

2019

JXTG Holdings, Inc.



JXTG REPORT ESG DATA BOOK 2019



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Editorial Policy

The JXTG Group published the JXTG Report ESG Data Book 2019 to highlight the Group's challenges, philosophy and initiatives in terms of environmental, social and governance (ESG) for reference by all stakeholders, including investors with a strong interest in ESG investment.

This report references GRI Standards, a set of guidelines on international reporting, and is organized according to ESG topics to provide information in an easily accessible and searchable manner.

We have also published the JXTG Integrated Report 2019, which contains the Group's medium- to long-term growth strategy (value creation story). We encourage readers to use the Integrated Report in conjunction with the ESG Data Book.

The JXTG Group will continue to disclose clear, concise information, and we remain committed to active engagement with our stakeholders.

Scope of Report

This report covers JXTG Holdings, Inc., JXTG Nippon Oil & Energy Corporation, JX Nippon Oil & Gas Exploration Corporation, JX Nippon Mining & Metals Corporation (hereafter, "JXTG Holdings and core operating companies"), as well as other subsidiaries and affiliated companies, for a total of 702 companies.

In cases where the scope is different from the above, the relevant scope will be indicated.

Period Covered by the Report

In principle, this report covers the period from April 2018 to March 2019. However, some information from April 2019 onward is also included, as necessary.

Publication Date

January 2020
(Previous issue: January 2019; Next issue: January 2021)

Guidelines Used as Reference

- Global Reporting Initiative (GRI) Sustainability Reporting Standards
- The Environmental Reporting Guidelines (2018 Edition), Ministry of the Environment, Japan

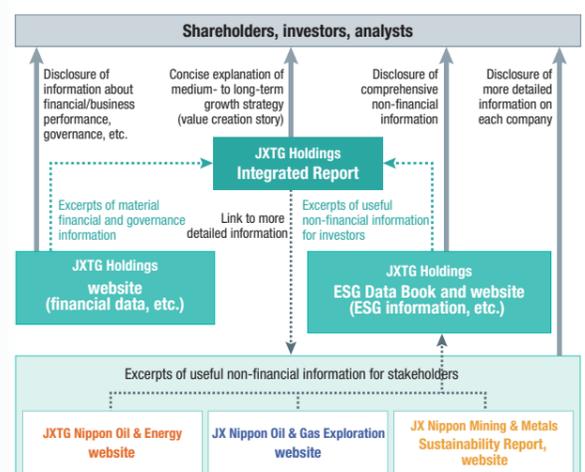
Enhancing Reporting Reliability

Environmental and social information for fiscal 2018 indicated with has been assured by an independent practitioner to ensure objective and reliable reporting.

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Disclosure Media Framework



JXTG Group Overview

JXTG Group



The JXTG Group's Businesses

JXTG Nippon Oil & Energy

Principal Business

- Refining and sale of petroleum products (gasoline, kerosene, lubricants, etc.)
- Import and sale of gas and coal
- Manufacture and sale of petrochemical products
- Supply of electric power and hydrogen

Main Products	Petroleum products	Gasoline, kerosene, diesel, fuel oil A, heavy fuel oil C, naphtha, lubricants, asphalt, etc.
	Basic chemical products	Paraxylene, benzene, propylene, ethylene, ENB, etc.
	High performance materials	Astaxanthin, liquid crystal polymers, anode materials for lithium ion batteries, non-woven materials, etc.
	Other products	Liquefied natural gas (LNG), coal, electric power, hydrogen, etc.
Domestic Manufacturing Sites	Refineries	Sendai, Kashima, Chiba, Kawasaki, Negishi, Osaka, Sakai, Wakayama, Mizushima, Marifu, Oita
	Plants	Yokohama, Chita, Kawasaki

JX Nippon Oil & Gas Exploration

Principal Business

- Exploration for and development of oil, natural gas, and other mineral resources
- Extraction, processing, storage, sale, and shipment of oil, natural gas, and other mineral resources and their secondary products

Main Products	Crude oil, natural gas
Worksites	U.S. Gulf of Mexico, UK North Sea, Vietnam, Myanmar, Malaysia, Indonesia, Papua New Guinea, Australia, UAE, Qatar, Brazil, Japan

JX Nippon Mining & Metals

Principal Business

- Development and mining of nonferrous metal resources, smelting and refining, and marketing of nonferrous metals (copper, rare metals, gold, silver, etc.); manufacture and marketing of functional materials and thin film materials
- Recycling of nonferrous metal materials, industrial waste treatment

Main Products and Services	Resources development	Copper concentrate, molybdenum concentrate
	Smelting and refining	Copper, precious metals, rare metals, sulfuric acid
	Functional materials	Electro-deposited copper foil, treated rolled copper foil, precision rolled products, precision processed products
	Thin film materials	Sputtering targets materials, surface treatment agents, compound semiconductor materials
	Recycling and environmental services	Recovery of valuable metals and Detoxification of industrial waste
	Tantalum and niobium	Tantalum and niobium products (high-purity metal powders, oxides, etc.)
Principal Worksites	Japan	Isohara Works, Kurami Works, Pan Pacific Copper's Saganoseki Smelter & Refinery and Hitachi Works, Tsuruga Plant
	Overseas	Caserones Copper Mine, H.C. Starck Tantalum and Niobium GmbH, Nippon Mining & Metals (Suzhou), Nikko Metals Taiwan, JX Nippon Mining & Metals USA, JX Nippon Mining & Metals Korea

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

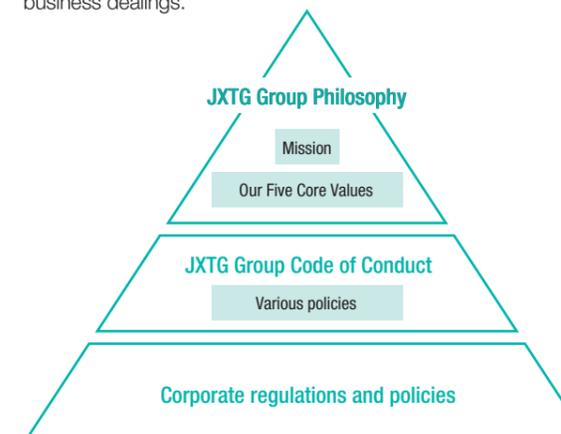
Taking changes in stride, we rise to the challenge of creating new value while seeking innovative solutions for today and tomorrow.

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.

1. Positioning of JXTG Group Code of Conduct

This JXTG Group Code of Conduct (hereinafter referred to as the "Code of Conduct") is a set of standards that we, as the JXTG Group directors, officers and employees, apply in order to realize the JXTG 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 JXTG 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-to-day 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 JXTG 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 JXTG 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.

JXTG 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

WEB The full text of the JXTG Group Code of Conduct is available on our website.
<https://www.hd.jxtg-group.co.jp/english/company/conduct.html>

Basic Approach

The JXTG Group recognizes that society's trust is essential for achieving sustainable growth as a company. With this understanding, we conduct ongoing CSR activities aimed at contributing to the development of communities and helping to ensure a vibrant future.

Basic Policy for CSR

In order for JXTG Group executives and employees to realize the mission set forth in the JXTG Group Philosophy, they follow in good faith the JXTG Group Code of Conduct, which is based on our five core values. In this way, we aim to ensure that we are a corporate group worthy of the trust of our stakeholders.

Priority Fields for CSR Activities

Based on the 14 standards in the JXTG Group Code of Conduct, we have established eight priority fields for CSR activities.

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

Priority Fields for CSR Activities	Related SDGs
High Ethical Standards	16 (Peace, Justice and Strong Institutions), 17 (Partnerships for the Goals)
Compliance	16 (Peace, Justice and Strong Institutions)
Safety and Environment	6 (Clean Water and Sanitation), 7 (Affordable and Clean Energy), 11 (Sustainable Cities and Communities), 12 (Responsible Consumption and Production), 13 (Climate Action), 14 (Life Below Water), 15 (Life on Land)
Human Rights	5 (Gender Equality)
Human Resource Development	4 (Quality Education), 5 (Gender Equality)
Health	3 (Good Health and Well-being), 5 (Gender Equality), 8 (Decent Work and Economic Growth)
Quality	9 (Industry, Innovation and Infrastructure), 12 (Responsible Consumption and Production)
Social Contribution	1 (No Poverty), 4 (Quality Education), 10 (Reduced Inequalities), 13 (Climate Action), 17 (Partnerships for the Goals)

The Group's Top CSR Priorities (Material Issues)

The JXTG Group has identified top CSR priorities (material issues) from two viewpoints: priority from an external perspective and priority from the Group's internal perspective.

After discussing the Group's top CSR priorities for fiscal 2019, we identified the same nine issues as those for fiscal 2018, and established 12 targets (KPIs).

Looking ahead, we will work to achieve each of these targets through the Group's CSR promotion framework.

Initiatives included in this report that address the Group's top CSR priorities are denoted with a heart (♥) symbol.

Steps in the Review Process

STEP 1 Identify social issues to consider

Following an exhaustive review of various guidelines (GRI standards, ISO 26000, etc.) as well as the assessment items of ESG research providers and the Sustainable Development Goals (SDGs), 32 social issues were identified for consideration.

STEP 2 Prioritize from an external perspective

Priority from an external perspective was assessed for the 32 social issues identified at Step 1, taking into account such factors as the assessment weight given by ESG research providers.

