment of a circular economy by reducing, reusing and recycling, while using resources effectively and efficiently.
   (4) We strive to take actions to promote sustainable production and consumption for the benefit of society while taking the same actions throughout our value chain, including, but not limited to, resource development, procurement, production, distribution and sales.

Structure

In order to facilitate environmental management based on the Group Code of Conduct, the Group has established an environmental management system (EMS) headed by the president of ENEOS Holdings as Group chief executive. Under this system, we regularly confirm the status of achievement of environmental targets and compliance with environmental laws and regulations, and report the status to the ENEOS Holdings Executive Council and the Board of Directors, ensuring that environmental management performance is monitored and supervised by both organizations.
In addition, 54 of the 70 business sites that have adopted the EMS have obtained ISO 14001 certification, a set of international standards for environmental management, for a certification rate of 77%.
We have established the ENEOS Group Safety, Health & Environment Council, chaired by the officer responsible for the Safety, Health & Environment Department at ENEOS Holdings. The council meets, in principle, twice annually, where it deliberates on environmental targets, plans and performance of ENEOS Holdings and the Group's principal operating companies and shares information on the status of activities in an effort to improve Group-wide environmental issues.

ENEOS Group Environmental Management System (EMS)

Plan and Targets

The Group has established a goal to achieve carbon neutrality in terms of its own CO_2 emissions by fiscal 2040, and has developed long-term environmental targets to fiscal 2030 and the second Medium-Term Environmental Management Plan (fiscal 2020 to fiscal 2022) as milestones toward this goal.
The second Medium-Term Environmental Management Plan focuses on three themes: "I. Contribution to a low-carbon society," "II. Contribution to a recycling-oriented society" and "III. Contribution to environmental protection." The plan sets out detailed initiatives for each of these themes.

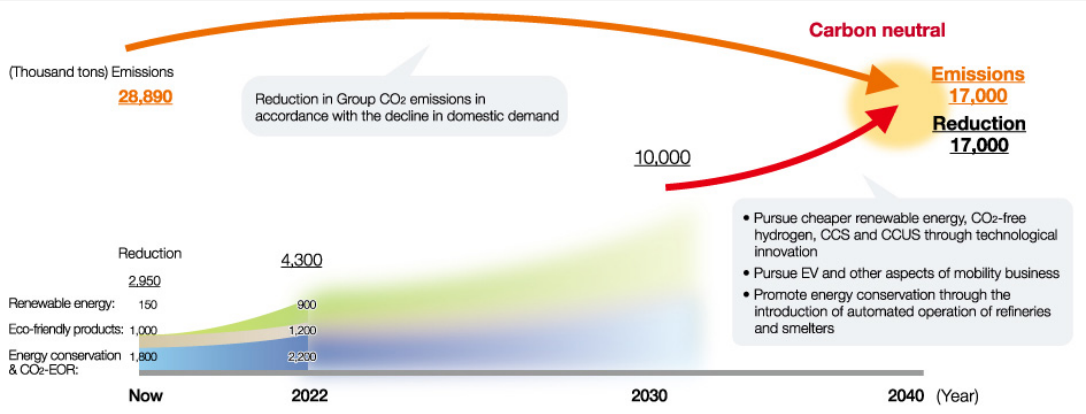
Environmental Vision (Fiscal 2040): Pursuit of Carbon Neutrality

Basic Approach

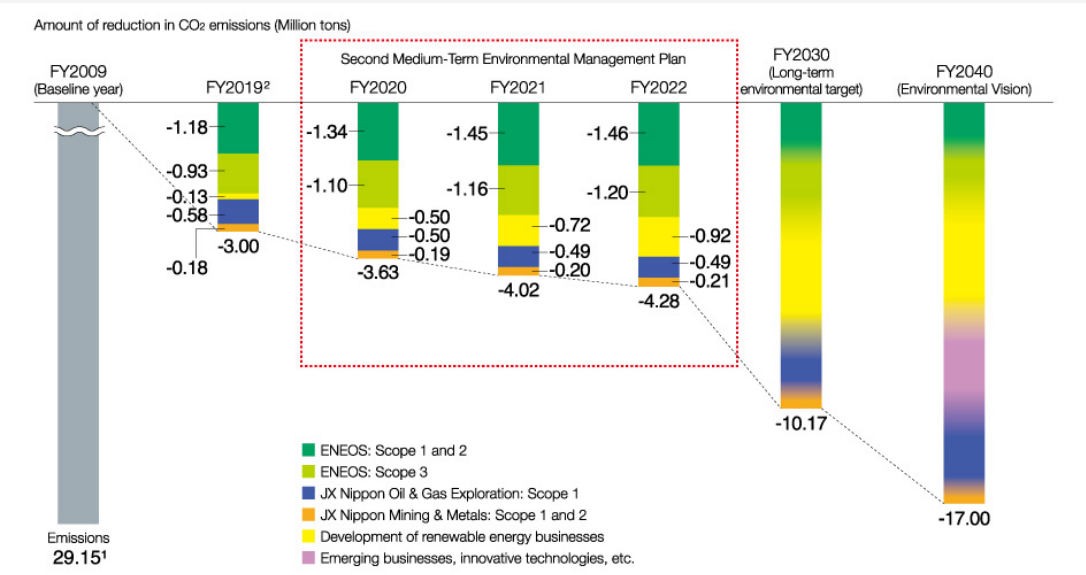
As an energy and materials company group, the ENEOS Group recognizes that climate change issues involve material business risks and opportunities. We believe that our response to these issues and the recognition of the value of our existence through solutions to these issues will enable us to continuously generate profits into the future. To clarify this direction, we stated our intent to pursue carbon neutrality in terms of our own emissions in our Long-Term Vision to 2040.

Environmental Vision (Fiscal 2040)

The ENEOS Group aims to be carbon neutral in its own CO_2 emissions in fiscal 2040. We will achieve this by strengthening and expanding businesses that impose a low environmental burden.



Reduction in CO_2 Emissions by Fiscal 2040



1 Scope 1 and 2 emissions

2 Results for fiscal 2019 differ from results for fiscal 2019 in the first Medium-Term Environmental Management Plan due to partial changes in the scope of calculation used for CO_2 reduction in the second Medium-Term Environmental Management Plan compared to the first Medium-Term Environmental Management Plan.

Second Medium-Term Environmental Management Plan and Long-Term Environmental Targets

Long-Term Environmental Targets (Fiscal 2030)

We aim to reduce CO_2 emissions by 10.17 million tons in fiscal 2030, compared to fiscal 2009, by pursuing energy conservation measures in business activities and pursuing sales and development of environmentally friendly products *, including renewable energy, while also pursuing environmentally conscious businesses and contributing to the development of a low-carbon, recycling-oriented society.

* Available in Japanese only

Medium-Term Environmental Targets (Fiscal 2020 to Fiscal 2022)

Key themes	Basic initiatives	Concrete measures aimed at fiscal 2022
Contribution to a low-carbon society Total CO_2 reduction target of 4.28 million tons in fiscal 2022	● Pursuit of energy conservation measures in business activities ● CO_2 recovery in business activities (Scope 1 and Scope 2)	● Reduce CO_2 emissions by 2.16 million tons compared to fiscal 2009 by pursuing energy conservation ● CCS/CCUS initiatives
	● Reduction of CO_2 emissions in the supply chain (Scope 3)	● Reduce CO_2 emissions of customers by 1.2 million tons compared to fiscal 2009 by promoting sale and development of environmentally friendly products *
	● Develop businesses in hydrogen and renewable energy	● Develop hydrogen station business ● Develop renewable energy business; total reduction of 920,000 tons from biomass, solar power, wind power and other forms of renewable energy
Contribution to a recycling-oriented society	● Pursuit of the "3Rs" (reduce, reuse, recycle)	● Maintain zero emissions (waste-to-landfill ratio of less than 1%) ● Develop recycling business (plastic waste, rare metals, etc.)
Contribution to environmental protection	● Initiatives for reducing the environmental burden	● Control emissions of hazardous substances ● Reduce hazards by enacting voluntary standards on management of chemical substances ● Soil pollution surveys and countermeasures ● Protect the environment through high-efficiency lighting ● Effective use of water resources
	● Biodiversity initiatives	● Effective measures to preserve biodiversity in manufacturing sites ● Forest conservation activities in Japan and overseas
	● Group initiatives	● Strengthen the environmental management structure ● Carry out environmental education for Group employees

* Available in Japanese only

Major Initiatives

Environmental Education

With the aim of raising environmental awareness even further, the Group distributes environmental newsletters, holds e-learning sessions and provides regular classification-leveled education, training and drills for all employees to instill awareness of the Group's basic environmental policies, environmental business plans, and various laws and regulations, and also to ensure basic knowledge of the environment.

Environmental Audits

All business sites that have obtained ISO 14001 certification are subject to regular internal audits based on the requirements of the standard in order to confirm and evaluate the effectiveness and conformance of their EMS activities. They also undergo an annual review by a third-party certification body to maintain their certification.

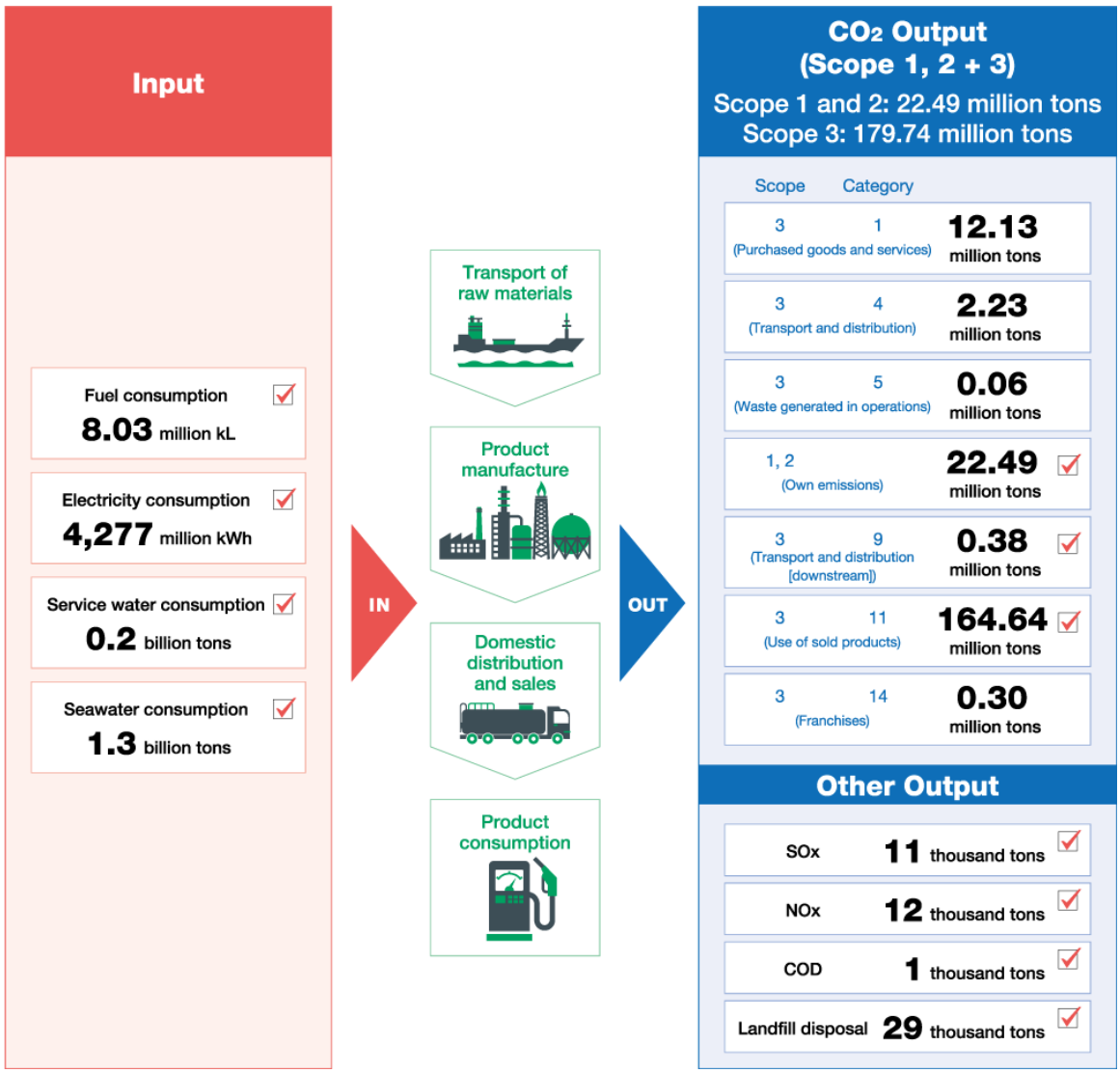
Environmental Accidents

As in fiscal 2019, there were no environmental accidents in fiscal 2020. Going forward, we will continue our accident prevention efforts.

Overview of the ENEOS Group's Environmental Impact

For information about ☑, see the Editorial Policy.

Input-Output of the ENEOS Group (Results from Fiscal 2020)



Notes:

CO_2 emissions calculated based on the Act on Promotion of Global Warming Countermeasures. CO_2 emissions from the consumption of electricity calculated using *Emission Factors by Business Operator*.

Contains data for items with CO_2 emissions of 1% or above for the applicable category (categories with less than 1% are Category 6: Business Travel, and Category 7: Employee Commuting).

CO_2 emissions attributable to use of sold products calculated using the latest oil product sales volumes (for ENEOS Corporation) based on the Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain.

Scope 3 emissions are for ENEOS Corporation.

Environmental

Prevention of Global Warming

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Basic Approach

The ENEOS Group is working to reduce CO_2 emissions across the entire supply chain in order to contribute to the development of a low-carbon society. To achieve this, we are reducing CO_2 emissions by promoting energy conservation during the production stage (business activities), as well as developing and selling environmentally friendly products that have a lower environmental impact, while also expanding our renewable energy business. For information on our structure, see Environmental Management.

Response to Climate Change

Based on the results of environmental impact assessments conducted under the environmental management system at our refineries and other business sites, we carry out emergency training drills for flooding and tidal surges and implement initiatives to prevent heat stroke.
For a description of our company-wide initiatives on climate change and information on TCFD, see Our Response to Climate Change Risks and Opportunities (TCFD).

Plan and Targets

Initiatives under the Second Medium-Term Environmental Management Plan (Fiscal 2020 to Fiscal 2022)

Target

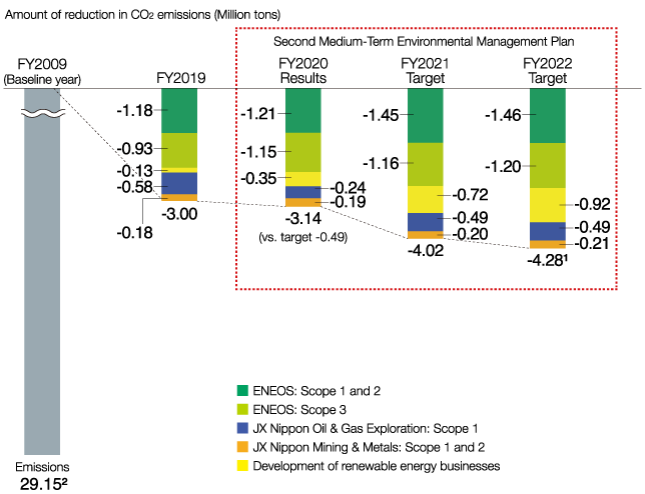
Reduction in CO_2 emissions along the entire supply chain ♥
Medium-term target (FY2020): Reduction of 3.63 million tons (compared to FY2009)

Fiscal 2020 Results

Results of reduction in CO_2 emissions (compared to FY2009) ♥	
(1) Reduction in CO_2 emissions at Group production sites	**1.64 million tons**
Energy conservation	1.52 million tons
CO_2-EOR*	0.12 million tons
(2) Reduction in CO_2 emissions other than at Group production sites	**1.5 million tons**

* CO_2-EOR (enhanced oil recovery) is a technology for the improved recovery of oil through the injection of CO_2. This technology simultaneously increases production of crude oil and reduces emissions of CO_2 into the atmosphere by transporting the CO_2, captured out of the processed flue gas from a coal-fired power plant, to an oil field, and injecting and storing the CO_2 into legacy fields.

Reduction in CO_2 Emissions



1 The reduction target for fiscal 2022 represents a reduction of approximately 15% compared to 2009. Our CO_2 reduction targets do not include elements resulting from decreased demand.

2 Scope 1 and 2 emissions

Initiatives at Production Sites*

Energy Conservation

The ENEOS Group's refineries and plants are pursuing energy conservation through measures such as increasing the number and efficiency of heat exchangers and introducing higher efficiency rotary equipment.
The Group's CO_2 emissions (Scope 1 and 2) in fiscal 2020 totaled 22.49 million tons, substantially lower than the previous fiscal year, due to factors such as the drop in demand caused by the COVID-19 pandemic.
Our crude oil refining energy consumption intensity worsened by 0.93 points from the previous fiscal year to 9.38 due to a lower operation rate.
The energy consumption intensity of our smelting and refining facilities was 14.2 GJ/t, and the intensity of CO_2 emissions was 0.80 t-CO_2/t.
In fiscal 2020, the Group invested around 1.1 billion yen in facilities for energy conservation. Going forward, we remain committed to pursuing greater energy conservation by introducing energy-saving technologies and optimizing operations at our refineries and smelters.

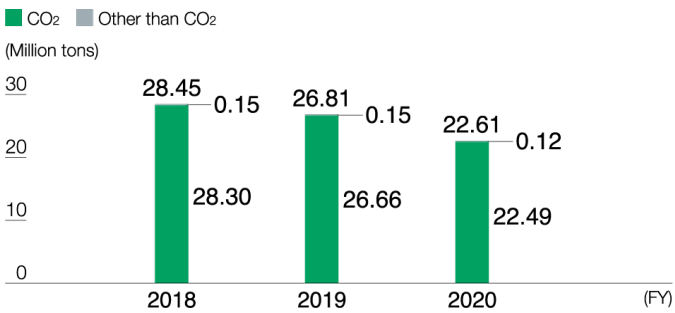
* Scope 1 and Scope 2 as defined in the GHG Protocol

Complete Switch to Electricity Derived from Renewable Sources at the Caserones Copper Mine

JX Nippon Mining & Metals concluded a contract with Enel Generación Chile S.A., a Chilean electricity company, for the supply of energy derived from renewable sources (hydropower, wind, solar, etc.) to the Caserones Copper Mine. Supply commenced in January 2021. As a result of this contract, all electricity used at the Caserones Copper Mine is derived from renewable sources, and CO_2 emissions related to electricity usage have been reduced to zero. The JX Nippon Mining & Metals Group is working to steadily introduce CO_2-free electricity at its other principal business locations inside and outside of Japan.

For information about ☑, see the Editorial Policy.

Changes in Total GHG Emissions (Scope 1 and 2) ☑

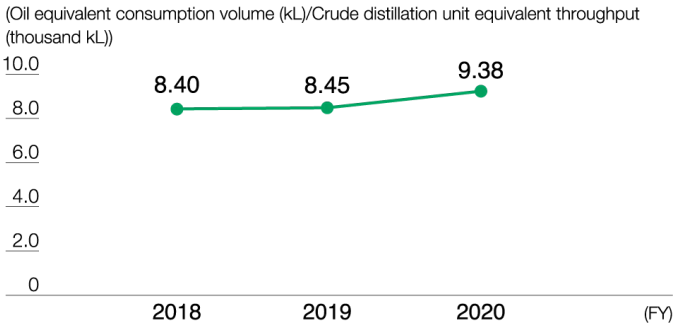


Notes:

Calculated in accordance with the Act on Promotion of Global Warming Countermeasures.

For detailed data, see Data.

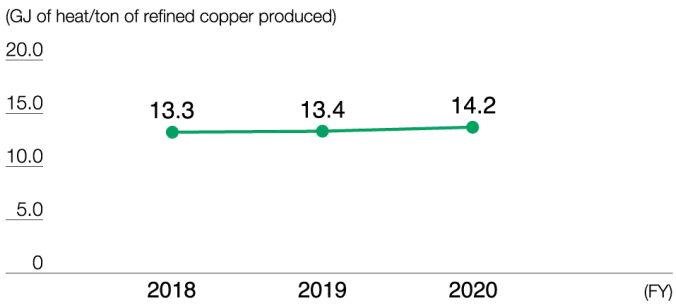
Energy Consumption Intensity for Oil Refining ☑



Note:

Covers the refining sites of the ENEOS Group.

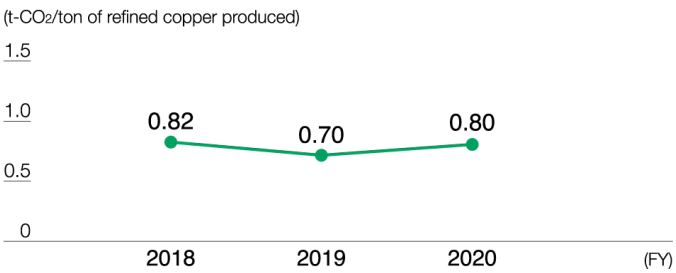
Energy Consumption Intensity for Smelting and Refining ☑



Note:

Covers the smelting and refining sites of the JX Nippon Mining & Metals Group.

CO_2 Emissions Intensity for Smelting and Refining ☑



Note:

Covers the smelting and refining sites of the JX Nippon Mining & Metals Group.

Breakdown of GHG Emissions Other Than CO_2 (Fiscal 2020)

Total GHG emissions other than CO_2	Tons	121,880
1. CH_4 (methane)	Tons	42,814
2. N_2O (nitrous oxide)	Tons	77,748
3. HFCs (hydrofluorocarbons)	Tons	1,123
4. PFCs (perfluorinated compounds)	Tons	0
5. SF_6 (sulfur hexafluoride)	Tons	195
6. NF_3 (nitrogen trifluoride)	Tons	0

The main greenhouse gases other than CO_2 are CH_4, produced during crude oil extraction, and N_2O, which is emitted from heating furnaces during the oil refining process.
We will continue working to lower these and other GHG emissions.

Initiatives for Operations Outside of Production Sites*

The Group's CO_2 emissions from the use of sold products in fiscal 2020 totaled 164.64 million tons.
In fiscal 2021, we are working to achieve the target of reducing the Group's CO_2 emissions by 1.16 million tons compared to fiscal 2009.
The ENEOS Group is working to reduce CO_2 emissions outside of its production sites by selling environmentally friendly products.

* Scope 3 as defined in the GHG Protocol

R&D

The Group is moving forward with research in the following fields in order to address climate change issues.
In fiscal 2020, the ENEOS Group spent a total of around 21.6 billion yen on research and development.

- Technical development for the manufacture, storage, transport and supply of hydrogen, which contributes to the effective use of renewable energy
- Technical development for CO_2-free hydrogen derived from renewable energy and synthetic fuels made from CO_2 (CO_2-free fuels)
- Technical development and feasibility assessment for biofuels
- Technical development on recycling of plastic resources
- Rationalization and streamlining of oil refining processes
- Development of environmentally friendly products (fuel-efficient automotive lubricants, etc.)

Initiatives of ENEOS Lab with Waseda University as a Joint Collaboration Base

In November 2019, ENEOS concluded an agreement with Waseda University on comprehensive collaboration activities to promote innovation toward achieving a sustainable society. Accordingly, the ENEOS Lab has been established at Waseda University as a hub for joint research. Under this agreement, we aim to address a number of social issues, including decarbonization, through comprehensive and multi-disciplinary open innovation.
As a specific initiative, the ENEOS Lab is conducting innovative research on CO_2 reduction, including the manufacture of fuels and chemicals from CO_2.
In addition, the lab will focus on speeding up joint research for open innovation and developing human resources.

R&D on Synthetic Fuels Derived from Renewable Energy (CO_2-Free Fuels)

To drastically reduce the emission of CO_2 in the transportation and aircraft sectors, ENEOS is researching technology to produce synthetic fuels that can replace conventional fossil fuels such as gasoline, jet fuels and gas oil.
Synthetic fuels are produced using hydrogen and carbon dioxide as catalysts. Using hydrogen derived from renewable energy means that the resulting synthetic fuels are CO_2-free and do not increase the concentration of CO_2 on the earth when used. In addition, as the composition is similar to that of conventional fuels, these synthetic fuels can be used in existing engines and fuel supply infrastructure without modification.
We are working on the development of high-performance catalysts and high-efficiency manufacturing processes to speed up the commercialization of these fuels.
For the achievement of this technology, we are utilizing the ultra-high-speed AI-driven molecular simulator co-developed with Preferred Networks, Inc. to develop high-performance catalysts.

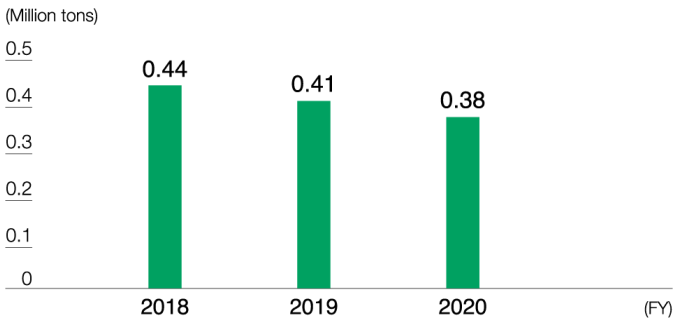
Supporting Research on Hydrogen Energy Supply through the ENEOS Hydrogen Trust Fund

ENEOS established the ENEOS Hydrogen Trust Fund in March 2006 in order to help speed up the realization of a hydrogen society.
The fund is Japan's first public trust specializing in supporting research on the supply of hydrogen energy. The fund is large enough that a stable supply of research grants worth 50 million yen each year (up to 10 million yen per project) can be provided for around 30 years to support innovative and pioneering basic research into hydrogen energy supply systems.

Procurement/Transport

With regard to marine transportation, which primarily involves the transport of crude oil to Japan, ENEOS is making active efforts to use oil tankers with superior delivery efficiency and fuel efficiency, and to improve fuel consumption by optimizing transportation routes and controlling navigation schedules and speeds.
Regarding land transportation, in addition to consolidating oil depots and improving the distribution efficiency of tank trucks, the Group is working to reduce fuel consumption through efforts such as insisting that drivers turn off their engines when stopped.

CO_2 Emissions from Domestic Transport ☑



Note:
Scope: ENEOS

Distribution

ENEOS is actively implementing power-saving measures at its service stations nationwide through efforts such as the installation of solar panels and the adoption of LED lighting.

Consumption

ENEOS is promoting greater energy conservation at the consumption stage through the development and sale of environmentally friendly products, which contribute to a lower environmental impact.
We have also specified standards and procedures for certification of our environmentally friendly products and services and manage these appropriately.

Main environmentally friendly products

- Fuel-efficient lubricants
- Specialized fluids for electric vehicles and hybrid vehicles
- Natural gas and LNG
- Liquid crystal polymers
- Electricity generation using renewable energy

For more information on our environmentally friendly products, see ENEOS' environmentally friendly products (available in Japanese only).

Working with Business Partners (CSR Procurement)

We implement CSR procurement, in which we take into account social impacts, such as effects on the environment, when purchasing materials and other goods and services.
For details, see Supply Chain Management.

Renewable Energy and Hydrogen Business Initiatives

As an initiative for the use and supply of low-carbon energy, the Group operates a renewable energy business, which includes solar power, wind power and hydropower generation, and a hydrogen business.

Generation Capacity by Energy Source (As of June 2021)

Thermal[1] (9 sites)	Oil, etc. (8 sites)	1,042 MW
	LNG (CCGT[2]) (1 site)	421 MW
Solar (21 sites)		48.8 MW
Hydro (1 site)		5 MW
Wind (2 sites)		4 MW
Geothermal (1 site)		0.1 MW
Biomass (1 site)		68 MW
Total		1,588 MW

1 Thermal capacity does not include refinery in-house power generation.

2 Gas-fired thermal power plant with combined cycle gas turbines (CCGT).

Renewable Energy Power Generation (Fiscal 2020)

Solar	55,438 MWh
Hydro	27,067 MWh
Wind	3,932 MWh
Geothermal	583 MWh
Biomass	319,025 MWh
Total	406,045 MWh

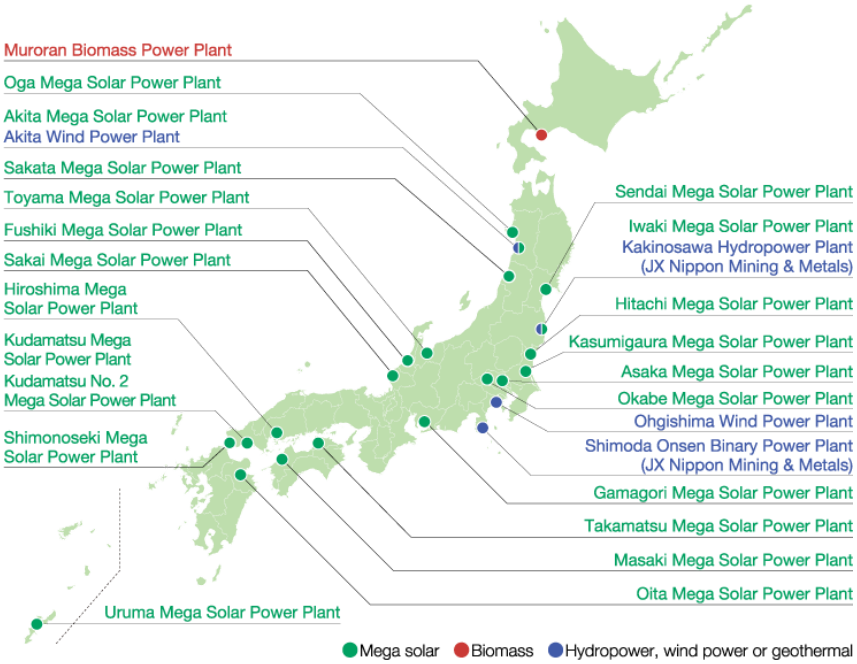
Note:

The GHG emission factor for ENEOS' electric power business in fiscal 2019 was 0.000472 t-CO_2/kWh (after adjustment) as published by the Ministry of the Environment and the Ministry of Economy, Trade and Industry in the Fiscal 2019 Results - R3.1.7, and Partial Additions and Updates - R3.7.19.

Advancement of Renewable Energy Power Generation Business

The ENEOS Group is engaged in the renewable energy power generation business with the goal of expanding the total generation capacity of our renewable energy power generation portfolio in Japan and overseas to more than 1,000 MW by the end of fiscal 2022.
In fiscal 2020, we newly established three mega solar power plants located at Sakata (Yamagata Prefecture), Shimonoseki (Yamaguchi Prefecture), and Fushiki (Toyama Prefecture) and commenced commercial operations at the Muroran Biomass Power Plant. This brought the number of the Group's power plants in Japan to 26 (21 solar power, one hydropower, two wind power, one geothermal, and one biomass).
In fiscal 2021 and beyond, we will contribute to 3E+S (energy security, economical efficiency and environment plus safety) of the future decarbonized society by pursuing involvement in power generation projects inside and outside of Japan, placing importance on profitability.

Renewable Energy Power Plants



Muroran Biomass Power Plant

Shimoda Onsen Binary Power Plant

Kudamatsu Mega Solar Power Plant

Planned Power Generation Projects

	Power generation project	Generation capacity*	Planned start of operation
Japan	Banshu solar power project	77 MW	January 2023
	Sanda solar power project	121 MW	December 2023
	Happo Noshiro offshore wind power project	155 MW (planned)	2024 or later
	Mutsu Ogawara onshore wind power project	65 MW (planned)	2024 or later
	Obanazawa City, Yamagata onshore wind power project	172 MW (planned)	2026 or later
	Goto City offshore wind power project (tentative name)	17 MW (planned)	Undetermined
Overseas	Offshore wind power business in Taiwan	640 MW	2022–2023
	Solar power generation business in Texas, U.S.A.	140 MW	Latter half of 2022
	Solar power business in Queensland, Australia	204 MW	Latter half of fiscal 2022

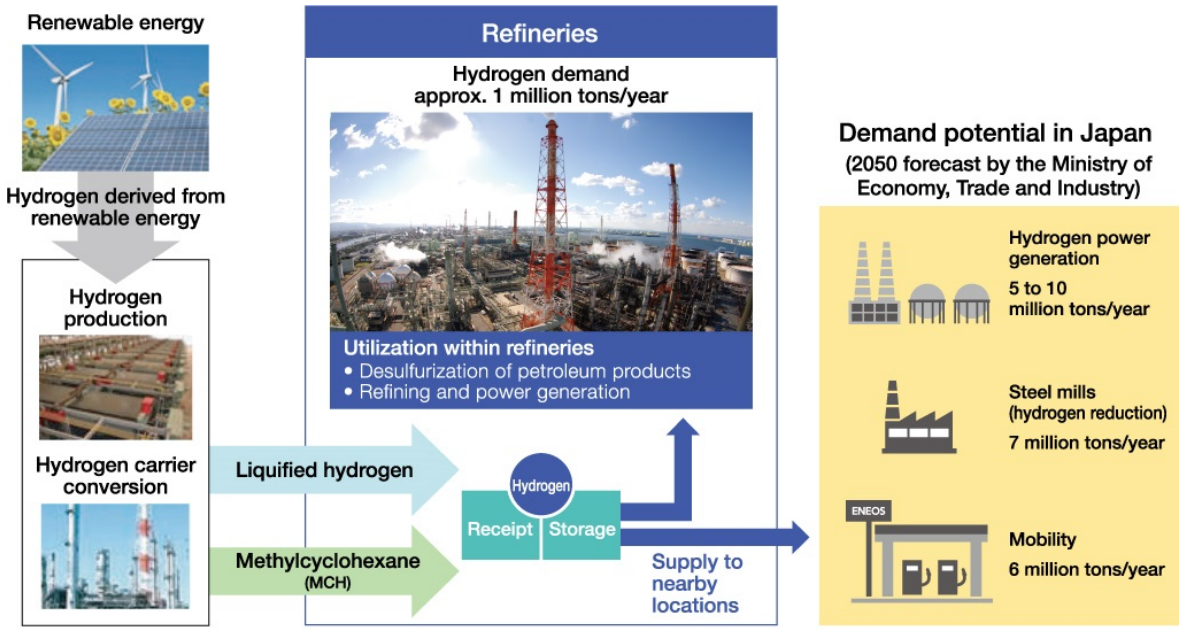
* 100% of generation capacity

Building an Integrated Hydrogen Supply Chain, from Production to Transport and Sales

Hydrogen is a clean energy source that does not emit CO_2 during use. Because it enables the use of renewable energy during the manufacturing process and can be rendered CO_2-free by recovering and storing CO_2 emitted from production using fossil fuels, hydrogen is considered a key form of clean energy for the achievement of carbon neutrality.
As of September 30, 2021, there were around 6,600 fuel cell vehicles (FCVs) in Japan. As a product supply infrastructure, ENEOS has a nationwide network of over 12,000 service stations, the largest in Japan, which is one of our strengths. Our service stations are located in roadside sites that are convenient for FCV users. As of September 30, 2021, there were 155 hydrogen stations in Japan, 47 of which were operated by ENEOS.
Looking ahead, it is important to establish hydrogen stations for commercial vehicles (FC buses and FC trucks), for which growth is anticipated. We are actively working to this end through partnerships with automakers, transportation companies and local governments.
Additionally, we believe that our refineries have strengths that will help us build a hydrogen supply chain. These include the ability to receive large quantities of CO_2-free hydrogen from overseas due to their coastal locations, utilize refining facilities for the storage and dehydrogenization of CO_2-free hydrogen, and lower the carbon footprint of the existing manufacturing processes for petroleum products, as well as serve as a platform for the stable supply of hydrogen to nearby power plants and steel mills via pipelines.
In this manner, ENEOS will continue to utilize its infrastructure and expertise to build a hydrogen supply chain.