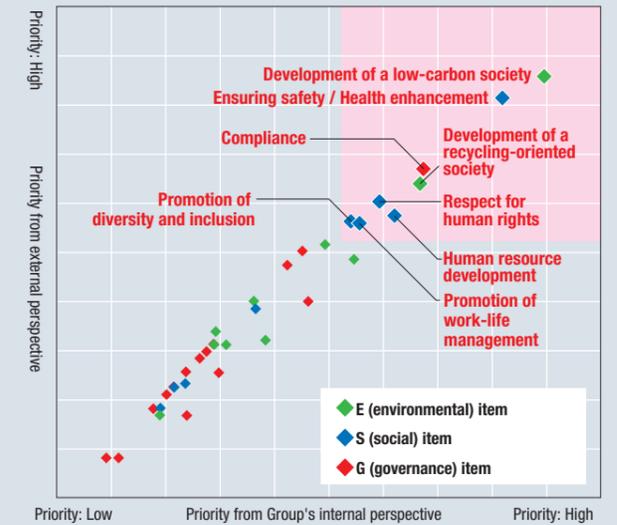
STEP 3 Prioritize from the Group's perspective

Priority from the Group's internal perspective was assessed, taking into account such factors as our Medium-Term Management Plan and reviews of the expert committees within the CSR promotion structure, as well as the guidelines of the U.S. Sustainability Accounting Standards Board (SASB).

STEP 4 Identify the Group's top CSR priorities

After assessing priority from an external perspective and priority from the Group's internal perspective, nine issues of particular significance were identified as the Group's top CSR priorities.

Diagram of the Group's Top CSR Priorities



Evaluation: 😊 Achieved/Steady progress ☹️ Not achieved

Table of the Group's Top CSR Priorities (Material Issues)

Category	The Group's top CSR priorities	Initiative	Fiscal 2018 Target (KPI)	Achievement target (fiscal year)	Fiscal 2018 Results/Progress	Fiscal 2019 Target (KPI)	Achievement target (fiscal year)	Applicable companies
Environmental	Development of a low-carbon society	Reduction in CO ₂ emissions (Reduction amount through own efforts)	Reduce by 2.72 million tons compared to 2009	Fiscal 2019	😊 Reduce by 2.6 million tons compared to fiscal 2009	Reduce by 2.72 million tons compared to fiscal 2009	Fiscal 2019	Core operating company groups NIPPO (Total of 43 companies)
	Development of a recycling-oriented society	Reduction in landfill disposal	Ratio of landfill disposal Maintain zero emissions (less than 1%)	Fiscal 2019	😊 0.4%	Ratio of landfill disposal Maintain zero emissions (less than 1%)	Fiscal 2019	Core operating company groups NIPPO (Total of 42 companies)
Social	Ensuring safety	Reduction in occupational injuries	Zero occupational fatalities	Fiscal 2018	☹️ 1	Zero serious occupational injuries* *Occupational fatalities	Fiscal 2019	Core operating company groups NIPPO (Total of 45 companies)
	Respect for human rights	Human rights awareness	100% participation rate in human rights training	Fiscal 2018	☹️ 94.2%	100% participation rate in human rights training	Fiscal 2019	JXTG Holdings, JXTG Nippon Oil & Energy, 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	Fiscal 2018	😊	Implementation of effective training based on human resource development plan	Fiscal 2019	JXTG Holdings, JXTG Nippon Oil & Energy, 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 graduates	Fiscal 2020	😊 24.1%	Women comprise at least 25% of newly hired graduates	Fiscal 2020	JXTG Holdings, JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 4 companies)
		Advancement of employees with disabilities	At least 2.2% employment rate of people with disabilities	Fiscal 2018	😊 2.35%	Maintain employment rate of people with disabilities at 2.2% or higher	Fiscal 2019	JXTG Holdings, JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 4 companies)
	Promotion of work-life management	Promotion of workstyle reforms	At least 80% of annual paid leave days taken	Fiscal 2018	😊 90.0%	Maintain annual paid leave days taken at 80% or higher	Fiscal 2019	JXTG Holdings, JXTG Nippon Oil & Energy, 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	Fiscal 2018	😊 100%	Maintain 100% rate of return to work after childcare leave	Fiscal 2019	JXTG Holdings, JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 4 companies)
Health enhancement	Ensure health of employees	Build database as infrastructure for planning various measures (covering 14,000 employees)	Fiscal 2018	😊	Achieve cancer screening rate of 70% or higher	Fiscal 2019	JXTG Holdings, JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 4 companies)	
Governance	Compliance	Legal compliance inspections	Conduct legal compliance inspections	Fiscal 2018	😊	Conduct legal compliance inspections	Fiscal 2019	Companies for which legal compliance inspections are carried out* (Total of 101 companies)
		Compliance with important laws and regulations (Anti-Monopoly Act, etc.)	Implement training on important laws and regulations (Anti-Monopoly Act, etc.)	Fiscal 2018	😊	Implement training on important laws and regulations (Anti-Monopoly Act, etc.)	Fiscal 2019	Companies for which legal compliance inspections are carried out* (Total of 101 companies)

* JXTG Holdings, core operating companies, Nippo Corporation, and their main group companies.

CSR Promotion Structure

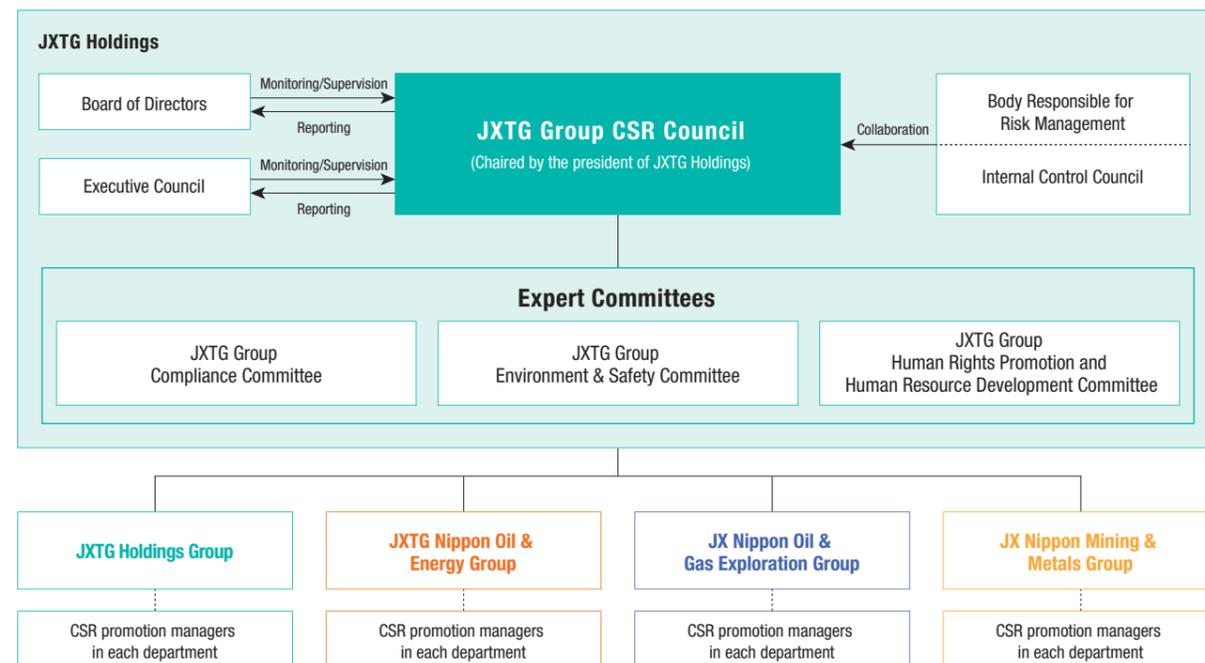
We have established the JXTG Group CSR Council, which is chaired by the representative director and president of JXTG Holdings, as the body for promoting CSR activities in priority fields throughout the JXTG Group.

The JXTG Group CSR Council is composed of Group company presidents and relevant executives. The council deliberates basic policies and reviews and evaluates the status of activities from a perspective that spans the entire Group. The matters deliberated by and reported to the JXTG Group CSR

Council are in turn reported to the JXTG Holdings Executive Council and Board of Directors, each of which provides instructions.

We have also assigned CSR promotion managers from each department to spearhead various activities and share information.

JXTG Group CSR Promotion Structure



JXTG Group CSR Council

Position	Organization subordinate to the JXTG Holdings Executive Council
Roles	1. Formulation and implementation of the JXTG Group's Basic Policy for CSR 2. Review and evaluation of the JXTG Group's CSR promotion structure and status of CSR activities (including degree of understanding and prevalence of the JXTG Group Philosophy and JXTG Group Code of Conduct)
Chair	Representative director and president of JXTG Holdings
Members	1. Members of the JXTG Holdings Executive Council (including directors) and the officers responsible for CSR at the Group's core operating companies 2. JXTG Group company presidents nominated by the Chair 3. Other persons nominated by the Chair
Frequency of meetings	In principle, twice a year (April and October), and extraordinarily as required
Priority fields and JXTG Group Code of Conduct standards overseen by the council	All fields and standards

Expert Committees

JXTG Group Compliance Committee

Position	Advisory body to the president of JXTG Holdings
Roles	1. Deliberation on compliance matters (policy, direction, etc.) for the JXTG Group, and reporting on these matters to the JXTG Group CSR Council 2. Confirmation, evaluation and the sharing of information on the status of compliance measures at each JXTG Group company, and reporting to the JXTG Group CSR Council
Chair	Officer (director) responsible for the Legal & Corporate Affairs Department at JXTG Holdings
Members	1. Relevant general managers at JXTG Holdings nominated by the Chair 2. Relevant officers and general managers of the Group's core operating companies 3. Other persons nominated by the Chair
Frequency of meetings	In principle, twice a year (April and October), and extraordinarily as required
Priority fields and JXTG Group Code of Conduct standards overseen by the committee	Priority field: Compliance 1. Compliance 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 14. Actions for violations and measures to prevent recurrence (whistleblowing system development and promotion of its use)

JXTG Group Environment & Safety Committee

Position	Advisory body to the president of JXTG Holdings
Roles	1. Deliberation on matters concerning safety and the environment (policy, direction, etc.) for the JXTG Group, and reporting on these matters to the JXTG Group CSR Council 2. Confirmation, evaluation and the sharing of information on the status of measures concerning safety and the environment at each JXTG Group company, and reporting to the JXTG Group CSR Council
Chair	Officer (director) responsible for the Safety, Health & Environment Department at JXTG Holdings
Members	1. Relevant general managers at JXTG Holdings nominated by the Chair 2. Relevant officers and general managers of the Group's core operating companies 3. Other persons nominated by the Chair
Frequency of meetings	In principle, twice a year (April and October), and extraordinarily as required
Priority fields and JXTG Group Code of Conduct standards overseen by the committee	Priority field: Safety and Environment 1. Compliance (laws and regulations concerning safety and the environment) 2. Safety and security 3. Environmental conservation 4. Health enhancement (primarily occupational safety)

JXTG Group Human Rights Promotion and Human Resource Development Committee

Position	Advisory body to the president of JXTG Holdings
Roles	1. Deliberation on matters concerning human rights, human resource development and health (policy, direction, etc.) for the JXTG Group, and reporting on these matters to the JXTG Group CSR Council 2. Confirmation, evaluation and the sharing of information on the status of measures for human rights, human resource development and health at each JXTG Group company, and reporting to the JXTG Group CSR Council
Chair	Officer (director) responsible for the Human Resources Department at JXTG Holdings
Members	1. Relevant general managers at JXTG Holdings nominated by the Chair 2. Relevant officers and general managers of the Group's core operating companies 3. Other persons nominated by the Chair
Frequency of meetings	In principle, twice a year (April and October), and extraordinarily as required
Priority fields and JXTG Group Code of Conduct standards overseen by the committee	Priority fields: Human Rights, Human Resource Development, Health 1. Compliance (laws and regulations concerning human rights, human resource development and health) 4. Health enhancement (primarily occupational health) 5. Respect for human rights 12. Establishment of a healthy work environment

Major Initiatives

■ CSR Council Meetings

In fiscal 2018, the JXTG Group held two meetings of the JXTG Group CSR Council. In these meetings, discussions were held on the Group's top CSR priorities (material issues), and the council confirmed the activities of the expert committees and progress on raising awareness of the Group Philosophy and the Code of Conduct. The council also confirmed the JXTG Group's ESG initiatives and deliberated on related policies.

The content of deliberation and reports by the JXTG Group CSR Council were reported to the Board of Directors and the Executive Council, which affirmed the direction of the Group's CSR activities.

■ CSR Promotion Manager Workshop

The JXTG Group appoints personnel at the deputy general manager level as CSR promotion managers to facilitate CSR activities.

Every year, CSR promotion managers from across the Group meet for a workshop, where we convey our basic policy on CSR and share information. At the workshop held in fiscal 2018, reports were made on the Group's CSR activities and a presentation was made by an outside expert on ESG and corporate management.



CSR promotion manager workshop

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

The JXTG Group believes that understanding and implementation of the JXTG Group Philosophy and the JXTG Group Code of Conduct by all officers and employees plays an important role in the fulfillment of our social responsibilities.

Therefore, we are implementing various measures to enable all officers and employees to reference the JXTG Group Philosophy and the Code of Conduct at any time and return to the basics when necessary.

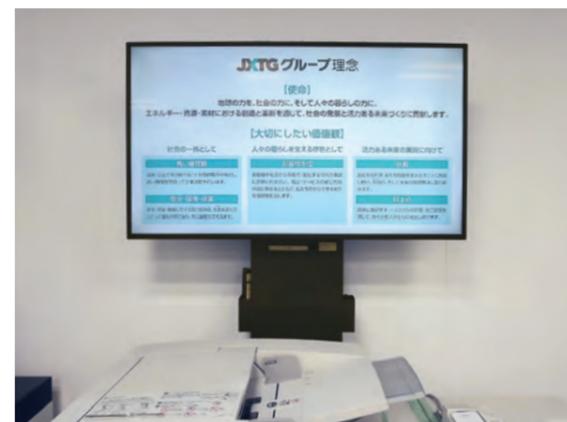
Additionally, after deliberations by the JXTG Group CSR

Council, in fiscal 2018 we established the Anti-Corruption Policy and the Human Rights Policy to complement the JXTG Group Code of Conduct.

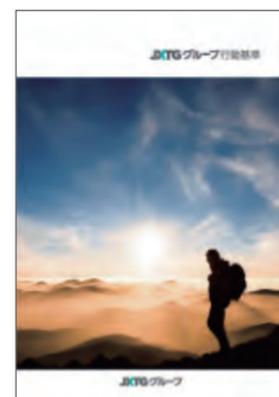
See p. 23 for the Anti-Corruption Policy and p. 50 for the Human Rights Policy.

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

Purpose	Measure
Ensure awareness	Distribute Group Philosophy cards and Code of Conduct handbooks
	Display posters
	Use of digital signage in company workplaces
	Translation into 9 languages (English, Chinese [Simplified / Traditional], Korean, Spanish, Portuguese, Vietnamese, Thai, Indonesian) and distribution
Promote understanding	Dissemination of information through the Group employee magazine and intranet
	Implementation of e-learning for all officers and employees
Monitoring	Confirmation using awareness surveys targeting all officers and employees



Digital signage in company workplace



Code of Conduct handbook



Group Philosophy card

Stakeholder Engagement

The JXTG Group conducts its business activities while maintaining relationships with a broad range of stakeholders, including shareholders, investors, customers, business partners, and employees. We seek to earn society's trust by accurately assessing the needs of our stakeholders and responding conscientiously.



■ Discussions with the Corporate Human Rights Benchmark (CHRB)

In July 2019, the JXTG Group met with the CHRB to discuss business and human rights. During the meeting, the CHRB provided background on its establishment and explained its mission. It also provided an explanation about the stance of global companies in terms of human rights and problem areas, taking into account its assessment results for 2018.

Looking ahead, we will continue to promote understanding of our human rights initiatives through dialogue with various stakeholders and identify new human rights issues to be addressed.

■ JXTG Group Awareness Survey

The JXTG Group periodically conducts an anonymous awareness survey of all its officers and employees. This survey comprises questions covering such topics as the Group Philosophy, the Code of Conduct, compliance, awareness of workplace culture initiatives, and problems in day-to-day operations.

The most recent survey was conducted in the first half of fiscal 2019, and the fact that issues to be addressed as an organization were clearly identified through the results of the survey has been reported in accordance with the Group's CSR promotion structure.

Principal Declarations and Initiatives the JXTG Group Participates in and Supports

UN Global Compact (UNGC)

Four Group companies—JXTG Holdings, JXTG Nippon Oil & Energy, 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 make sure that they are not complicit in human rights abuses.	Principle 1 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)

As a signatory of the TCFD recommendations, JXTG Holdings will actively implement ESG initiatives for the realization of a sustainable society. We will also disclose information on our business activities to the greatest extent possible in accordance with the recommendations of the TCFD.



- World Business Council For Sustainable Development (WBCSD)



- CDP



- International Council on Mining & Metals (ICMM)



- Extractive Industries Transparency Initiative (EITI)

- Council for Better Corporate Citizenship (CBCC)



- Japan Business Initiative for Biodiversity (JBIB)



- Sport for Tomorrow



Communication with Industry Organizations

	Organization Name	Position Held by Group Executive, etc.
JXTG Holdings	Japan Business Federation (Keidanren)	Vice Chair, Executive Secretary, Permanent Secretary
JXTG Nippon Oil & Energy	Petroleum Association of Japan	Vice-President, Vice Executive Secretary
	Japan Petrochemical Industry Association	Director
	Japan Chemical Industry Association	Policy Coordinating Committee member, Labor 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)	Vice Chairman, Director
	The Sulphuric Acid Association of Japan	Chairman
	Japan Copper and Brass Association (JCBA)	Director
	Japan Society of Newer Metals	Director
	Japan Catalyst Recovering Association	Chairman

Inclusion in ESG Indices



- MSCI Japan ESG Select Leaders Index
- MSCI Japan Empowering Women Index (WIN)



THE INCLUSION OF JXTG Holdings, Inc. IN ANY MSCI INDEX, AND THE USE OF MSCI LOGOS, TRADEMARKS, SERVICE MARKS OR INDEX NAMES HEREIN, DO NOT CONSTITUTE A SPONSORSHIP, ENDORSEMENT OR PROMOTION OF JXTG Holdings, Inc. BY MSCI OR ANY OF ITS AFFILIATES. THE MSCI INDEXES ARE THE EXCLUSIVE PROPERTY OF MSCI. MSCI AND THE MSCI INDEX NAMES AND LOGOS ARE TRADEMARKS OR SERVICE MARKS OF MSCI OR ITS AFFILIATES.