Tokyo Oi Hydrogen Station

Building a Supply Chain for CO_2-Free Hydrogen Using Our Refineries as Hubs



Source: "Green Growth Strategy Through Achieving Carbon Neutrality in 2050" published by the Ministry of Economy, Trade and Industry, December 25, 2020.

ENEOS' Initiatives in Japan and Overseas

Initiatives Overseas

Project/Organization	Region	Overview
Development of a Japan-Australia CO_2-free hydrogen supply chain	Australia	ENEOS is studying collaboration on the potential for the low-cost, stable supply of hydrogen produced from renewable energy with three Australian companies, Neoen Australia Pty Ltd, Origin Energy, and Fortescue Future Industries Pty Ltd. The projects will study more efficient production of methylcyclohexane (MCH) and maritime transport of MCH to Japan as a form of hydrogen storage and transport. For more information, see the following news releases. · Neoen Australia Pty Ltd: news release · Origin Energy: news release · Fortescue Future Industries Pty Ltd: news release
HySTRA (CO_2-free Hydrogen Energy Supply-chain Technology Research Association)	Australia	The project will establish and verify technologies for the mass transport of liquefied CO_2-free hydrogen made from unused brown coal in Australia across long distances. CO_2 emitted during the hydrogen manufacturing process will be stored underground. To develop a CO_2-free supply chain, the project plans to transport liquefied hydrogen from Australia to Japan in the second half of fiscal 2021 with the aim of commercialization by around 2030. For more information, see the news release (available in Japanese only).
Development of a CO_2-free hydrogen supply chain (derived from renewable energy) in Malaysia	Malaysia	The project will manufacture several tens of thousands of tons of CO_2-free hydrogen in Sarawak, Malaysia using electricity derived from renewable energy generated at a hydroelectric power plant. Thereafter, the hydrogen will be converted to MCH and transported by chemical tanker to demand centers outside Malaysia. For more information, see the news release (available in Japanese only).

Collaboration for development of a CO_2-free hydrogen supply chain with PETRONAS Group	Malaysia	The project will utilize unused co-product hydrogen from the petrochemical plants of PETRONAS, Malaysia's state-owned oil company, convert it to MCH and transport it to refineries in Japan. The project will study the manufacture and use of hydrogen from MCH at refineries for supply to nearby thermal power plants and steel mills. For more information, see the news release .
Collaboration for development of a CO_2-free hydrogen and ammonia supply chain with Saudi Aramco	Saudi Arabia	The project will conduct feasibility studies on a business for hydrogen manufacture from fossil resources produced and supplied by Saudi Aramco, a business for the recovery and storage of CO_2 emitted during the manufacturing process, and the maritime transport of hydrogen to demand centers using ammonia or MCH. For more information, see the news release .

Initiatives in Japan

Project (Location)	Overview
Exploring the utilization of hydrogen energy at Woven City with Toyota Motor Corporation (Susono City, Shizuoka Prefecture)	The project involves the construction and operation of a hydrogen station (with commercial operation targeted for fiscal 2023) near Woven City, which Toyota is currently developing. Electrolyzers installed at the hydrogen station will produce hydrogen derived from renewable energy (green hydrogen), which will be supplied to Woven City. In addition, the project will promote the use of fuel cell mobility for logistics in and around Woven City, verify a base unit of hydrogen for those mobility logistics, develop a supply and demand management system, and conduct advanced technical research on hydrogen supply. For more information, see the news release .
Selection for NEDO Green Innovation Fund	The following four demonstration projects were selected by the National Research and Development Agency, New Energy and Industrial Technology Development Organization (NEDO) for its Green Innovation Fund (available in Japanese only): (1) large-scale demonstration of an MCH supply chain; (2) direct MCH electrosynthesis (Direct MCH®) technology development; (3) hydrogen single fueled power generation equipment demonstration; and (4) demonstration project for the commercialization of a liquefied hydrogen supply chain. The demonstration project period is planned to last until the end of fiscal 2030 (end of fiscal 2029 for [4]). For more information, see the following news releases. · News release on demonstration projects (1) to (4) · Joint news release with Kawasaki Heavy Industries, Ltd. and Iwatani Corporation on demonstration project (4) (available in Japanese only)
Demonstration for feeding MCH into existing oil refining facilities	The project will demonstrate hydrogen extraction from MCH and consumption using ENEOS refining facilities. This will be the first dehydrogenization demonstration project using existing refining facilities in Japan. The candidate sites for the demonstration are Kawasaki Refinery, Wakayama Refinery, and Mizushima Refinery. The demonstration is scheduled to begin in autumn 2021. For more information, see the news release .
Hydrogen utilization research project in Tokyo Bay area	The project will research the construction of a hydrogen pipeline network for potential large-scale consumers of CO_2-free hydrogen, such as thermal power plants and steel mills, for the decarbonization of Tokyo Bay, with a focus on the Kawasaki coastal area. In addition, with the cooperation of Kawasaki City, the project will evaluate the feasibility of using existing pipelines in the city's industrial complex and identify issues associated with the construction of new hydrogen pipelines (extensions). The project aims for the development of efficient hydrogen supply infrastructure using hydrogen pipelines, with ENEOS' refinery in the coastal area serving as a hub for receipt of low-cost CO_2-free hydrogen from overseas. For more information, see the news release (available in Japanese only).
Demonstration project for CO_2-free hydrogen supply chain utilizing renewable energy in Kitakyushu City	The project will develop an energy management system (EMS) for controlling multiple renewable energy sources, including solar power and wind power in the Hibikinada area of Kitakyushu City, to achieve low-cost hydrogen manufacturing through the optimal use of surplus electricity. The hydrogen produced will be transported to and used at Kitakyushu Hydrogen Town and hydrogen stations, thereby establishing a CO_2-free hydrogen supply chain. For more information, see the news release (available in Japanese only).
Research project on local production for local consumption model for hydrogen in Mutsu Ogawara District (Aomori Prefecture)	The project will conduct research on the development of a local production for local consumption model for CO_2-free hydrogen in the Mutsu Ogawara district of Aomori Prefecture, an area with abundant renewable energy resources, including onshore and offshore wind power. For more information, see the news release (available in Japanese only).

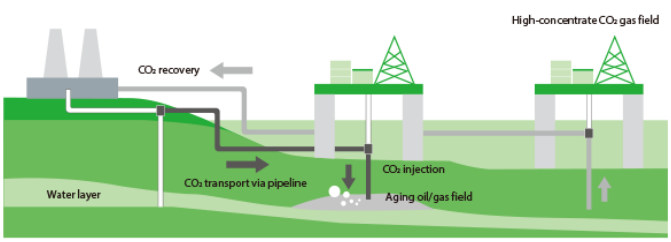
Development of hydrogen stations	There are 155 hydrogen stations in Japan (as of September 30, 2021), 47 of which are operated by ENEOS. Aiming for the strategic development of hydrogen stations, ENEOS participates in the Japan Hydrogen Station Network Joint Company (Japan H2 Mobility, abbreviation: JHyM), which was established in February 2018 by automobile manufacturers, infrastructure companies, and financial investors. Through collaboration in this all-Japan consortium, ENEOS is working on the strategic development and efficient operation of hydrogen stations. For more information, see the news release (available in Japanese only).
Commercial sales of CO_2-free hydrogen (derived from renewable energy) produced at hydrogen stations (first in Japan; Asahi Ward, Yokohama City)	The project will market CO_2-free hydrogen produced by water electrolysis using electricity generated from solar panels installed at hydrogen stations and renewable-energy-derived electricity procured from the ENEOS Group. Going forward, the project will introduce a hydrogen EMS for optimal control of water electrolysis unit operations based on the amount of renewable energy electricity generated and hydrogen demand. In the future, the project will aim for the manufacture of CO_2-free hydrogen using low-cost electricity by collaborating with virtual power plants (VPP), which remotely control hydrogen EMS and various energy resources. For more information, see the news release (available in Japanese only).
Demonstration project for commercialization of vessels equipped with high-power fuel cells	The project will develop a commercially viable fuel-cell-powered 150-ton medium-sized sightseeing vessel (capacity: around 100 passengers) and conduct sea trials, aiming for the use of fuel cells in maritime applications, which are expected to grow in the future. The project will develop piping and instrumentation systems for supplying hydrogen from tank trucks or onshore tanks to vessel tanks safely and in conformance with time and quality requirements. Construction and manufacture will begin in 2023 and sea trials in the Yokohama Port coastal area will begin in 2024. For more information, see the following news releases. · News release on demonstration project · News release on collaboration with Yokohama City (available in Japanese only)

Balancing Oil and Gas Exploration and the Reduction of CO_2 Emissions

Initiatives in CO_2-EOR Technology and CCS Technology

JX Nippon Oil & Gas Exploration carries out its business activities with attention to the reduction of greenhouse gas emissions, a cause of global warming.
The company is taking part in a project in the state of Texas in the United States to increase output from a depleted oil field by injecting CO_2 recovered from the flue gas of a thermal power plant. Since April 2017, a total of 3.77 million tons of CO_2 has been injected into the oil field through this project, greatly contributing to increasing oil output and lowering greenhouse gas emissions using CO_2-EOR (enhanced oil recovery) technology.
In October 2018, together with Japan Oil, Gas and Metals National Corporation (JOGMEC), we concluded a memorandum of understanding with Pertamina, Indonesia's state-owned oil company, to consider joint projects for the entire upstream business, including utilization of CO_2-EOR technology.
Furthermore, in March 2020, together with JOGMEC, we concluded a joint study agreement with PETRONAS, Malaysia's state-owned oil company, for gas field development using CCS (CO_2 capture and storage) technology, in which CO_2 emitted from gas fields is recovered and injected underground.

CO_2 Separation and Recovery in a Gas Field in Malaysia



CO_2 recovery plant (state of Texas in the United States)

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Environmental

The 3Rs (Reduce, Reuse, Recycle)

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Basic Approach

As part of our efforts to contribute to the development of a recycling-oriented society, the ENEOS Group promotes the effective use of resources and the reduction, reuse, and recycling of waste within the Group. We also contribute to waste reduction and resource recycling in greater society through our recycling and environmental services business.
For information on our structure, see Environmental Management.

Targets and Results

Second Medium-Term Environmental Management Plan (Fiscal 2020 to Fiscal 2022)

Targets

Waste-to-landfill ratio ♥
Maintain zero emissions (waste-to-landfill ratio of less than 1%)

Fiscal 2020 Results

Waste-to-landfill ratio (actual) ♥
Waste-to-landfill ratio of 0.7%
Reuse and recycling, separation of waste

Major Initiatives

Waste Reduction♥

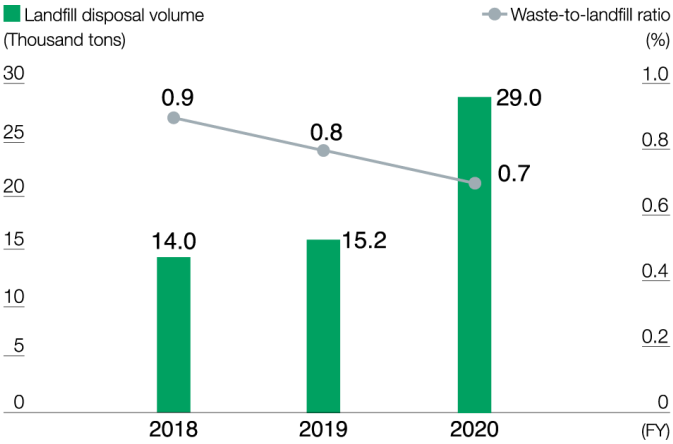
The Group properly manages and recycles waste, with a target of maintaining zero emissions (waste-to-landfill ratio of less than 1%).
In fiscal 2020, waste totaled 4,145 thousand tons, and landfill waste totaled 29 thousand tons. The waste-to-landfill ratio was 0.7%, indicating that we continue to achieve zero emissions.
Although total waste increased substantially, the main factors for this increase were the start of operations at the Muroran Biomass Power Plant and the inclusion of figures from TANIOBIS, a subsidiary of JX Nippon Mining & Metals, in the scope of calculation.
We pursue recycling and reuse through initiatives for waste reduction, including using the collected particulate matter and sludge released from oil refineries as raw materials for cement, and the repeated use of neutralized slag[1] at our smelting and refining facilities.
In addition, we use LCA methodology[2] in evaluating the development of certain lubricant products.

1 Product generated by the neutralization reaction in the smelting process.

2 LCA methodology involves quantitatively evaluating the environmental effects of product manufacturing throughout the entire life cycle, from procurement of raw materials to manufacturing, transport, use, and disposal. LCA is an acronym for “life cycle assessment.”

For information about ☑, see the Editorial Policy.

Landfill Disposal Volume and Waste-to-Landfill Ratio ☑ ♥



Note:

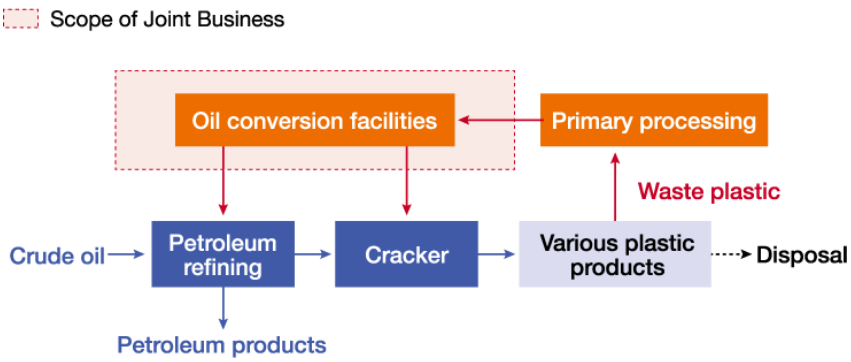
For detailed data, see Data.

Effective Use of Resources

The Group is working to reduce its use of raw materials by streamlining production and expanding the use of raw materials for recycling.
JX Nippon Mining & Metals promotes the effective use of resources by efficiently recovering copper, precious metals, and rare metals from raw materials for recycling, drawing from processes that utilize its smelting technology, developed over the course of more than a century. The company has established a long-term goal of increasing the use of raw materials for recycling to 50%.
In fiscal 2020, 174 thousand tons of the 1,825 thousand tons of raw materials used in the company's business activities were recycled resources.

Joint Business Implementation with Mitsubishi Chemical Corporation

ENEOS has decided to launch a joint plastic-to-oil conversion business with Mitsubishi Chemical Corporation at the Kashima industrial complex, site of the Kashima Refinery. The two companies plan to construct a commercial chemical recycling facility with an annual processing capacity of 20,000 tons, which will be the largest-scale in Japan on a commercial basis. Commencement of operations is planned for fiscal 2023.



Industry-Academia Collaboration

In recent years, the number of researchers and engineers in fields related to non-ferrous smelting, refining and recycling has been steadily decreasing in Japan. In response, JX Nippon Mining & Metals has collaborated with the Institute of Industrial Science of the University of Tokyo to launch the Endowed Research Unit for Nonferrous Metal Resource Recovery Engineering (JX Metals Endowed Unit) to combine the forces of industry, academia and government to reenergize and raise the level of activity in the industry. The JX Metals Endowed Unit is using industry-academia collaboration to advance various initiatives to cultivate human resources to develop and apply smelting and refining technologies in the non-ferrous base metals and rare metals fields.

Research and Development

JX Nippon Mining & Metals began verification trials for the recycling of rare metals contained in lithium ion batteries in 2009.
The company has established technologies for recovering high-purity metal salts from automotive lithium ion batteries. In fiscal 2020, the company began operation of bench-scale equipment installed in the Technology Development Center at its Hitachi Works for the technological and system development for closed-loop recycling, in which resources are recovered from used automotive lithium ion batteries and reused as raw materials for new automotive lithium ion batteries. To this end, the company introduced a new process at its Tsuruga Plant based on this bench-scale equipment and commenced a verification trial for the recovery of nickel sulfate in the first half of fiscal 2021.

Participation in Alliance to End Plastic Waste

ENEOS Holdings joined the international organization Alliance to End Plastic Waste (AEPW) in April 2021, becoming the first member from the energy industry in Japan.
A non-profit organization affiliated with government agencies, environmental and economic development NGOs, and communities around the world, AEPW focuses on projects addressing plastic waste issues in the four areas of infrastructure development, innovation, education & engagement, and clean-up.
By participating in AEPW, we are contributing to addressing the issue of waste plastic from a global perspective.

Smelting, Refining and Recycling

JX Nippon Mining & Metals is engaged in an integrated range of businesses related to nonferrous metals such as copper, precious metals and rare metals. These organically related businesses encompass resource development, smelting and recycling, and the provision of high-value-added materials, such as electronic materials. Smelting and recycling, which act as “veins” and “arteries” of this value chain, include the following three businesses.

- Smelting and Refining business: Recovery of metals by smelting and refining ore extracted from mines
- Recycling business: Raw materials for recycling are melted utilizing reaction heat from the smelting and refining process for the recovery of metals and reuse as raw materials
- Environmental Services business: Detoxification of industrial waste

Utilizing the key features and strengths of smelting and recycling, including zero emissions, proprietary treatment processes based on smelting and refining technologies, and a global collection network, JX Nippon Mining & Metals contributes significantly to the development of a sustainable, recycling-oriented society.

Key Features and Strengths of the Smelting and Recycling Businesses

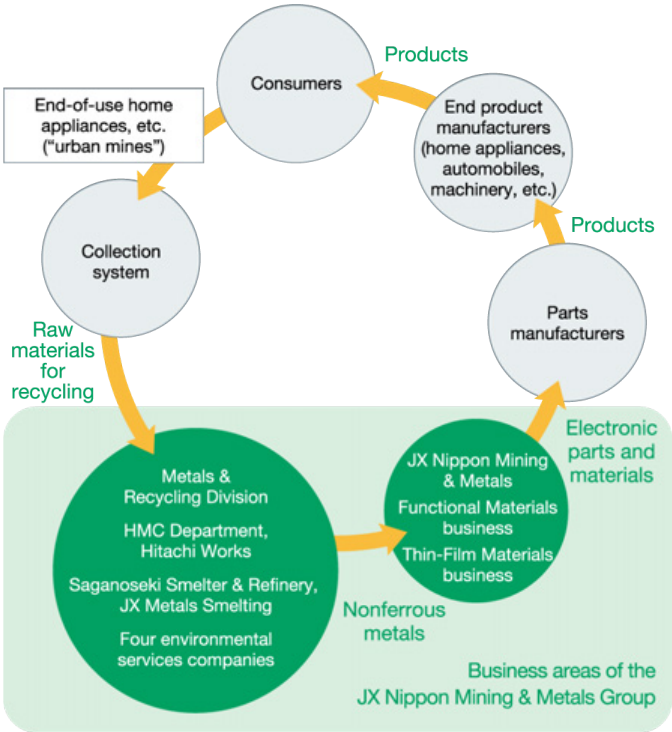
1. Zero Emissions

JX Nippon Mining & Metals is pursuing zero emissions, where no secondary waste that requires landfill disposal is produced, in both its smelting and refining business and its recycling business. Iron and other ferrous metals other than nonferrous metals are recovered as slag and used as raw materials for cement and other purposes. By preventing the generation of secondary waste, we are reducing our environmental impact.

HMC Department, Hitachi Works

2. JX Nippon Mining & Metals' Proprietary Treatment Processes Based on Smelting and Refining Technologies

JX Nippon Mining & Metals carries out recycling of nonferrous metals in its recycling business using efficient and reliable proprietary treatment processes based on technologies developed by over many years through its operations at mines, smelters, and refineries.
At the JX Metals Smelting Saganoseki Smelter & Refinery, which boasts Asia's largest treatment capacity for recycling copper and precious metals, energy is conserved by using the reaction heat generated during the copper concentrate smelting process for melting raw materials for recycling.



Resource-Recycling Initiatives in Pursuit of Zero Emissions

3. Global Collection Network

In addition to its collection of raw materials for recycling in Japan, JX Nippon Mining & Metals is enhancing its collection operations overseas, having established sites in Arizona (United States) and Frankfurt (Germany) along with a collection and pretreatment center in Taichung (Taiwan). Some of the raw materials collected from its nationwide network are pretreated at Group companies in Tomakomai (Hokkaido), Hitachi (Ibaraki Prefecture) and Mikkaichi (Toyama Prefecture) before treatment at the JX Metals Smelting Saganoseki Smelter & Refinery (Oita Prefecture). In this manner, the company engages in the recovery and recycling of metals.

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Environmental

Management of Chemical Substances

Basic Approach

Based on laws and regulations such as the Pollutant Release and Transfer Register (PRTR) Law, the ENEOS Group strives to properly manage chemical substances and reduce emissions of such substances. In addition, we are shifting to chemicals with lower impacts on health and the environment.
We are also committed to properly managing chemical substances not covered by these laws and regulations.

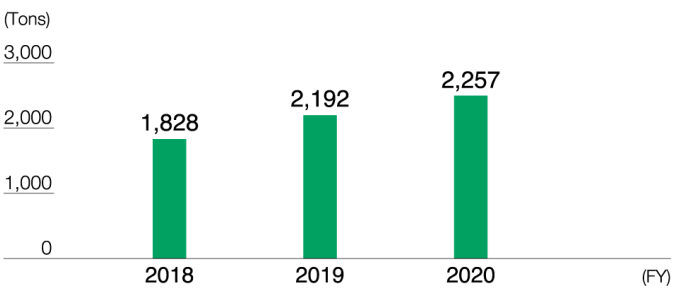
Major Initiatives

Management and Monitoring of Specified Chemical Substances under Japan's Pollutant Release and Transfer Register Act

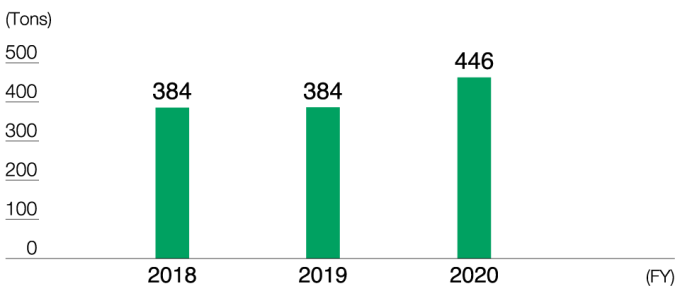
The Group manages and monitors the release and transfer amounts of specified chemical substances, such as benzene, toluene, and xylene, which are found in gasoline, based on Japan's Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (Pollutant Release and Transfer Register Act).
In fiscal 2020, the Group's releases totaled 2,257 tons, an increase of 65 tons over the previous fiscal year, and transfers totaled 446 tons, an increase of 62 tons over the previous fiscal year.

For information about ☑, see the Editorial Policy.

Release of Specified Chemical Substances ☑



Transfer of Specified Chemical Substances ☑



Note:
For detailed data, see Data.

Management and Detoxification of PCB[1] Waste Based on the PCB Special Measures Act

The Group carries out storage notification and systematic treatment of PCB waste based on Japan's Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes (PCB Special Measures Act).
JX Nippon Tomakomai Chemical, which has been certified by the Minister of the Environment to provide low-concentration PCB waste treatment, carries out detoxification operations, thereby contributing to compliance with the Stockholm Convention on Persistent Organic Pollutants[2].
For more information, see Low-Concentration PCB Waste Detoxification.

1 Polychlorinated biphenyl (PCB): Due to its excellent electric insulation properties, this chemical compound was used mainly in applications such as insulating fluids for transformers and capacitors, and carbonless copiers. However, its production and import are now prohibited.

2 A treaty regulating the production, use, and proper treatment of persistent organic pollutants, including PCB

Detoxification of Waste Asbestos

The treatment of waste, including asbestos, which was used in large quantities in the past, has become a major social issue.
JX Nippon Environmental Services melts down and detoxifies asbestos, responding to society's need for waste treatment. In fiscal 2020, the company treated approximately 3,254 tons of waste asbestos.

Compliance with Domestic and International Regulations

Laws and regulations on the handling of chemical substances are being developed both in Japan and abroad to protect the environment, as well as safety and health. There are also cases where countries have newly implemented chemical substance registration systems or modified existing ones. The ENEOS Group is now implementing necessary measures to comply with these laws and regulations.

Compliance with the REACH Regulation

We have registered substances contained in our Group products exported to the EU with the European Chemicals Agency (ECHA) in accordance with the REACH Regulation.

Guidelines on Chemical Substances in Our Products and Management of Chemical Substances

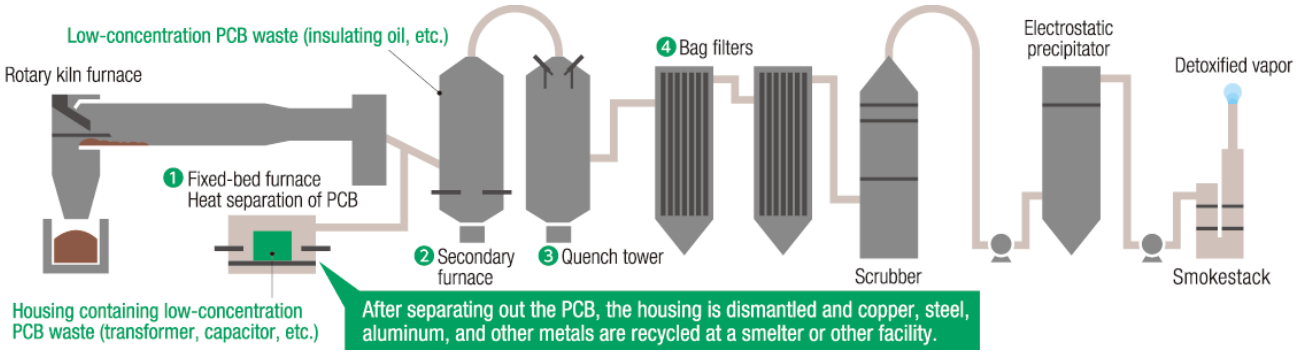
ENEOS has voluntarily established standards for managing the chemical substances used in its products.
We have specified prohibited or obsolete substances (such as most organochlorine compounds, mercury compounds, and lead compounds) and substances that require monitoring (such as phthalates and VOCs including toluene, xylene and the like) to better manage their use in products, and we are working to mitigate any harmful effects they may have.
In addition, we provide essential product safety information to customers and others involved with our products using methods such as safety data sheets (SDS). In the event that we obtain new information about any hazards or environmental impacts of our products, we promptly update the relevant SDS.

Low-Concentration PCB Waste Detoxification (JX Nippon Tomakomai Chemical)

Since March 2014, when JX Nippon Tomakomai Chemical received certification from the Minister of the Environment as the first low-concentration PCB waste detoxification facility in Hokkaido, the company has been working to improve its treatment capacity.
A deadline of March 31, 2027 has been prescribed by law for disposal of waste materials containing PCB. By that date, the owner must either dispose of such materials or have their disposal handled by an agent. However, there are only 27 incineration facilities in Japan, including JX Nippon Tomakomai Chemical, capable of detoxifying not only low-concentration PCB waste materials but also the transformers, drums, and other housings that contain them. Moreover, there are only 12 treatment facilities that perform decontamination by means of cleaning processes. The number and capacity of these facilities is still inadequate to meet the demand for low-concentration PCB waste disposal.
Moving forward, we will maintain stable operations for the treatment of industrial waste as part of our efforts to contribute to the environmental conservation of local communities.

JX Nippon Tomakomai Chemical rotary kiln furnace

Process for Complete Detoxification of Low-Concentration PCB Waste



Changes Since Initial Certification

	Treated items	Treatment capacity
March 2014 (certification by Minister of the Environment)	• Transformers • Metal scrap (drums, etc.) • Waste oil containing low-concentration PCB	Solids: 6 tons/day (3 batches of 2 tons each) Waste oil: 8.4 kL
March 2015	Waste materials from outside Hokkaido can be accepted without the need for advance consultation with local governments	
September 2015 (additional certification by Minister of the Environment)	Increased size of objects that can be treated Width: 2.5 meters / Depth: 1.5 meters / Height: 2.3 meters	
	Additional treated items: • Capacitors • Metal coating scrap containing low-concentration PCB	Increase in treatment capacity Solids: 12 tons/day (3 batches of 4 tons each)
March 2018 (certification by Minister of the Environment)	Additional treated item: • Inorganic sludge (concrete scrap)	

Environmental

Prevention of Environmental Pollution

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Basic Approach

In addition to complying with relevant laws and regulations, the ENEOS Group works to maintain and conserve natural resources such as water, soil, and the atmosphere by curbing the further release of environmental pollutants, effectively utilizing water resources, and other measures.
To prevent environmental pollution, we continuously work to mitigate risks by improving our facilities and conducting emergency response and other training drills covering items identified as serious concerns from an environmental perspective through the environmental management system (EMS) of each Group company.
For information on our EMS, see Environmental Management.
For information on our targets, see the Medium-Term Environmental Management Plan.

Initiatives to Reduce the Release of Air Pollutants ♥

For information about ☑, see the Editorial Policy.

Reducing SOx Emissions ☑

Sulfur oxides (SOx), which are known to cause acid rain, are released into the atmosphere mainly as a component of exhaust gases from combustion facilities.
The Group carries out measures such as using fuels with low sulfur content, removing SOx using flue gas desulfurizers, and managing emissions using voluntary standards.
SOx emissions in fiscal 2020 totaled 11 thousand tons, a decrease of 2 thousand tons from the previous fiscal year.

Flue gas desulfurizer

Reducing NOx Emissions ☑

Nitrogen oxides (NOx), like SOx, are known to cause acid rain and are released into the atmosphere mainly as a component of exhaust gases from combustion facilities.
The Group carries out measures such as using low-NOx boilers at combustion facilities, removing NOx using flue gas denitrizers, and managing emissions using voluntary standards.
NOx emissions in fiscal 2020 totaled 12 thousand tons, a decrease of 2 thousand tons from the previous fiscal year.

Flue gas denitrizer

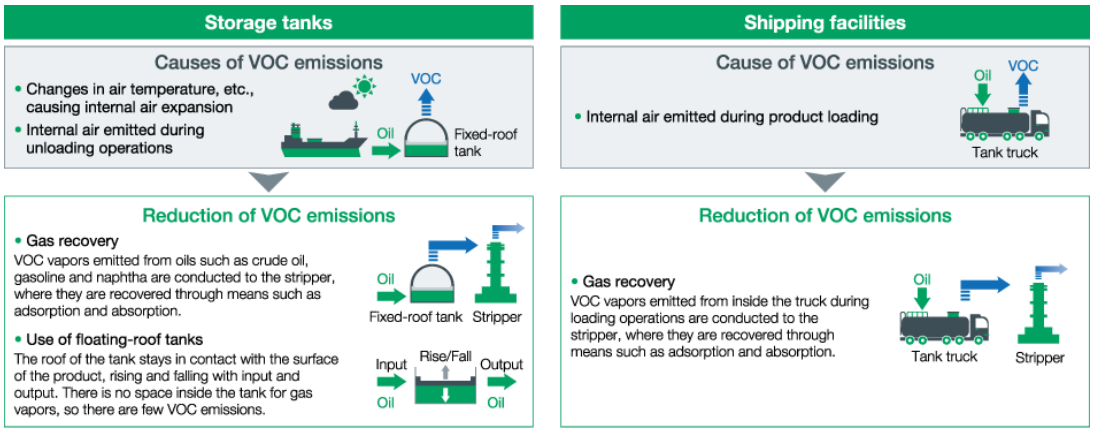
Reducing VOC Emissions ☑

Volatile organic compounds (VOCs), which are thought to produce photochemical oxidants through a photochemical smog reaction with NOx and ultraviolet rays from sunlight, are released from places such as storage facilities for petroleum products.
The Group has installed VOC recovery equipment in storage facilities and truck loading facilities.
VOC emissions in fiscal 2020 totaled 11.9 thousand tons, a decrease of 2.4 thousand tons from the previous fiscal year. The decrease can be attributed to a decline in the storage and handling volume of gasoline intermediates.

VOC Recovery

Volatile organic compounds (VOCs) containing hydrocarbons are released into the air whenever gasoline is pumped from tank trucks into storage tanks at service stations. These VOCs are not only a source of photochemical oxidants, but also cause irritating odors in neighboring communities and can adversely affect the health of both customers and employees.
Therefore, ENEOS has installed recovery equipment on the ventilation ducts of service station storage tanks, which enables tank trucks to recover these VOCs so that they are not released into the atmosphere.
The ENEOS Group's Kiire Terminal recovers, without releasing, the gases that have accumulated inside tankers when loading crude oil, and reuses the VOCs contained in these gases by absorbing them into the crude oil. Gases, including odor-causing ones, that are not absorbed are broken down.
The Group was the first in the world to implement this mechanism. This technology is contributing to the advancement of environmental conservation measures and the effective utilization of energy.

VOC Emissions and Reduction Measures at Refineries



Effective Utilization of Water Resources and Reducing the Release of Water Pollutants ♥

For information about ☑, see the Editorial Policy.

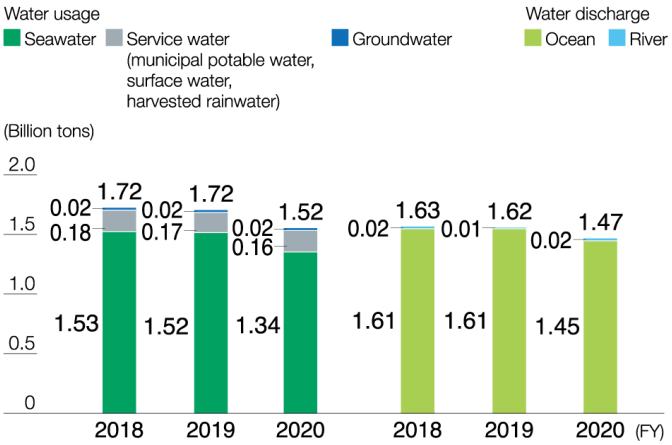
Effective Utilization of Water Resources

Each of the Group's principal business sites has established and operates an environmental management system (EMS), which they use to appropriately assess and address environmental impacts concerning water usage.

Water Usage ☑

The Group uses water for purposes such as operating and cooling power generation facilities at refineries and smelters. Approximately 90% of this water is seawater.
In fiscal 2020, the volume of water used was 1.52 billion tons, and the water discharge volume was 1.47 billion tons.
The ENEOS Group recycles approximately 97% of the water used for cooling at its refineries. To reduce the amount of water used, smelters that use seawater for cooling have partially switched to recycled water.

ENEOS Group Water Usage and Water Discharge Volumes ☑



Note:

For detailed data, see Data.

Response to Water Risks

The Group uses tools such as the Aqueduct water risk mapping tool from the World Resource Institute (WRI) to verify whether our production sites are in areas of elevated water risk.
At the Caserones Copper Mine in Chile, where there is a high risk of drought, approximately 80% of the water used in the production process is recycled. As an operating mine, it has the lowest level in Chile of water usage per ton of ore processed.
With efforts to conserve and manage water resources gaining attention worldwide, we will continue to ascertain the details of water risks and systematically review ways of addressing these risks based on our findings.

Reducing the Release of Water Pollutants

We manage and monitor pollutants in wastewater through regular maintenance of water treatment facilities based on voluntary standards that are more rigorous than laws, regulations, ordinances, and agreements, including Japan's Water Pollution Prevention Act.
In addition to our efforts at refineries and smelters, we carry out continuous operations for the treatment of acid mine drainage at closed mines.
In fiscal 2020, there were no violations of laws, regulations or voluntary standards concerning water pollution and no oil spills or other serious incidents.

Management of Closed Mines

Of the 39 closed mines managed by JX Nippon Mining & Metals, acid mine drainage (AMD) treatment is an ongoing obligation at 12 mines pursuant to the Mine Safety Act. JX Nippon Mining Ecomanagement manages these operations in the interest of maintaining and restoring the surrounding environment.
The main operations taking place in the management of closed mines include the treatment and detoxification of AMD, which is strongly acidic and contains heavy metals from ores remaining in the mines and tailings, as well as the maintenance and protection of tailings and mine shafts.
AMD comes from the mine water welling up from mines and wastewater discharged from mining facilities. It is generated continuously after a mine is closed as a result of the chemical reaction of rainwater and other water coming in contact with ores remaining in the mines and tailings in the dams and surrounding altered rock. Therefore, the operation of treatment facilities must be maintained continuously.

Motoyama AMD treatment facility at Toyoha Mine

Gallery inspection at Hanawa Mine

Closed Mines Where AMD Treatment Is Carried Out

● Twelve closed mines where AMD treatment is carried out

Development of Mine Closure Plans

The JX Nippon Mining & Metals Group recognizes the importance of minimizing the impacts on the surrounding environment and communities in the event of a mine closure. Regarding its Caserones Copper Mine, which is currently in operation, the Group has developed a mine closure plan through dialogue with stakeholders, including the relevant authorities and local communities. It has also set aside financial reserves for the implementation of necessary measures. As a result, the Group has secured means for appropriate response at the time of the mine's closure.

Preventing Marine Pollution

For the marine transport of oil, the ENEOS Group is required to comply with the International Convention for the Prevention of Pollution from Ships (MARPOL), an international convention developed by the International Maritime Organization (IMO) that includes regulations for the prevention of environmental pollution from oil and the prohibition of waste discharge into oceans and seas.
In addition to fully complying with this convention, we take further steps to prevent marine pollution, such as taking incinerator ash as defined in the convention back to land for proper disposal rather than discharging it into the ocean.
We established a new manufacturing method and a shipment system for low-sulfur marine fuel in accordance with the introduction of worldwide environmental regulations by the IMO in January 2020.

Soil Contamination Countermeasures

ENEOS performs systematic surveys on land that it owns that has the potential for soil or groundwater contamination, focusing particular efforts on property where refineries, oil depots, service stations and other facilities are located.
If pollution is detected, we implement appropriate countermeasures to address it.
Additionally, as one of its business areas, Group company NIPPO Corporation implements soil purification measures that are optimized in accordance with the type and degree of pollution.

Soil Surveys and Countermeasures in Fiscal 2020

	Number of cases	Expenditure (Million yen)
Soil surveys	46	61
Soil contamination countermeasures	3	163

Notes:
Properties involved in land transactions for ENEOS service stations, oil depots and other facilities.
In fiscal 2020, there were no properties for which disclosure of soil contamination was required.

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Environmental

Biodiversity

Basic Approach

The operations of the ENEOS Group may impact the environment surrounding our operation and production sites. Given the nature of our business, we consider biodiversity conservation to be an important effort, as stated in the ENEOS Group Code of Conduct.
We carry out initiatives with attention to biodiversity in all aspects of our business activities. These initiatives include the implementation of environmental impact studies when establishing new operation and production sites in order to obtain an accurate understanding of local ecosystems, including plants, birds and other animals, and marine life.
For information on our structure, see Environmental Management.
For information on our targets, see the Medium-Term Environmental Management Plan.
In fiscal 2021, we will ascertain risks at the Group's manufacturing sites and take appropriate mitigation measures.

Major Initiatives in Japan

As part of its efforts to preserve biodiversity, ENEOS, which has many production sites, has established the Energy Group* Guidelines on Biodiversity, and it also carries out activities for the preservation of vibrant biodiversity as one way of participating in community efforts to preserve biodiversity and maintaining ecosystem networks in the large nearby green areas.
At our other business sites as well, we carry out environmental conservation activities suited to the surrounding environments.
We also carry out activities such as regular environmental training for employees and community contribution activities related to environmental conservation.

* ENEOS Group companies

Energy Group Guidelines on Biodiversity

Basic Stance

We will carry out initiatives with attention to biodiversity in every aspect of our business activities, under the recognition that our business activities are deeply related to the Earth's biodiversity.

Action Policy

1. We will ascertain and analyze the impacts of our business activities on biodiversity and strive to make improvements.
2. We will promote activities that contribute to biodiversity preservation, such as nature protection and environmental education.
3. We will disclose and share information on our efforts to preserve biodiversity.

Endorsement of the Declaration of Biodiversity by Keidanren

ENEOS Holdings endorses the Declaration of Biodiversity by Keidanren, which states the aim of “realizing a sustainable society through building a society in harmony with nature.”

Involvement in Biodiversity Initiatives

ENEOS has been a member of the Japan Business Initiative for Biodiversity (JBIB), a consortium of businesses actively working to conserve biodiversity in Japan, since 2013.

JBIB
Japan Business Initiative for Biodiversity

Participation in Call to Action

In December 2020, ENEOS Holdings joined the Call to Action of the global coalition Business for Nature*.
The Call to Action calls on governments around the world to adopt ambitious policies to reverse nature loss in the decade up to 2030, under the concept that "healthy societies, resilient economies, and thriving businesses rely on nature," with many enterprises around the world having declared their support to date.

* Spearheaded by organizations such as the World Economic Forum, the World Business Council for Sustainable Development and the International Chamber of Commerce, Business for Nature is a global coalition established with the aim of encouraging businesses to take action toward nature conservation and restoration and drawing on businesses' aspirations for nature conservation and restoration to influence policy decision makers.

Initiatives at the ENEOS Chita Business Site

The ENEOS Chita business site participates in the Ecological Network Formation and Leadership Development Program for Corporate Green Spaces in the Coastal Area of Chita Peninsula and the Project Linking Life with One Another. These initiatives, which involve partnerships among Aichi Prefecture, Chita City, NPOs, students and companies located in the coastal area, utilize corporate greenbelts and other areas to provide safe and secure habitats for local flora and fauna.
The site is working to mainstream biodiversity through measures such as ecosystem surveys (monitoring) of its biotope, conducted with students in the local community. As a result of these activities, the site was granted certification by the Association for Business Innovation in Harmony with Nature and Community® (ABINC)* in 2015. This certification was renewed in 2018.
In fiscal 2020, the site conducted ecosystem surveys (monitoring) of living organisms in the biotope and greenbelt on a total of four occasions and hosted the Chita City Nature Research Team, sponsored by Chita City, on one occasion.

Children from the local community participate in the Chita City Nature Research Team, sponsored by Chita City

Initiatives at the ENEOS Negishi Refinery

The ENEOS Negishi Refinery is one of Japan's largest oil refineries, with an area of 2.2 million square meters and a circumference of around 12 kilometers. The area in which it is located has a network of ecosystems with a diverse array of organisms inhabiting an expansive greenbelt that includes Sankei-en and Negishi Forest Park. Under the concept of creating a satoyama, the Negishi Refinery carries out activities for the conservation of biodiversity utilizing the greenbelt (approximately 60,000 square meters), a hub for the area's ecosystem network, at the center of the premises.
Ecosystem surveys were begun in fiscal 2013, and in surveys to date, 170 types of living organisms have been observed, indicating that many organisms use this grassy area as their habitat.
In fiscal 2018, we began holding interactive events and using goat grazing to weed the greenbelt areas. Since fiscal 2019, we have been stepping up maintenance and management of the green areas, and we have also been enhancing our activities there through efforts such as extending goat grazing periods and hosting new events.
As a result of these activities, the Negishi Refinery was granted certification by ABINC* in February 2020.

Interactive event

* ABINC certification is awarded on the basis of the JBIB Guidelines for Sustainable Business Sites and the JBIB Land Use Scorecard developed by the Japan Business Initiative for Biodiversity (JBIB).

ABINC certification mark

Forest Stewardship and Afforestation Activities

Group companies are involved in forest stewardship activities that contribute to the preservation of biodiversity.
ENEOS implements forest stewardship activities called ENEOS no Mori at six locations across Japan in partnership with local governments and the National Land Afforestation Promotion Organization (NLAPO).
Since 1998, JX Nippon Oil & Gas Exploration has implemented a forest stewardship project called JX Nakajo Forest for the preservation of pine trees on and around the site of its Nakajo Field Office in Niigata Prefecture.
JX Nippon Mining & Metals is working to maintain and improve the natural environment by continually engaging in afforestation activities such as tree planting and thinning, mainly at the sites of its closed mines.

ENEOS no Mori activity

JX Nakajo Forest afforestation activity

Tree planting in Nikko Ryuju Forest
(Nanyo City, Yamagata Prefecture)

Providing Sustainable Seafood Menu Options at the Employee Cafeteria

Since 2019, the Company has been offering sustainable seafood* menu options once a month at the ENEOS Building employee cafeteria, used by the Company and its Group companies. In fiscal 2020, we began offering sustainable seafood menus at the employee cafeterias of some of our refineries. Through this initiative, we are working to raise awareness about biodiversity conservation and environmental conservation among Group employees through food, a part of everyday life.

* The seafood has met the MSC's global standard for sustainability or ASC's global standard for responsibly farmed seafood.

Ordering a menu item at the employee cafeteria

Major Initiatives Overseas

Tree Planting Activities at the Caserones Copper Mine

At the Caserones Copper Mine in Chile, 48,200 seedlings of 15 native flora species are being planted in an area spanning 1.43 square kilometers to protect biodiversity. The areas being planted are those around the Ramadilla River area on the mine site, and the offsite areas around Maitencillo and Amolanas.
In addition to planting, efforts are also being made to monitor the native flora and to research the correlation between the propagation and distribution of unique alpine flora located around the mine and the impacts of climate.

Flora found around the Caserones Copper Mine

Measures for Ballast Water (Seawater)

Oil tankers from Japan bound for oil-producing countries carry ballast water (seawater) as weight to maintain stability for unloaded voyages. However, this ballast water contains microorganisms and plankton from Japanese waters that are carried to the waters of oil-producing countries, where, if released, they can disturb the balance of local ecosystems.
Since 2004, the Group has replaced this ballast water while still at sea, and installed water treatment systems* for ballast water on its new vessels in an effort to avoid disturbing the ecosystems of the coastal waters of oil-producing countries.
Furthermore, we release ballast water from ships using methods compliant with international treaties. As of June 2021, ballast water treatment systems have been installed on 14 of the Group's 15 tankers. We plan to install this system on the final ship in our fleet in fiscal 2022.

* Systems that keep the level of aquatic organisms in ballast water within certain standards prior to release.

Environmental

Our Response to Climate Change Risks and Opportunities (TCFD)

Basic Approach

As an energy and materials company group, the ENEOS Group recognizes that its response to climate change involves both material management risks and opportunities. We believe that developing practical solutions to climate change will enable us to continuously generate profits into the future. As a clear expression of our intent, we established the following as our envisioned goals in our Long-Term Vision to 2040: become one of the most prominent and internationally competitive energy and materials company groups in Asia, create value by transforming our current business structure, and contribute to the development of a low-carbon, recycling-oriented society. We have also stated our intent to achieve carbon neutrality in our own emissions by 2040.
To succeed in these endeavors, we are implementing comprehensive measures to reduce energy consumption at our refineries, plants, and smelters, while developing and strengthening renewable energy, CO_2-free hydrogen, carbon capture and storage (CCS), and carbon capture, utilization and storage (CCUS) businesses.
To enhance and broaden its disclosures, ENEOS Holdings signed a statement of support for the recommendations of the Task Force on Climate-related Financial Disclosures in May 2019. The Company also endorsed the Challenge Zero initiative of the Japan Business Federation (Keidanren) in June 2020. This initiative calls on members to develop technologies that enable zero emissions.

Governance System for Climate Change

The Company's Executive Council, chaired by its president, deliberates on the Group's response to climate change, including in future business plans, and manages and evaluates the status of climate initiatives from a cross-functional perspective. The council reports the results of its deliberations, management and evaluation to the Company's Board of Directors, and is monitored and supervised by the Board of Directors.

Deliberations in Fiscal 2020

Board of Directors
CSR (ESG) activity status report (May)
Development of second Medium-Term Management Plan (May)
Executive Council
CSR (ESG) activity status report (Apr.)
Development of second Medium-Term Management Plan (May)
Determination of risks for the following fiscal year (Jan.)

Response to Climate Change and Link to Executive Remuneration

Remuneration for the Company's directors consists of a monthly remuneration in accordance with role, performance-linked bonuses and share-based remuneration. Performance-linked bonuses and share-based remuneration serve as incentives for the development and implementation of competitive medium- and long-term business strategies, which serve to increase share value.
We have added CO_2 emissions reduction volumes as a performance indicator for share-based remuneration for fiscal 2020–2022. For more information, see Determination of Director Remuneration.

Scenario Analysis

The ENEOS Group regularly analyzes long-term forecasts of energy demand based on the World Energy Outlook report, published annually by the International Energy Agency (IEA).
When developing its Long-Term Vision to 2040, the Group referred to the *World Energy Outlook 2018* New Policies Scenario and Sustainable Development Scenario, which is based on the Paris Agreement. Using this information, the Group identified three long-term trends in the business environment: the development of a low-carbon, recycling-oriented society, digital innovation, and lifestyle changes.
By 2040, the Group envisions the mass introduction of renewable energy; the replacement of gasoline and diesel cars with electric vehicles (EVs), used for car sharing and energy storage; distributed energy resources with energy storage; and recycling technology and infrastructure for metals and plastic. Although we expect domestic fuel demand to decline to half the 2017 level, we also foresee a great increase in demand for hydrogen and renewable energy in line with the shift to a low carbon, recycling-oriented society.
In addition, with the progression of digital innovation, demand is expected to rise dramatically for copper, a base metal, raw materials for recycling, and high-performance and advanced materials required for digital devices.

Changes in the Business Environment

Development of a low-carbon, recycling-oriented society

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

Digital innovation

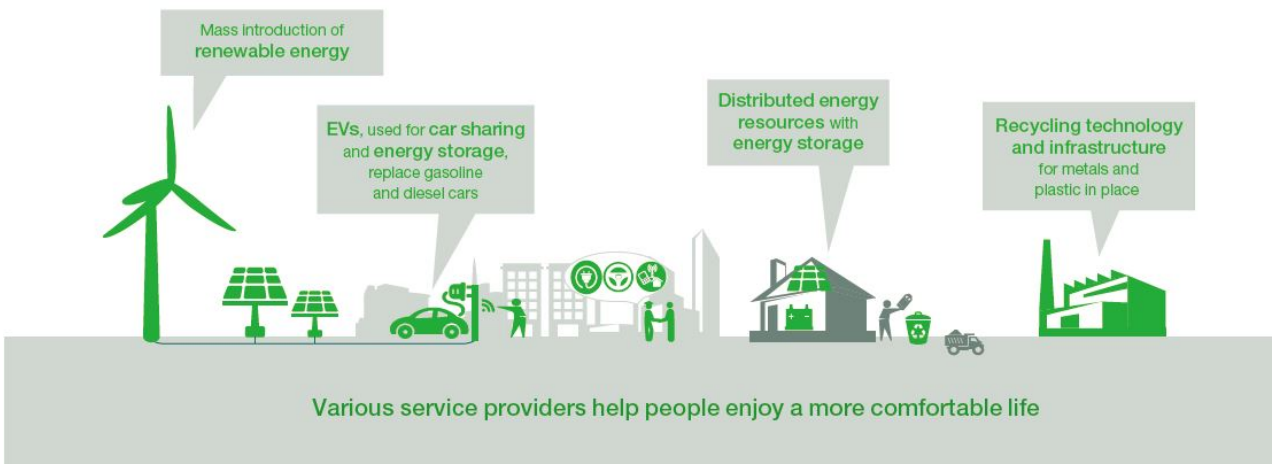
- Rapid progress of Internet society and blockchain technology
- Dramatic improvement in productivity with IoT, AI, robotics, etc.
- Electrification (shift to EVs, autonomous driving, etc.)

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

Scenario in 2040

Low-carbon, recycling-oriented society



Risks and Opportunities, and Our Responses

In fiscal 2017, the Group introduced an enterprise risk management (ERM) structure based on the COSO* ERM framework. Following this process, we identified risks and opportunities related to climate change issues as outlined in the table below.

* An internal control framework released by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) and adopted by countries around the world.

Risks and Opportunities Identified and Timeline

Category	Examples		Timeline
Transition risks	Policy and legal	Higher costs for achieving carbon neutrality	Medium to long term
	Technology	Declining demand for petroleum due to advancements in EV technologies	Medium to long term (demand already declining)
	Market and Reputation	Declining demand for petroleum due to growing environmental awareness	Short term (demand already declining)
	Market	Stranding of upstream oil assets	Medium to long term

Category	Examples		Timeline
Physical risks	Acute	Increasing frequency and severity of wind and flood damage caused by extreme weather events	Short term (extreme weather events already increasing)
	Chronic	Rising sea levels caused by global warming	Medium to long term
Opportunities	Resource efficiency	Increasing demand for raw materials for recycling	Medium to long term
	Energy source	Increasing demand for hydrogen and renewable energy Increasing demand for distributed energy	Medium to long term
	Products and services	Expansion of initiatives to reduce environmental impacts in the mobility industry Increasing demand for functional and thin-film materials needed for electrification	Medium to long term
	Markets	Growing access to distributed energy markets due to digital innovation and lifestyle changes	Medium to long term
	Resilience	Diversification of energy	Medium to long term

Financial Impacts of Climate Change-Related Risks and Opportunities

Recognizing the importance of disclosing information about the implications of climate change on the Group' s financial performance, ENEOS Holdings has signed a statement of support for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). Accordingly, the Group is enhancing its information disclosure based on the TCFD recommendations. Calculations of financial impacts include numerous potential risks, uncertainties and assumptions, and changes in material factors may lead to substantially different outcomes from the envisioned scenarios.

1. Financial impacts of transition risks

(1) Higher costs for achieving carbon neutrality

The ENEOS Group will work to become carbon neutral in its own emissions by reducing CO_2 emissions by 17 million tons by 2040. We will achieve this by reducing our environmental burden and strengthening our environmentally conscious businesses. If we were to acquire carbon credits commensurate with a 17-million-ton reduction in CO_2 emissions, our costs would increase by about 90 billion yen[1].

1 Carbon credit price (52 USD/tCO_2 [IEA *World Energy Outlook 2020*]) × volume (17 million tons) × exchange rate

(2) Declining demand for petroleum due to advancements in EV technologies / Declining demand for petroleum due to growing environmental awareness

Demand for petroleum in Japan is projected to fall by around 40% by 2040 compared with the 2019 level according to the Stated Policies Scenario (STEPS)[2] in the IEA *World Energy Outlook 2020* report. We expect that this drop in demand will reduce operating income from petroleum and other products in the Energy business by about 40 billion yen[3] annually from fiscal 2020 to 2022, the period of the second Medium-Term Management Plan.

2 The scenario incorporates the impact of the COVID-19 pandemic in addition to countries' plans for Nationally Determined Contributions.

3 FY2020–2022: 305 billion yen ÷ 3 years × 40%

(3) Stranding of upstream oil assets

Upstream oil assets owned by the Group consisted of reserves totaling 452 million barrels oil equivalent as of March 31, 2021, equivalent to 46 million barrels of annual production volume over the next 10 years. Therefore, we believe that the long-term risk of stranding of upstream oil assets is low. In fiscal 2020, operating income from oil and natural gas development projects came to 2.8 billion yen.

2. Financial impacts of physical risks

(1) Increasing frequency and severity of wind and flood damage caused by extreme weather events (major typhoons)

Based on repair expenses following major typhoons in fiscal 2018 and 2019, we estimate that such expenses could total about 2 billion yen if our facilities were damaged by a typhoon of similar scale.

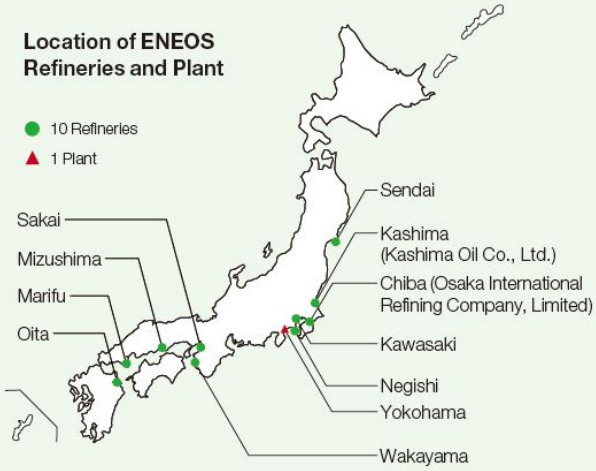
(2) Rising sea levels caused by global warming

About 1 billion yen in expenses was needed annually for measures to deal with rising sea levels in fiscal 2018 and 2019, including expenses for increasing the number of water pumps and raising the height of structures affected by high tides. Assuming the same measures will continue, around 1 billion yen will be needed every fiscal year going forward.

Response to Physical Risks

During the capex planning stage, the Group examines risks associated with localized wind and flood damage caused by extreme weather events and rising sea levels, and takes action as necessary, including incorporating these risks into its business continuity plan (BCP).

For example, the 10 ENEOS refineries in Japan are geographically dispersed, resulting in a supply system where refineries in one area are able to offset, to a certain degree, any impacts that may arise if refineries in another area are unable to operate at full capacity.



3. Financial impacts of opportunities

(1) Increasing demand for raw materials for recycling

Demand for base metals like copper and various rare metals is expected to increase in the future in line with the shift to a decarbonized, recycling-oriented society, combined with digital innovation. Therefore, making greater use of raw materials for recycling will be important for meeting such growing demand.

In our copper smelting and refining business, raw materials for recycling currently make up about 12% of the total amount of raw materials needed, but we are working to increase this percentage to 50%. In fiscal 2020, operating income from copper smelting and recycling amounted to about 30 billion yen, and we aim to increase this amount going forward.

For more information, see "Hybrid Smelting" on page 30 of our Integrated Report 2021 .

(2) Increasing demand for hydrogen and renewable energy

With the shift to a decarbonized, recycling-oriented society, demand for hydrogen, renewable energy and EVs is expected to grow. Based on estimates of the size of these markets in 2040, as well as assumptions regarding the Group' s market share and operating income rate, we estimate that operating income in these businesses could reach about 100 billion yen by that year. Therefore, we are proactively expanding these growth businesses, while paying close attention to economic feasibility, in order to raise our corporate value.

For more information, see "Building a Supply Chain for CO_2-Free Electricity, Hydrogen and Fuels" on page 23 of our Integrated Report 2021 .

An electric car sharing service verification trial underway in Saitama City

(3) Expansion of initiatives to reduce environmental impacts in the mobility industry / Increasing demand for functional and thin-film materials needed for electrification

With the shift to a decarbonized, recycling-oriented society, the growth of next-generation vehicles, particularly EVs, is anticipated, but demand for automobile tires is expected to increase regardless of the power source change. Consequently, the global market for synthetic rubber is projected to increase by between two and three percent annually.

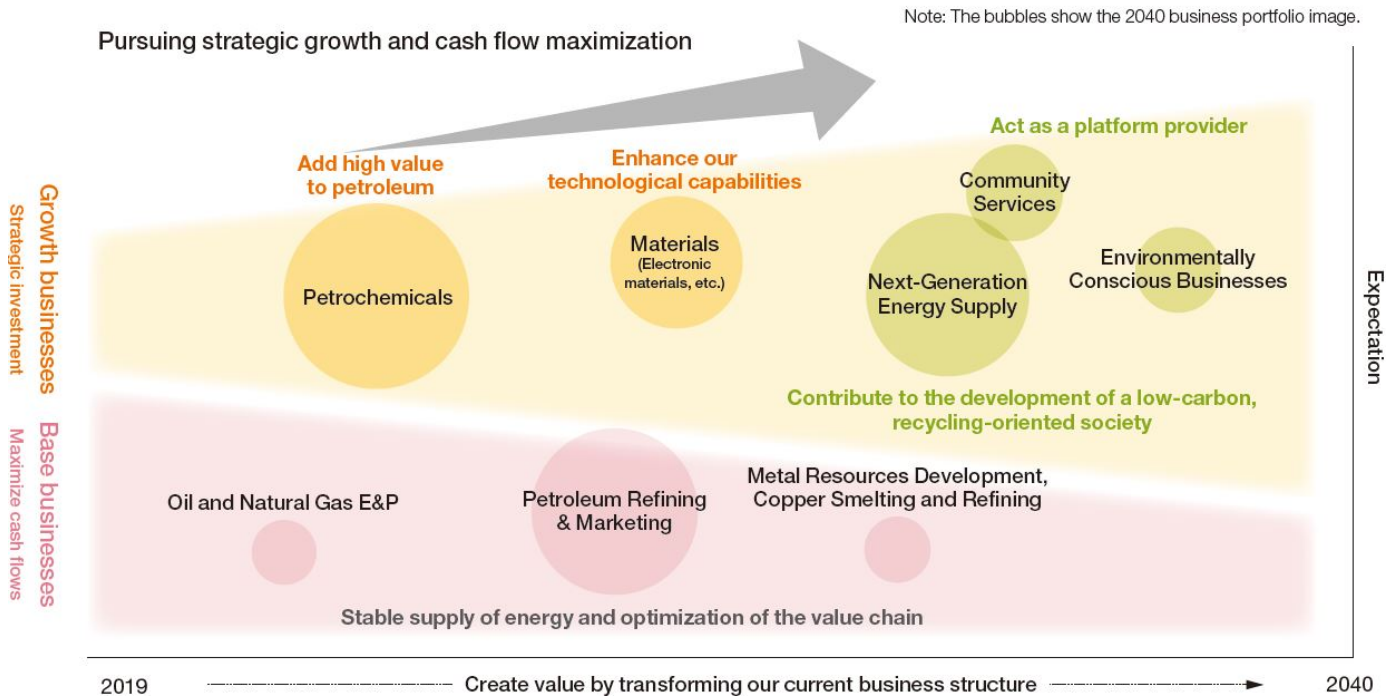
ENEOS has acquired JSR Corporation's elastomers business, which includes the manufacture and sale of synthetic rubber, and will supply the main product of this business, an advanced raw material for the treads of high-performance, fuel-efficient tires, thereby helping to reduce environmental impacts. We forecast about 10 billion yen in operating income from this elastomers business by fiscal 2023, and expect it to continue steadily in the future.
For more information, see “Acquisition of Elastomers Business” on page 24 of our Integrated Report 2021 .

With the advancement of digital innovation, high-performance and advanced materials needed for IoT, AI and robotics are expected to remain in high demand. The Group has already secured a share of about 60% in the global functional and thin-film materials markets, which includes sputtering targets for semiconductors and targets for magnetic materials. Our functional materials business and thin-film materials business generated a combined total of about 30 billion yen in operating income in fiscal 2020, and we seek to further increase income from these businesses in the future. Our Metals business, which includes copper mining and smelting as well as resource recycling, generated about 80 billion yen in operating income in fiscal 2020, and we expect continued steady growth of this business due to the anticipated increase in copper demand.
For more information, see “Increasing Production Capacity” on page 29 of our Integrated Report 2021 .

Building a Business Portfolio That Addresses Risks and Opportunities

We are accelerating structural reforms to build a resilient business portfolio that will enable us to respond to risks and opportunities that have been identified and achieve sustainable growth. In building our business portfolio, we have largely categorized the Group' s businesses into growth businesses, where we will increase strategic investment, and base businesses. In petroleum refining and marketing, one of our base businesses, we will optimize the value chain and maximize cash flows through improved efficiencies and resilience while fulfilling our responsibility to provide a stable supply of energy. In our growth businesses, we will focus on five newly defined businesses where we will effectively concentrate our management resources.

Overview of Our Future Businesses to 2040



Note:

Partially revised in May 2020

Indicators and Targets

As a milestone toward its stated goal of achieving carbon neutrality in its own emissions by 2040, the ENEOS Group has developed the Medium-Term Environmental Management Plan for fiscal 2020 to 2022, and has established long-term environmental targets to 2030.
For information on our results of reduction in CO_2 emissions, see Prevention of Global Warming.

Environmental Vision (Fiscal 2040)	**The ENEOS Group aims to be carbon neutral in its own CO_2 emissions in fiscal 2040.** We will achieve this by strengthening and expanding businesses that impose a low environmental burden and **strengthening environmentally conscious businesses.**
Long-term environmental targets (Fiscal 2030)	**We aim to reduce CO_2 emissions by 10.17 million tons** in fiscal 2030, compared to fiscal 2009, by pursuing energy conservation measures in business activities and pursuing sales and development of environmentally friendly products*, including renewable energy, **while also pursuing environmentally conscious businesses and contributing to the development of a low-carbon, recycling-oriented society.**

Medium-Term Environmental Management Plan

Key themes	Basic initiatives	Concrete measures aimed at 2022
Contribution to a low-carbon society	Pursuit of energy conservation measures in business activities CO_2 recovery in business activities (Scope 1 and Scope 2)	• **Reduce** CO_2 emissions by **2.16 million tons** compared to fiscal 2009 by pursuing energy conservation • CCS/CCUS initiatives
	Reduction of CO_2 emissions in the supply chain (Scope 3)	• **Reduce** CO_2 emissions of customers by **1.2 million tons** compared to fiscal 2009 by promoting sale and development of environmentally friendly products*
	Develop businesses in hydrogen and renewable energy	• Develop hydrogen station business • Develop renewable energy business Total **reduction of 920,000 tons** from biomass, solar power, wind power, and other forms of renewable energy

Total CO_2 emission reduction target: 4.28 million tons in fiscal 2022

* For more information on our environmentally friendly products, see ENEOS' environmentally friendly products (available in Japanese only).

Social

The ENEOS Group's mission is to harness the Earth's power for the common good and for the day-to-day life of each individual.
To fulfill this mission, we contribute to resolving the challenges faced by internal and external stakeholders.
For social data, please refer to the Data page.

Safety
Basic approach, structure and initiatives

Human Rights
Basic approach, structure and initiatives

Human Resource Development
Basic approach, structure and initiatives

Health
Basic approach, structure and initiatives

Healthy Work Environment
Basic approach, structure and initiatives

Quality
Basic approach, structure and initiatives

Supply Chain Management
Basic approach, structure and initiatives

Social Contribution
Basic approach, structure and initiatives

Social

Safety

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Basic Approach

As a corporate group responsible for the stable supply of energy and materials, the ENEOS Group believes that ensuring safe operations is the basis of our business survival and social credibility, as well as the source of our competitive edge.
Based on this understanding, safety has been prioritized in the ENEOS Group Philosophy, and our basic policy on safety and security has been stipulated in the ENEOS Group Code of Conduct.
Based on the above, each Group company has established its own safety policy in accordance with its own business characteristics and assesses risks pertaining to occupational safety, thereby ensuring multiple layers of effective safety activities. Specifically, we aim to enhance our safety activities and safety training programs, in which the employees of our contractor companies also participate, and we have established preventive and emergency measures to cope with all manner of accidents, problems and natural disasters.
We check with our labor unions to make sure efforts are being made to maintain the facilities needed to ensure the health and safety of labor union members (Article 90 of the Ancillary Agreement to the Labor Agreement).

ENEOS Group Code of Conduct (excerpt)

2. Safety and security
   (1) We regard safety and security as the foundation of our business activities, set high safety and security standards, always ensure safety and security, and take appropriate measures to prevent any incidents and injuries.
   (2) We have established preventive and emergency measures to minimize damage to our business sites caused by natural disasters, including earthquakes. We also make every effort to protect the lives and safety of our directors, officers and employees, communities, and others concerned.
   (3) We shall not work under the influence of alcohol or drugs, when ill, or under other conditions where safety cannot be ensured.

ENEOS Group Safety Policies

Each ENEOS Group company has established a policy on occupational health and safety which states its commitment to prioritizing and fully ensuring the safety of its workers.