Governance Report

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

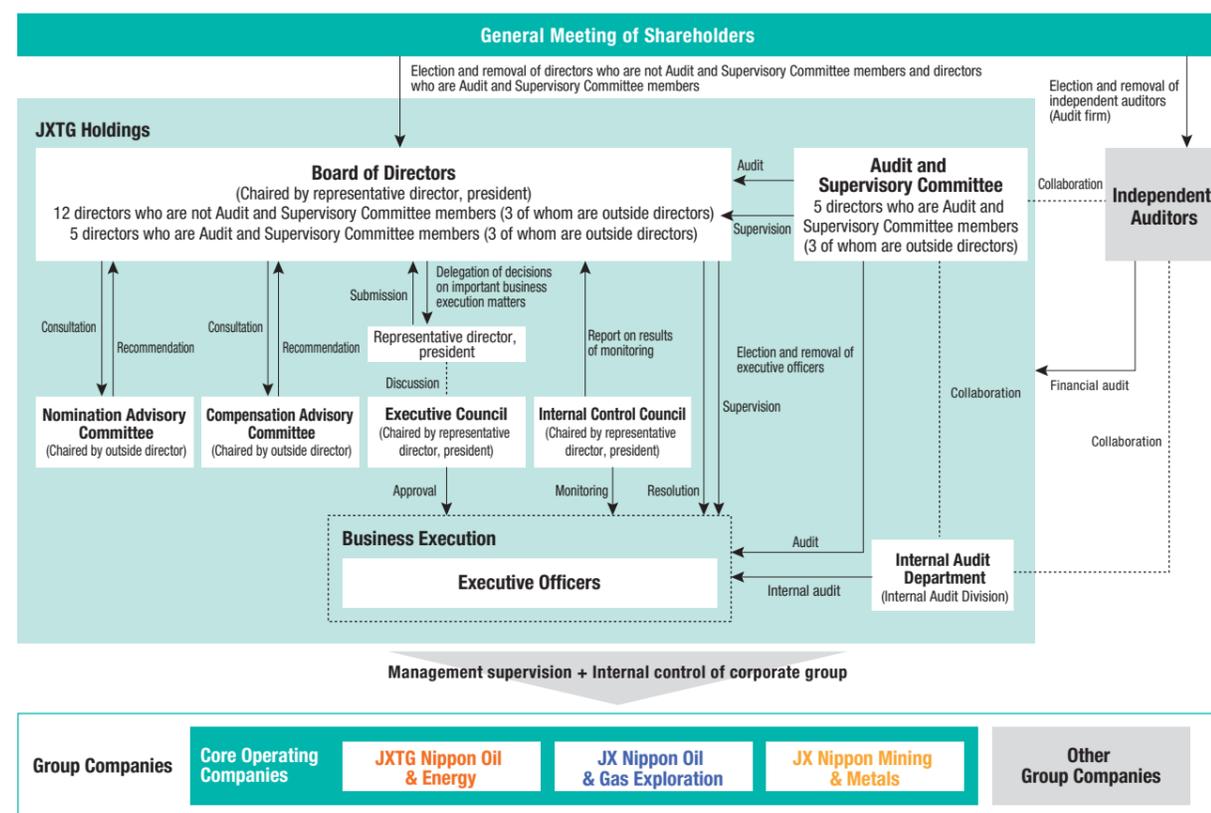
Priority Fields for CSR Activities

- High Ethical Standards
- Compliance
- Safety and Environment
- Human Rights
- Human Resource Development
- Health
- Quality
- Social Contribution

Corporate Governance Framework

Basic Approach and Framework

Corporate Governance Framework (As of June 26, 2019)



Item	Details
Format of institutional design	Company with an audit and supervisory committee
Number of directors who are not Audit and Supervisory Committee members	12 (9 inside, 3 outside)
Number of directors who are Audit and Supervisory Committee members	5 (2 inside, 3 outside)
Total number of directors	17 (11 inside, 6 outside); 3 female directors
Ratio of outside (independent) officers	35.3%
Ratio of female officers	17.6%
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
Institution assisting the president's decision making	Executive Council
Voluntary advisory bodies for the Board of Directors	Establishment of Nomination Advisory Committee and Compensation Advisory Committee

Basic Policy on Corporate Governance

In order to achieve the sustainable growth of the JXTG Group and increase its corporate value over the medium to long term, the Company established the Basic Policy on Corporate Governance of the JXTG 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. This 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. This basic policy is published on the JXTG Holdings website as our commitment to all stakeholders, including shareholders of JXTG Holdings along with JXTG Group customers, business partners and employees, and the local communities where we operate.

<https://www.hd.jxtg-group.co.jp/english/company/system/pdf/governance01.pdf>

Basic Approach to Corporate Governance

By appropriately establishing and carrying out corporate governance, the JXTG Group works to realize the JXTG Group Philosophy, achieve sustainable growth, and increase its corporate value over the medium to long term. Based on this recognition, the Company has established and carries out the corporate governance of the Group as follows.

Basic Principles on the Establishment and Operation of Corporate Governance

- Role of each company under the holding company system**
The JXTG Group is a group of companies whose core business consists of three business fields: the Energy business, the Oil and Natural Gas E&P business and the Metals business. In view of the fact that these three businesses are so distinct, the JXTG Group has established a structure under which the Company serves as a holding company and the three core operating companies, which operate the core businesses, are placed thereunder. Under this structure, from a standpoint of optimizing the value of the JXTG Group as a whole, the Company takes charge of formulating basic management policies, including the JXTG Group Philosophy, the JXTG Group Code of Conduct, basic management policies such as medium-term management plans and budgets (hereinafter, "basic management policies"), allocating management resources, and overseeing the management of each core operating company. In turn, each core operating company shall agilely execute its business activities in accordance with the basic management policies.
- Institutional design**
The Company is a company with an audit and supervisory committee.

- Board of Directors**
The Board of Directors of the Company consists of the chairman, the president, more than one full-time director, part-time directors concurrently serving as the presidents of the core operating companies, and outside directors. The Board of Directors shall manage the Company in accordance with the following policies:
 - The Board of Directors will focus on deliberation and determination of basic management policies, and the supervision of business execution;
 - Certain decisions on the execution of material operations will be delegated to the president of the Company in order to improve the agility of business execution; and
 - With respect to material matters such as appraisal of return on investment, risks, progress of execution of material operations of the Company and the core operating companies, the Board of Directors will receive reports from persons such as the president of the Company and the presidents of the core operating companies, verify their consistency with the basic management policies and oversee such matters.

- Audit and Supervisory Committee**
 - The Audit and Supervisory Committee of the Company will carry out organized and systematic audits with a high degree of efficiency and objectivity through appropriate collaboration between full-time Audit and Supervisory Committee members, who are given the power to gather information, and Audit and Supervisory Committee members who are outside directors, who have a high degree of independence along with a wealth of knowledge and experience.
 - The Audit and Supervisory Committee of the Company will 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 Board of Directors meetings and through each director who is not an Audit and Supervisory Committee member exercising the right to state his or her opinion concerning personnel and compensation matters.
- Outside directors**
To take advantage of the wealth of knowledge and experience of outside directors and to ensure transparency and objectivity in decision-making, the Company shall take the following measures:
 - In determining the basic management policies at meetings of the Board of Directors of the Company, request outside directors to be involved from the stage of consideration, and to fully discuss matters from multiple points of view; and in decision-making on and overseeing the execution of material operations, fully verify consistency with the basic management policies, taking opinions of outside directors into account; and
 - In determining personnel affairs and compensation of directors at meetings of 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, more than half of whose members are outside directors, and which are chaired by an outside director.

6. Executive officers and the Executive Council
 - (1) The Company will appoint executive officers as an institution for the agile execution of operations pursuant to a decision of the Board of Directors.
 - (2) For the president to make decisions on execution of business operations, the Company has established the Executive Council as a consultative body for matters to be decided by the president. The Executive Council, comprising the director and chairman of the Board of Directors, the president, executive vice presidents, senior vice presidents appointed by the president, and the presidents of core operating companies, makes decisions through careful deliberation.
 - (3) Full-time Audit and Supervisory Committee members will attend meetings of the Executive Council to understand the process for making important decisions and the status of business execution, and share these with other Audit and Supervisory Committee members.
7. Governance framework of core operating companies
 - (1) Each core operating company is a company with a board of corporate auditors. Each core operating company has a board of directors to enable directors to oversee each other's performance of duties. Each core operating company will independently carry out sufficient analysis of risks and verification of consistency with basic management policies. In addition, full-time Audit and Supervisory Committee

members of the Company will be dispatched as part-time corporate auditors of each core operating company to perform audits on the execution of duties by directors of core operating companies.

- (2) With respect to decision-making related to the execution of material operations of the core operating companies (including matters pertaining to the execution of material operations of subsidiaries of the core operating companies), shall be in principle subject to a decision made by, and reported to, the Board of Directors of the Company after a decision by the Board of Directors of such core operating company. The execution of other operations by the core operating companies will be delegated to the relevant core operating company to the extent consistent with the basic management policies and allocation of management resources determined by the Company, and decided by the president of such core operating company after deliberation by the Executive Council of the core operating company.

Elimination of the Senior Executive Advisor and Advisor System

In the interest of further strengthening corporate governance, the Company eliminated the senior executive advisor and advisor system effective June 26, 2019. The Company may appoint some of the resigned executives as senior corporate advisor or corporate advisor after carrying out necessary procedures, including reporting to the Nomination Advisory Committee and resolutions by the Board of Directors, if the Company deems it necessary to use such resigned executives' knowledge and to assign them to external affairs (activities in the business/industry community, assuming public office, etc.).

Composition of Nomination Advisory Committee and Compensation Advisory Committee (As of June 26, 2019) and Fiscal 2018 Results

Advisory Bodies	Nomination Advisory Committee	Compensation Advisory Committee
Chairperson	Outside director (Otsuka)*	Outside director (Otsuka)*
Members (including chairperson)	Representative directors: 2 (Sugimori, Mutoh)* Outside directors: 3 (Otsuka, Ota, Miyata)*	Representative directors: 2 (Sugimori, Mutoh)* Outside directors: 3 (Otsuka, Ota, Miyata)*
Purpose	Ensure the transparency of the process for determining director candidates	Ensure the transparency and objectivity of the process for determining the compensation and other benefits for directors and executive officers
Results in fiscal 2018	The committee met a total of four times and deliberated on matters such as personnel proposals on candidates for directors of the Company, succession planning, and the elimination of the senior executive advisor and advisor system.	The committee met a total of four times and deliberated on matters such as compensation levels of directors of the Company after transition to a company with an Audit and Supervisory Committee, revisions to the regulations on the management of the Compensation Advisory Committee, and the executive compensation plan.

* Please see <https://www.hd.jxtg-group.co.jp/english/company/directors/> for profiles of officers.

Nomination Advisory Committee

To ensure the transparency of the process for determining the director candidates of the Company, the Nomination Advisory Committee 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 consists of three outside directors and two representative directors, and one of the outside directors on the committee acts as chairperson.

In addition, the Board of Directors receives advice from the Nomination Advisory Committee regarding succession planning for the Company's chairman and president and for the presidents of the core operating companies.

Compensation Advisory Committee

To ensure the transparency and objectivity of the process for determining the compensation and other benefits for directors and executive officers, the Compensation Advisory Committee has been established to provide advice to the Board of Directors. The Compensation Advisory Committee comprises three outside directors and two representative directors, and one of the outside directors on the committee acts as chairperson.

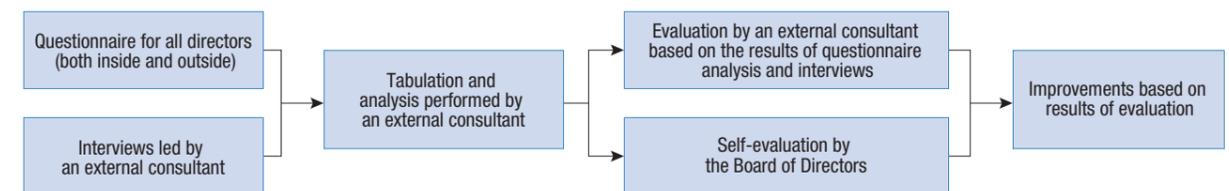
In addition, the Board of Directors requests the Compensation Advisory Committee to advise on the policies for determining the compensation and other benefits for directors and executive officers, as well as the executive compensation plan and compensation amount.

Evaluation of the Effectiveness of the Board of Directors

Overview of Evaluation of the Effectiveness of the Board of Directors

From November 2018 to January 2019, the Board of Directors conducted an evaluation of the effectiveness of itself. To conduct the evaluation, the Company engaged an external consultant, and implemented a questionnaire for all directors, including outside directors, and conducted interviews with the same. Analysis of the results indicated improvements in overall governance, and that the Board was generally evaluated as effective.

Process for Evaluation of Board Effectiveness



Policy for Appointing Director Candidates

The Company strives to appoint independent outside directors* to at least one-third of director positions. As of June 26, 2019, the ratio of outside independent officers was 35.3%.

As directors who are not Audit and Supervisory Committee members, the Company has appointed people who have such characteristics as high standards of business ethics, strategic thinking ability, superior decision-making 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 directors who are Audit and Supervisory Committee members, the Company has appointed people who have such characteristics as high standards of business ethics, a certain level of specialist knowledge in legal affairs, finance and accounting, as well as the ability to appropriately audit the execution of duties by directors and the ability to appropriately supervise the execution of business. A majority of these are independent outside directors.

* The term "independent outside director" refers to outside directors who have satisfied the Company's "Criteria for Assessing the Independence of Independent Officers."

In addition, directors had positive evaluations for the implementation of the following items when transitioning to a company with an Audit and Supervisory Committee in June 2018 in order to separate management supervision and business execution: organization of matters for deliberation, securing of the length of time for deliberations, and the implementation of various measures to promote free and open debate.

On the other hand, directors continued to point out certain issues, such as the roles of the holding company and the core operating companies, further promotion of the separation of management supervision and business execution, and explanations in advance for outside directors. Moving forward, the Company will work to make further improvements in these areas.

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, three days before the meeting, and the Company provides explanations to the outside directors before the meeting. Furthermore, 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. Moreover, to support the outside directors who are not Audit and Supervisory Committee members in the execution of their duties, the Board Members' Support Office has been established, and full-time staff members have been assigned.

Training for Directors and Corporate Auditors of Core Operating Companies

The directors of the Company and core operating companies and the corporate auditors of core operating companies have the duty of working toward the realization of the Group Philosophy, the sustainable growth of the JXTG Group, and the achievement of increased corporate value over the medium to long term. To that end, to support efforts to enhance necessary knowledge and skills, the Company and its core operating

companies provide opportunities for each of these 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. Furthermore, 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 tours to deepen their understanding.

Training for Outside Directors (Fiscal 2018 and Fiscal 2019)

Topic	Intended for	Timing (fiscal year)	Content of training
Corporate governance	Newly appointed directors	2019	The JXTG Group corporate governance
Internal control	Newly appointed directors	2019	The JXTG Group internal control systems
Overview of JXTG Holdings and core operating companies	Newly appointed directors	2019	Basic knowledge about JXTG Holdings and the core operating companies
Business management	Newly appointed directors	2019	The JXTG Group's business management and investment management frameworks
Finance and investor relations	Newly appointed directors	2019	Current status and issues regarding the Company's financial affairs, opinions of institutional investors, etc.
Worksite tours	All directors	2018	(JXTG Nippon Oil & Energy) Oita Refinery, Malaysia LNG Plants (JX Nippon Mining & Metals) Kurami Works, Toho Titanium Co., Ltd. Chigasaki Plant, Pan Pacific Copper Co., Ltd. Saganoseki Smelter & Refinery
		2019	(JXTG Nippon Oil & Energy) Central Technical Research Laboratory, Negishi Refinery, TAIWAN NISSEKI Co., Ltd., JX Specialty Chemicals & Materials (Taiwan) Co., Ltd. (JX Nippon Mining & Metals) Nikko Metals Taiwan Co., Ltd.

Determination of Director Compensation

The upper limit of the total amount of compensation for the Company's directors was determined, as follows, at the eighth Ordinary General Meeting of Shareholders, held on June 27, 2018.

- The maximum amount of compensation for directors who are not Audit and Supervisory Committee members shall be 1,100 million yen (including 200 million yen for outside directors who are not Audit and Supervisory Committee members) per business year.
- The maximum amount of compensation for directors who are Audit and Supervisory Committee members shall be 200 million yen per business year.

In addition, in a separate framework from the above, at the eighth Ordinary General Meeting of Shareholders, held on June 27, 2018, it was resolved that a share compensation plan for the Company's directors who are not Audit and Supervisory Committee members (excluding outside directors) and executive officers who do not serve concurrently as directors (hereinafter, collectively "the Directors, etc.") would be reinstated. The upper limit of the plan is 600 million yen over a period of three fiscal years.

Compensation and other benefits for directors who are not Audit and Supervisory Committee members (excluding outside directors) comprises three components: fixed compensation

paid monthly based on role, a bonus whose amount fluctuates based on performance, and share compensation linked to the Company's share value. This is a balanced compensation system that reflects the Company's business performance for the business year as well as shareholder value over the medium to long term in compensation amounts. The policy for determining this compensation and other benefits is determined by resolution of the Board of Directors after deliberation and recommendation by the Compensation Advisory Committee (comprising three outside directors and two representative directors, and chaired by an outside director). Furthermore, the Compensation Advisory Committee allows one Audit and Supervisory Committee member selected by the Audit and Supervisory Committee to attend meetings to ensure the committee is able to express its views concerning the compensation of directors who are not Audit and Supervisory Committee members at general meetings of shareholders.

On the other hand, compensation for outside directors who are not Audit and Supervisory Committee members comprises a monthly remuneration in view of their roles as advisors and supervisors to management as well as the supervisory function in general management from an independent and objective standpoint.

Compensation for directors who are Audit and Supervisory Committee members comprises a monthly remuneration in consideration of the independence of their duties.

Introduction of Share Compensation Plan

The Company introduced a share compensation plan beginning in fiscal 2017. The share compensation plan adopts a mechanism called Board Incentive Plan Trust (BIP Trust). The plan covers the period of execution of the duties of the Directors, etc., over three fiscal years, from fiscal 2017 to fiscal 2019, and entitles the Directors, etc., to the delivery of the Company's shares based on their roles. Certain portions of such Company shares may be provided by cash equivalent of the value of the Company's shares upon conversion.

The purpose of the introduction of this plan is to clarify the linkage between the compensation of the Directors, etc., and the value of the Company's shares; to further raise the incentive of the Directors, etc., to contribute to the enhancement of corporate value; to further increase awareness for shareholder-centered management; and to improve the medium- to long-term corporate value of the JXTG Group.

Amount of Compensation and Other Benefits for Each Category of Officer (Fiscal 2018)

● Before the transition to a company with an Audit and Supervisory Committee (from April 1, 2018 to the conclusion of the 8th Ordinary General Meeting of Shareholders held on June 27, 2018)

Category of executives	Total amount of compensation and other benefits (Million yen)	Total amount of compensation and other benefits by type (Million yen)		Number of eligible officers	Total amount of compensation and other benefits by type (Million yen)	
		Monthly compensation	Bonus		Share compensation	Number of eligible officers
Directors (excluding outside directors)	140	88	44	12	8	12
Corporate auditors (excluding outside corporate auditors)	25	25	—	3	—	—
Outside directors	14	14	—	4	—	—
Outside corporate auditors	8	8	—	3	—	—

Note: The amount of share compensation is the amount accounted for in fiscal 2018.

● After the transition to a company with an Audit and Supervisory Committee (from the conclusion of the 8th Ordinary General Meeting of Shareholders held on June 27, 2018 to March 31, 2019)

Category of executives	Total amount of compensation and other benefits (Million yen)	Total amount of compensation and other benefits by type (Million yen)		Number of eligible officers	Total amount of compensation and other benefits by type (Million yen)	
		Monthly compensation	Bonus		Share compensation	Number of eligible officers
Directors who are not Audit and Supervisory Committee members (excluding outside directors)	374	239	119	10	17	10
Directors who are Audit and Supervisory Committee members (excluding outside directors)	51	51	—	2	—	—
Outside directors	32	32	—	3	—	—
Outside corporate directors Audit and Supervisory Committee members	30	30	—	3	—	—

Note: The amount of share compensation is the amount accounted for in fiscal 2018.

Amount of Compensation and Other Benefits for Each Officer (Fiscal 2018)

Name	Category of executives	Total amount of compensation and other benefits (Million yen)	Total amount of compensation and other benefits by type (Million yen)		
			Monthly compensation	Bonus	Share compensation
Yukio Uchida	Representative Director	103	66	31	6

Note: Only officers with total amount of compensation and other benefits of 100 million yen or more are listed.

Risk Management

The JXTG Group has introduced an enterprise risk management (ERM) system to facilitate the appropriate response to management risks.

Enterprise Risk Management (ERM)

In fiscal 2017, the Corporate Planning Department began developing and implementing an ERM structure based on the COSO* ERM framework.

Specifically, through interviews of officers and managers and other means, we determine specific risk events that could affect the JXTG Group in view of future changes in the social and economic situation and calculate the impact and probability of these risks in accordance with assessment criteria. The Executive Council then selects certain risks as material risk events, and reports are made to the Executive Council and Board of Directors on the status of review and implementation of countermeasures.