- ENEOS
  We aim to ensure that nobody gets hurt and to eliminate accidents.
- JX Nippon Oil & Gas Exploration
  Ensuring that Health, Safety and Environment (HSE) considerations are given prevailing status over our other business considerations.
- JX Nippon Mining & Metals
  We place the highest priority on ensuring the health and safety of people working in all areas of business operations.

See the following for further details on the safety policies of the Group's principal operating companies.

> ENEOS Group Safety Philosophy and Policies
> JX Nippon Oil & Gas Exploration Health, Safety, and Environmental Policy
> JX Nippon Mining & Metals Group Basic Policy on Health and Safety

Structure

For information about our structure, see ESG Management Structure.
We have established the ENEOS Group Safety, Health & Environment Council, chaired by the officer responsible for the Safety, Health & Environment Department at ENEOS Holdings. The council meets, in principle, twice annually, to share information on the status of occupational injuries and the implementation of safety activities at ENEOS Holdings and its principal operating companies, as well as to discuss and develop measures to prevent occupational injuries.

Operation of Safety Management System and Status of Certification

Each Group company has built safety management systems tailored to its respective business characteristics. Our companies are continuously making efforts to raise safety awareness and prevent occupational injuries through means such as implementing regular safety education and training, conducting investigations into the causes of incidents and formulating and implementing measures to prevent recurrence.
ENEOS has established and implemented its own safe operations management system (SOMS), which conforms to ISO standards, at all of its refineries and plants.
JX Nippon Oil & Gas Exploration has adopted its own HSE[1] management system (HSEMS), which conforms to ISO standards. Through HSEMS system management, the company has established an integrated safe operations framework that includes overseas business sites.
Although JX Nippon Mining & Metals had acquired OHSAS 18001[2] certification at 11 of its domestic business sites, OHSAS was discontinued (March 2021) when ISO 45001 (JIS Q 45100[3]) came into effect. To meet the new standards, we are in the process of acquiring the new certification and moving from OHSAS 18001 to ISO 45001 (JIS Q 45100), as we aim to further enhance our level of health and safety. As of March 2021, six domestic business sites have acquired the certification (35% of the sites for which acquisition is planned). We will continue to pursue certification acquisition in accordance with our plan in fiscal 2021.

1 Acronym for “health, safety and environment”
2 An occupational health and safety management system. Discontinued in March 2021 with the issuance of ISO 45001.
3 JIS standard based on the international standard ISO 45001, with additional requirements particular to Japan.

Major Initiatives

Safety Activities

ENEOS Group companies are working to raise safety awareness and enhance safety management.
Risks at production and manufacturing sites are managed using a PDCA cycle to identify hazards, assess risks and take necessary risk mitigation measures and assess their effectiveness.
Every year in July, ENEOS releases a video message on safety by its president to all employees, demonstrating the company's top-down commitment to safety. At its refineries and plants, the company has implemented a behavior-based safety (BBS) system that is used to facilitate safe operations by focusing on individual behavior.
JX Nippon Oil & Gas Exploration has implemented various safety activities at its business sites both overseas and in Japan (Vietnam, Malaysia, and Nakajo). Among these activities, the STOP[1] card and safety activities known as UCUX[2] dictate that if an unsafe behavior is detected during a work task, the task will be suspended and cannot be restarted until an improvement proposal is made and the unsafe element is remedied. These activities enable anyone who notices an unsafe situation to propose improvements, which encourages frontline workers to become actively involved in safety and improves overall safety awareness.
JX Nippon Mining & Metals is working continuously to improve safety awareness and sensitivity to risks through means such as enhancing hazard simulation training at its business sites and developing and implementing safety training materials based on past accidents (videos re-enacting occupational accidents, e-learning, etc.).

1 A safety training observation program developed by DuPont
2 Unsafe Condition / Unsafe Action

Results of Major Initiatives for Ensuring Safety

The ENEOS Group prioritizes and is committed to ensuring the safety of its workers. We conduct comprehensive safety activities and safety training for employees, including those of contractor companies. We also set annual targets for zero serious occupational injuries (occupational fatalities) and a total recordable incident rate (TRIR*) of 1.0 or less.
In fiscal 2020, there were a total of 40 occupational injuries, 17 more than the previous fiscal year. Among these, two occupational fatalities of contractor company workers occurred due to falls from heights. We take these accidents with the utmost seriousness, and we will work on continuous improvement by improving the effectiveness of risk assessments and employee ability to investigate the causes of accidents as part of our ongoing efforts to improve the safety and health management system. As a company that provides work environments for a large number of employees, including those of contractor companies, we seek to prevent occupational injuries through effective safety activities according to our business characteristics.

* Total recordable incident rate (TRIR) is the number of occupational injuries per one million hours (non-lost-time occupational injuries + lost-time occupational injuries and fatalities)

For information about ☑, see the Editorial Policy.

Occupational Injuries ☑

(Persons)

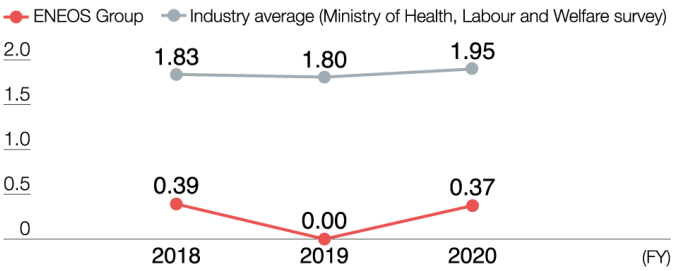
			FY2018	FY2019	FY2020
Number of occupational injuries	Directly hired employees	Fatalities	0	0	0
		Lost work time	19	3	12
		Subtotal	19	3	12
	Contractors (contractor companies, etc.)	Fatalities	0	0	2
		Lost work time	23	20	26
		Subtotal	23	20	28
Total			42	23	40

Notes:

Scope of occupational injury statistics: ENEOS, JX Nippon Oil & Gas Exploration and JX Nippon Mining & Metals

A portion of data from past fiscal years was revised when summarizing the results for fiscal 2020.

Occupational Injury Frequency Rate* ☑



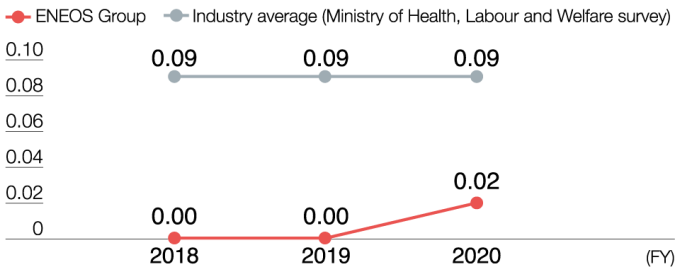
Notes:

Scope: The refineries, plants and business sites of ENEOS, JX Nippon Oil & Gas Exploration and JX Nippon Mining & Metals (For details, see Data).

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

Definition of terms by the Ministry of Health, Labour and Welfare (Available in Japanese only)

Occupational Injury Severity Rate* ☑



Notes:

Scope: The refineries, plants and business sites of ENEOS, JX Nippon Oil & Gas Exploration and JX Nippon Mining & Metals (For details, see Data).

* Severity rate: The aggregated number of working days lost per thousand cumulative hours worked; indicates the severity of occupational injuries.

Definition of terms by the Ministry of Health, Labour and Welfare (Available in Japanese only)

TRIR and LTIR

	FY2018	FY2019	FY2020
Total recordable incident rate (TRIR)	1.25	1.01	1.50
Lost time injury rate (LTIR)	0.39	0.04	0.35

Notes:

Scope: ENEOS Holdings, head office and 13 refineries and plants of ENEOS, three business sites of JX Nippon Oil & Gas Exploration, head office and five business sites of JX Nippon Mining & Metals (For details, see Data).

TRIR: Number of non-lost-time occupational injuries, lost-time occupational injuries and fatalities per million hours
LTIR: Number of lost-time occupational injuries and fatalities per million hours

Initiatives for Group-wide Safety Action Items

In order to prevent serious occupational injuries, we designated preventing falls, separating people from heavy machinery, and preventing heatstroke as safety action items for principal operating companies. We established these action items in the guidelines in February 2020.
In fiscal 2020, as Group companies were working on these safety action items, two occupational fatalities from falls occurred. We take these accidents with the utmost seriousness, and are working to strengthen and ensure thorough compliance with internal rules on safety measures for working at heights.

Group-wide Safety Action Items

- Preventing falls
- Separating people from heavy machinery
- Preventing heatstroke

Initiatives for Separating People from Heavy Machinery

JX Nippon Mining & Metals considers the prevention of collisions between people and heavy machinery to be a key safety issue. In efforts to prevent collisions, which can easily lead to serious occupational injuries, in addition to utilizing the RFID*-equipped system introduced in fiscal 2018, we also conducted verification trials and began operation of a human detection system using intelligent cameras at Kurami Works in fiscal 2020. The human detection system warns heavy equipment operators when a worker approaches a forklift.

* Abbreviation for “radio frequency identification,” short-range wireless communication using electromagnetic fields and radio waves.

Intelligent cameras installed on forklifts

Hazard Simulation Training Using Virtual Reality

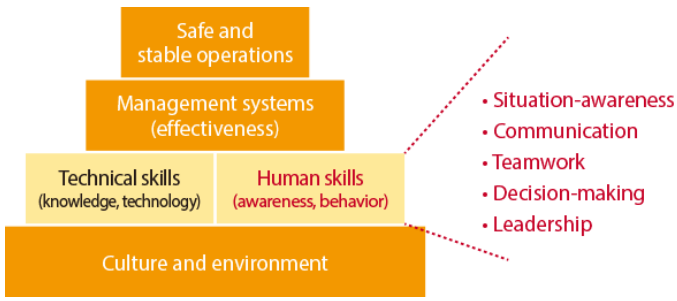
The ENEOS Group launched the ENEOS Group Safety Education Center in Hitachi City, Ibaraki Prefecture in 2013 to enable workers to learn about the hazards inherent in day-to-day operations through simulated experiences. Since fiscal 2017, the center has implemented a training program unique to the Group using virtual reality (VR) technology.
The program enables workers to feel what it is like to be involved in an accident and think about victims' psychological state, as well as accident causes and preventive measures.
Using VR technology, trainees can experience simulated accidents that cannot be safely replicated in the real world, such as steam explosions, being struck by heavy machinery, getting caught in rotating equipment, and falling from heights. These experiences improve their ability to detect workplace hazards to avoid or deal with when they occur. Since the launch of the program, VR experiences with scattering of chemicals, getting fingers caught in slings, grinder recoil, and falling down stairs have been added to the program, further enhancing the content of the training.
In fiscal 2020, 432 persons participated in training at the facility, bringing the total number since the establishment of the center to 11,769.
In addition, we have installed hazard simulation equipment at each of our production sites (ENEOS: 12 sites, JX Nippon Mining & Metals: 7 sites). Workers at these sites, including those from contractor companies, are required to undergo training using this hazard simulation equipment before engaging in onsite work. With these and other efforts, we are working to ensure safety across the entire Group.

Virtual-reality training equipment

Initiatives for Improving Human Skills

As human factors are a major cause of occupational accidents and injuries, we have focused for many years on training to arm employees with the knowledge and technical skills needed to implement procedures and rules without fail. In recent years, however, there is growing awareness in the manufacturing industry, referencing leading initiatives in the healthcare and airline industries, about the importance of stepping up initiatives to improve non-technical skills, including status confirmation of work environments and communication among workers, in addition to compliance with procedures and rules. Accordingly, we are incorporating knowledge and activities for the improvement of these non-technical skills.

At ENEOS, we refer to these non-technical skills as human skills, and we have created activity guidelines for improving human skills in manufacturing divisions. In accordance with these guidelines, at all of our plants and refineries, top management shares the importance of human skills, and systems have been put into place for the implementation of various forms of education and training and the integration of the resulting skills into existing daily safety activities in the workplace. In this manner, we are working to improve the human skills of all employees.



Foundation for Safe and Stable Operations

Initiatives with Contractor Companies

At ENEOS refineries and other facilities, when selecting contractor companies, we evaluate companies' safety management in their business operations. In addition, even after beginning business relationships with contractor companies, we conduct regular evaluations of the status of their safety management, identify areas for improvement and follow up on the implementation of improvement measures.
Moreover, in order to ensure proper safety management of contractor companies, we require the primary contractor to submit and execute a safety management plan, establish KPIs for the contractor company, conduct regular monitoring and evaluation, and report on improvements.
All new entrants to the contractor company are given orientation training.

Acquisition of Super Certification for High Pressure Gas

ENEOS' Kawasaki Refinery and Sakai Refinery were the first and second businesses to be certified under the new certification regime for the High Pressure Gas Safety Act in fiscal 2017. Mizushima Refinery A and B also obtained certification in fiscal 2019.
This certification, established by Japan's Ministry of Economy, Trade and Industry, is awarded to refineries that satisfy certain criteria in such areas as advanced safety activities and operational support systems.
In June 2020, Kawasaki Refinery renewed its certification under the new standard following the addition of certification requirements regarding the open inspection period extension for high-pressure gas facilities in November 2019. As a certified business, we will continue to implement high-quality safety activities with the goal of improving our safety practices even further.

Initiatives at Refineries and Plants for Major Earthquakes

The ENEOS Group implements various earthquake measures at its refineries and plants.

Measures to Protect Lives

As a precaution against earthquakes and tsunamis, we have voluntarily implemented seismic reinforcement of our onsite offices and production unit control rooms, with priority given to the protection of human life.
We have also designated locations and methods for evacuation in case of an earthquake or tsunami, and we carry out disaster preparedness drills every year.

Elevated warehouse (Sakai Refinery)

Measures for Seismic Reinforcement of Facilities

We are carrying out legally required seismic reinforcement work for tanks that store hazardous materials.
Upgrade work on floating-roof tanks subject to this requirement was completed before the statutory deadline. As for internal floating-roof tanks, which became subject to legislation in fiscal 2011, plans are in place to complete seismic reinforcement work by the statutory deadline (end of fiscal 2023).
As for high-pressure gas facilities, we have carried out seismic performance evaluations based on administrative directives, and we have completed the retrofitting of spherical tanks with braces to increase earthquake resistance, taking into account the effects of the Great East Japan Earthquake.
We continue to carry out earthquake resistance measures on critical facilities, with completion of work planned for the end of fiscal 2021.

Brace retrofitting on a spherical tank

Measures to Mitigate Damage from Disasters

We have installed seismographs at all of our refineries and plants as part of a system that automatically shuts down equipment in a prompt and safe manner in the event of an earthquake, depending on the intensity.

Major Initiatives to Prepare for Accidents and Problems

Disaster Prevention Facilities

At our refineries, plants, and stockpiling terminals, we have established a self-defensive organization for disaster prevention and installed necessary disaster response equipment and facilities in preparation for potential accidents and disasters. We have also established a defensive organization for cooperative disaster prevention with nearby companies to improve the disaster preparedness of industrial complexes.

High-capacity foam water canon (Oita Refinery)

Oil Spill Countermeasures

We have multiple oil dikes surrounding our storage tanks and systems to prevent leakage from spreading offsite. In addition, to promptly respond to oil spills at sea, we have oil fences to prevent oil spills from spreading and oil recovery vessels in place.

Drill for oil spill at sea using oil fences and oil recovery vessels (ENEOS Kiire Terminal)

Fire Countermeasures

We have equipped our refineries and plants with fire extinguishing equipment, such as large chemical firefighting vehicles, high-altitude water cannon vehicles, and high-capacity foam water cannon systems, for response in the event of a major fire.
Our facilities also have disaster response vessels with firefighting capabilities to respond to fires at sea.

High-altitude chemical water cannon vehicles (Mizushima Refinery)

Disaster Drills

We regularly implement comprehensive disaster response drills for our self-defensive organization for disaster prevention to ensure that we can respond in a quick and agile manner should an actual disaster occur. We also hold other drills, including joint disaster preparedness drills involving local fire departments as well as disaster response organizations from nearby companies and local communities.

Comprehensive disaster response drill with refinery self-defensive organization for disaster prevention and local government (Sendai Refinery)

Ensuring a Stable Supply

The ENEOS Group has established a backup system for ensuring a stable supply in the event of a major disaster that impacts the functions of production and shipping sites through collaboration with other production and shipping sites. We also conduct drills and training regularly to ensure that our sites can continue to function in the event of a disaster.

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Social

Human Rights

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Basic Approach

As a corporate group with global business operations, the ENEOS Group believes that an important element in striving for sustainable development is respect for the human rights of all stakeholders, including employees.
The Group supports international norms such as the United Nations Guiding Principles on Business and Human Rights and the fundamental labor rights of the International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work (freedom of association and the effective recognition of the right to collective bargaining, the elimination of all forms of forced or compulsory labor, the effective abolition of child labor, the elimination of discrimination in respect of employment and occupation).
We conduct our business activities with respect for the human rights not only of our employees, but of all stakeholders, including our suppliers, customers, business partners and members of local communities.

ENEOS Group Code of Conduct (excerpt)

5. Respect for human rights
   (1) We shall not infringe on human rights through our business activities. We respect internationally accepted human rights standards and diversity, acknowledging differences pertaining to gender, age, nationality, race, ethnicity, skin color, culture, thought, religion, belief, political opinions, sexual orientation, and the presence or absence of disability.
   (2) We shall not engage in any type of discrimination or harassment.
   (3) We shall not engage in any forms of forced labor or child labor.
   (4) We shall not engage in business transactions which may lead to the prolongation of conflicts, human rights violations, or inhumane acts.

Human Rights Policy

We have stipulated respect for human rights as a basic principle in the ENEOS Group Code of Conduct, and we have supplemented this principle with the Human Rights Policy.
The Group asks all business partners involved in its business activities to understand and cooperate with this policy, and strives to ensure thorough awareness and compliance.

ENEOS Group Human Rights Policy

The ENEOS Group conducts its business activities under the ENEOS Group Philosophy, which states that 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.
This policy was formulated as a guideline for promoting respect for human rights across the entire Group and fulfilling related obligations pursuant to the United Nations Guiding Principles on Business and Human Rights.

1. **Basic Approach**
   The ENEOS Group fully recognizes that human rights must be respected in all of the countries and regions where it conducts its business activities.

2. **Compliance with Applicable Laws and Regulations**
   The ENEOS Group complies with the laws, ordinances and regulations applicable in the countries and regions where it conducts its business activities. In addition, the ENEOS Group will pursue a method for respecting international principles on human rights in case of a contradiction between internationally recognized human rights and the laws and regulations of each country and region.

3. **Respect for International Norms on Human Rights**
   The ENEOS Group supports and respects the International Bill of Human Rights (consisting of the Universal Declaration of Human Rights, International Covenant on Civil and Political Rights, and the International Covenant on Economic, Social and Cultural Rights), which stipulates the fundamental human rights of all people, along with international norms on human rights such as the ILO Declaration on the Fundamental Principles and Rights at Work of the International Labor Organization, which sets forth fundamental labor rights, other conventions relating to the human rights of workers on wages and working hours, the Declaration on the Rights of Indigenous Peoples, and the Children's Rights and Business Principles. As a participant in the UN Global Compact, we support and respect the 10 principles of the UN Global Compact.

4. **Fulfillment of Responsibility to Respect Human Rights**

   The ENEOS Group is committed to upholding human rights. If it is determined that our business activities cause or have caused adverse impacts on human rights, we will take appropriate action to remedy such impacts in accordance with our responsibility to respect human rights. As part of our efforts, the ENEOS Group will promote the following initiatives.

   - Human Rights Due Diligence

     The ENEOS Group will establish and continually implement a mechanism for human rights due diligence. Human rights due diligence refers to the continuous process of conducting preventive surveys and investigations, rectifying issues using appropriate means, and disclosing the progress and results of such externally, in order to prevent or mitigate possible adverse impacts on human rights caused by the company.

   - Dialogue and Discussions

     The ENEOS Group conducts in earnest dialogue and discussions with relevant stakeholders to ensure that it comprehends and addresses the impacts it has on human rights from the perspective of those affected.

5. **Training**

   The ENEOS Group will provide appropriate training to its officers and employees to ensure that this policy is incorporated into the business activities of all companies belonging to the ENEOS Group.

6. **Information Disclosure**

   The progress and results of initiatives for respect for human rights under this policy will be disclosed on our website and in reports, among other media.

7. **Applicable Scope**

   This policy applies to all officers and employees of the ENEOS Group. All business partners involved in the ENEOS Group's business activities will be asked to cooperate with this policy.

8. **Positioning**

   This policy supplements the provisions of the ENEOS Group Philosophy and the ENEOS Group Code of Conduct.

Structure

For information about our structure, see ESG Management Structure.

Major Initiatives

Participation in the UN Global Compact

ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration and JX Nippon Mining & Metals support the UN Global Compact and work to realize its 10 principles in four areas, including human rights.

Corporate Human Rights Benchmark (CHRB)

The ENEOS Group became subject to Corporate Human Rights Benchmark (CHRB) assessment* in 2019, and regularly engages in dialogue with CHRB to exchange opinions on business and human rights.
In fiscal 2020, based on the assessment and dialogue with CHRB, we focused our efforts on the consideration of human rights factors in supplier selection (see Human Rights Due Diligence).
Going forward, in order to sufficiently address the questions posed by CHRB, we will carry out initiatives on business and human rights and proactively disclose relevant information.

* See the CHRB website for assessment results.

Raising Awareness of Human Rights through Training and e-Learning

Group companies conduct human rights training and e-learning for all officers and employees in an effort to raise awareness of human rights and prevent human rights issues, including harassment in the workplace, from occurring. In particular, the training for newly appointed managers focuses on the prevention of harassment and incorporates response methods based on case studies.
The participation rate in human rights training in fiscal 2020 was 100%.

Mine Development and Respecting the Human Rights of Local Residents

The development and operation of mines can have a particularly significant impact on the surrounding environment. It is therefore essential to give due consideration to the human rights of local residents and implement measures to ensure coexistence and mutual prosperity with local communities.
The JX Nippon Mining & Metals Group's Minera Lumina Copper Chile, the operator of the Caserones Copper Mine, applies a basic three-point policy for supporting local communities: respect for life, protection of the community and environment, and compliance with laws and regulations. In keeping with this policy, after the project launch in 2007, the operator began holding briefings and engaging in dialogue with the Collas, the indigenous people who live in the area around the mine site, in an effort to build trust.
There were no cases of infringement of residents' rights in fiscal 2020.

Briefing for local residents

Response to the UK Modern Slavery Act 2015

ENEOS Group company ENEOS Europe Limited and JX Nippon Oil & Gas Exploration Group company JX Nippon Exploration and Production (U.K.) Limited have released statements in response to the United Kingdom Modern Slavery Act 2015, which came into effect in October 2015.
See the following for more information.

- FY2020 Anti-Slavery and Human Trafficking Statement (PDF : 898 KB)
- JX Nippon Exploration and Production (U.K.) Limited Modern Slavery Act Statement (PDF : 77 KB)

Initiatives for Business and Human Rights

Human Rights Due Diligence

In fiscal 2019, based on the Group Human Rights Policy and in accordance with the United Nations Guiding Principles on Business and Human Rights (UNGP), the Group conducted its first round of human rights due diligence (a mechanism for identifying and evaluating the scope of human rights violation risks in business activities as well as establishing measures for improvement and implementing training).
In fiscal 2020, we reviewed and addressed areas for improvement for the Group based on the results of our first round of human rights due diligence and the assessment results from CHRB. In fiscal 2021, we conducted the second round of human rights due diligence.
In the course of human rights due diligence, in which we referenced Guidance on Human Rights Due Diligence of the Japan Federation of Bar Associations and the opinions of NGOs in addition to the UNGP, we identified human rights issues for confirmation (see table below).

Human Rights Due Diligence Issues for Confirmation

Stakeholders	Human rights issues	
Employees	Harassment	Management of working hours
	Discrimination	Health
	Safety	Work-life balance*
	Freedom of association (right to organize, right to collective bargaining)*	Fair and sound labor standards*

Stakeholders	Human rights issues	
Suppliers	Human rights violations by suppliers	
Customers/ Business partners	Quality defects (including contamination)	Inadequate provision of product information
	Improper management of chemical substances used in products	Information security (privacy)
Local communities	Environment (including environmental degradation, health impacts, and damage in local areas)	

* Additional human rights issues included in the second round of human rights due diligence, conducted in fiscal 2021.

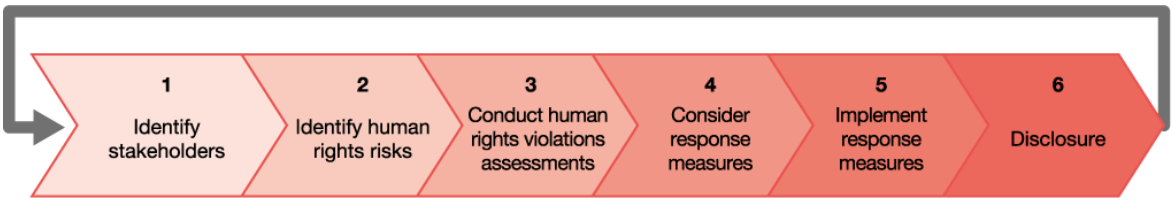
In fiscal 2020, based on the results of human rights due diligence and assessment results from CHRB, we focused on consideration of human rights factors in supplier selection.
In terms of CSR procurement, although we had been following up on the activities of suppliers subject to adverse dispositions by the government and urging them to make improvements, we decided to inform suppliers in advance of our focus on human rights factors and the fact that in some cases, we may reconsider the content of transactions. These kinds of improvements have enabled us to strongly request supplier compliance with our policies, including the Group Philosophy, Code of Conduct, and Human Rights Policy.

In the course of the second round of human rights due diligence, we followed suit from the first round in verifying whether the Group had committed any human rights violations involving employees, customers, local residents living near refineries or smelters, local residents living near service stations, or suppliers. In addition, in the second round of human rights due diligence, we carried out engagement with NGO Human Rights Now, as well as ENEOS labor union members and JX Nippon Mining & Metals labor union members, and based on the results, we assessed and verified human rights issues pertaining to the Group.
There were zero incidents of serious human rights infringement as of November 2021. However, if a human rights violation occurs in the course of our business activities, we take corrective steps and promptly implement remedy measures pursuant to laws and regulations and following the instructions of the relevant authorities, while also working to prevent recurrence. In addition, based on the second round of human rights due diligence and the CHRB assessment items, we will conduct employee training and enhance the global hotline system and its operation to prevent human rights issues and address them if they occur.
Furthermore, the company-wide risk management system operated by the Group (see Risk Management) identifies various risks in the Group's operations, including harassment, child labor, and forced labor. In addition to our implementation of human rights due diligence, this serves as a framework for continuously assessing impacts on human rights.

Rights Verified in Human Rights Due Diligence

- The ILO's fundamental labor rights (freedom of association and the effective recognition of the right to collective bargaining, elimination of all forms of forced or compulsory labor, effective abolition of child labor and elimination of discrimination in respect of employment and occupation)
- Three labor rights (right to organize, right to collective bargaining, freedom of association)
- Freedom from forced or compulsory labor
- Freedom from all forms of harassment
- Right to work in a safe and healthy work environment
- Freedom from discrimination
- Rights of foreign workers
- Rights of immigrants
- Rights of persons with disabilities
- Rights of women
- Rights of sexual minorities
- Right to access to remedies
- Social security
- Prohibition of child labor
- Access rights to resources
- Rights concerning health

Human Rights Due Diligence Cycle



1. Identify stakeholders

   Identify employees, customers, local residents living near refineries and plants, local residents living near service stations, suppliers, and others as stakeholders.

2. Identify human rights risks

   Identify human rights risks for each stakeholder (see Human Rights Due Diligence Issues for Confirmation)

3. Conduct human rights violation assessments

   For each human rights risk, conduct self-assessments in each department to determine if human rights violations have occurred through business operations
   After self-assessments, request confirmation by outside experts (NGO Human Rights Now)
   Fiscal 2021: In addition to the above, we also conducted engagement with ENEOS labor union members and JX Nippon Mining & Metals labor union members to assess human rights violations risks.

4. Consider response measures

   Based on the results of self-assessments and the opinions of outside experts, identify human rights violations risks for which response should be prioritized, and consider measures for improvement.

5. Implement response measures

   Introduce response measures based on consideration of measures in step 4.
   Introduced measures for human rights factors in supplier selection in fiscal 2020.

6. Disclosure

   Report on response.

Third-Party Opinion

The ENEOS Group is working to ensure respect for human rights through the PDCA cycle based on the Group Philosophy and the Code of Conduct. For our human rights risk assessment, implemented as part of our efforts to ensure respect for human rights, we have asked Human Rights Now, an NGO, to conduct desk research in the interest of ensuring verification from a third-party perspective. A portion of the fiscal 2021 third-party opinion is summarized as follows.

Human rights due diligence briefing session presented by Human Rights Now (Fiscal 2019)

A portion of the third-party opinion (★ denotes observations from fiscal 2019)

Initiatives for supply chain management implemented in fiscal 2020 were deemed to have achieved steady progress, while further issues to be addressed were also indicated.

- **Right to access to remedies ★**
  Further dissemination and promotion of the use of the internal reporting system (hotline)
- **Discrimination and harassment★**
  Advanced efforts for discrimination and harassment prevention training
- **Supply chain management ★**
  Effective implementation of the Group Code of Conduct among Group companies and suppliers in Japan and overseas, and response to human rights risks across the entire value chain, including overseas
- **Just Transition**
  Implementation of human rights due diligence based on potential human rights risks due to global warming initiatives

- **Human rights in conflict-affected areas**
  Implementation of appropriate measures to avoid contributing to human rights harm in areas where serious human rights violations occur, and implementation of engagement with stakeholders

Internal Structure for Business and Human Rights

Based on the third-party opinion (NGO Human Rights Now) received in human rights due diligence and the assessment results of CHRB, the Corporate Planning Department and the Human Resources Department of ENEOS Holdings are taking the lead in strengthening human rights initiatives across the Group.
An overview of these efforts is presented below.

Operations	Departments in charge (breakdown)
Internal training and human rights consultation contact points	Human Resources Department 1 general manager, 3 deputy general managers, 16 in group responsible
Human rights due diligence planning	Corporate Planning Department 1 general manager, 1 deputy general manager, 6 in group responsible

Human Rights Initiatives in the Supply Chain

With the cooperation of its suppliers, the Group introduced CSR procurement in fiscal 2018. In CSR procurement, we ascertain the status of suppliers' human rights efforts through surveys on human rights due diligence verification items.
In fiscal 2020, based on the results of human rights due diligence and CHRB assessment results, we made improvements in the consideration of human rights factors in supplier selection, and we also decided to inform suppliers in advance of our focus on human rights factors and the fact that in some cases, we may reconsider the content of transactions.
While these efforts were recognized for having made steady progress in the second round of human rights due diligence, as further issues to be addressed have been indicated, we will continue to work on improvements.
The Group will continue its efforts to ensure that no human rights violations occur within its supply chain. For details, see Supply Chain Management.
In addition, the JX Nippon Mining & Metals Group is taking measures against conflict minerals. For details, see Confronting the Issue of Conflict Minerals.

Consultation Contact Points (Remedy Measures)

The Group has established compliance hotlines and harassment consultation contact points as internal contact points for consultation and reporting of issues, including human rights violations. These contact points accept anonymous reports and provide consultation on issues ranging from human rights issues that may occur in the course of day-to-day operations to serious human rights violations. The contact points are available in Japanese and English for employees in Japan and overseas.
Under our compliance hotline system, all reports received are reported to officers by email, and the status of response is explained to Audit and Supervisory Committee members semi-annually. We inform employees of this system through the company intranet, and in training sessions held by the Legal & Corporate Affairs Department, we encourage employees to use the system. Persons who contact the contact points are not in any way subjected to unfavorable treatment for seeking consultation or making reports. Retaliation against persons who make reports is strictly prohibited, and their privacy is rigorously protected.
Employees who report matters to compliance hotlines and the harassment consultation contact points are not restricted from seeking remediation outside the company for those matters. Therefore, employees are also free to seek other remedies using the legal systems of their respective countries (Whistleblower Protection Act, etc.).
Furthermore, each report received by the Group is investigated and addressed. Generally, all reports are resolved within one year. See Compliance for the internal reporting workflow of these hotlines.

Views from Employees

The Group conducts a variety of surveys and initiatives to gather opinions from employees, which are applied in internal initiatives. For example, for women's empowerment, we held a panel discussion and dialogue between officers and employees on the themes of career advancement and balancing childcare and work.
We have also made improvements to the compliance hotline system to reflect employee opinions and needs outside the company. Improvements include accepting anonymous reports, establishing outside contact points, introducing Group internal reporting, and disclosing the number of reports on the intranet.

Working Conditions

At least once every year, Group representatives meet with employee representatives (labor unions) to negotiate overall working conditions, including wages. The wages of newly hired employees greatly exceed the minimum wage in Japan (The percentage of employees covered by the collective bargaining agreement is 70.9%. Refer to Data for the labor union participation rate).
The Group respects the ILO's fundamental labor rights (freedom of association and the effective recognition of the right to collective bargaining, elimination of all forms of forced or compulsory labor, effective abolition of child labor, elimination of discrimination in respect of employment and occupation). Workers who exercise their rights are protected by the laws and regulations of each country.

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Social

Human Resource Development

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Basic Approach

The ENEOS Group believes that an important challenge in the achievement of our growth strategy in a rapidly changing business environment is the development of creative, innovative human resources who can take on challenges on a global scale. In accordance with this approach, we have set out basic principles on human resource development in the Group Code of Conduct and the Group Basic Policy on Human Resources Development, and we have established consistent systems for each phase of human resource development, including hiring, assignment, evaluation, promotion, and training. In addition, each Group company pursues human resource development in accordance with its own business policies based on the Group Code of Conduct and the Group Basic Policy on Human Resources Development.

ENEOS Group Code of Conduct (excerpt)

12. Establishment of a healthy work environment
    (1) We strive to enable all personnel to carry out their business operations in the workplace with vigor, and to enable ourselves, our families and our colleagues to lead healthy and cultured lives by promoting health care and work-life balance.
    (2) We promote diversity in order to enable diverse individuals to maximize their abilities.
    (3) We strive to secure and maintain a pleasant work environment through interactive dialogue and ongoing communication.
    (4) We strive to train our people, and seek to enhance the abilities of ourselves and others.
    (5) We shall obtain the necessary confirmation and approval from the appropriate person(s) with authority before we commence any religious activity, political activity, or any similar activities during work.