The degree of impact and probability are shown below.

Impact	
Impact level 3	Could significantly impact the entire Group; immediate implementation of countermeasures required.
Impact level 2	Could impact the entire Group to a certain degree; specific countermeasures to be considered.
Impact level 1	Negligible impact on the Group as a whole; can be managed by the operating company. No Group-wide response required.

Probability	
Probability 3	The event has already occurred, or it has occurred at least once over the past two to three years. It is expected to occur within the next two to three years.
Probability 2	The event occurs at least once every 10 years. It is expected to occur within the next five to 10 years.
Probability 1	The event has occurred less than one time in the past 10 years or not at all. It is expected to occur at least 10 years in the future.

In fiscal 2018, we formulated Risk Management Regulations for Group Management and Operational Guidelines, which contain basic matters concerning this ERM process. Both took effect on April 1, 2019.

In fiscal 2019, following these regulations, we will continuously identify, assess and respond to risk events.

Furthermore, the core operating companies, JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, and JX Nippon Mining & Metals, each have established and are operating an ERM system based on their individual business operations and characteristics.

Departments in charge of risk management of the Company and its core operating companies work closely together to share information on risks. If a risk event that could seriously impact the JXTG Group's management is identified at a core

operating company, a system is in place in which both the core operating company responsible for the risk event and the Company will work together to implement contingencies for the risk event.

* COSO stands for Committee of Sponsoring Organizations of the Treadway Commission. It refers to a framework for internal control released by the commission and adopted by countries around the world.

Internal Control

The Company has established and operates an internal control system to ensure appropriate operations based on the JXTG Group Philosophy and the Code of Conduct. The Board of Directors formulated the Basic Policy on Internal Control System, and monitors the status of operation of this system.

The Internal Control Department of JXTG Holdings takes the lead in the facilitation for the JXTG Group to develop and operate the internal control system of each organization.

Internal controls stipulated in the Companies Act and the Financial Instruments and Exchange Act are included in the Company's internal control system.

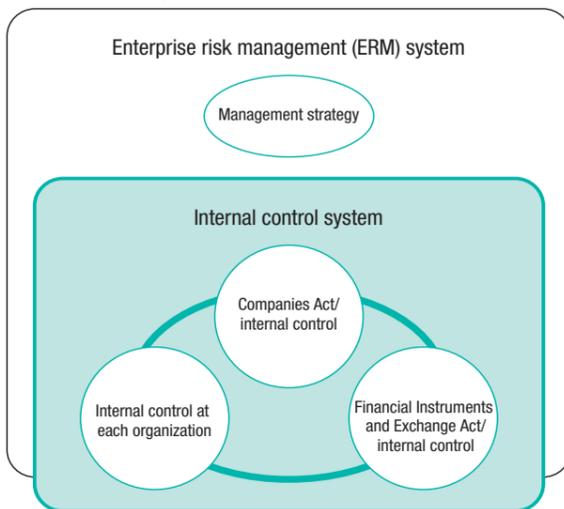
The Company is building and reinforcing autonomous internal control systems for each organization based on the COSO framework, moving toward a risk-based PDCA cycle that can flexibly respond to the changing business environment.

These internal control systems have been rolled out at JXTG Holdings and JXTG Nippon Oil & Energy since fiscal 2018, and we plan to deploy systems for other Group companies starting in fiscal 2019.

Furthermore, the Company established the JXTG Holdings Risk Management Regulations for Group Management in April 2019. The internal control activities will be carried out along with risk management activities based on the regulations as well as risk management regulations of each Group company.

[The JXTG Group's Basic Policy on Internal Control System is published on our website.](https://www.hd.jxtg-group.co.jp/english/company/system/pdf/policy.pdf)

Internal Control System



Risk Assessment of Business Activities

The JXTG Group has developed company rules and regulations for combating various kinds of 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 human rights, along with occupational health and safety aspects. Based on this, appropriate actions are taken when necessary.

For example, when reviewing a potential investment, we perform screenings based on the stage-gate system prior to reaching a final decision. The objective of the stage-gate system is to narrow down important projects for the advancement of business strategies in an efficient manner. Under this system, processes from initial review to execution are broken down into stages of review. In turn, gates are set up that must be cleared in each of these stages. During screening, we clarify various risks, including ESG-related risks, using sensitivity analysis and case analysis among other means and take steps to minimize risks. 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 determine whether to continue with the project thereafter.

Furthermore, ESG-related risks pertaining to existing businesses are managed and monitored appropriately within the framework of the Company's CSR promotion structure.

Crisis Management

When crises or emergency situations arise that may significantly affect the management of the JXTG Group, the Company exercises overall control and has prepared the Rules for Responding to Crises and Emergencies, which specifies measures to be taken to minimize any damage that may occur.

The Crisis Management Department of the Company functions as the standing organizational unit in charge of crisis response and management. The general manager of this department acts as head of this crisis response unit, and when such situations arise at the Company and Group companies, operating procedures require that the situation and measures to be taken be reported immediately to the head of the crisis response unit.

In addition, depending on the magnitude of the crisis, the Company may, at its discretion, form a crisis response headquarters headed by the president of the Company or a joint crisis response headquarters with JXTG Group companies to respond quickly and appropriately to the crisis, thereby fulfilling the social mission of the JXTG Group.

Information Security

Based on the JXTG Group Basic Rules for Information Security, the JXTG Group works to prevent the improper use or disclosure, including leakage, of company information, which is a corporate asset. The JXTG Group also strives to maintain the accuracy and reliability of its corporate information as well as prevent falsification or erroneous handling while making it possible for authorized users of information to have constant access to information when they need it.

In addition, in terms of protecting personal information, we work to protect the rights and interests of every individual, having established the Personal Information Protection Guidelines along with rules on the appropriate handling of personal information in compliance with the Personal Information Protection Act and other relevant laws and regulations.

Cyber Security Measures

The JXTG Group conducts training drills, issues reminders on suspicious email delivered to employees and provides Group-wide security training using curriculum translated into multiple languages in order to protect its important information and systems from cyberattacks, which have become stealthier in recent years.

The IT Security Basic Procedures for JXTG Group have been established as a set of rules that must be followed by Group companies. The Company is now working to further enhance cyber security countermeasures for the entire JXTG Group.

Furthermore, JXTG Nippon Oil & Energy participates in the Cybersecurity Council, established by the government of Japan in April 2019, as an important infrastructure provider. The council shares information among government institutions, cyber businesses and research institutions, and discusses necessary measures.

Risks and Opportunities Concerning Climate Change

Climate change awareness

The JXTG Group has identified climate change as a significant source of management strategy risks and opportunities. Climate change risks and opportunities have been incorporated into our strategy formulation processes and are reflected in our mid- to long-term management strategies.

In addition, the Company signed the statement of support for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) on May 27, 2019.

The TCFD has published recommendations citing the need for companies to disclose information to investors in an appropriate manner with regard to the various risks and opportunities facing companies resulting from climate change to enable investors to make informed investment decisions.

As a company with a duty to provide a stable supply of energy and materials, the JXTG Group will continue to actively promote ESG initiatives for the realization of a sustainable society. We will also disclose information on our business activities following the TCFD's recommendations to every extent possible through our integrated report and other means.



Climate change initiatives

Governance

Discussions are held by the Executive Council and Board of Directors on the risks and opportunities of climate change at least quarterly. These discussions are attended by the officer responsible for overseeing the impacts that climate change has on our business operations.

Specifically, these discussions involve reviewing and confirming our mid- to long-term business strategy based on the risks and opportunities of climate change as well as reductions in CO₂ emissions, including the progress under the Medium-Term Environmental Management Plan.

Strategy

In formulating the JXTG Group Long-Term Vision to 2040, we conducted a scenario analysis, based on demand forecasts and other factors, covering the main business fields that are expected to be impacted by climate change.

Scenario analysis

In the energy segment, we have regularly analyzed the global and long-term outlook for population trends, economic growth and energy demand using the World Energy Outlook (WEO) published by the International Energy Agency (IEA).

In the preparation of our Long-Term Vision, we conducted scenario analysis which also covered the Sustainable Development Scenarios (SDS), an extreme scenario where the world rapidly moves away from carbon, based on the goals in the Paris Agreement, following the New Policy Scenario (NPS) in WEO2018.

Business initiatives

- The results of the scenario analysis indicate advancements in a low-carbon, recycling-oriented society, digital transformation, and lifestyle changes as long-term global trends. Based on these trends, we formulated our Long-Term Vision, which includes contribution to a low-carbon, recycling-oriented society.
- Our diverse business operations entail energy, resources and materials. As such, we face risks related to the transition to a low-carbon society as well as various business opportunities for contributing to a low-carbon society, in the areas of natural gas, electricity, renewable energy, functional materials, and electronic materials, etc.
- We will focus on developing and strengthening businesses indicated as mainstays of the future in our Medium-Term Management Plan (overseas business, electricity and gas businesses, and technology-based businesses), as they also contribute to the transition to a low-carbon society.

For more information on our Long-Term Vision to 2040, please see pp. 13–16 of the Integrated Report.

Risk Management

The Company's Corporate Planning Department developed and has been implementing an ERM system based on the COSO ERM framework since fiscal 2017.

For details, please see p. 19 "Enterprise Risk Management (ERM)."

Indicators and Targets

The JXTG Group has formulated the Medium-Term Environmental Management Plan (fiscal 2017–2019) and established environmental targets for fiscal 2030, aimed at contributing to the development of a low-carbon, recycling-oriented society. For details, please see p. 27 "Plan and Targets."

Compliance

Basic Approach

The JXTG Group works to achieve thorough compliance, calling for high ethical standards in our Group Philosophy as well as our Code of Conduct.

Significant cases in which the JXTG Group was subject to administrative penalties due to legal violations in fiscal 2018 are stated under "Compliance Violations" on p. 24.

JXTG Group Code of Conduct (excerpt)

1. Compliance

- We ensure compliance with laws, contracts, and corporate regulations and follow social norms and customs in an appropriate manner.
- We shall neither ignore nor participate in any compliance violations.

Compliance Promotion Structure

The JXTG Group Compliance Committee, chaired by the officer (director) responsible for the Legal & Corporate Affairs Department of JXTG Holdings, has been established under the JXTG Group CSR Council, which is chaired by the president of JXTG Holdings. The committee adopts policies for actions related to compliance matters that must be addressed by the Group as a whole, and reports on the results of these activities.

Whistle-Blowing System (Compliance Hotlines)

To detect legal violations in the early stages and take prompt corrective actions, principal Group companies have set up whistle-blowing systems (compliance hotlines) for their employees and those of our contractors as well. In addition to reporting within Group companies, whistle-blowers, who may elect to remain anonymous, can also make reports to designated external attorneys-at-law.

We are now working to set up similar hotlines for overseas subsidiaries in accordance with the circumstances of each country. At certain overseas subsidiaries, we have already introduced in-house whistle-blowing systems that accept reports in multiple languages.

In fiscal 2018, the JXTG Group's compliance hotlines received 104 reports.

Compliance Inspections

Compliance inspections are conducted annually as an initiative to proactively ascertain our state of compliance with laws, contracts, and corporate regulations at each workplace. Through interviews by managers with each member of their staff, issues with compliance spanning the entire scope of operations are identified, and solutions are developed and implemented. This functions as the core of the JXTG Group's compliance promotion structure.

Compliance Training

JXTG Group Philosophy cards and JXTG Group Code of Conduct handbooks are given to all executives and employees of the JXTG Group to instill awareness that each individual is responsible for compliance in his or her day-to-day business operations.

We also conduct training on topics related to compliance, such as anti-monopoly laws. In fiscal 2018, training was conducted for Group companies for the following: compliance with competition laws, compliance with laws governing the treatment of subcontractors, and the whistle-blowing system.

Initiatives to Prevent Bribery and Corruption

The JXTG Group will not tolerate bribery in any form. We have internal regulations in place to prevent bribery at our Group companies inside and outside of Japan, and all officers and employees actively work under a clear commitment by management of all Group companies to prevent bribery.

In addition, as indicated below, we have established and published the JXTG Group Anti-Corruption Policy, which clearly states that the JXTG 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.

♥: Indicates the Group's top CSR priorities. Please see pp. 5–6.

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 audits and other means are used to continuously monitor whether these mechanisms are functioning properly. The results of monitoring are reported to the Company's Board of Directors through the CSR promotion structure and the Internal Control Council. Furthermore, we have a system in place to promptly detect and rectify problems through our whistle-blowing system.

In fiscal 2018, there were no occurrences of serious violations related to bribery or corruption, and no internal disciplinary measures related to such violations.

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 JXTG Group Code of Conduct, the JXTG Group formulated and published the JXTG Group Anti-Corruption Policy, which clearly stipulates that the JXTG 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 JXTG Group Code of Conduct. In addition to applying this policy within the JXTG Group, we will request the cooperation of companies in our value chain as well.

JXTG Group Anti-Corruption Policy

The JXTG Group conducts its business activities under the JXTG 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 the entire Group to prevent corrupt practices along with actions complicit in corrupt practices, as well as to fulfill its corporate responsibilities to society.

1. Basic Approach

Under this policy, officers and employees, etc., of the JXTG Group, both inside and outside of Japan, are required to comply with laws on the prevention of corrupt practices in Japan and other countries and prevent corrupt practices as well as actions complicit in corrupt practices.

2. Compliance with Applicable Laws and Regulations

The JXTG Group complies with applicable laws and regulations in the countries and regions where it conducts its business activities.

3. Prohibited Actions

The JXTG Group prohibits, both directly and indirectly, corrupt practices along with actions complicit in corrupt practices among its officers and employees, etc., both inside and outside of Japan, regardless of whether the other party is a public servant or a private individual.

4. Management of Payment Records

In cases where officers and employees, etc., of the JXTG Group provide money or other benefits to third parties involved in business execution processes, the JXTG Group will appropriately retain evidence of such transactions, and require that the money or other benefits be recorded in accounting records, accurately and without exception, in terms of amount, accounting item, etc., in order to prevent off-the-books handling.

5. Training

The JXTG Group will provide appropriate training to its officers and employees, etc., to ensure that this policy is appropriately implemented in the business activities of all JXTG Group companies.

6. Penalties for Violations

The JXTG Group will impose rigorous penalties on any of its officers or employees, etc., found to be in violation of this policy, based on the rules of the JXTG Group company the officer or employee belongs to. In addition, the JXTG Group will impose rigorous penalties on advisors, consultants, agents, contractors, etc., hired by the JXTG Group if they are found to be in violation of this policy.

7. Compliance System

The presidents of all JXTG Group companies bear a responsibility to ensure that their officers and employees, etc., abide by this policy. In addition, officers or employees, etc., of the JXTG Group who detect any action that violates or could violate this policy are required to report such action immediately to their company.

8. Applicable Scope

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

9. Positioning

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

Notes: • JXTG Group: JXTG Holdings and the subsidiaries of JXTG Holdings, including both those directly and indirectly owned.
• Corrupt practices: Bribery, embezzlement, coerced benefit sharing, bid-rigging and other acts that involve the abuse of the authority or position of oneself or a third party.
• Bribery: Refers to both giving bribes, where money or other interests or benefits are offered, promised or actually given, and receiving bribes, where interests or benefits are requested or actually received, for the purpose of obtaining interests or benefits by wielding improper

influence over the duties of the other party.

- Actions complicit in corrupt practices: Actions including judicial interference, concealment of corrupt earnings, money laundering, and instigation, assistance or conspiracy to commit corrupt practices.
- Employees: Employees, contract workers, and part-time employees of the JXTG Group, temporary workers dispatched to the JXTG Group, and other persons subject to the instructions or orders of the JXTG Group.
- Public servant: Includes, but is not limited to, national government employees, local government employees, persons engaged in official duties for international institutions, persons deemed to be engaged in public duties per laws and regulations, and officers and employees of companies effectively controlled by a national government or local government.

Compliance Violations

In 2018, Nippo Corporation, a member of the JXTG Group, received a cease and desist order along with a surcharge payment order of 134.24 million yen from the Japan Fair Trade Commission for violating Japan's Antimonopoly Act during two-layered sound-proofing pavement work for the Tokyo Metropolitan Government, pavement work for Tokyo Port Terminal Corporation and pavement work for Narita International Airport Corporation. Nippo Corporation also received a 30-day suspension of business order for part of its operations from the Ministry of Land, Infrastructure, Transport and Tourism based on the Construction Industry Act.

Nippo Corporation is now carrying out measures such as training on Japan's Antimonopoly Act and regular audits (monitoring of sales representatives) performed by its in-house legal department in an effort to prevent reoccurrence of such violations in the future. JXTG Holdings will continue to provide guidance to Nippo Corporation to ensure that it maintains compliance with applicable laws and regulations.

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 JXTG Group Tax Matters Policy as follows.

JXTG Group Tax Matters Policy

The JXTG Group conducts its business activities under the JXTG 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 the entire Group in fulfilling its responsibility to carry out its tax obligations appropriately.

1. Basic Approach

Among others, companies have a corporate social responsibility to appropriately honor their tax liabilities in the countries and areas in which they conduct their business activities.

2. Compliance with Applicable Laws and Regulations

We comply with the relevant tax laws and regulations in the countries and areas in which we conduct our business activities. We conduct our business activities in accordance with the purposes of the rules regarding international tax matters (such as the OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations and the Base Erosion and Profit Shifting Project).

3. Fostering Awareness of Tax Compliance

Through continuous training concerning tax matters and other relevant training, we make efforts to maintain and improve our awareness of tax compliance.

4. Optimization of Tax Costs

By using the Advance Pricing Arrangement and other relevant systems, we attempt to obtain agreement with tax authorities, and make efforts to reduce risks and optimize costs.

5. Establishment of Relationships of Trust with Tax Authorities

At the request of tax authorities, we timely and properly provide them with necessary information.

6. Applicable Scope

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

7. Positioning

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

Disclosure Policy

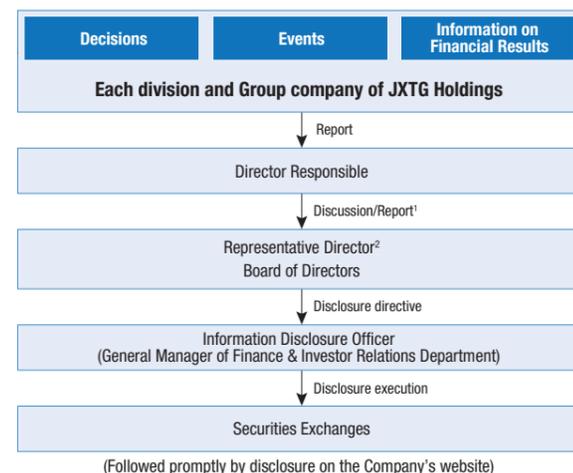
The Company is fully aware that the timely and proper disclosure of corporate information is a key element of healthy capital markets. Accordingly, the Company makes efforts to ensure prompt, appropriate, and fair disclosure of information to shareholders and other investors with the aim of promoting transparency in management.

Systems are in place to obtain, manage, and disclose information on the Company as well as information on JXTG 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 JXTG Group.

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 Finance & 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.

JXTG Group Disclosure Policy

The JXTG Group conducts its business activities under the JXTG 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 disclosing material information in an accurate and clear manner.

1. Basic Approach

The JXTG Group fully recognizes that adequate and timely disclosure of company information is a cornerstone of sound capital market formation. The Company shall endeavor to expeditiously, appropriately, and impartially disclose information to shareholders and investors to establish a highly transparent corporate management.

2. Compliance with Applicable Laws and Regulations

The JXTG Group complies with the laws, ordinances and regulations applicable in the countries and regions where it conducts its business activities. JXTG Holdings, Inc., ("the Company") has adopted Insider Trading Prevention Regulations. Through these internal regulations, the Company has established controls to promote Group-wide awareness of insider trading regulations.