ENEOS Group Basic Policy on Human Resources Development

We will continuously and systematically develop human resources to secure talent capable of tackling challenges globally with the spirit of creativity and innovation.
We will carefully develop employees with a strong awareness of the Group's mission and our five core values, a strong sense of ethics and a willingness to take on challenges.

We will develop human resources who will help us enhance corporate value over the medium to long term in order to strengthen our management foundation.
We maintain various functions and roles based on the business format and organization of the company. Each of these is indispensable to the operations of the company, and we will promote appropriate development efforts to ensure that all employees can contribute to the organization by maximizing their capabilities.

We will establish systems for actively supporting employees looking to grow themselves by promoting diverse development and growth tailored to each employee's aptitude.
We believe that supporting the growth of our diverse workforce will help to invigorate company organizations, thereby strengthening our competitiveness. We respect the individuality of each and every employee and support the self-led growth of employees tailored to their aptitude.

Structure

For information about our structure, see ESG Management Structure.

Major Initiatives

Each ENEOS Group company implements development programs in accordance with its own business policies based on the Group Code of Conduct and the Group Basic Policy on Human Resources Development.

ENEOS Group

Development of Future Leaders

Candidates for future Group management positions are cultivated through classification-leveled training of selected personnel.

Training for future Group management positions

Promotion of Measures Linked to Workstyle Reforms

Proactive efforts are made with a variety of measures targeting workstyle reforms to create an environment for effectively nurturing diverse human resources.

ENEOS

Training by rank
Classification-leveled training and training to develop core resources are provided.

Overseas training for young employees
College graduates in their third to fifth year of employment with the company are sent overseas for about one month for training, which includes English lessons and fieldwork in accordance with their language skill levels.

Note:
In fiscal 2020, this initiative was suspended due to the COVID-19 pandemic.

Locally hired overseas employees
Face-to-face training is implemented for locally hired overseas employees.

Promotion of career opportunities for female employees
Seminars are held to support balancing childcare and work, to raise awareness among supervisors, and to support the career development of female employees.

JX Nippon Oil & Gas Exploration

Training by rank
Classification-leveled training and training to develop core resources are provided.

Dispatch of young employees overseas
Young employees with several years of experience at the company are dispatched for three to six months to overseas offices and sites, where they focus on core learning themes to learn about the E&P business in the field while contributing to local operations.

Note:
In fiscal 2020, this initiative was suspended due to the COVID-19 pandemic.

Career development interviews
Employees are interviewed at key points in their careers to enhance the effectiveness of career development over the medium to long term, based on employees' own wishes and the needs of the company. Based on the results, the company offers support for every individual to take on new challenges in order to achieve their future vision for themselves.

JX Nippon Mining & Metals

Training by rank
Classification-leveled training and training to develop core resources are provided.

Overseas language training
All management-track employees in their second year at the company as well as other employees in need of language training are sent abroad to study foreign languages for one to three months.

Note:
In fiscal 2020, this initiative was suspended due to the COVID-19 pandemic.

Career development interviews for young employees
Recognizing that human resources are the source of our organization's strength, regular human resources and division interviews with young employees are conducted as an effort to ensure the systematic development of these employees and enhance their proposal-making capabilities.

Project manager development training
Training for the development of human resources responsible for various projects in order to strengthen development of human resources capable of carrying out the company's transformation (new businesses, overseas businesses, etc.)

Trigger for the Future
This lecture program covers topics that align with the Company's future direction to provide opportunities for creative inspiration different from day-to-day business operations and training.

Evaluation feedback interviews and self-assessment interviews
Regular interviews are conducted with all regular employees to evaluate performance during the fiscal year and to share information about work issues and skill development opportunities in the next fiscal year. We have also established human resources systems to get an accurate understanding of employees' ambitions for long-term career design and skill development. Regular interviews are held to give the company and supervisors a better understanding of employees' wishes, helping to ensure optimal assignment, relocation, and development of employees (interviews held for all regular employees, who account for 90% of all employees).

Employee training programs
A total of 6 programs are offered throughout the year for young employees to educate them about E&P business technologies, contracts, and economic calculations. Training is led by in-house instructors using curricula developed by the company.

Energizing individuals and organizations
Efforts are made to strengthen human resource management and development, as well as establish an environment in which diverse human resources can work with enthusiasm.

Training Hours in Fiscal 2020

	Total training hours	Training hours per employee
ENEOS Holdings and ENEOS	25,934	2.8
JX Nippon Oil & Gas Exploration	2,993	8.3
JX Nippon Mining & Metals	23,054	11.3
Total	51,981	4.5

Note:
Number of hours of internal group training and external training organized by the human resources departments of ENEOS Holdings and the Group's principal operating companies, aggregated for each employer.

Initiatives to Develop Management Resources

With an eye on the future direction of its companies, the ENEOS Group must work to more systematically and strategically develop management resources as the future leaders of the Group in order to respond to the rapid changes expected to take place in the management environment going forward.
ENEOS Holdings and its principal operating companies are working on the development of these management resources as a common challenge facing the Group. We will work together to identify, at an early stage, employees qualified for management positions and provide comprehensive training to draw out their full potential as future senior executives.

Workflow for the Selection and Development of Management Resources at ENEOS

1 Selection	Identify management resources using Impartial and objective measures, taking into account the ideal attributes for senior management positions.
2 Planning and Development	Establish effective development processes and individual development plans for each person. • On-the-job training (interdivisional transfers, challenging assignments, etc.) • Off-the-job training (in-house classification-leveled selection for training, enrollment in business schools in Japan and overseas, etc.)
3 Verification	The Human Resource Development Council, comprising senior management, examines the qualifications of human resources for management from multiple angles and implements the PDCA cycle for their development plans.

Implementation of Various Measures

Measures to Promote Dialogue

ENEOS engages in various dialogue initiatives to encourage interaction and discussion among different departments.
In fiscal 2020, we held department seminars to foster understanding among participants about different departments through in-depth presentations and Q&A sessions.

Department seminar

Global Business Skills Training Designed for the Systematic Development of Global Human Resources

ENEOS offers “Global business skills training” as part of its basic training programs. For this training, employees who are college graduates in their third to fifth year with the company are sent for about a month to a Southeast Asian country, where they participate in activities such as conducting market research or attending one-on-one language classes, depending on their language skills. In view of the anticipated overseas expansion of our business operations in the future, the objective of the training is not only the development of participants' language skills, but also the enhancement of their ability to adapt to different cultures.
In fiscal 2020, we suspended this initiative due to the COVID-19 pandemic, but in fiscal 2021 we plan to use online solutions to continue the development of global human resources, even during the pandemic.
In addition, all employees who are college graduates are required to take the TOEIC® test every three years, and they are encouraged to continue their English studies even after the completion of “Global business skills training.”

Market research in progress

Development of Locally Hired Overseas Employees

ENEOS aims to boost the overseas expansion of its business operations by training locally hired overseas employees to become senior managers at its overseas sites.
To this end, the company conducts face-to-face training of managers and team leaders hired locally overseas.
In fiscal 2020, we suspended this training due to the COVID-19 pandemic, but we have introduced e-learning in some regions so that this learning can continue even during the pandemic.
In addition, the company has implemented an initiative in which locally hired human resources expected to play active roles at their respective overseas sites in the future are assigned to the ENEOS head office in Japan for several years to experience head office operations firsthand.

Support for Employee Self-Development

The ENEOS Group has a self-development support system for employees with a desire to learn.

Voluntary Participation in Training

ENEOS Holdings offers various seminars and correspondence courses for employees of its principal operating companies and other Group companies. Employees can select seminars and courses based on their individual needs in order to support their self-development.

Self-Innovation Support

JX Nippon Mining & Metals has established a program in which employees can apply for and participate in external training programs of their choice, and upon completion, the company reimburses half the cost (to a maximum of 500,000 yen per program). Employees can select from a wide range of programs, motivating them more than before to take the initiative in their self-innovation.

Life Plan Seminar

ENEOS hosts a life plan seminar every year for employees in their 50s to look back on their personal and career histories and focus on their future life plans in terms of finances and health.
In fiscal 2020, approximately 120 employees participated in the seminar.

Initiatives for Development of Digital Human Resources (DX)

The ENEOS Group is working to transform its business operations using digital transformation (DX) aimed at achieving its Long-Term Vision to 2040. The development of digital human resources is an important initiative in these efforts. ENEOS Holdings and its principal operating companies have defined the knowledge and skills required of human resources in DX that will enable them to pave the way for the Group's digital transformation.

We provide level-based training programs on such topics as AI and data science in an effort to enhance employees' digital literacy and basic skills as well as foster expert-level knowledge.

ENEOS has defined the following four skills (ABCD) required of digital human resources and offers basic-level and expert-level training programs companywide.

A: AI Analytics
B: Business Intelligence
C: Cyber Security
D: Design Thinking

In fiscal 2020, we held the basic-level training to foster digital literacy and raise the level of basic skills, with approximately 1,500 employees taking part, exceeding the target of 1,000. As for the expert-level training, we implemented a program for the acquisition of advanced AI analytics qualifications. A total of 31 employees obtained the qualifications, which greatly exceeded the target of 5.

While raising the level of digital literacy company-wide, we are also making progress exceeding our targets with the training of data scientists who are capable of utilizing AI at an expert level in-house.

Going forward, we will provide practical training programs that can be applied to actual operations as we aim to develop digital human resources who can create new corporate value and customer experiences.

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Social

Health

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Basic Approach

The ENEOS Group believes that focusing on the health of our employees and their families results in a vibrant, productive workforce, bringing vitality to our organization. This in turn is the driving force for the achievement of our growth strategies and the source of our competitiveness.
Accordingly, we have stipulated health enhancement as a standard in the Group Code of Conduct and are implementing health-related initiatives.

> **ENEOS Group Code of Conduct (excerpt)**
>
> 4. Health enhancement
>
> (1) Health is the core element of our business continuity and development. We take active measures to maintain and enhance the mental and physical health of individuals employed by our group companies.
>
> (2) We endeavor to identify and evaluate health disorders related to our business activities and promote measures to reduce such risks. We also collect and provide information to external sources in order to ensure the sustainable development of occupational health.

Structure

For information about our structure, see ESG Management Structure.
Departments in charge of human resources at Group companies take on the role of promoting health enhancement measures. At our sites in Japan, meetings of health and safety committees or health committees are convened each month for discussions on health between the companies and labor unions or employee representatives.

Major Initiatives

Employee Health Management ♥

In addition to providing regular health screenings and annual medical examinations, both in Japan and overseas, the ENEOS Group[1] offers cancer screenings[2] and works to prevent infectious diseases[3]. For employees on overseas assignments, we offer vaccinations, as required, and medical support.
We have also implemented initiatives to eliminate the risk of passive smoking in accordance with Japan's Health Promotion Act.
In fiscal 2020, 100% of employees underwent regular health screenings, while the cancer screening rate was 63%. We will continue our efforts to promote cancer screening in order to further improve the screening rate.
For employees diagnosed with medical issues, we ensure follow-up care through efforts such as encouraging these employees to undergo further testing as needed.

1 Data from ENEOS Holdings and principal operating companies

2 Subsidies and fees for physical exams as part of regular health screenings

3 COVID-19 vaccination at the workplace, influenza vaccination (subsidized through company health insurance), work exemption for measles vaccination, etc.

Mental Health Measures

To help prevent mental health issues, the Group makes effective use of a stress check system.
The system improves employee awareness of stress. For individual follow-up for those facing high levels of stress, we offer sessions with occupational physicians. Additional measures include systems for counseling with external counselors.
We also conduct organization analysis and provide advice and assistance for improvements in high-stress work environments.
In fiscal 2020, we provided individual consultation and feedback for the stress check results of managers, and conducted follow-up as needed through individual consultations with external counselors and the development of action plan sheets.

Health Measures for Employees Traveling and Working Overseas

To prevent illness in employees traveling and working overseas, the Group actively implements measures such as vaccinations for employees traveling to certain destinations as recommended on the website of Japan's Ministry of Health, Labour, and Welfare's Quarantine Information Office.
ENEOS has stockpiled supplies at its overseas sites, according to the same standards used at our sites in Japan, as a safety measure for infectious disease epidemics.
As a measure against malaria, JX Nippon Oil & Gas Exploration has formulated standards for travel to malaria-prone regions. The standards state that the company will bear the cost of anti-malaria medication for employees traveling overseas under certain conditions, and take appropriate measures if an employee is infected.
JX Nippon Mining & Metals offers online health consultation services whereby expatriate employees and their families can consult with specialist physicians, in Japanese, about any physical health concerns.

External Evaluation of Our Health Management

ENEOS Holdings and its principal operating companies participate in the Ministry of Economy, Trade and Industry's Survey on Health and Productivity Management, which uses objective indicators to assess enterprises' health initiatives. We have been certified for four consecutive years, since 2018, as a Health and Productivity Management Outstanding Organization in recognition of our outstanding health and productivity management practices undertaken in collaboration with insurers.
The Company's health management initiatives are introduced in external seminars and informational magazines in order to promote the growth of health and productivity management.

2021
健康経営優良法人
Health and productivity

Industrial Hygiene

To prevent health hazards to workers at refineries and other business sites, the Group trains industrial hygienists for each site and carries out industrial hygiene activities. These activities include the implementation of measures against exposure to chemical substances and noise. In addition, the labor unions confirm our efforts to provide and maintain the equipment needed to ensure the health and safety of labor union members.
The JX Nippon Mining & Metals Group conducts work environment measurements and assessments and implements necessary improvements based on the results in order to prevent health hazards to workers, regardless of the contractor status of the workplace.

Measures Against Exposure to Chemical Substances

ENEOS conducts risk assessments using individual samplers to test for exposure to specific chemical substances that pose health risks in the work environments of refineries and other facilities. Based on the results of these assessments, we implement appropriate countermeasures to mitigate such risks as part of our efforts to prevent impacts on the health of employees.

Employee testing for exposure to chemical substances using individual samplers

Measures Against Exposure to Noise

ENEOS is taking measures against exposure to occupational noise in its refineries, plants and other business sites to prevent noise-induced hearing loss.
Comprehensive noise measurements are carried out in all areas of refineries and other business sites where production equipment is located to identify areas with noise levels of 85 decibels or higher and 95 decibels or higher, the reference values for preventing noise-induced hearing loss. Based on these measurements, we have developed workplace maps that indicate areas with high noise levels.
We have also established rules for all refineries whereby workers are required to wear appropriate ear protection, such as ear plugs or earmuffs, depending on noise levels. For areas with noise levels of 95 decibels or higher, we are implementing even more rigorous measures by requiring double protection using both ear plugs and earmuffs.

Noise measurement

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Social

Healthy Work Environment

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Basic Approach

The ENEOS Group aims to increase the motivation and creativity of each and every employee and enable them to maximize their abilities through the promotion of work-life management.
Moreover, the Group believes in actively incorporating diversity and inclusion, acknowledging differences pertaining to gender, age, nationality, race, ethnicity, skin color, culture, thought, religion, belief, political opinions, sexual orientation, gender identity, the presence or absence of disability, and any familial and personal circumstances, to create new value across the entire organization for our continued growth.
We have stipulated a basic principle on the establishment of a healthy work environment in the Group Code of Conduct, and have implemented a variety of initiatives for its advancement.

> **ENEOS Group Code of Conduct (excerpt)**
>
> 12. Establishment of a healthy work environment
>
> (1) We strive to enable all personnel to carry out their business operations in the workplace with vigor, and to enable ourselves, our families and our colleagues to lead healthy and cultured lives by promoting health care and work-life balance.
>
> (2) We promote diversity in order to enable diverse individuals to maximize their abilities.
>
> (3) We strive to secure and maintain a pleasant work environment through interactive dialogue and ongoing communication.
>
> (4) We strive to train our people, and seek to enhance the abilities of ourselves and others.
>
> (5) We shall obtain the necessary confirmation and approval from the appropriate person(s) with authority before we commence any religious activity, political activity, or any similar activities during work.

Structure

For information about our structure, see ESG Management Structure.
We are responding to various issues in a more agile manner under our ESG management structure. Specifically, we are implementing measures such as workstyle reforms, workplace and career advancement initiatives for female employees and employees with disabilities, and the expansion of systems to promote work-life balance. We are also raising awareness about diversity and inclusion through in-house training for all personnel, including officers and the president.

Advancement of Women in the Workplace ♥

In order to support the career planning and growth of our female employees, the Group is working to reform workstyles and change awareness and has also developed and expanded systems for all employees.
Furthermore, our Group companies have created their own action plans for the advancement of women in the workplace in accordance with the Act on Promotion of Women's Participation and Advancement in the Workplace and have implemented measures for the achievement of these plans.
In fiscal 2020, we established a target whereby women comprise at least 25% of newly hired graduates, and we achieved an actual percentage of 32.8%.
For more information, see Major Systems for Promoting Work-Life Management.

Goals of Action Plan on the Advancement of Women in the Workplace

- ENEOS
  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
- JX Nippon Oil & Gas Exploration
  1. Maintain the percentage of female workers at 20% of the workforce
  2. Promote thorough awareness of diversity and inclusion within the company
  3. Increase the hours of participation in training for career advancement for female employees by 20% per person compared to the previous plan
- JX Nippon Mining & Metals
  1. Steadily increase the number of female employees and ensure that the ratio of women among newly hired university graduates is at least 30% in order to cultivate female managers early on
  2. Develop a workplace environment where all employees, including female employees, feel a sense of job satisfaction

Employment Status of Female Employees

(As of March 31, 2021)

Category	Number of female employees	Percentage of total
Newly hired employees	131	18.8%
All employees	1,389	12.3%
Managers	111	3.9%
Directors*	3	18.8%
Average years of service for female employees	16.9 years (Difference in average years of service between male and female employees: 1.9 years)	

Note:

Data on number of female directors is from ENEOS Holdings; other data is from ENEOS Holdings and principal operating companies.

* Data on number of female directors only is as of June 25, 2021.

Selection for the Nadeshiko Brand

ENEOS Holdings was selected for the Nadeshiko Brand for fiscal 2020 as an enterprise that is outstanding in terms of encouraging women's advancement in the workplace.
The Nadeshiko Brand is a joint initiative of the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange for the selection of certain TSE-listed enterprises that are outstanding in terms of encouraging the empowerment of women in the workplace as attractive stocks to investors that are focused on improving corporate value in the mid to long term, thereby further enhancing the interests of investors in such enterprises and accelerating efforts to encourage women's advancement on the workplace.

ENEOS Receives Highest “Eruboshi” (L Star) Certification

In October 2020, ENEOS received the highest of three “Eruboshi” (L Star) certifications from the Minister of Health, Welfare and Labour as an enterprise fully compliant with the standards of the Act on Promotion of Women's Participation and Advancement in the Workplace.

Training and Seminars for the Advancement of Women in the Workplace

ENEOS holds the following training and seminars to further promote the advancement of women in the workplace.

Training for Managers

As part of our efforts to provide positive work environments for a wide variety of employees, we held diversity management training for our executives and managers. We also held a seminar on the inclusion of female employees and employees with small children for managers with subordinates who have young families.

Training for Female Employees

We set up career promotion meetings for female employees to encourage interactions with women in leadership positions inside and outside of the company and to assist in forming networks among female employees. As part of this effort, we held networking events for female employees working as operators at manufacturing sites in fiscal 2020. The events included lively group discussions about the unique rewards and challenges of working in the operating division and participants' visions for their future careers.

Career promotion meeting (hosted jointly with Japan Cooperation Center Petroleum's leadership program) (fiscal 2019)

Diversity and Inclusion

In accordance with the basic approach below, the Group actively incorporates diversity and inclusion to create new value across the entire organization for our continued growth.
In order to ensure that our diverse workforce can work with vigor and maximize their talents, we endeavor to promote the advancement of female employees and employees with disabilities, implement workstyle reforms, and expand support systems to enable employees to balance work with childcare, family care and illness. In addition, we strive to further promote awareness of diversity and inclusion through internal training for all employees, including officers.

- We aim to increase the motivation and creativity of all employees and enable them to maximize their talents by fostering a corporate culture where each and every employee understands the importance of diversity and inclusion, and where employees respect each other, help each other, and grow together.
- Through the promotion of diversity and inclusion, we aim to ensure the diversity of the organization and employees and foster a culture that embraces different ways of thinking and ideas and encourages thorough discussion based on mutual trust. This will enable us to promptly and accurately meet the ever-changing needs of customers and society and create new social value.
- We will continue to contribute to the realization of a society in which all stakeholders, including employees, can actively participate by promoting diversity and inclusion in Japan and overseas.

Promoting Career Opportunities for Employees with Disabilities

The Group views disability as one of many characteristics that make up a person's individuality, and fosters an environment where employees with disabilities can thrive by assigning each person to a job and workplace suited to his or her own individuality and aptitude. In addition, workplace adaptation assistance is provided for employees with disabilities, including the provision of work-life consultants and job coaches.
For fiscal 2020 (as of March 31, 2021), the percentage of employees with disabilities was 2.5%, higher than the legal requirement of 2.3%. Looking ahead, we will continue our efforts to hire and enhance our support structure for people with disabilities. Furthermore, we are a signatory and participant in The Valuable 500, an international initiative that supports the advancement of people with disabilities.

A Valuable 500 Company

Re-employment of Retired Employees

The Group has put in place a re-employment system for employees who have the desire and motivation to continue working after mandatory retirement. This system provides these employees with further opportunities to share their valuable knowledge, skills, and experience with the company. In fiscal 2020, the number of employees re-employed after retirement was 556.

Note:
Data from ENEOS Holdings and principal operating companies.

Creation of Local Jobs

The Group is actively engaged in employing local staff at our overseas business sites.

Number of Locally Hired Staff at Overseas Sites (Fiscal 2020)

(Persons)

ENEOS	1,158
JX Nippon Oil & Gas Exploration	56
JX Nippon Mining & Metals	2,978
Total	4,192

Ikuboss Corporate Alliance Membership and Activities

Since fiscal 2017, ENEOS has been a member of the Ikuboss Corporate Alliance*, established by NPO Fathering Japan.
In fiscal 2020, we held diversity management training for managerial staff at the group manager level and above, including officers. The division of the training content into basic training and practical training enabled participants to gain more specific and practical knowledge of diversity management than in the Ikuboss seminar held in fiscal 2019.

Main Points

Basic training

- Management outcomes related to diversity
- Unconscious bias
- Management methods for balancing work with childcare and family care
- Women's health issues

Practical training

- Inclusion of employees who are sexual minorities
- Inclusion of employees with disabilities
- Inclusion of employees with young children and female employees

* An “ikuboss” is a boss (executive or manager) who thinks about the work-life balance of staff under his or her supervision. Ikubosses support the careers and lives of their staff, while delivering results to the organization and enjoying their own work and private lives. The Ikuboss Corporate Alliance is a network of companies that are actively working to change the mindsets of their management staff as part of their efforts to foster ikubosses in this new age.

ENEOS Ikuboss Declaration

1. We will work to reduce total annual working hours to enable our entire workforce to reach their full potential despite time constraints due to life events.
2. We will promote diversity centered on the advancement of women in the workplace in order to pursue business reforms under a flexible mindset.
3. We value work-life balance and will support bosses who actively enjoy life and encourage those around them to do the same.
4. We will foster Ikubosses as drivers of these initiatives.

Initiatives for LGBT (Sexual Minorities)

In accordance with the ENEOS Group Code of Conduct, ENEOS has implemented department-based and classification-leveled training, e-learning and other activities as part of human rights awareness training in order to promote understanding among our employees toward sexual minorities. A contact point has also been established for consultation and inquiries.
In November 2020, ENEOS was awarded the Gold Award for the first time by work with Pride* based on their "PRIDE Index 2020," an evaluation index on programs related to LGBT and sexual minorities within businesses and organizations.

* A private organization that supports the promotion and instillment of diversity management concerning sexual minorities, including LGBT, within business organizations.

Activities to Raise Awareness Among Employees

We conduct e-learning to inform and raise awareness among employees about the importance of diversity and inclusion.

Publication of the Iki Newsletter

ENEOS Holdings and ENEOS publish the Iki Newsletter to familiarize employees with diversity and inclusion. In fiscal 2020, the newsletter, which we published around 50 times, covered a wide range of internal and external initiatives for the advancement of women in the workplace, support for balancing work with childcare/family care, human rights, people with disabilities, and LGBT, as well as information about training on these topics.

Employee Awareness Surveys

At ENEOS Holdings and ENEOS, we regularly conduct employee surveys to better understand the status of diversity and inclusion awareness and workplace issues. The survey conducted in fiscal 2020 indicated issues in terms of balancing work with childcare/family care and women's career advancement. The results of the survey are now being used for developing further measures to address such issues.

Work-Life Management

In accordance with the basic approach below, the Group aims to reduce total annual working hours and encourage the taking of annual paid leave to increase the motivation and creativity of each and every employee and enable them to maximize their abilities.

Guideline

- To allow adequate time for each and every employee to achieve a good balance between work and private life, we promote the reduction of total annual working hours and encourage the taking of annual paid leave by improving productivity and workflow.
- We work to ensure the establishment and utilization of effective human resource systems and programs, so that even employees limited in their workstyles by circumstances such as childcare and family care can achieve sustainable career development and performance.
- We raise employee awareness to promote understanding of the importance of work-life management.

Proper Management of Total Annual Working Hours

The Group defines those regulations related to Japan's Labor Standard Act, such as working hours, rest periods, days off, and leave, as human resource regulations.

We have developed a mechanism for the proper calculation and management of working hours in order to reduce total annual working hours (reduce overtime work and encourage the taking of annual paid leave), including for managerial staff.

1. Prevention of prolonged working hours: Implement Action 5+, an internal program that prohibits working on Sundays and between the hours of 10 p.m. and 6 a.m. IT systems issue reminders to those working prolonged hours.
2. Visualization of overtime hours: Post the working hours of all workplaces monthly on our intranet.
3. Training to encourage changes in mindset/behavior: Hold large-scale training sessions for managers at the deputy general manager and section manager level on managing working hours.

Encouraging Employees to Take Annual Paid Leave

The Group promotes various initiatives at our Group companies to encourage employees to take annual paid leave.

Major Initiatives

1. Formulation of plans for taking annual paid leave: At the start of each year, each employee draws up a schedule for taking paid leave for the year.
2. Designation of first extended holiday (five consecutive days or more) and second extended holiday (three consecutive days or more): Employees are encouraged to designate two extended holidays for the year using their annual paid leave.
3. Designation of memorial day (one day per year): Fostering a culture where employees set one day a year of their choice to take annual paid leave.
4. Designation of days where employees are encouraged to take annual paid leave: The Company designates two weekdays a year, adjacent to national holidays, when employees are encouraged to take annual paid leave.
5. Availability of annual paid leave in half-day increments: Encourages flexible use of annual paid leave.
6. Managerial staff serve as role models in actively taking annual paid leave.

Status of Annual Paid Leave in Fiscal 2020

Number of days granted	22.0
Number of days taken	19.2
Usage rate	87.4%

Note:
Data from ENEOS Holdings and principal operating companies.

Review of Operational Efficiency and Unnecessarily High Quality of Work

As one of our initiatives aimed at workstyle reforms, ENEOS Holdings and ENEOS have been pushing forward with reforms to reduce the workload as well as wasted time and effort. We are striving to enhance productivity by reducing total working hours (input) while increasing the quality of added value (output). This will encourage more vigorous, flexible workstyles and improved work-life management, resulting in the retention and fostering of talented employees who can add even greater value to their work.

Major Systems for Promoting Work-Life Management

The Group has developed systems to promote work-life management at Group companies.

Systems Introduced in Fiscal 2020

Increased number of days of family care leave

At ENEOS Holdings and ENEOS, in order to better support the balance of work and family care, we have increased the number of days of special leave from 5 days per year per family member in need of care (maximum 10 days) to 10 days per year, regardless of the number of family members in need of care.

Ability to take childcare leave and family care leave on an hourly basis

In response to the revision of the Child Care and Family Care Leave Law, which now stipulates that childcare leave and family care leave may be taken on an hourly basis, ENEOS Holdings and ENEOS have gone above the legal requirement (1-hour increments) to enable the taking of leave in 15-minute increments.

Major Systems for Work-Life Management at Group Companies

	System	Implemented at
Childbirth/ Childcare	Special time off for spouse's childbirth (paid)	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals
	Childcare leave (until the child reaches the age of 2; first 14 days are paid)	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (unpaid*)
	Time off for child rearing (paid)	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration
	Time off to care for an ill child (paid)	ENEOS Holdings, ENEOS (taken in 1-hour increments), JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (unpaid*)
	Time off for expectant mothers to receive health guidance (paid)	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration
	Time off for childcare (paid)	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (unpaid*)
	Childcare leave benefit	ENEOS
	Support for babysitter use	ENEOS, JX Nippon Mining & Metals
	Childcare subsidies	ENEOS, JX Nippon Mining & Metals
	Daycare at business sites	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals
	Counseling services for pregnancy, childbirth and childcare	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals
	Return-to-work grant	JX Nippon Mining & Metals
	Childcare concierge service	JX Nippon Mining & Metals
Family care	Family care leave (730 days; first 14 days are paid)	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration (365 days; first 14 days are paid), JX Nippon Mining & Metals (unpaid*)
	Time off for family care (paid)	ENEOS Holdings, ENEOS (taken in 1-hour increments), JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (unpaid*)
	Family care leave benefit/allowance	ENEOS, JX Nippon Mining & Metals
	Home helper subsidies	ENEOS, JX Nippon Mining & Metals
	Family care subsidies	ENEOS, JX Nippon Mining & Metals
	Telephone family care consultation service	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals
	Re-hiring system for retirement due to family care	JX Nippon Oil & Gas Exploration

General	Telework (working from home)	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals
	Flextime	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals
	Shorter workday	ENEOS Holdings, ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals
	Study abroad (at own expense) leave of absence system	ENEOS
	Spouse accompaniment leave of absence (retirement) system	ENEOS Holdings, ENEOS
	Spouse accompaniment job transfer system	ENEOS Holdings, ENEOS
	Job transfer deferment system	ENEOS Holdings, ENEOS
	Leave system for supporting continuation of career	JX Nippon Oil & Gas Exploration
	Cumulative annual paid leave	JX Nippon Mining & Metals
	Return-to-work system	JX Nippon Mining & Metals

Notes:

Data from ENEOS Holdings and principal operating companies.

The systems listed above are company systems, which are separate from public systems.

* Accumulated days of annual paid leave can also be used to take leave for family care and childcare (paid leave).

Utilization of Major Systems in Fiscal 2020

Number of employees taking childcare leave	408 (of which 359 are male)
Percentage of employees returning to work after taking childbirth or childcare leave	99.2%
Retention rate 12 months after returning to work	99.4%
Number of employees taking family care leave	6

Note:

Data from ENEOS Holdings and principal operating companies.

Shareholding Association System

The ENEOS Group has established an employee shareholding system to help employees build their wealth. Through the shareholding association, employees of ENEOS Group companies can acquire shares of ENEOS Holdings.

Telework

During the COVID-19 pandemic, we have expanded, revised, and eased restrictions of the telework system in order to prevent the spread of infection. Currently, around 30% of our head office staff is working at the office. We will continue to promote telework as part of our efforts to increase the variety of workstyles we accommodate.
We are also implementing thorough infection prevention measures for employees whose jobs require them to work from one of our physical locations.

: Indicates items related to targets (KPIs) for material ESG issues.

Social

Quality

Basic Approach

The ENEOS Group believes that the provision of high-quality, safe, and reliable products and services that provide customer satisfaction and the provision of accurate and easy-to-understand information are important elements in gaining the trust of our customers and achieving sustainable growth. Based on this approach, we have stipulated basic principles on quality in our Group Code of Conduct.
Each Group company has established its own quality management policies according to the nature of its business and works to continuously improve quality from a customer-oriented perspective based on these policies.

ENEOS Group Code of Conduct (excerpt)

6. Product and service quality
   (1) We always conduct our business activities with a spirit of innovation and a willingness to take on challenges.
   (2) We strive to contribute to the solution of domestic and international social issues and gain customer satisfaction and trust by developing and providing innovative technology and useful products and services.
   (3) We comply with domestic and international standards for the products and services we provide. We perform quality control and risk management, covering areas such as safety, security, environment and health. We also strive to provide a stable supply of goods and services, even in the event of emergencies.
   (4) We always provide our customers with appropriate and clear labels and explanations on our products and services, and we respond promptly and sincerely to customer inquiries.
   (5) In the event of malfunctions in our products or services, we strive to conduct exhaustive investigations and implement measures to prevent recurrence.

Energy Group* Quality Policy

We seek to earn the trust and satisfaction of our customers by adopting a customer-oriented perspective and adhering to the following.

1. Provide products and services that are safe and can be used with peace of mind;
2. Maintain and continuously strive to enhance the quality of our products and services; and
3. Provide customers with accurate information that is easy to understand.

* ENEOS Group companies

JX Nippon Mining & Metals Basic Quality Policy

1. Correctly grasp the requirements of customers and society in order to offer products and services that customers can trust and that satisfy their needs.
2. Improve and maintain quality at all processes from development, design, and production to delivery, while paying due attention to safety and environmental conservation.
3. Establish a quality management system, carry out continual improvements, and develop human resources.
4. Comply with all pertinent laws and regulations of Japan and other countries, and provide customers and society with accurate information on quality.

Structure

For information about our structure, see ESG Management Structure.
Within the ENEOS Group, Group companies conduct activities based on their quality policies and regularly oversee, assess, and share information about the status of quality-related initiatives.
Many of our business sites in Japan and overseas (see table below) have obtained ISO 9001 certification, a global standard for quality management systems.

Business Sites with ISO 9001 Certification

ENEOS	Domestic	Head office; Sendai Refinery; Kawasaki Refinery; Negishi Refinery; Sakai Refinery; Wakayama Refinery; Mizushima Refinery; Marifu Refinery; Oita Refinery; Yokohama Plant; Chita Business Site; Sodegaura Terminal; Kashima Refinery, Kashima Oil Co., Ltd.; Osaka International Refining Company, Limited, Chiba Refinery; ENEOS Wakayama Petroleum Refining Co., Ltd.; Nihon Gosei Jushi K.K.; ENEOS NUC Corporation (head office, Kawasaki Plant); Sankyo Yuka Kogyo K.K. (head office, refinery); ENEOS Techno Materials Corporation (head office, Yokohama Plant, Narita Plant); ENEOS LC COMPANY, LIMITED (Resin Sales & Planning Department)
	Overseas	ENEOS USA Inc.; JX Nippon Oil & Energy Vietnam Co., Ltd.; ENEOS (Thailand) Ltd.; ENEOS (Guangzhou) Lubricants Corporation; PT. JX Nippon Oil & Energy Lubricants Indonesia; ENEOS Korea Corporation
JX Nippon Oil & Gas Exploration	Nakajo Field Office	
JX Nippon Mining & Metals	Domestic	Hitachi Works (Copper Foil Dept.); Isohara Works; Kurami Works; JX Nippon Exploration and Development Co., Ltd.; JX Metals Smelting Co., Ltd. (Saganoseki Smelter & Refinery, Hitachi Refinery); Japan Copper Casting Co., Ltd.; JX Nippon Coil Center Co., Ltd.; JX Metals Trading Co., Ltd. (Takatsuki Plant); Ichinoseki Foil Manufacturing Co., Ltd.; JX Metals Precision Technology Co., Ltd. (Tatebayashi Works, Esashi Works, Nasu Works, Kakegawa Works); Toho Titanium Co., Ltd. (head office, Chigasaki Plant, Hitachi Plant, Yahata Plant, Wakamatsu Plant, Kurobe Plant), TANIOBIS Japan Co., Ltd. (Mito Plant)
	Overseas	Nippon Mining & Metals (Suzhou) Co., Ltd.; Nikko Fuji Precision (Wuxi) Co., Ltd.; JX Nippon Mining & Metals Dongguan Co., Ltd.; Nikko Metals Taiwan Co., Ltd.; JX Nippon Mining & Metals Philippines, Inc.; Materials Service Complex Malaysia Sdn. Bhd.; Materials Service Complex Coil Center (Thailand) Co., Ltd.; JX Nippon Mining & Metals Korea Co., Ltd.; TANIOBIS GmbH (Goslar); TANIOBIS Smelting GmbH & Co. KG (Laufenburg); TANIOBIS Co., Ltd. (Map Ta Phut)
NIPPO	Head office, Hokkaido Branch, Tohoku Branch, Kanto Daiichi Branch, Kanto Daini Branch, Hoku-shinetsu Branch, Chubu Branch, Kansai Branch, Shikoku Branch, Chugoku Branch, Kyushu Branch, Architect Department	

Initiatives at Manufacturing Sites

Thorough preventive measures are carried out at ENEOS refineries and plants to eliminate quality-related issues and prevent recurrence.

Standardization of Quality Management and Assurance Procedures

ENEOS has established quality assurance procedures for quality assurance systems and operations covering all of our products and services.
In addition, all ENEOS refineries and plants have obtained ISO 9001 certification.
Furthermore, we have developed a proprietary Quality Management System that is specifically focused on requirements for petroleum and petrochemical products, based on ISO 9001. We have implemented this system at all of our refineries and plants, and are carrying out activities to expand it throughout the supply chain.
One of the features of this system is the performance of quality management risk assessments and risk reduction measures to prevent quality-related issues from occurring. Employees learn quality management risk analysis methods, enabling them to identify risks and take appropriate measures to address them, thus contributing to the achievement of proactive, highly effective quality management.
For product quality design and the establishment of manufacturing standards, in addition to fulfilling legal requirements, standard specifications such as those prescribed by JIS, and the contractual requirements of customers, we have developed an extensive database of our abundant experience and knowledge, thus giving due consideration to the prevention of issues in the use of our products by customers and providing reliable, high-quality products.

Information Sharing About Quality Complaints and Issues

Information about quality complaints and issues that have occurred at refineries and plants is shared via databases with other refineries and plants, and company-wide measures to prevent recurrence are discussed and implemented, thus contributing to the future prevention of quality-related issues.

Inspection of Quality Management Systems

We carry out inspections of the quality management systems of our refineries and plants based on the Quality Management System. These inspection activities include internal audits conducted by each plant or refinery and audits implemented by the head office Quality Assurance Department. Inspections identify the strengths and weaknesses of each location, and the results are shared throughout the company, enabling us to strengthen the quality management systems at each site and make further improvements to the Quality Management System.
There were no irregularities, including irregularities in terms of information and labeling, in product safety and quality in fiscal 2020.
We will continue to strengthen our quality assurance systems by utilizing and improving upon the Quality Management System.

Initiatives at Distribution Sites

At ENEOS, as part of our quality management efforts at distribution sites, we work with freight companies to ensure that all procedures, from product loading to unloading, are carried out safely and without error.
We are working to prevent accidents through facilities improvements, by continuing with installation of equipment to prevent the mixing of products on tank trucks that transport gasoline, kerosene and diesel, as well as through operational initiatives, such as having both customers and truck drivers present during unloading.
When transporting packaged lubricant products by truck, we work to prevent transport-related issues by having both customers and truck drivers check the destination, product name, packing condition, quantity and appearance during unloading, and also encourage the practice of pointing and calling.

Initiatives at Service Stations

At ENEOS, we work with operators to improve product quality management and customer satisfaction at our service stations.
Product quality management initiatives, including regular inspections of weighing devices, underground tanks and other facilities, are implemented at our service stations. We have also developed a quality management manual to ensure proper day-to-day management to prevent mixing of water and oil products and to improve knowledge and skills in order to ensure quick and appropriate response to product quality issues should they occur.

Strengthening the Quality Audit Function from a Third-Party Perspective

As part of its efforts to strengthen its quality management structure, JX Nippon Mining & Metals has established the Quality Control Department, which is in charge of planning, proposing and implementing policies aimed at maintaining as well as improving quality management. From a position independent from the company's business operations, the Quality Control Department conducts quality audits of all business sites to ascertain whether quality management is being appropriately implemented.
The company has also established the Quality Management Council, meetings of which are attended by management, to ascertain whether the quality management structure is functioning properly and to share any issues.

Initiatives in Quality Control Education

At JX Nippon Mining & Metals, a quality control education system has been developed for employees, with three objectives. The first is to standardize and raise quality control levels, the second is to improve problem-solving capability, enabling employees to logically deduce the causes of problems and take the lead in solving them, and the third is to improve operational quality.
The company has prepared various training programs based on the level of participants, from beginner to expert courses. These training programs are implemented systematically based on level and the year an employee joined the company, and have become an integral part of employee education. In the training, employees hold group discussions while studying topics tailored to each course level, such as basic approaches, quality control methods, and data analysis using statistical methods.

Addressing Customer Needs

ENEOS receives valuable feedback from our customers through the ENEOS Customer Service Center. The Center accepts enquiries and complaints about ENEOS by telephone and email, and the necessary response is coordinated with the relevant departments.
The Center responds to enquiries with clear, courteous explanations and addresses complaints promptly and in good faith.
The Center shares enquiries and complaints received from customers with the relevant departments via a dedicated IT system to facilitate responses. This dedicated IT system enables the Center to understand the status of responses at any time. If a response is delayed, the system automatically prompts the relevant department to implement a response immediately.
Customer feedback received through the Center is tabulated and analyzed and a report is issued, which is shared with officers and the relevant departments, helping to prevent the recurrence of complaints. In fiscal 2020, we received a total of 20,338 enquiries from customers.

Social

Supply Chain Management

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Basic Approach

At the ENEOS Group, we work to fulfill our social responsibilities across the entire supply chain by cooperating with suppliers of raw materials, logistics companies, construction companies, sales companies and others involved in our business activities, while carrying out initiatives for compliance, environmental preservation, human rights and labor, and safety and health.
In accordance with this approach, we have established basic principles on procurement in the Group Code of Conduct and the Group CSR Procurement Policy, based on which we are implementing a number of initiatives. Based on the Group Code of Conduct and the Group CSR Procurement Policy, Group companies have established their own procurement guidelines for business partners in accordance with their business characteristics, and carry out their procurement activities accordingly.

ENEOS Group Code of Conduct (excerpt)

3. Applicable Scope of the Code of Conduct
   In principle, this Code of Conduct is applicable to all directors, officers and employees who work at ENEOS Holdings, Inc., and its subsidiaries. We also encourage companies that are part of our value chain to comply with this Code of Conduct. These companies include, but are not limited to, suppliers of raw materials, logistics companies, construction companies, and sales companies.

ENEOS Group CSR Procurement Policy

All ENEOS Group officers and employees shall comply with this policy in the procurement of goods and services necessary for business operations.
We also ask all suppliers to understand and cooperate with this policy and relevant guidelines.

1. Social Responsibilities
   The ENEOS Group conducts purchasing activities based on the ENEOS Group Code of Conduct and relevant policies, such as the Human Rights Policy.
2. Selection of Business Partners
   The ENEOS Group selects business partners fairly and equitably based on factors such as respect for human rights principles, attention to the environment, and performance in terms of quality and delivery, both inside and outside of Japan.
3. Mutual Trust
   The ENEOS Group aims to build relationships of mutual trust by conducting transactions on an equal footing with business partners.
4. Information Management
   The ENEOS Group manages information obtained in the course of purchasing activities in an appropriate manner.

Procurement Guidelines for Business Partners of Principal Operating Companies

- ENEOS
- JX Nippon Mining & Metals

Structure

For information about our structure, see ESG Management Structure.

CSR Procurement

The Group works with suppliers to promote procurement in which factors such as compliance, environmental impact reduction, human rights and labor, and health and safety are taken into account.
To ensure responsible procurement, employees in charge of procurement receive training to raise their awareness of the ENEOS Group Philosophy, the ENEOS Group Code of Conduct, procurement policies and applicable laws and regulations.
In contracts, which are the basis for purchasing transactions, and in the procurement guidelines for business partners established by each Group company, suppliers are asked to implement initiatives in 12 areas, including compliance, environment and human rights.
In fiscal 2020, based on the results of human rights due diligence and the Corporate Human Rights Benchmark (CHRB) assessment, we focused efforts on "consideration of human rights factors in supplier selection." For details, see Human Rights Due Diligence.
Additionally, we take part in the Supply Chain subcommittee of the Global Compact Network Japan, the local network of the UN Global Compact. Through this involvement, we actively obtain information on promoting CSR procurement and continuously optimize our implementation structure and methods.

Training session for procurement partners

CSR Procurement Survey

In fiscal 2018, ENEOS conducted the first CSR procurement survey of our procurement partners in Japan, which accounted for around 80% of the value of materials, construction work and services. In fiscal 2019, coverage of the survey was expanded to include JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals and other Group companies, as well as suppliers outside Japan. The number of companies targeted in the survey has reached 906 for the entire Group.
The survey includes items pertaining to attention to the environment, securing the rights of workers, child labor and forced labor, among others. Suppliers who require improvement according to the survey results are urged to implement improvement measures. We plan to conduct this survey every three years to monitor the progress of improvements.
In surveys to date, we have confirmed that there are no issues in terms of continuing business relationships with any of our suppliers. Furthermore, we ask suppliers who are subject to adverse dispositions by the government to submit improvement plans and we monitor the progress of their improvements.

Membership in Sedex and EcoVadis

In fiscal 2019, ENEOS became a member of both Sedex and EcoVadis, ratings providers for supply chain sustainability.

Confronting the Issue of Conflict Minerals

Industry organizations relevant to the JX Nippon Mining & Metals Group (including the LBMA[1] and RBA[2]) have established monitoring programs for eliminating conflict minerals[3]. Under these programs, companies are requested to carry out surveys and undergo external audits by third-party organizations.
Accordingly, the JX Nippon Mining & Metals Group has included a clause on the exclusion of conflict minerals in its Basic Procurement Policy, and has established and operates management systems to appropriately address this issue.

1 London Bullion Market Association. An industry association composed of financial institutions and others that deal in gold and silver ingot. Inclusion on this association's Good Delivery List is viewed as a guarantee of high quality and reliability.

2 Responsible Business Alliance. An industry coalition for ensuring responsible conduct in supply chains within the electronics industry.

3 Conflict minerals. The general term for minerals that are mined (illegally, in most cases) in conflict-affected regions, providing a source of funds for local armed groups. The use of these minerals may lead to increasing human rights abuses and inhumane acts.

Initiatives for the Gold and Silver Supply Chains

JX Metals Smelting, a producer of gold ingot, and JX Nippon Mining & Metals, a producer of silver ingot, have established and operate management systems for supply chain due diligence, which includes the following requirements.

1. Performance of supply chain due diligence before the purchase of mineral raw materials (confirmation of material source origin, performance of risk assessment, item confirmation upon delivery, distribution route confirmation, retention of relevant documents, etc.)
2. Notification to suppliers of the policy on the exclusion of conflict minerals
3. Implementation of in-house training on supply chain due diligence and its background
4. Implementation of internal audits and undergoing external audits

Operation of supply chain due diligence is audited by a third-party organization specified by the LBMA, and the results are reported to the LBMA. As a result of following these procedures, the gold ingot produced at JX Metals Smelting's Saganoseki Smelter & Refinery and silver ingot produced at the Hitachi Works of JX Nippon Mining & Metals are included on the LBMA's Good Delivery List.

Initiatives for the Tantalum Supply Chain

TANIOBIS GmbH, a producer of tantalum powder, implements a strict program of purchasing checks based on OECD Due Diligence Guidance for procuring raw materials from conflict-affected and high-risk areas. For example, TANIOBIS purchases materials with tags that the ITSCI* distributes and tracks to guarantee non-involvement in conflicts, or other human rights violations within conflict-affected areas. As a result of these initiatives, TANIOBIS has been included on the RMAP Conformant Smelters list in recognition that TANIOBIS is taking proper measures to exclude conflict minerals.
Since June 2019, moreover, TANIOBIS has begun implementing a supply chain due diligence system similar to the ITSCI, by means of the Better Sourcing Program (BSP) made available by the RCS Global Group, a global responsible sourcing auditor for the raw materials supply chain.

* ITRI Tin Supply Chain Initiative. An initiative of the International Tin Research Institute (ITRI), a global industry organization. It aims to promote implementation of due diligence from mine to smelter as well as procurement of minerals from mines in conflict-affected areas that do not benefit armed groups, based on OECD guidelines.

Initiatives with Distribution Companies

ENEOS carries out activities to raise awareness among all contract transport providers responsible for transporting its products in an effort to increase awareness of safety and improve safety practices. We also promote driving in an eco-friendly manner by encouraging participation in the Ecodrive Activity Concours and other contests for eco-friendly driving organized by external organizations. The company hosts a meeting for all contract transport providers to share the safety policy and goals for that particular fiscal year. It also hosts a safe delivery contest to improve drivers' driving techniques and unloading work. In addition, the company shares good practices of transport companies and other information at the safety managers meeting, held every autumn. Through these activities, the company is proactively working to raise safety awareness among distribution companies.
In fiscal 2020, JX Nippon Mining & Metals employees in charge of distribution and logistics reinspected worksites and conducted a detailed survey of suppliers. Discussions with the implemented in areas such as safety measures and transport efficiency, including a review of the appropriate rates for work contracted to transportation providers.

Support for the White Logistics Movement

ENEOS has supported the White Logistics movement since 2019 and JX Nippon Mining & Metals has supported the movement since 2020. This movement seeks to improve the productivity of truck transport, increase the efficiency of logistics and distribution, and ensure comfortable work environments for women and seniors. Both companies have submitted voluntary action declarations under this movement.

ENEOS' Voluntary Action Declaration and Initiatives

1. Proposals and cooperation for improving logistics and distribution
2. Separation of trunk route transport and collection/delivery transport
3. Encouraging use of expressways
4. Deliveries that avoid peak rush hour
5. Continuation of fuel surcharges
6. Suspending or stopping transport operations during extreme weather

JX Nippon Mining & Metals' Voluntary Action Declaration and Initiatives

1. Proposals and cooperation for improving logistics and distribution
2. Separation of driving from other tasks
3. Consideration of modal shift for CO_2 reduction
4. Agreements on fuel surcharges
5. Consideration of legal compliance in selection of contract counterparties
6. Safety measures during loading and unloading
7. Suspending or stopping transport operations during extreme weather

Through our initiatives to achieve sustainable logistics and distribution, we seek to increase the productivity of the entire supply chain, thus contributing to the fulfillment of our responsibility to provide a stable supply of energy and materials.

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Social

Social Contribution

Basic Approach

The ENEOS Group believes that promoting dialogue, cooperation and collaboration in the areas where we conduct our business operations to build robust relationships of trust with local communities is an important element in the continuation of our business activities and the realization of sustainable development.
Based on this belief, we have established basic principles on social contribution in the Group Code of Conduct. We are also contributing to the economic and social development of the communities in which we operate, both in Japan and overseas, by utilizing local companies, employing local staff and carrying out a variety of other activities.

ENEOS Group Code of Conduct (excerpt)

13. Contribution to the development of civil society
    (1) We respect the environment, culture and customs in all of our business locations, and communicate, cooperate and collaborate with local communities, local governments, and civic groups, among others.
    (2) We contribute to the development of civil society through social contribution activities.

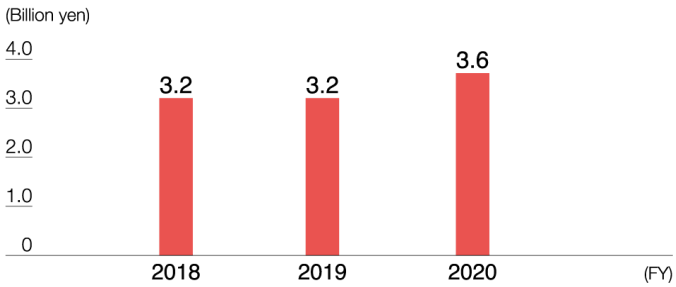
Structure

For information about our structure, see ESG Management Structure.

Expenditures for Social Contribution Activities

In fiscal 2020, the total expenditure by the Group for the implementation of social contribution activities in Japan and overseas, plus donations of money and goods, was approximately 3.6 billion yen.
While actively engaging in dialogue with local communities, we will continue to implement social contribution initiatives, which include activities involving the entire Group and activities unique to each Group company.

Expenditures for Social Contribution Activities



Note:
Figures indicate the sum of expenditures for social contribution activities and donations of money.

Initiatives in Vietnam

The Group continues to support the development of youth in Vietnam, one of the countries where we have operations, through a variety of social contribution activities.

Support for Construction of School Buildings

In Vietnam, JX Nippon Oil & Gas Exploration provides donations for the construction of schools and supports vocational training facilities to enable young people with disabilities resulting from the effects of defoliants to participate in society. The company also provides the schools with teaching materials and supplies.

Support for Construction of School Buildings

2002	Muong Phang Elementary School in Dien Bien Province
2005	Vocational training facility in Quang Tri Province
2007	Thanh Tuyen Junior High School in Ha Nam Province
2008	Binh An Junior High School in Ha Tinh Province
2009	Trieu Dai Elementary School in Quang Tri Province
2011	Vocational training facility in Ha Tinh Province
2012	Nguyen Binh Khiem High School in Hai Phong City
2013	Nguyen Truong To Elementary School in Ba Ria Vung Tau Province
2014	Trieu Dai Elementary School in Quang Tri Province (additional classrooms)
2015	Xuat Tac Kindergarten in Thai Nguyen Province
2016	Hoa Mai Kindergarten in Ba Ria Vung Tau Province
2017	Nguyen Ba Ngoc Elementary School in Dak Nong Province
2018	Trieu Trung Junior High School in Quang Tri Province

Educational Support

Since 2006, JX Nippon Oil & Gas Exploration has provided scholarships to students in need through the Ho Chi Minh Association for Education Promotion, a public institution working to improve education in Vietnam. In 2020, scholarships were awarded to 40 students.
We have also made a donation of 100,000 US dollars to PetroVietnam University, established in 2011 by PetroVietnam, the state oil company of Vietnam, as a petroleum university whose goal is to develop human resources to lead the petroleum industry. Since then, we have continued to provide scholarships and funding for operations, hosted interns from the university, and provided guidance for the preparation of graduation theses.

Scholarship presentation ceremony

Graduation and new school term commencement ceremony at PetroVietnam University

Bouquet of Children's Stories Contest by ENEOS and MOGU

ENEOS Group company ENEOS Vietnam Co., Ltd. (ENEV) sponsors the Bouquet of Children's Stories Contest by ENEOS and MOGU, a contest for children's stories that began in 2018 as an event commemorating the 45th anniversary of diplomatic relations between Japan and Vietnam. The contest is the first story creation contest for children in Vietnam.
In fiscal 2020, 1,351 submissions were received across the three categories of elementary school, junior high school and general. First place in the junior high school category went to *Stars and Sun*, written by 14-year-old Phung Thi Phong Anh.
A Bouquet of Children's Stories, a compilation of all 18 award-winning stories, is sold together with a Vietnamese translation of *A Bouquet of Children's Stories* from the ENEOS Children's Story Award. Proceeds from sales are donated to fund picture book promotion activities.
ENEV is committed to supporting the growth of picture books in order to foster healthy minds among children in Japan and Vietnam.

Awards ceremony for the children's story contest

Initiatives in Malaysia

As a project operator in Malaysia, JX Nippon Oil & Gas Exploration implements a variety of social contribution activities, and also provides support for local cultural and sporting events.
Even with the COVID-19 pandemic in fiscal 2020, the company's policy on implementing social contribution activities closely in tune with the needs of local communities remained unchanged.

Initiatives in Chile

JX Nippon Mining & Metals conducts a variety of social contribution activities in Chile via SCM Minera Lumina Copper Chile, operator of the Caserones Copper Mine.

Donations for COVID-19 Countermeasures

In April 2020, we donated 200 simple test kits for COVID-19 to the Atacama Health Service and two sample collection devices for COVID-19 PCR tests to the Medical School of the University of Atacama.
In addition, in August we donated ultrasound devices, blood flow meters, resuscitation monitors and other equipment to the Atacama Health Service to help improve care for pregnant women. In response to these donations, we received messages of appreciation from Patricio Urquieta, Regional Governor of Atacama, and Claudio Baeza, Director of the Atacama Health Service.

Simple testing kits donated to the Atacama Health Service

Support Program for Vocational Training of Residents Living Near Caserones

We conduct a vocational training program for residents living near the Caserones Copper Mine as part of our community contribution activities.
In fiscal 2020, the program was held remotely to prevent the spread of COVID-19. The training covered a wide array of topics, from food processing to warehouse management and a lecture on Microsoft Office tools, with about 300 participants.

Participants in the vocational training program

Initiatives in Japan

Baseball Classes and Basketball Clinics

The Group runs baseball classes and basketball clinics each year throughout Japan. The sessions target elementary and junior high school students, and are coached by active players from the ENEOS baseball team and the ENEOS Sunflowers women's basketball team.
In fiscal 2020, in order to prevent the spread of COVID-19, basketball clinics were held online 42 times, with a total of 424 participants.

Baseball class (fiscal 2019)

Online basketball clinic (fiscal 2020)

Support for Disabled Sports

Sponsorship for the Japan Wheelchair Basketball Federation

Since 2006, ENEOS has sponsored the Japan Wheelchair Basketball Federation for the promotion of wheelchair basketball.
Many employees and their families attend the tournaments to cheer for the athletes and also volunteer to provide operational support and assistance.

Sponsorship for the Japan Deaf Basketball Association

ENEOS has supported the Japan Deaf Basketball Association since 2019 to promote the growth and development of deaf basketball (basketball played by the hearing impaired). We will continue to support the association's activities through efforts such as attending tournaments and cheering for the players.

Sponsorship for the Japan Dream Baseball League

Since 2007, ENEOS has been working for the promotion and development of baseball for people with disabilities as a sponsor of the Japan Dream Baseball League.
Company employees and their families attend the tournaments, cheering for the players and contributing to the excitement of the games.

ENEOS Children's Story Award

The ENEOS Children's Story Award is a contest, open to the general public, for recognizing the best works from among submissions of original children's literature with the theme “heart-to-heart.” The awards have been presented by the ENEOS Group since 1970.
A total of 14,068 heartwarming entries were submitted for the 51st awards, presented in fiscal 2020.

Awards ceremony for the 50th Children's Story Award (fiscal 2019)

Scholarship Support for Children Living in Child Welfare Facilities

The ENEOS Group sells copies of A Bouquet of Children's Stories, a compilation of works awarded the ENEOS Children's Story Award, to raise money for charity. All proceeds are donated to the ENEOS Scholarship Program, established by the Japan National Council of Social Welfare (JNCSW), to be used as financial assistance when children living in child welfare facilities enroll in university or other institutions of higher education.
In April 2020, scholarship support was provided to 764 children (enrolling in fiscal 2020), bringing the total number of recipients since the scholarship program was established in fiscal 2003 to 7,246.

ENEOS Children's Culture Award and Music Awards

The Children's Culture Award (founded in 1966) and the Music Awards (founded in 1971) are presented by the ENEOS Group to recognize contributions to the development and improvement of music and children's culture in Japan, and to encourage future achievements.

Awards ceremony for the 55th Children's Culture Award and the 50th Music Awards (held remotely)

Performances by Recipient of the Children's Culture Award

ENEOS presents outreach performances featuring performers from the Kazenoko Theatre Company, recipient of the 11th ENEOS Children's Culture Award in 1976, to provide children living in the communities where we operate with opportunities to nurture a rich sensitivity and imagination.
In fiscal 2020, due to the COVID-19 pandemic, performances were held only in Osaka, providing inspiration to the roughly 420 children in attendance.

Outreach performance by Kazenoko Theatre Company

ENEOS Summer Holiday Science Bus Tour for Fun Learning

At ENEOS refineries, Summer Holiday Science Bus Tours for elementary school students and their guardians are run in collaboration with various newspaper companies around the country.
Groups are taken on bus tours of refineries, where they enjoy learning about refinery processes and the importance of energy resources. These tours are useful for the self-led research homework assigned to students over the summer holiday.
This event was cancelled in fiscal 2020 to prevent the spread of COVID-19.

Bus tour at the Mizushima Refinery (fiscal 2019)

Cooperation with the University of Tokyo Global Science Campus

As a supporting company, JX Nippon Mining & Metals is cooperating with the activities of the University of Tokyo Global Science Campus (UTokyoGSC), an educational program for high school students that fosters human resources in science and technology who can take on global challenges in the future. As part of the program, the company hosted a tour of its head office for the participants.
On the day of the visit, the students were given a tour of SQUARE LAB (showroom) and provided with a learning opportunity on how metal materials can be useful to social development through discussions with employees of JX Nippon Mining & Metals. During the showroom tour, company employees gave an overview of JX Nippon Mining & Metals' business, focusing on metal materials and technology, and had active discussions with the students on the themes “the world we want to achieve through 6G telecommunications technology,” and “how to achieve it using metal materials.”

Tour of SQUARE LAB

JX Nippon Oil & Gas Exploration International Student Scholarship

Since launching the JX Nippon Oil & Gas Exploration International Student Scholarship for international students studying in Japan in fiscal 2015, JX Nippon Oil & Gas Exploration has continued to assist international students from Papua New Guinea and Indonesia, which are involved in the company's crude oil and LNG production business.

Support for the ENEOS TonenGeneral Research/Development Encouragement & Scholarship Foundation

Through the ENEOS TonenGeneral Research/Development Encouragement & Scholarship Foundation, ENEOS presents scholarships to undergraduate and graduate students studying science and technology and provides research grants to young researchers in order to contribute to the development of industry and industrial technologies.

Support for the Tonen International Scholarship Foundation

Through the Tonen International Scholarship Foundation, ENEOS provides scholarships for international students studying at Japanese graduate schools as a way to promote friendship between Japan and other countries and contribute to greater society.

Forest Stewardship Activities in ENEOS no Mori and Other Places

The Group is involved in various forest stewardship activities at each of its Group companies.
ENEOS carries out tree thinning, removal of undergrowth, and other forest stewardship activities at six ENEOS Forests (total area: 24.88 hectares) across Japan in partnership with local governments, the National Land Afforestation Promotion Organization and others. While opportunities for these activities have drastically decreased due to the COVID-19 pandemic, a total of 63 employees and their families participated in fiscal 2020.
Since 1998, JX Nippon Oil & Gas Exploration has worked to preserve the pine forest (coastal shelter forest) located on and around the site of its Nakajo Field Office in Niigata Prefecture. In 2020, which marked the 10th anniversary of JX Nakajo Forest, activities were scaled back to prevent the spread of COVID-19. Participation by directors, employees and their families, and local residents was suspended, and only Nakajo staff (28 participants) took part, with due attention to safety.
JX Nippon Mining & Metals promotes reforestation activities in cooperation with local forestry associations and other groups, especially at the sites of its closed mines.

ENEOS no Mori forest stewardship activity

Promoting Afforestation through the ENEOS Credit Card

Since ENEOS credit cards were first issued in October 2001, ENEOS has donated part of the spending on these cards at ENEOS service stations to the National Land Afforestation Promotion Organization. These funds are being used to help support a host of environmental programs run by the organization, including human resources development for afforestation, afforestation work, the revitalization of tropical forests and the prevention of desertification.
In fiscal 2020, approximately 37 million yen were donated, bringing total donations through this initiative to about 600 million yen.

ENEOS credit card

Rural Community Support Team

The ENEOS Oita Refinery has been registered with Oita Prefecture's rural community support team program since fiscal 2009. This program supports small communities that find it difficult to mow grass along roadways or run local festivals due to shortages of residents resulting from aging demographics and depopulation.
As part of this program, employees take part in the festival of Yurugi Shrine, located in the Kujuno area of Taketa City. Due to depopulation and the aging of residents, the community has difficulty finding people to carry the mikoshi (portable shrine) for this festival, which has a history of almost 1,000 years. The support team has been welcomed by the local community for making it possible to pass down this important tradition.
This event was cancelled in fiscal 2020 to prevent the spread of COVID-19.

Employees carrying a mikoshi (portable shrine) (fiscal 2019)

Joint Disaster Drills with Local Governments

At ENEOS oil refineries and depots, disaster drills are conducted in collaboration with local governments, fire departments and other relevant groups, using scenarios of a major disaster or an accident at a refinery.
In addition to carrying out practical drills to strengthen systems for cooperation in the event of a disaster, the company works to ensure that local residents can live their lives with peace of mind.

Dialogue with Local Communities

The Group has established venues for regularly interacting with local communities (local governments, schools, local community members, etc.), including tours of refineries and plants, dialogue sessions and networking sessions, in order to continue activities rooted in the community.
In dialogue sessions with local communities, we explain the Group's environmental and safety initiatives, and through regular dialogue, we strive to deepen mutual understanding. In addition, we disseminate necessary information in a timely manner through community newsletters and other means in an effort to ensure mutual understanding and build relationships of trust with local communities.

Assistance for Areas Affected by Major Disasters

The Group provides assistance to areas affected by major disasters.

Assistance Provided in Fiscal 2020

May	Donations for COVID-19 pandemic response	120 million yen
July	Relief fund for victims of the heavy rains in July 2020	5 million yen

Introduction of Volunteer Activity Leave System

ENEOS Holdings and ENEOS have established a special leave system that allows employees to take up to three days off during the year to participate in company-approved volunteer activities (system introduced in April 2019).
Through the introduction of this system, we offer support for the volunteer activities of our employees.

Governance

The ENEOS Group works to strengthen corporate governance and promote compliance in order to increase our corporate value through highly transparent management and fair business practices.

Corporate Governance Framework

Compliance

Governance

Corporate Governance Framework

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Basic Approach and Framework ♥

ENEOS Holdings has established the ENEOS Group Philosophy as the foundation for the Group's business activities, and works to realize the Group Philosophy through the establishment and appropriate execution of corporate governance to achieve sustainable growth and enhance the corporate value of the ENEOS Group over the medium to long term.
Corporate governance of the ENEOS Group is structured and executed as follows.

Basic Policy on Corporate Governance

To achieve sustainable growth and increase the corporate value of the Group over the medium to long term, the Company established the Basic Policy on Corporate Governance of ENEOS Group with the objective of establishing and operating a corporate governance framework for the conduct of transparent, fair, timely, and decisive decision-making in the Group's management. The policy describes systematically and comprehensively the Group's basic approach to corporate governance as well as its establishment and operation, taking into consideration the Corporate Governance Code established by the Tokyo Stock Exchange. The policy, published on the Company's website, is our commitment to all stakeholders, including shareholders of ENEOS Holdings, Group customers, business partners, employees, and local communities.

- Basic Policy on Corporate Governance of ENEOS Group（PDF : 243KB）
- (Exhibit 1)ENEOS Group Code of Conduct（PDF : 80KB）
- (Exhibit 2)Medium Term Management Plan（PDF : 8.01MB）
- (Exhibit 3)Basic Policy on Establishment and Operation of Internal Control System（PDF : 160KB）
- (Exhibit 4)Standards for Consideration of Independence of Independent Officers（PDF : 91KB）
- (Exhibit 5)Disclosure Policy（PDF : 76KB）
- (Exhibit 6)Shareholder Return Policy and Capital Policy（PDF : 84KB）
- Corporate Governance Report (Available in Japanese only) （PDF : 289KB）

Basic Matters on the Establishment and Operation of Corporate Governance

1. Business management as the holding company

   The Company takes charge of formulating the ENEOS Group Philosophy, ENEOS Group Code of Conduct, basic management policies such as medium to long term management plans and budgets (hereinafter referred to as “Basic Management Policies”), allocating management resources and overseeing the management of each subsidiary from the perspective of optimizing the value of ENEOS Group as a whole.

2. Management structure of the Company and the Principal Operating Companies (ENEOS Corporation, JX Nippon Oil & Gas Exploration Corporation, JX Nippon Mining & Metals Corporation)

   In order to establish a group management structure centered on the Energy Business, the Company shall integrate the management of the Company and ENEOS Corporation through such means as concurrently serving as directors/officers, integrated operation of meetings, and merger of administration departments.
   JX Nippon Oil & Gas Exploration Corporation and JX Nippon Mining & Metals Corporation shall respectively establish business execution structure where their autonomy, agility, and independence are further enhanced depending on their business characteristics under the Basic Management Policies specified by the Company.

3. Organization

   The Company is a company with audit and supervisory committee.

4. Board of Directors

The Board of Directors of the Company consists of the Chairman, the President, more than one full-time directors, and part-time directors concurrently serving as the President of each Principal Operating Company and outside directors. With such composition, the Board of Directors of the Company shall manage the Company in accordance with the following policies.

(1) Focus on deliberation and decision of the Basic Management Policies and oversight of the execution of operations.

(2) As an effort to improve agility of the execution of operations, delegate part of decision-making on the execution of material operations to the President of the Company.

(3) With respect to the material matters such as appraisal of return on investment, risks, progress of execution of material operations of the Company and the Principal Operating Companies, the Board of Directors shall receive reports from persons such as the President of the Company and the President of each Principal Operating Company, verify its consistency with the Basic Management Policies and oversee such matters.

5. Audit and Supervisory Committee

(1) The Audit and Supervisory Committee shall carry out audits with a high degree of effectiveness and objectivity conduct audits in an organized and systematic fashion through appropriate collaboration between the full-time audit and supervisory committee members, who are given the strong power to gather information, and the audit and supervisory committee members who are outside directors, who have a high degree of independence, in addition to a wealth of knowledge and experience.

(2) The Audit and Supervisory Committee shall oversee the execution of operations through each audit and supervisory committee member exercising the voting right that he or she has as a director at the Board of Directors meetings as well as exercising the right to state his or her opinion on personnel affairs and compensation of directors who are not audit and supervisory committee members.

6. Outside directors

To take advantage of a wealth of knowledge and experience of outside directors and to ensure transparency and objectivity in decision-making, the Company shall take the following measures:

(1) In determining the Basic Management Policies at the Board of Directors of the Company, request outside directors to be involved, from the stage of consideration and to fully discuss it from multiple points of view; and in decision-making on and overseeing execution of material operations, fully verify its consistency with the Basic Management Policies, taking opinions of outside directors into account; and

(2) In determining personnel affairs and remuneration of directors at the Board of Directors of the Company, ensure transparency of the decision-making process by consulting with the Nomination Advisory Committee and the Compensation Advisory Committee, a majority of whose members are outside directors, and which are chaired by an outside director.

7. Executive officers and the Executive Council

(1) The Company shall appoint executive officers who execute operations agilely pursuant to a decision of the Board of Directors.

(2) For the President to make decisions on execution of operations as chief operating officer, the Company shall establish the Executive Council as a consultative body for matters to be decided by the President, which shall consist of the President, the Executive Vice Presidents, the Senior Vice Presidents who have been appointed by the President, and the President of each Principal Operating Company, and have the Executive Council make decisions through careful deliberations.

(3) A full-time audit and supervisory committee members shall attend the Executive Council, grasp a process of important decision-making, and the status of execution of operations, and share such process and status with other audit and supervisory committee members.

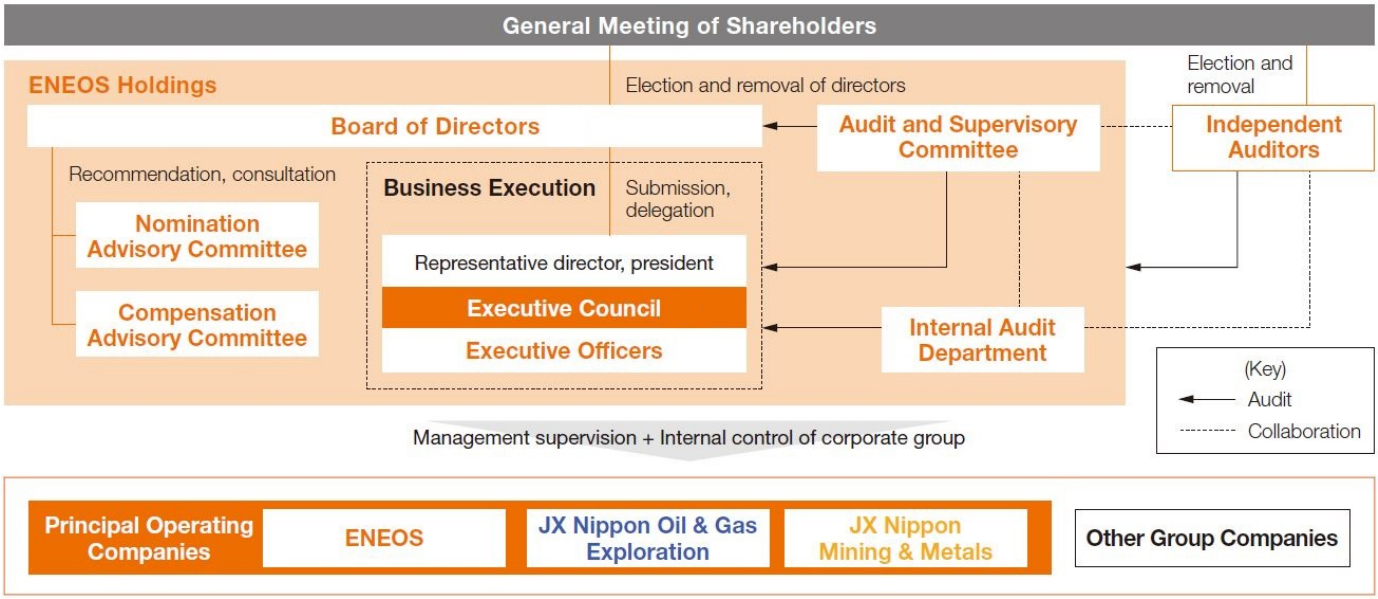
8. Corporate governance framework of Principal Operating Companies

(1) Each Principal Operating Company is a company with board of corporate auditors (as defined in the Companies Act of Japan). Each Principal Operating Company has a Board of Directors to enable directors to oversee each other's performance of duties. Each Principal Operating Company shall fully analyze the risk of the business and verify the conformity of the execution of operations performance to the Basic Management Policies. The full-time audit and supervisory committee member of the Company concurrently serves as the full-time corporate auditor of ENEOS corporation. The Company shall also dispatch its full-time audit and supervisory committee member to JX Nippon Oil & Gas Exploration Corporation and JX Nippon Mining & Metals Corporation as a part-time corporate auditor, and cause such corporate auditor to audit the execution of the duties by the directors of the Principal Operating Company.

(2) Any decision-making regarding the matters related to the execution of operations of a Principal Operating Company (including matters on the execution of material operations of a subsidiary of such Principal Operating Company) shall be made by such Principal Operating Company.

(3) Each Principal Operating Company shall report to the Company the status and other matters established by the Company regarding the execution of material operations.

Corporate Governance Framework (As of June 25, 2021)



Corporate Governance Framework at a Glance (As of June 25, 2021)

Item	Details
Organization format	Company with an audit and supervisory committee
Number of directors who are not Audit and Supervisory Committee members	11 (8 inside, 3 outside)
Number of directors who are Audit and Supervisory Committee members	5 (2 inside, 3 outside)
Total number of directors	16 (10 inside, 6 outside; 3 female directors)
Percentage of outside (independent) directors	37.5%
Percentage of female directors	18.8%
Term of directors who are not Audit and Supervisory Committee members	1 year
Term of directors who are Audit and Supervisory Committee members	2 years
Adoption of executive officer system	Yes
Decision-making body for the appointment and dismissal of directors	General Meeting of Shareholders
Decision-making body for the upper limit of director remuneration	General Meeting of Shareholders
Institution assisting the president's decision-making	Executive Council
Voluntary advisory committees for the Board of Directors	Nomination Advisory Committee and Compensation Advisory Committee (2 inside directors, 3 outside directors; chairperson: outside director)
Term of Independent Auditors	1 year

Composition of Nomination Advisory Committee and Compensation Advisory Committee[1] and Fiscal 2020 Results

	Nomination Advisory Committee	Compensation Advisory Committee
Overview	To ensure the transparency of the process for determining the director candidates of the Company, the Nomination Advisory Committee, the majority of whose members are independent outside directors, has been established to provide advice to the Board of Directors about personnel matters involving the Company's directors (including appointment and dismissal). The Nomination Advisory Committee is composed of three outside directors and two representative directors, and one of the outside directors on the committee acts as chairperson. The Company's Board of Directors receives advice from the Nomination Advisory Committee regarding succession planning for the Company's chairperson of the Board and president and for the presidents of the principal operating companies.	To ensure the transparency and objectivity of the process for determining the remuneration and other benefits for directors and executive officers, the Compensation Advisory Committee, the majority of whose members are independent outside directors, has been established to provide advice to the Board of Directors. The Compensation Advisory Committee is composed of three outside directors and two representative directors, and one of the outside directors on the committee acts as chairperson. The Board of Directors requests the Compensation Advisory Committee to advise on policies for determining the remuneration and other benefits for directors and executive officers, as well as the executive remuneration plan and remuneration amount.
Chairperson	Outside director (Ota Hiroko)[3]	Outside director (Ota Hiroko)[3]
Members[2] (including chairperson)	Representative directors: 2 (Sugimori Tsutomu, Ota Katsuyuki)[3] Outside directors: 3 (Ota Hiroko, Miyata Yoshiiku, Kudo Yasumi)[3]	Representative directors: 2 (Sugimori Tsutomu, Ota Katsuyuki)[3] Outside directors: 3 (Ota Hiroko, Miyata Yoshiiku, Kudo Yasumi)[3]
Purpose	Ensure the transparency of the process for determining director candidates	Ensure the transparency and objectivity of the process for determining the remuneration and other benefits for directors and executive officers
Results for FY2020	The committee met four times and deliberated on matters including proposals on candidates for directors of the Company and the role and structure of the Board of Directors.	The committee met three times and deliberated on matters including the executive remuneration plan and executive remuneration levels.

1 Composition of the Nomination Advisory Committee and the Compensation Advisory Committee as of June 25, 2021

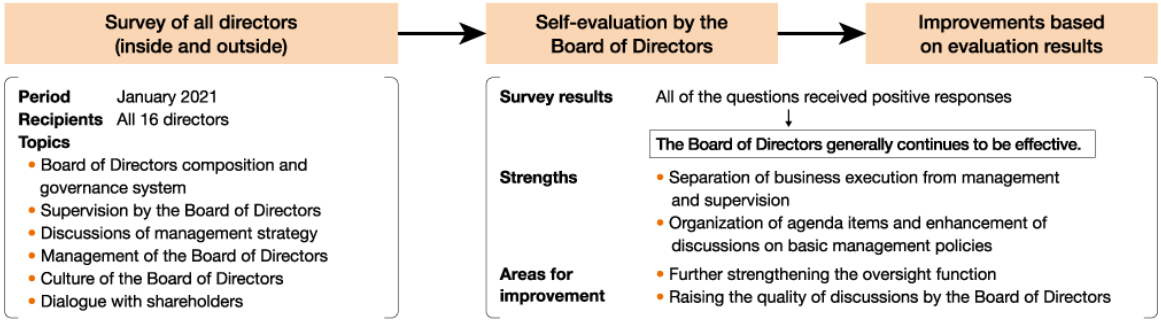
2 To ensure constructive discussion between outside directors, who supervise management from an independent and objective perspective, and representative directors, who have the greatest familiarity with the status of management, etc. in the Group, the Nomination Advisory Committee and the Compensation Advisory Committee are each comprised of three outside directors and two representative directors.

3 For director profiles, see Executives .

Evaluation of the Effectiveness of the Board of Directors

Since fiscal 2016, the Company's Board of Directors has conducted annual evaluations of its effectiveness, which serve as a basis for improvement. For fiscal 2020, the Board of Directors surveyed all directors, including outside directors, to evaluate the Board's effectiveness in January 2021. The results and analysis of the survey were reported to the Board of Directors on March 26, 2021.
All of the survey questions received mostly positive responses, and the results indicated that the Board of Directors generally continues to be effective. Regarding the two issues identified in last year's evaluation survey, the first issue, “further separation of business management and execution,” was evaluated as having improved through better organization of the matters for Board discussion and by improving the environment to enable better focus during discussions of basic management policy. Regarding the second item, “strengthening the oversight function,” the Board expanded the reporting of profitability to encompass the progress of investments and the cost of capital for each business area.
Issues raised in the fiscal 2020 evaluation survey were “further strengthening the oversight function” and “raising the quality of discussions by the Board of Directors.” In response, the Board of Directors will consider improvements in monitoring the progress of the Long-Term Vision and Medium-Term Management Plan, discussion of carbon neutrality, providing more timely information about new businesses, and other matters.

Process for Evaluation of Effectiveness



Policy for Appointing Director Candidates

The Board of Directors is composed of an appropriate number of members to enable free and constructive discussion and exchange of opinions, with members appointed in consideration of Board diversity and the knowledge, experience and abilities of each member. The Company strives to appoint independent outside directors* to at least one-third of director positions. As of June 25, 2021, the percentage of outside independent officers was 37.5%.

As for directors who are not Audit and Supervisory Committee members, the Company appoints persons with high standards of business ethics, superior strategic thinking and judgment capabilities, and flexible attitudes toward change, as well as the ability to supervise decision-making and management from the viewpoint of what is best for the Group as a whole. Two or more of the directors are independent outside directors.

As for directors who are Audit and Supervisory Committee members, the Company appoints persons with high standards of business ethics, a certain level of specialist knowledge in legal affairs, finance and accounting, etc., as well as the ability to appropriately audit the execution of duties by directors and the ability to appropriately supervise the execution of business. The majority of these directors are independent outside directors.

* Outside directors who have satisfied the Company's “Standards for Consideration of Independence of Independent Officers”

Support System for Outside Directors

Each of the three outside directors who are not Audit and Supervisory Committee members and the three outside directors who are Audit and Supervisory Committee members meet the independence standards based on the rules of the Tokyo and Nagoya stock exchanges, on which the Company is listed. The Company sends materials regarding the agenda of meetings of the Board of Directors to the outside directors, in principle, at least three days prior to meetings, and also provides explanations to the outside directors about important agenda items before the meetings. To enhance the auditing function by all Audit and Supervisory Committee members, including outside directors, the Company has established the Office of the Audit and Supervisory Committee, which is clearly independent from the chain of command for divisions responsible for business execution (including personnel evaluations). Full-time staff members have been assigned to the office to assist with the duties of the Audit and Supervisory Committee members. In addition, the Board Members' Support Office, with full-time staff members, has also been established to assist outside directors who are not Audit and Supervisory Committee members with business execution.

Training for Directors and Corporate Auditors of Principal Operating Companies

The directors of the Company and principal operating companies and the corporate auditors of principal operating companies have the duty of working toward the realization of the Group Philosophy, the sustainable growth of the Group, and the achievement of increased corporate value over the medium to long term. To that end, to enhance necessary knowledge and skills, the Company and its principal operating companies provide opportunities for directors and corporate auditors to receive training related to the Companies Act, internal control systems, accounting and taxes, business strategies, and organizations. In addition, the Company pays for expenses arising from self-study initiatives. When outside directors are appointed, the Company provides explanations of basic matters regarding the Group's businesses, and after their appointment, the Company offers business presentations and worksite inspection tours to deepen their understanding.

Results for Fiscal 2020

Topic	Intended for	Content of training
Companies Act, compliance, corporate governance	Newly appointed directors	ENEOS Group management structure, compliance, corporate governance
Internal control	Newly appointed directors	ENEOS Group internal control systems
Finance and investor relations	Newly appointed directors	Current status and issues regarding ENEOS Holdings' financial affairs, opinions of institutional investors, etc.
ENEOS Holdings and principal operating companies	Newly appointed directors (outside directors)	Basic knowledge about ENEOS Holdings and its operating companies: ENEOS, JX Nippon Oil & Gas Exploration, and JX Nippon Mining & Metals
Worksite inspection tours	Outside directors	(ENEOS) Central Technical Research Laboratory, Kawasaki Refinery

Determination of Director Remuneration

Directors Who Are Not Audit and Supervisory Committee Members (Excluding Outside Directors)

The policy on remuneration for individual directors who are not Audit and Supervisory Committee members (excluding outside directors) is determined as follows.

1. Remuneration consists of the monthly remuneration, bonus, and share-based remuneration.
2. Remuneration is determined by whether the person belongs to the Company or a principal operating company, whether the person is full-time or part-time, whether the person is a director or executive officer, etc.
3. Bonuses are linked to performance within a fiscal year, and are paid after the given fiscal year.
4. Share-based remuneration is linked to the achievement of the Medium-Term Management Plan, etc., and is paid after a certain duration from the end of the fiscal year in which the duties have been executed and after the given medium-term management plan has been completed.
5. The consolidated business results, remuneration levels of executives in other companies, composition ratio, etc. are taken into consideration when determining the remuneration level, composition ratio, performance indicators, etc.

Remuneration for directors who are not Audit and Supervisory Committee members (excluding outside directors) is designed to be around 50% of the total for monthly remuneration, around 30% of the total for bonuses, and around 20% of the total for share-based remuneration when the performance targets, etc. are achieved.

Outside Directors Who Are Not Audit and Supervisory Committee Members

The policy on remuneration for individual outside directors who are not Audit and Supervisory Committee members is to provide monthly remuneration in consideration of their roles of providing guidance and advice to Company management and supervising management from an independent and objective perspective.
The policy on remuneration for individual directors who are not Audit and Supervisory Committee members of the Company is determined by resolution of the Board of Directors after deliberation and recommendation by the Compensation Advisory Committee, which consists of three (3) outside directors and two (2) representative directors and is chaired by an outside director. The Board of Directors allows the Audit and Supervisory Committee to select one member to attend meetings of the Compensation Advisory Committee so that the Audit and Supervisory Committee may adequately exercise the right to state opinions related to the remuneration of directors who are not Audit and Supervisory Committee members at General Meetings of Shareholders.

Directors Who Are Audit and Supervisory Committee Members (Including Outside Directors)

Remuneration for directors who are Audit and Supervisory Committee members consists of monthly remuneration in consideration of independence of their roles, and is paid within the limit shown in the chart below, based on discussion among directors who are Audit and Supervisory Committee members.

Upper Limit of Remunerations for Directors

Category	Type	Upper limit of remuneration	Resolution of the General Meeting of Shareholders (GMS)	Number of receivers (Persons)
Directors who are not Audit and Supervisory Committee members	Monthly remuneration and bonuses	No more than 1,100 million yen per one (1) fiscal year (of which no more than 200 million yen is allocated to outside directors who are not Audit and Supervisory Committee members)	The 8th ordinary GMS	13
	Share-based remuneration	In every three (3) fiscal years, ● the upper limit the Company put in on reserve for trust: 1,500 million yen ● the upper limit of the number of shares given to eligible persons: 6 million shares (6 million points)	The 10th ordinary GMS	6
Directors who are Audit and Supervisory Committee members	Monthly remuneration	No more than 200 million yen per one (1) fiscal year	The 8th ordinary GMS	5

Notes:

1. The upper limit of monthly remuneration and bonus for directors who are not Audit and Supervisory Committee members does not include salaries and bonuses to be paid as an employee if a director serves concurrently as an employee.
2. Those eligible for share remuneration include executive officers but do not include outside directors and overseas residents.

Remunerations for Directors (Fiscal 2020)

Category	Total amount (Million yen)	Details of remuneration	Number of receivers (Persons)	Details of remuneration		Number of receivers (Persons)
		Monthly remuneration (Million yen)		Bonuses (Million yen)	Share-based remuneration (Million yen)	
Directors who are not Audit and Supervisory Committee members (Outside directors)	882 (43)	362 (43)	15 (3)	395 (-)	126 (-)	10 (-)
Directors who are Audit and Supervisory Committee members (Outside directors)	108 (40)	108 (40)	7 (4)	- (-)	- (-)	- (-)
Total (Outside directors)	990 (83)	470 (83)	22 (7)	395 (-)	126 (-)	10 (-)

Notes:

1. The information in the table includes the amount of remunerations for four (4) directors who are not Audit and Supervisory Committee members and two (2) directors who are Audit and Supervisory Committee members (including one [1] outside director who is an Audit and Supervisory Committee member) who retired upon the conclusion of the 10th Ordinary General Meeting of Shareholders held on June 25, 2020.
2. The information in the table includes the amount of bonuses for fiscal 2020 that is expected to be paid after the 11th Ordinary General Meeting of Shareholders.
3. Bonuses and share-based remuneration are applicable to performance-linked remunerations. In addition, share-based remuneration is applicable to non-monetary remunerations.
4. The share-based remuneration amounts indicated in the table are the average price per share of the Company purchased through the trust that the Company established, multiplied by the number of standard points awarded to the director in the fiscal year and the performance-linked coefficient. The performance-linked coefficient used to calculate the share remuneration for fiscal 2020 is assumed to be 100% because it is determined after fiscal 2022 is finished.

Matters Concerning Bonuses

Bonuses are linked to performance within a single fiscal year and can fluctuate between 0% and 200% (target: 100%) depending on the level of achievement of performance targets. Bonuses are determined by multiplying the monthly remuneration by the base number of months (8 months) and the percentage of target achieved.
The indicators that affect shareholder returns and the indicators that reflect actual performance should be used when calculating the percentage of target achieved. Therefore, “profit attributable to owners of parent” and “consolidated operating profit after adjustment” of the Company's consolidated results, as well as “operating profit” and “operating profit after adjustment” of the Energy business results are used as performance indicators with a weight of 25% each. The fiscal 2020 performance target for the bonus calculation process was set based on the fiscal 2020 results forecast (disclosed in May 2020), and the resulting percentage of target achieved was 185%. The results of each performance indicator to calculate the percentage of target achieved are as follows.

Performance Indicator Weighting

Performance indicators	Weight	Results in FY2020
Profit attributable to owners of parent	25%	114.0 billion yen
Consolidated operating profit after adjustment	25%	306.6 billion yen
Operating profit of the Energy business	25%	121.1 billion yen
Operating profit of the Energy business after adjustment	25%	139.7 billion yen

Notes:

1. “Consolidated operating profit after adjustment” and “operating profit after adjustment” are calculated by subtracting temporary gain/loss, such as gain/loss on sale of fixed assets and shares and loss by disasters, from the operating profit made by the main business.
2. Until June 2020, “profit attributable to owners of parent” and “consolidated operating profit after adjustment” of the Company's consolidated results were used as performance indicators with a weight of 50% each, and the percentage of target achieved was 192%.

Matters Concerning Share-Based Remuneration

Share-based remuneration is linked to performance over three successive fiscal years and can fluctuate between 0% and 200% (target: 100%) depending on the level of achievement of the performance targets. The share delivery points (one share per point) are determined by multiplying the standard points, awarded according to the eligible person's role, by the performance-linked coefficient. Eligible persons, in principle, shall receive the Company's shares through the trust established by the Company, according to the share delivery points, after the elapse of three years from the award of standard points for each year.
When calculating the performance-linked coefficient, the Company uses the following performance indicators and evaluation weightings for the following reasons: to further strengthen the link between medium- and long-term management strategies and the remuneration system for eligible persons, to cultivate the eligible persons' incentive to contribute to the enhancement of corporate value and their awareness of shareholder-oriented management, and to promote initiatives, such as preserving the environment, for building a sustainable society.
Each of performance targets is set based on the second Medium-Term Management Plan and the second Medium-Term Environmental Management Plan. The results and the percentage of target achieved will be determined at the end of fiscal 2022.

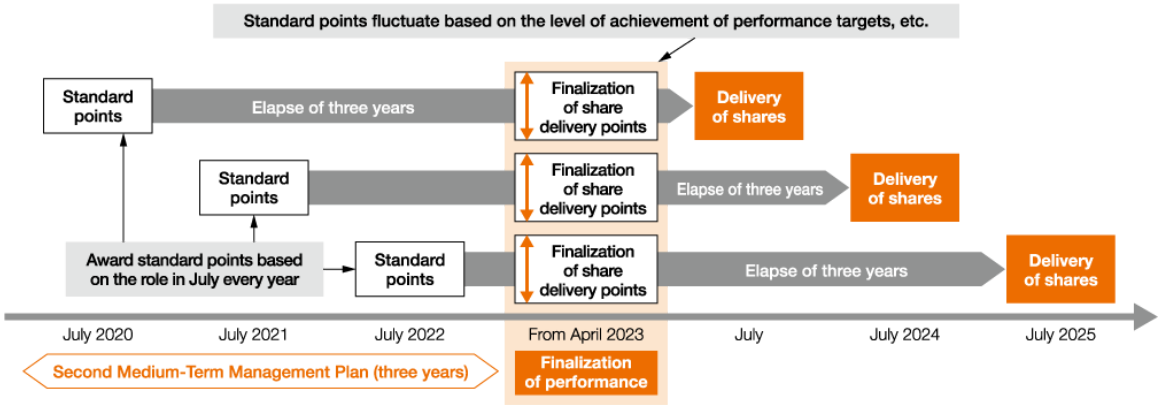
Performance Indicators and Evaluation Weightings

Operating profit excluding inventory valuation	Free cash flow	Net D/E ratio	ROE	Total return ratio	Reduction of CO_2 emissions
20%	20%	20%	20%	10%	10%

Notes:

1. Operating profit excluding inventory valuation, free cash flow, and reduction of CO_2 emissions reflect the consolidated results and the results of the Energy business, with a weight of 50% each.
2. The percentages achieved for operating profit excluding inventory valuation, free cash flow, and total return ratio are calculated using the accumulated results from fiscal 2020 to fiscal 2022.
3. The percentages achieved for net D/E ratio and ROE are calculated using the results for fiscal 2022.
4. The percentage achieved for reduction of CO_2 emissions is calculated using the results for fiscal 2022 (compared to fiscal 2009).

Flowchart of Share Remuneration with Regard to the Period of the Second Medium-Term Management Plan



Governance of Listed Subsidiaries

The Company maintains ENEOS, JX Nippon Oil & Gas Exploration, and JX Nippon Mining & Metals, its principal operating companies, as wholly owned subsidiaries, and maintains other Group companies as wholly owned subsidiaries, listed subsidiaries, or other types of entities based on the need to maintain or expand its businesses. The policy of the Board of Directors is to regularly examine the appropriateness of maintaining a company as a listed subsidiary from the perspective of improving the Group's overall corporate value and capital efficiency, to consider the reasonableness of maintaining the listed company status, and to deliberate on the effectiveness of the listed subsidiary's governance system.
The following policies concerning the authority to appoint and dismiss independent outside directors of listed subsidiaries have been adopted to ensure an effective governance system that gives due consideration to the interests of general shareholders of listed subsidiaries.

(1) Exercise of Appointment Authority

A. More than one-third of directors shall be independent outside directors. If difficult to immediately put into effect, a mechanism will be introduced for a committee made up primarily of independent outside directors to discuss and consider important business transactions involving conflict of interest.

B. Prerequisites for Independent Outside Directors

i. Strong professional ethics, excellent strategic thinking and judgment, flexibility to change, and the ability to make decisions and supervise the management of a listed subsidiary

ii. Not employed by a company in the ENEOS Group within the past 10 years

iii. Ability to contribute to raising the corporate value of the listed subsidiary, taking into account the protection of the common interests of shareholders, including general shareholders, from an independent perspective

(2) Exercise of Dismissal Authority
Voting rights shall be exercised to dismiss an independent outside director if any of the following conditions occur and in accordance with the decision of the Board of Directors of the relevant listed subsidiary.

i. A serious violation of laws or regulations that materially damages the reputation of the ENEOS Group or a listed subsidiary group

ii. Malicious intent or gross negligence in the execution of duties that causes significant damage to the ENEOS Group or a listed subsidiary group

iii. Actions that cause significant damage to the interests of general shareholders

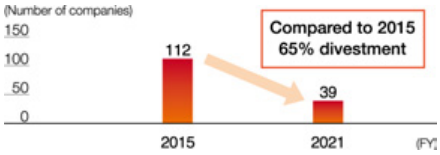
Policy on Strategic Shareholdings

In accordance with the Basic Policy on Corporate Governance of ENEOS Group, in principle, the Company shall not hold shares in listed companies. As an exception, the Company may hold shares in listed companies as strategic shareholdings, as described below.

1) Shares in companies which engage in any important businesses of ENEOS Group
2) Shares in companies which ENEOS Group judges necessary to maintain or enlarge business of ENEOS Group

The Company had divested 65% of its strategic shareholdings at the time the above policy was adopted in November 2015. In fiscal 2020, the Company sold shares (valued at 4,543 million yen) of eight companies and did not acquire any new strategic shareholdings.

Strategic Shareholdings



Method of Verifying the Rationality of Possession

With respect to exceptionally holding strategic shareholdings, the Company shall periodically assess whether or not to hold each individual strategic shareholding, specifically examining whether the purpose is appropriate and whether the benefits and risks from each holding cover the company's cost of capital at the Board meeting of the Company.

Board of Directors Verification of the Appropriateness of Individual Strategic Shareholdings

The Company assessed whether or not to hold each individual strategic shareholding, specifically examining whether the purpose is appropriate and whether the benefits (transactional profits, dividends, benefits difficult to quantify) and risks from each holding cover the company's cost of capital at the Board meeting of the Company in December 2020.

Risk Management

The ENEOS Group has established the Basic Policy on Internal Control System for the development and implementation of a system for ensuring the appropriateness of our business operations.

Enterprise Risk Management (ERM)

The ENEOS Group has developed and operates a risk management system based on the COSO* ERM framework to identify and analyze Group management risks and ensure appropriate responses. Risks (tangible and intangible) are identified, taking into account risks identified up to the previous fiscal year, as well as increased risks and potential new risks arising from changes inside and outside the Company, and are assessed for materiality based on degree of impact, probability and urgency. Risks that are indicated by assessment results as requiring a response from the Group are designated as “material risks” by resolution of the Executive Council, which is chaired by the president of the Company. Relevant departments are assigned for response to material risks, and monitoring is carried out by reporting the status of response to the Executive Council.

* Committee of Sponsoring Organizations of the Treadway Commission (COSO) is an internal control framework released by the commission and adopted by countries around the world.

Risk Assessment Matrix

Impact

Impact	Qualitative criteria
III	Potential for significant impact on the entire Group, **immediate implementation of countermeasures required**
II	Potential for some degree of impact on the entire Group, **consideration of specific countermeasures required**
I	Potential for minimal impact on the Group as a whole, response can be implemented by individual Group companies

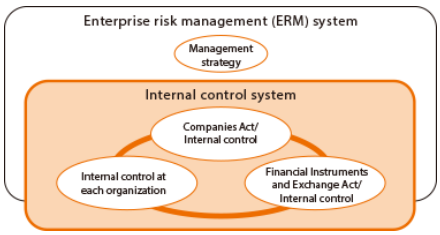
Probability and Urgency

	Probability (standard)	Urgency (standard)
3 (High)	Has already occurred or is very likely to occur	Response required within 1 year
2 (Medium)	Not very likely to occur, but could occur in the medium term	Consideration of response required for the medium term (up to 3 years)
1 (Low)	Very unlikely to occur in the short or medium term	Consideration of response required for the long term (over 3 years)

The Group's principal operating companies—ENEOS, JX Nippon Oil & Gas Exploration and JX Nippon Mining & Metals—maintain and operate their own risk management systems that are tailored to their specific business content and characteristics. The companies' departments in charge of risk management cooperate and share risk information with each other. If a company identifies, through its risk management process, a risk that could significantly impact the management of the Group, ENEOS Holdings and the company work together to respond to the risk.

Internal Control

The Internal Control Department has developed and operates the internal control system for the ENEOS Group. The system links the internal controls stipulated in the Companies Act and the Financial Instruments and Exchange Act, and the internal controls of each Group organization. Autonomous internal control systems based on the COSO framework are being developed for each organization. The rollout of these systems began in fiscal 2018 at the Company and ENEOS, and in fiscal 2020 at other Group companies, including overseas business sites.
In fiscal 2021, we will develop a risk information database for the integrated storage and management of risk-related information in order to achieve more sophisticated risk management in the Group's management and operations.

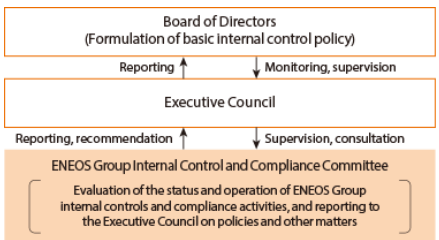


Internal Control System

> The ENEOS Group Basic Policy on Internal Control System (PDF : 160KB)

Comprehensive Internal Control Structure

The Company has established the ENEOS Group Internal Control and Compliance Committee, chaired by the officer responsible for the Internal Control Department and vice-chaired by the officer responsible for the Legal & Corporate Affairs Department. The committee works to continuously improve the internal control system for the ENEOS Group. The committee confirms and evaluates the status and operation of the internal control system twice a year, in principle, and reports its findings to the Executive Council.
Every April, the committee reports to the Board of Directors on the status and operation of the internal control system and on specific points of policies for initiatives for the fiscal year. The Board of Directors appropriately monitors and supervises the internal control system for the ENEOS Group and fulfills its duty of accountability by providing an overview of the operation status in the Business Report section of the Convocation Notice of the General Meeting of Shareholders.



Comprehensive Internal Control and Compliance Structure

Risk Assessment of Business Activities

The Group has internal rules and regulations for addressing the risks in its business activities. For the screening of new investments, in addition to country risks and foreign exchange rate risks, we analyze and evaluate ESG-related risks, including environmental risks such as those related to the scope of response to biodiversity and environmental regulations, risks in the procurement of raw materials, including water, and human resources risks, including those related to human rights and occupational health and safety. Based on this, appropriate actions are taken when necessary.
For example, when reviewing potential investments, we perform screenings based on the stage-gate system. The process from initial examination to execution of an investment project is divided into multiple stages of examination, and deliberations are conducted at each stage. During the deliberations, we clarify various risks, including ESG-related risks, using sensitivity analysis and case analysis, among other means, and take steps to minimize these risks as much as possible. For important investments, follow-up is carried out after a certain period of time has passed to clarify impacts on the initial outlook caused by environmental changes or other factors and to determine whether to continue with the project.

Crisis Management

In the event of a crisis situation that could significantly affect the management of the Group, the Company responds quickly and appropriately in accordance with the ENEOS Group Rules for Responding to Crises and Emergencies and has systems in place to minimize any damage that may occur.
The Group's basic stance on crisis situations is to place the highest priority on protecting human life, issue information promptly and implement centralized information management, quickly determine, execute, and follow up the most effective response measures, implement transparent and smooth communications, and prevent recurrence.
The Crisis Management Department functions as the standing organizational unit in charge of crisis response and management in the event of a crisis situation. The department maintains a system enabling immediate reporting on conditions and the status of response measures from the site of an incident.
Depending on the magnitude of the crisis, we may set up a response headquarters, led by the president, and organize response teams at the head office and at the site of the incident to ensure agile and effective response.

Infectious Disease Prevention Measures

The Group's basic policy is to (1) place the highest priority on respect for human life and make every effort to protect against and prevent the spread of infectious diseases to the Group's officers, employees and their families, and (2) engage all Group companies in maintaining a continuous supply of our products that support the functioning of society.
In the event that management is significantly affected by an infectious disease epidemic, a system is in place to set up a response headquarters, led by the president, to ensure the prompt determination and execution of countermeasures.
ENEOS has business continuity plans at its head office, branch offices, refineries, and other sites to ensure that we can fulfill our responsibility of providing a stable supply of petroleum products, even during an epidemic.
In addition, to protect employees from infection and prevent the spread of disease, we systematically stockpile surgical masks, goggles, alcohol-based disinfectants, and other items at our business sites in Japan and overseas, and we also maintain a system and an IT environment that enable employees to work from home.
Our efforts to prevent the spread of COVID-19, implemented since the beginning of 2020, include the following in addition to the above.

Examples of COVID-19 countermeasures

1. Encouraging employees to work from home (excluding employees at production and distribution sites)
2. Refraining from non-essential domestic business trips
3. Prohibiting overseas business trips
4. Enabling remote participation in training and meetings
5. Refraining from holding or attending social gatherings and events

In addition, at ENEOS refineries and plants, we worked to ensure the continuation of a stable supply of petroleum products by establishing guidelines to prevent infections at our sites, and thoroughly implementing countermeasures, including the following, to prevent the virus from entering our sites and to prevent mass infections.

Examples of COVID-19 countermeasures

1. Ensuring the use of masks and proper ventilation
2. Checking the temperature of employees and visitors when they enter the sites
3. Limiting the number of people using cafeterias, changing rooms, and bathing facilities
4. Recommending the use of private cars and avoiding public transport when commuting to work
5. Refraining from visiting areas with high infection rates

Information Security

Company information is an important asset of the Group, and we work to prevent the improper use, disclosure, or leakage of this information in accordance with the ENEOS Group Basic Rules for Information Security. The Group also strives to maintain information accuracy and reliability and to prevent falsification or mishandling while ensuring that information is available to authorized users when needed.
In addition, we have developed personal information protection procedures and established rules to ensure compliance with the Personal Information Protection Act and the appropriate handling of personal information to protect people's rights. We are working to promote better understanding of laws and company rules by distributing the Personal Information Protection Procedures Guidebook to employees.
In fiscal 2020, there were 21 incidents involving the leakage of personal information of customers at ENEOS, and a total of 400 cases of leakage or possible leakage of personal information were confirmed.
ENEOS has established an internal reporting process for the leakage of personal information and other confidential information in the ENEOS Group Rules for Responding to Crises and Emergencies and the Personal Information Protection Procedures Guidebook. In the event of an information leak, this internal reporting process is used to ensure prompt reporting, root cause analysis, and response, as well as limit damage and prevent recurrence. We will continue working to strengthen our personal information management systems to ensure appropriate management.

Cybersecurity Measures

In order to protect its important information and systems from cyberattacks, which have become stealthier in recent years, the Group has established the ENEOS Group Cybersecurity Council, chaired by the president of the Company. The council checks the status of cybersecurity measures, and also determines and implements cybersecurity measures using a top-down approach.
In addition, the IT Security Basic Procedures for ENEOS Group have been established and communicated to Group companies to ensure that cybersecurity countermeasures are carried out across the entire Group. The procedures require the appointment of IT cybersecurity managers to implement and oversee IT security measures at each Group company. The procedures also stipulate that disciplinary action is to be taken in the event that an employee violates the procedures and causes damage to the company.
For employees, as ongoing initiatives, the ENEOS Group conducts drills and issues reminders on the handling of suspicious emails, and also provides Group-wide security training using curricula translated into multiple languages.

Protection of Intellectual Property

The ENEOS Group Code of Conduct states that we will properly maintain, manage and protect corporate tangible and intangible assets along with new discoveries made in the course of business activities, as well as respect the intellectual property rights of third parties.
Through a dedicated department, ENEOS manages and uses intellectual property appropriately in accordance with its regulations on intellectual property rights (“Regulations on Inventions and Devices”). Given the important role of intellectual property in our business strategy, we are working particularly to ensure that the acquisition, protection and use of intellectual property contributes to our business. In addition, as part of our business risk management, we are implementing necessary measures through close collaboration between this dedicated department and other business and research departments in order to prevent the unauthorized use of the intellectual property of third parties. Moreover, we provide training for employees on the creation of intellectual property, investigation of patents, and handling of contracts, which improves awareness of intellectual property.

ENEOS Group Code of Conduct (excerpt)

10. Corporate asset protection and management
    (1) We properly maintain, manage, and protect corporate tangible and intangible assets.
    (2) We shall not use corporate tangible and intangible assets for purposes other than business activities.
    (3) We protect new discoveries or inventions made in the course of business activities as corporate intellectual properties.

Governance

Compliance

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Basic Approach

The ENEOS Group is committed to thorough compliance and has designated high ethical standards as a core element of the Group Philosophy and the Group Code of Conduct.
No significant legal violations occurred within the Group in fiscal 2020.

> **ENEOS Group Code of Conduct (excerpt)**
>
> 1. Compliance
> (1) We ensure compliance with laws, contracts, and corporate regulations and follow social norms and customs in an appropriate manner.
> (2) We shall neither ignore nor participate in any compliance violations.

Internal Control and Compliance Structure

The Internal Control and Compliance Committee has been established under the Executive Council to ensure the implementation of effective and efficient internal control and compliance. The committee, comprising relevant officers and department managers, regularly confirms the performance of and issues related to the Group's internal control and compliance activities and deliberates policies for future activities (see Comprehensive Internal Control Structure).

Establishment and Operation of Internal Reporting Systems ♥

To enable prompt detection and corrective action in the event of legal violations, ENEOS Holdings and some of its subsidiaries maintain internal reporting systems (compliance hotlines) for their employees and those of contractor companies. Persons making reports have the option of identifying themselves or remaining anonymous, and the systems also facilitate contact with reporting contacts outside the companies. We have also introduced internal reporting systems, including some with multilingual capabilities, at overseas subsidiaries where we have ownership of more than 50%.
Based on internal regulations, when a report is received, the content is reported to the relevant officers, including the chairman and president, and an investigation is launched. The investigation results, any necessary corrective measures and recurrence prevention measures are reported to the officers, and a response is carried out under their guidance. Individuals who identify themselves when making reports are also informed of the investigation results.
To ensure that employees do not hesitate to use the system, they are informed through the intranet, posters, and training that the identity of those making reports is strictly confidential and that reports can be made even if the employee is not sure if the matter constitutes a legal violation.
In fiscal 2020, the Group recorded 123 reports via its internal reporting systems.

Internal Control and Compliance Inspections

We conduct internal control and legal compliance inspections for each workplace annually as a voluntary initiative to ascertain the status of internal control and legal compliance.
Specifically, we inspect each business operation to ascertain compliance with Group-wide rules (internal control standards). In addition, as the management environment is rapidly changing, we use a risk control matrix to ascertain whether risks have been appropriately identified and assessed, and whether effective controls for these risks have been developed and implemented. We also utilize interviews of all staff by managers to identify compliance issues, including questions and concerns, in order to prevent legal violations and to identify and correct any issues at an early stage.
The Group identified approximately 400 compliance issues, questions, and concerns in fiscal 2020. None of the issues significantly impacted management. The Company resolved 70% of the issues within the fiscal year and is taking steps to promptly address the remaining 30% of unresolved issues.

Compliance Training

Strong awareness among all officers and employees is an important element in achieving thorough compliance. To this end, we issue ENEOS Group Philosophy cards and ENEOS Group Code of Conduct handbooks to all personnel and regularly provide compliance training for all officers and employees. In fiscal 2020, we conducted training on competition laws, bribery, security trade control, and the protection of personal information, focusing on important laws and regulations. We will continue to provide training on relevant topics as part of our ongoing efforts to ensure thorough compliance.

Initiatives for Compliance with Competition Laws

The Group maintains a policy that the entire Group must thoroughly comply with competition laws in Japan and other countries. We have put into place necessary company rules, and all officers and employees work under a clear commitment by management to ensure compliance with competition laws. Specifically, we have established the ENEOS Group Competition Law Compliance Policy, which strictly prohibits officers and employees from engaging in any activity, including cartels, that violates competition laws of any country. The policy clearly states that no activity that would violate competition laws shall be justified by any reason of business custom, the authority or position of the violator, maintaining or expanding business or making profits.
In addition, our legal division checks each department every year for planned interactions with business competitors, assessing those interactions for competition law risks, and requesting the submission of meeting records detailing the interactions. Through these and other efforts, we work to prevent competition law violations before they occur.
We also conduct competition law compliance training for officers and employees on a regular and ongoing basis.

Competition Law Compliance Policy

The Group has established and published the ENEOS Group Competition Law Compliance Policy pursuant to the basic principle of compliance with competition laws set out in “7. Equitable and fair transactions” in the ENEOS Group Code of Conduct. This policy clearly states the Group's commitment to comply with competition laws.
We will communicate this policy to and require compliance of all those within the scope of application of the ENEOS Group Code of Conduct. In addition to implementing this policy within the Group, we will also request that the companies and others that make up our value chain also cooperate with this policy.

ENEOS Group Competition Law Compliance Policy

Initiatives to Prevent Bribery and Corruption

The Group will not tolerate bribery in any form. We have internal regulations in place to prevent bribery at our Group companies, and all officers and employees actively work under a clear commitment by management of all Group companies to prevent bribery.
In addition, we have established and published the ENEOS Group Anti-Corruption Policy, which clearly states that the ENEOS Group will not engage in corrupt practices. Specifically, a mechanism has been put in place to check for bribery involving travel expenses, business entertainment, gift giving, and donations, taking into consideration the laws and regulations of each country. We also implement third-party due diligence procedures to prevent our involvement in bribery through a third party such as an agent, agency, or distributor.
Employees can access relevant internal regulations at any time via the company's in-house intranet or other means. They also undergo various forms of compliance training on the prevention of bribery. In this manner, we are working to raise employee awareness of this important issue.
Internal controls, compliance inspections, and internal audits are used to continuously monitor whether these mechanisms are functioning properly. The results of monitoring are reported to the Company's Board of Directors. We also have a system in place to promptly detect and rectify problems through our internal reporting system.
In fiscal 2020, there were no serious violations and no fines, administrative monetary penalties or settlements imposed regarding corruption or bribery. In addition, no internal disciplinary action was taken in connection with corruption or bribery.
The Group participates in the United Nations Global Compact, and actively supports the 10 Principles, including anti-corruption.

Anti-Corruption Policy

Based on the basic rules on the prevention of bribery and corruption established within “7. Equitable and fair transactions” and “8. Appropriate relationships with governments and public administrations” of the ENEOS Group Code of Conduct, the Group formulated and published the ENEOS Group Anti-Corruption Policy, which clearly stipulates that the Group will not engage in corrupt practices.
Going forward, we will continue to raise awareness of and require compliance with this policy within the scope of application of the ENEOS Group Code of Conduct. In addition to applying this policy within the Group, we will request the cooperation of companies in our value chain as well.

ENEOS Group Anti-Corruption Policy

Political Contributions

The Group thoroughly complies with Japan's Political Funds Control Act. The Group prohibits contributions to individual politicians as prohibited by law and monetary donations to specified political groups or political parties exceeding the legally permitted threshold.
In fiscal 2020, the Group did not make any political contributions (donations).

Tax Matters Policy

Companies have a corporate social responsibility to appropriately honor their tax liabilities in the countries and areas in which they conduct their business activities. Therefore, we have formulated the ENEOS Group Tax Matters Policy.

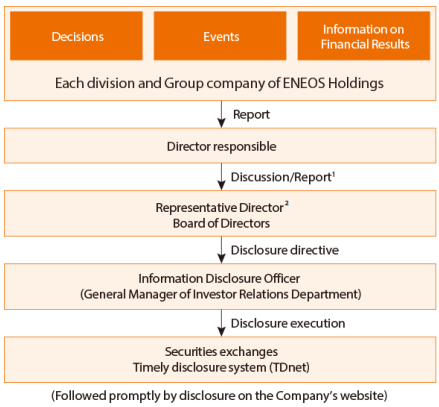
Tax Matters Policy

Disclosure Policy

The Company is fully aware that the timely and proper disclosure of corporate information is a key element of healthy capital markets. Accordingly, the Company makes efforts to ensure prompt, appropriate, and fair disclosure of information to shareholders and other investors with the aim of promoting transparency in management.
Systems are in place to obtain, manage, and disclose information on the Company as well as information on ENEOS Group companies quickly and accurately. Information that is subject to the Timely Disclosure Rules is made public through the timely disclosure system (TDnet) provided by the Tokyo Stock Exchange and others, and the same information is made available on the Company's website. Information that is not subject to the Timely Disclosure Rules is disclosed proactively based on basic policies and disclosure standards.
The Company has prepared Rules for the Prevention of Insider Trading, and systems have been created to communicate regulations regarding insider trading throughout the ENEOS Group.

Disclosure Policy

Disclosure Framework and Workflow



1 Whether timely disclosure is required is determined through consultation among the director responsible, the general managers of the General Administration, Legal & Corporate Affairs, and Controller departments, the information disclosure officer (general manager of the Investor Relations Department), and the general managers of any other relevant departments or offices.

2 Disclosure of information regarding events that require urgent disclosure may be made on the authority of a representative director without being reported to the Board of Directors.

♥ : Indicates items related to targets (KPIs) for material ESG issues.

Data

Governance Environmental Social

Governance

	Item	FY2018	FY2019	FY2020
Board of Directors	Number of meetings	14	14	11
	Number of members	From April 1: 22 From June 27: 18	From April 1: 18 From June 26: 17	From April 1: 17 From June 25: 16
	Number of independent outside directors	From April 1: 4 From June 27: 6	6	6
	Average attendance rate (%)	97.3	99.6	98.3
Board of Corporate Auditors	Number of meetings	4	—	—
	Number of members	6	—	—
	Number of independent outside corporate auditors	3	—	—
	Average attendance rate (%)	100.0	—	—
Audit and Supervisory Committee	Number of meetings	11	15	14
	Number of members	5	5	5
	Number of independent outside directors (Audit and Supervisory Committee members)	3	3	3
	Average attendance rate (%)	96.4	100.0	98.7
Compensation Advisory Committee	Number of meetings	4	5	3
	Number of members	6	From April 1: 6 From June 26: 5	5
	Number of independent outside directors	3	3	3
	Average attendance rate (%)	95.7	100.0	100.0
Nomination Advisory Committee	Number of meetings	4	5	4
	Number of members	6	From April 1: 6 From June 26: 5	5
	Number of independent outside directors	3	3	3
	Average attendance rate (%)	95.7	100.0	100.0

Note:

The Company transitioned to a company with an Audit and Supervisory Committee following the General Meeting of Shareholders held on June 27, 2018. As a result, the Company eliminated the Board of Corporate Auditors and established the Audit and Supervisory Committee.

Environmental

- The environmental information covers a total of 124 business sites at 78 companies in the principal operating companies the ENEOS Group, the JX Nippon Oil & Gas Exploration Group, the JX Nippon Mining & Metals Group, as well as other operating companies (ENEOS Group: 51 business sites at 28 companies; JX Nippon Oil & Gas Exploration Group: 3 business sites at 1 company (operator business); JX Nippon Mining & Metals Group: 70 business sites at 48 companies; other operating companies: 1 company), however, the companies covered vary depending on the information. The companies covered are indicated in the "Scope of data" column.
- The JX Nippon Mining & Metals Group and the NIPPO Group expanded their scope of data from fiscal 2020.
- The environmental information indicated with ☑ for fiscal 2020 has been assured by an independent practitioner.
- Some figures from past fiscal years were revised in the process of tabulating results for fiscal 2020 due to revisions in the scope of data, etc.

Energy Consumption (crude oil equivalent) ☑

	Unit	FY2018	FY2019	FY2020	Scope of data
Energy consumption (crude oil equivalent)	Million kL	11.16	10.87	9.38	ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO Corporation
Fuel consumption (crude oil equivalent)	Million kL	9.97	9.40	8.03	
Electricity consumption	Million kWh	4,216	4,850	4,277	

Note:

The NIPPO Group expanded its scope of data from fiscal 2020 to include 13 company-owned materials plants and 133 Group manufacturing and sales plants.

Energy Consumption Intensity ☑

	Unit	FY2018	FY2019	FY2020	Scope of data
Energy consumption intensity for oil refining	Oil equivalent consumption volume (kL)/Crude distillation unit equivalent throughput (thousand kL)	8.40	8.45	9.38	Petroleum refining business of the ENEOS Group
Energy consumption intensity for smelting and refining	GJ of heat/ton of refined copper produced	13.3	13.4	14.2	Smelting and refining business sites of the JX Nippon Mining & Metals Group
CO_2 emissions intensity for smelting and refining	t-CO_2/ton of refined copper produced	0.82	0.70	0.80	Smelting and refining business sites of the JX Nippon Mining & Metals Group

GHG Emissions ☑

	Unit	FY2018	FY2019	FY2020	Scope of data
CO_2 emissions	Million tons	28.30	26.66	22.49	ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO Corporation
(1) Scope 1	Million tons	23.99	22.28	18.75	
(2) Scope 2	Million tons	3.10	3.12	2.70	
(3) Non-energy-derived CO_2	Million tons	1.21	1.25	1.04	
GHG emissions other than CO_2	Tons	147,664	151,280	121,880	
(1) CH_4	Tons	42,259	46,691	42,814	
(2) N_2O	Tons	104,782	98,444	77,748	
(3) HFCs	Tons	411	5,970	1,123	
(4) PFCs	Tons	0	0	0	
(5) SF_6	Tons	212	175	195	
(6) NF_3	Tons	0	0	0	
Total GHG emissions	Million tons	28.45	26.81	22.61	

Notes:

GHG emissions indicate emissions of greenhouse gases from consumption of electricity, fuel, etc., as well as oil refining and oil and gas production, converted to CO_2 equivalent.

The NIPPO Group expanded its scope of data from fiscal 2020 to include 13 company-owned materials plants and 133 Group manufacturing and sales plants.

Air Pollution Load ☑

	Unit	FY2018	FY2019	FY2020	Scope of data
(1) SOx	Tons	13,208	13,054	10,626	ENEOS, JX Nippon Mining & Metals, NIPPO Corporation
(2) NOx	Tons	16,878	14,044	11,969	
(3) Soot	Tons	1,192	1,037	871	
(4) VOC	Tons	14,825	14,317	11,886	ENEOS, JX Nippon Oil & Gas Exploration

Notes:

The scope of data for the JX Nippon Mining & Metals Group is business sites that are subject to legal requirements.

The NIPPO Group expanded its scope of data from fiscal 2020 to include 13 company-owned materials plants and 133 Group manufacturing and sales plants.

The scope of VOCs data for JX Nippon Oil & Gas Exploration Group is the Nakajo Field Office.

Use of Water Resources ☑

	Unit	FY2018	FY2019	FY2020	Scope of data
Water used (1) + (2) + (3) + (4) + (5)	Million tons	1,723.30	1,717.56	1,521.78	ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO Corporation
(1) Service water (municipal potable water)	Million tons	4.95	5.03	3.67	
(2) Service water (surface water)	Million tons	173.60	167.90	155.24	
(3) Harvested rainwater	Million tons	0.06	0.04	0	
(4) Groundwater	Million tons	19.02	20.57	18.87	
(5) Seawater	Million tons	1,525.68	1,524.02	1,344.00	
Water discharged	Million tons	1,627.04	1,623.89	1,469.39	
(1) River discharge	Million tons	15.64	14.98	14.90	
(2) Sea discharge	Million tons	1,611.40	1,608.91	1,454.49	

Notes:

The volume of water used and water discharged by the JX Nippon Mining & Metals Group is multiplied by density (seawater: 1.024 t/m^3; fresh water: 1.000 t/m^3).

The NIPPO Group expanded its scope of data from fiscal 2020 to include 13 company-owned materials plants and 133 Group manufacturing and sales plants.

Water Pollution Load ☑

	Unit	FY2018	FY2019	FY2020	Scope of data
COD	Tons	1,440	1,396	1,177	ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals

Release and Transfer of Chemical Substances (PRTR) ☑

	Unit	FY2018	FY2019	FY2020	Scope of data
(1) Released	Tons	1,828	2,192	2,257	ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO Corporation
(2) Transferred	Tons	384	384	446	

Notes:

The scope of data for the JX Nippon Oil & Gas Exploration Group is the Nakajo Field Office.

The scope of data for the JX Nippon Mining & Metals Group is business sites in Japan that are required to give notification under the PRTR Law.

The NIPPO Group expanded its scope of data from fiscal 2020 to include 13 company-owned materials plants and 133 Group manufacturing and sales plants.

Waste ☑

	Unit	FY2018	FY2019	FY2020	Scope of data
Total waste	Tons	1,648,547	1,829,202	4,144,932	ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO Corporation
Landfill disposal volume	Tons	14,035	15,151	28,756	
Waste-to-landfill ratio	%	0.9	0.8	0.7	

Notes:

From fiscal 2020, volumes for the JX Nippon Mining & Metals Group include by-products (approx. 2,480 thousand tons).

The NIPPO Group expanded its scope of data from fiscal 2020 to include 13 company-owned materials plants and 133 Group manufacturing and sales plants.

Environmental Accidents

	FY2018	FY2019	FY2020
Number of environmental accidents	0	0	0
Monetary penalties	Nil	Nil	Nil

Social

- Social information covers ENEOS Holdings, the ENEOS Group, the JX Nippon Oil & Gas Exploration Group, the JX Nippon Mining & Metals Group and other operating companies, however, the companies covered vary depending on the information. The breakdown of the totals by company is shown in the table below.
- The social information indicated with ☑ for fiscal 2020 has been assured by an independent practitioner.

Employees

Item			Total	ENEOS Holdings	ENEOS	JX Nippon Oil & Gas Exploration	JX Nippon Mining & Metals
Number of employees (by employment status)							
Male	Full time		10,193	580	7,512	311	1,790
		Fixed term	184	8	44	22	110
		Non-fixed term (regular employees)	10,009	572	7,468	289	1,680
	Other than full time		—	—	—	—	—
		Fixed term	—	—	—	—	—
		Non-fixed term	—	—	—	—	—
	Subtotal		10,193	580	7,512	311	1,790
Female	Full time		1,447	238	907	50	252
		Fixed term	58	21	21	2	14
		Non-fixed term (regular employees)	1,389	217	886	48	238
	Other than full time		—	—	—	—	—
		Fixed term	—	—	—	—	—
		Non-fixed term	—	—	—	—	—
	Subtotal		1,447	238	907	50	252
	Percentage of female employees		12.4%	29.1%	10.8%	13.9%	12.3%
Temporary staff			702	37	567	7	91
	Male		389	15	328	0	46
	Female		313	22	239	7	45
	Percentage of temporary staff		5.7%	4.3%	6.3%	1.9%	4.3%
Total			12,342	855	8,986	368	2,133
Foreign nationals			63	8	46	9	0
	Male		34	3	26	5	0
	Female		29	5	20	4	0
Number of locally employed staff at overseas sites			4,192	0	1,158	56	2,978

Item			Total	ENEOS Holdings	ENEOS	JX Nippon Oil & Gas Exploration	JX Nippon Mining & Metals
Number of employees (by category), average age and average years of service							
Managerial staff (regular employees)			2,862	377	2,002	137	346
	Male		2,751	334	1,951	132	334
	Female		111	43	51	5	12
	Percentage of female managerial staff		3.9%	11.4%	2.5%	3.6%	3.5%
	Age	Up to 29 years old	0	0	0	0	0
		30–49 years old	1,102	142	743	49	168
		50 years old and over	1,760	235	1,259	88	178
	Average age		50.4	50.6	50.6	50.6	49.3
	Average years of service		25.1	26.2	25.9	23.8	19.7
Non-managerial staff (regular employees)			8,536	412	6,352	200	1,572
	Male		7,257	238	5,517	156	1,346
	Female		1,279	174	835	44	226
	Age	Up to 29 years old	2,545	97	2,018	43	387
		30–49 years old	4,252	204	2,998	138	912
		50 years old and over	1,739	111	1,336	19	273
	Average age		38.4	40.3	38.4	36.4	38.1
	Average years of service		16.4	15.5	17.5	11.2	12.8
Total			11,398	789	8,354	337	1,918
Average age (regular employees)			41.4	45.2	41.3	42.3	40.1
	Average age – male		41.5	45.8	41.4	42.3	40.5
	Average age – female		40.8	43.7	41.1	42.1	37.0
Average years of service (regular employees)			18.6	20.6	19.5	16.5	14.0
	Average years of service – male		18.8	21.0	19.7	16.8	14.7
	Average years of service – female		16.9	19.7	18.3	14.1	9.2

Item			Total	ENEOS Holdings	ENEOS	JX Nippon Oil & Gas Exploration	JX Nippon Mining & Metals
Number of new hires (regular employees, incl. mid-career hires)							
Male	Up to 29 years old		431	—	334	7	90
		Percentage of regular employees as of March 2021	3.8%	—	4.0%	2.1%	4.7%
	30–49 years old		133	—	96	1	36
		Percentage of regular employees as of March 2021	1.2%	—	1.1%	0.3%	1.9%
	50 years old and over		3	—	1	1	1
		Percentage of regular employees as of March 2021	0.0%	—	0.0%	0.3%	0.1%
	Subtotal		567	—	431	9	127
		Percentage of regular employees as of March 2021	5.0%	—	5.2%	2.7%	6.6%
Female	Up to 29 years old		114	—	90	2	22
		Percentage of regular employees as of March 2021	1.0%	—	1.1%	0.6%	1.1%
	30–49 years old		17	—	8	0	9
		Percentage of regular employees as of March 2021	0.1%	—	0.1%	0.0%	0.5%
	50 years old and over		0	—	0	0	0
		Percentage of regular employees as of March 2021	0.0%	—	0.0%	0.0%	0.0%
	Subtotal		131	—	98	2	31
		Percentage of regular employees as of March 2021	1.1%	—	1.2%	0.6%	1.6%
Total			698	—	529	11	158
	Percentage of regular employees as of March 2021		6.1%	—	6.3%	3.3%	8.2%

Item			Total	ENEOS Holdings	ENEOS	JX Nippon Oil & Gas Exploration	JX Nippon Mining & Metals
Employee turnover (regular employees)							
	Male	Up to 29 years old	64	2	45	1	16
		Percentage of regular employees as of March 2021	0.6%	0.3%	0.5%	0.3%	0.8%
		30–49 years old	90	3	68	1	18
		Percentage of regular employees as of March 2021	0.8%	0.4%	0.8%	0.3%	0.9%
		50 years old and over	243	12	178	1	52
		Percentage of regular employees as of March 2021	2.1%	1.5%	2.1%	0.3%	2.7%
		Subtotal	397	17	291	3	86
		Percentage of regular employees as of March 2021	3.5%	2.2%	3.5%	0.9%	4.5%
	Female	Up to 29 years old	11	1	8	0	2
		Percentage of regular employees as of March 2021	0.1%	0.1%	0.1%	0.0%	0.1%
		30–49 years old	13	1	9	1	2
		Percentage of regular employees as of March 2021	0.1%	0.1%	0.1%	0.3%	0.1%
		50 years old and over	11	0	7	0	4
		Percentage of regular employees as of March 2021	0.1%	0.0%	0.1%	0.0%	0.2%
		Subtotal	35	2	24	1	8
		Percentage of regular employees as of March 2021	0.3%	0.3%	0.3%	0.3%	0.4%
	Total		432	19	315	4	94
		Percentage of regular employees as of March 2021	3.8%	2.4%	3.8%	1.2%	4.9%

Item			Total	ENEOS Holdings	ENEOS	JX Nippon Oil & Gas Exploration	JX Nippon Mining & Metals
Employment rate of persons with disabilities			2.5%	—	2.5%	3.2%	2.2%
Number of employees re-employed after mandatory retirement			556	38	453	21	44
Paid annual leave	Number of days of paid annual leave granted		22.0	—	22.2	22.3	21.3
	Number of days of paid annual leave taken		19.2	—	20.1	15.9	15.6
	Usage rate of paid annual leave		87.4%	—	90.8%	71.5%	73.4%
Number of employees taking family care leave			6	0	5	0	1
Childbirth/ child care	Number of employees taking childcare leave		408	26	343	8	31
		Male employees	359	17	315	8	19
	Percentage of employees returning to work after giving birth or taking childcare leave		99.2%	100.0%	100.0%	100.0%	95.7%
	Percentage still employed 12 months after returning to work		99.4%	100.0%	99.1%	100.0%	100.0%
Labor unions	Number of members		8,775	No labor unions	7,342	No labor unions	1,433
	Membership rate		99.8%	No labor unions	99.7%	No labor unions	100.0%
Training hours	Total training hours		51,981	—	25,934	2,993	23,054
	Training hours per employee		4.5	—	2.8	8.3	11.3
Participation rate for regular health screenings			100.0%	100.0%	100.0%	100.0%	100.0%

Notes:

Employees of ENEOS Holdings are seconded from operating companies and belong to joint departments of ENEOS Holdings and ENEOS. Employees of ENEOS do not include employees belonging to joint departments.

The number of new hires, the employment rate of persons with disabilities, and the number of days of paid annual leave granted/taken for ENEOS Holdings are accounted for at employees' companies of origin. Training hours are accounted for at ENEOS.

Training Hours in Fiscal 2020

	Total training hours	Training hours per employee
ENEOS Holdings, ENEOS	25,934	2.8
JX Nippon Oil & Gas Exploration	2,993	8.3
JX Nippon Mining & Metals	23,054	11.3
Total	51,981	4.5

Note:

Number of hours of internal group training and external training organized by the human resources departments of ENEOS Holdings and the Group's principal operating companies, aggregated for each employer.

Occupational Injuries ☑

		FY2018	FY2019	FY2020	Scope of data
Number of occupational injuries (persons)					
Directly hired employees	Subtotal	19	3	12	ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals
	Fatalities	0	0	0	
	Lost work time	19	3	12	
Contractors (contractor companies, etc.)	Subtotal	23	20	28	
	Fatalities	0	0	2	
	Lost work time	23	20	26	
Total		42	23	40	
Occupational injury frequency rate		0.39	0	0.37	ENEOS 13 refineries and plants, JX Nippon Oil & Gas Exploration 3 business sites, JX Nippon Mining & Metals head office and 5 business sites
Occupational injury severity rate		0	0	0.02	
Lost working days due to occupational injuries (days)		70	0	362	

Notes:

Number of contractors in “Number of occupational injuries” is for reference.

Scope of data for occupational injury frequency rate, occupational injury severity rate, and lost working days due to occupational injuries: Employees directly employed by 13 ENEOS refineries and plants, 3 JX Nippon Oil & Gas Exploration business sites (Vietnam, Kuala Lumpur, and Nakajo) and the JX Nippon Mining & Metals head office and 5 business sites (Hitachi, Isohara, Kurami, Tsuruga, and Saganoseki).

Some figures from past fiscal years were revised in the process of tabulating results for fiscal 2020.

	FY2018	FY2019	FY2020	Scope of data
Total recordable incident rate (TRIR)	1.25	1.01	1.50	ENEOS Holdings, ENEOS head office and 13 refineries and plants, JX Nippon Oil & Gas Exploration head office and 3 business sites, and JX Nippon Mining & Metals head office and 5 business sites
Lost time injury rate (LTIR)	0.39	0.04	0.35	

Notes:

TRIR: Number of non-lost-time occupational injuries, lost-time occupational injuries and fatalities per million hours

LTIR: Number of lost-time occupational injuries and fatalities per million hours

Scope of data for TRIR and LTIR: Employees directly employed by ENEOS Holdings, ENEOS head office and 13 refineries and plants, JX Nippon Oil & Gas Exploration head office and 3 business sites (Vietnam, Kuala Lumpur, and Nakajo) and JX Nippon Mining & Metals head office and 5 business sites (Hitachi, Isohara, Kurami, Tsuruga, and Saganoseki).

ENEOS Group Safety Education Center Training Participation

	FY2018	FY2019	FY2020	Scope of data
Number of participants	1,538	1,332	432	ENEOS, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, affiliated Group companies, contractor companies, etc.

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（TRANSLATION）

Independent Practitioner's Assurance Report

November 30, 2021

Mr. Katsuyuki Ota,
Representative Director, President,
ENEOS Holdings, Inc.

Masahiko Sugiyama
Representative Director
Deloitte Tohmatsu Sustainability Co., Ltd.
3-2-3, Marunouchi, Chiyoda-ku, Tokyo

We have undertaken a limited assurance engagement of the environmental information and the social information indicated with ☑ for the year ended March 31, 2021 (the "Sustainability Information") included in the "ENEOS REPORT ESG DATA BOOK 2021 (PDF)" (the "Report") of ENEOS Holdings, Inc. (the "Company").

The Company's Responsibility

The Company is responsible for the preparation of the Sustainability Information in accordance with the calculation and reporting standard adopted by the Company (as described on pages 2, 126, 129 and indicated with the Sustainability Information of the Report). Greenhouse gas quantification is subject to inherent uncertainty for reasons such as incomplete scientific knowledge used to determine emissions factors and numerical data needed to combine emissions of different gases.

Our Independence and Quality Control

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. We apply International Standard on Quality Control 1, *Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance and Related Services Engagements*, and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Our Responsibility

Our responsibility is to express a limited assurance conclusion on the Sustainability Information based on the procedures we have performed and the evidence we have obtained. We conducted our limited assurance engagement in accordance with the International Standard on Assurance Engagements ("ISAE") 3000, *Assurance Engagements Other than Audits or Reviews of Historical Financial Information*, issued by the International Auditing and Assurance Standards Board ("IAASB"), ISAE 3410, *Assurance Engagements on Greenhouse Gas Statements*, issued by the IAASB and *the Practical Guideline for the Assurance of Sustainability Information*, issued by the Japanese Association of Assurance Organizations for Sustainability Information.

The procedures we performed were based on our professional judgment and included inquiries, observation of processes performed, inspection of documents, analytical procedures, evaluating the appropriateness of quantification methods and reporting policies, and agreeing or reconciling with underlying records. These procedures also included the following:

- Evaluating whether the Company's methods for estimates are appropriate and had been consistently applied. However, our procedures did not include testing the data on which the estimates are based or reperforming the estimates.
- Performing interviews of responsible persons and inspecting documentary evidence to assess the completeness of the data, data collection methods, source data and relevant assumptions applicable to the sites.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement.

Limited Assurance Conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Sustainability Information is not prepared, in all material respects, in accordance with the calculation and reporting standard adopted by the Company.

The above represents a translation, for convenience only, of the original Independent Practitioner's Assurance report issued in the Japanese language.

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ECONOMIC

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