3. Disclosure Standards

The Company shall disclose material information, including information about financial results, and decisions and events likely to influence investment decisions, in compliance with applicable laws and regulations including the Companies Act, the Financial Instruments and Exchange Act and other laws and regulations, and the Tokyo Stock Exchange and other exchanges' rules on timely disclosure of corporate information by issuers of listed securities ("Timely Disclosure Rules"). In addition to information required to be disclosed by the Timely Disclosure Rules, the Company shall also proactively disclose other information in response to the needs and wishes of shareholders and investors.

4. Group Systems and Procedures for Timely Disclosure of Company Information

As the JXTG Group's holding company, the Company oversees the management of JXTG Group companies. The Company shall establish systems and procedures to expeditiously and accurately gather, manage, and disclose information about not only itself but also JXTG Group companies. A flowchart of the JXTG Group's timely disclosure procedures is shown at left.

5. Information Disclosure Methods

Information to which the Timely Disclosure Rules apply shall be disclosed by the Company via the Tokyo Stock Exchange's TDnet information disclosure system. In addition, after disclosure, the Company shall promptly post the same information on its website.

For information not subject to disclosure per the Timely Disclosure Rules, the Company shall accurately and impartially communicate the information to shareholders and investors in accord with the above Basic Policy and Disclosure Standards.

6. Quiet Periods (periods during which inquiries on financial results are declined)

To prevent information leaks concerning financial results, the Company shall observe quiet periods for three weeks before it publicly reports its financial results. During quiet periods, the Company shall refrain from answering any questions or otherwise commenting about its financial results. However, if a substantial deviation from the previously announced earnings forecast comes to light during a quiet period, the Company shall disclose such information.

7. Applicable Scope

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

8. Positioning

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

Environmental Report

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 JXTG Group has included environmental conservation as a standard in its Group Code of Conduct and as a priority field for CSR activities as part of its efforts to contribute to the development of a sustainable society through its business activities.

For data pertaining to the Environmental Report, please see the Data section of this report.

Priority Fields for CSR Activities

High Ethical Standards

Compliance

Safety and Environment

Human Rights

Human Resource Development

Health

Quality

Social Contribution

Environmental Management

Basic Approach

As part of its responsibilities as a corporate group involved in the supply of energy, resources, and materials, the JXTG Group maintains a proper understanding of the impact of its business activities on climate change risks and natural capital. In addition, environmental conservation has been included as a standard in the JXTG Group Code of Conduct, and the environment has been identified as a priority field for the Group's CSR activities.

The JXTG Group has set environmental targets as part of our efforts to contribute to the development of a sustainable society.

JXTG 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.

Plan and Targets

The JXTG Group has formulated the Medium-Term Environmental Management Plan (fiscal 2017–2019) and established environmental targets for fiscal 2030, aimed at contributing to the development of a low-carbon, recycling-oriented society. We are now moving ahead with relevant environmental activities under this plan and these targets.

The JXTG Group Long-Term Vision to 2040, announced in May 2019, contains "contribute to a low-carbon, recycling-oriented society" as one of our envisioned goals for 2040. Toward the realization of our vision, we plan to formulate the next Medium-Term Management Plan, which is set to begin in fiscal 2020.

In addition, we have signed the statement of support for the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) and are now taking steps to enhance disclosures on how climate change affects our business. For details, refer to p. 21.

Environmental Targets in the JXTG Group's Medium-Term Environmental Management Plan (Fiscal 2017–2019) and for Fiscal 2030

1. Reduction in CO₂ emissions along the entire supply chain ♥ (as compared with FY2009)

Medium-term target (FY2019): Reduction of 2.72 million tons
FY2030 target: Reduction of 4.08 million tons

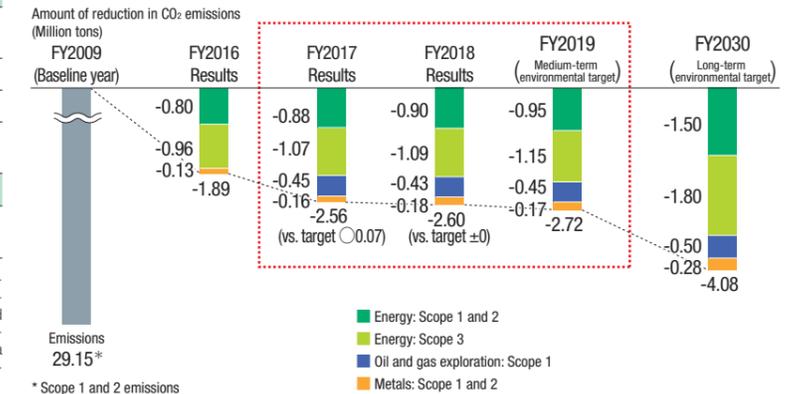
2. Waste-to-landfill ratio ♥

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

Major Initiatives for Achieving the Medium-Term Environmental Management Plan and Results in Fiscal 2018

1. Targets for reduction in CO ₂ emissions (compared to 2009) ♥	
(1) Reduction in CO ₂ emissions at Group production sites	1.52 million tons
Energy conservation	1.07 million tons
CO ₂ -EOR*	450 thousand tons
(2) Reduction in CO ₂ emissions other than at Group production sites	1.08 million tons
2. Waste-to-landfill ratio (actual) ♥	
(1) Thorough separation of waste, and reuse and recycling	0.9%

Reduction in CO₂ Emissions



* CO₂-EOR (Enhanced Oil Recovery): Technology for the improved recovery of oil through the injection of CO₂. This technology simultaneously increases production of crude oil and reduces emissions of CO₂ into the atmosphere by transporting the CO₂, captured out of the processed flue gas from a coal-fired power plant, to an oil field, and injecting and storing the CO₂ into legacy fields.

Major initiatives for reducing CO₂ emissions ♥

- Introduction of highly energy efficient facilities at refineries and smelters
- Optimization of equipment operations
- CO₂ separation and capture, etc., with the CO₂-EOR project
- Increased sales of environmentally friendly products

Main initiatives for reducing waste-to-landfill ratio ♥

- Use of sludge, soot and dust as raw materials for cement
- Recovery of valuable metals from waste catalysts

Structure

The JXTG Group Environment & Safety Committee is chaired by the officer (director) responsible for the Safety, Health & Environment Department at JXTG Holdings. This committee has been established under the JXTG Group CSR Council, which is chaired by the president of JXTG Holdings.

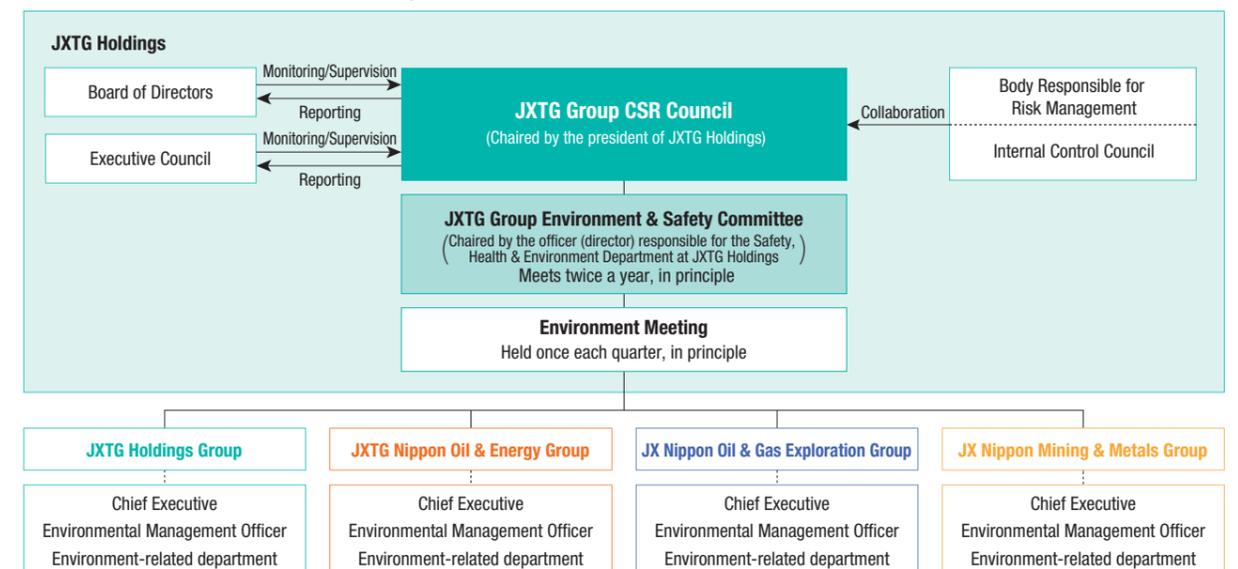
The Environment & Safety Committee deliberates environment-related matters and confirms operation of the Environmental Management System (EMS) across the entire Group, and results are reported to the Executive Council and Board of Directors

through the JXTG Group CSR Council.

In addition, chief executives and environmental management officers have been appointed for EMS operation, and environment-related departments have been established at each Group company.

The Group has also obtained certification for ISO 14001, a set of international standards for environmental management, at many of its business sites where the EMS has been adopted (72 business sites in total). Fifty-six of these business sites have obtained certification, representing a certification rate of 78%.

JXTG Group Environmental Management Promotion Structure



Note: See CSR Management on pp. 5–11 for an overview of the Group's CSR promotion structure.

♥: Indicates the Group's top CSR priorities. Please see pp. 5–6.

Major Initiatives

Environmental Education

With the aim of raising environmental awareness even further, the Group holds e-learning sessions for employees and provides regular rank-based education, training and drills, for the purpose of instilling awareness of the Group's basic environmental policies and business plans, as well as various laws and regulations.

Environmental Audits

All business sites that have obtained ISO 14001 certification are subject to internal audits once a year. They also undergo periodic reviews by a third-party certification body to maintain their certification.

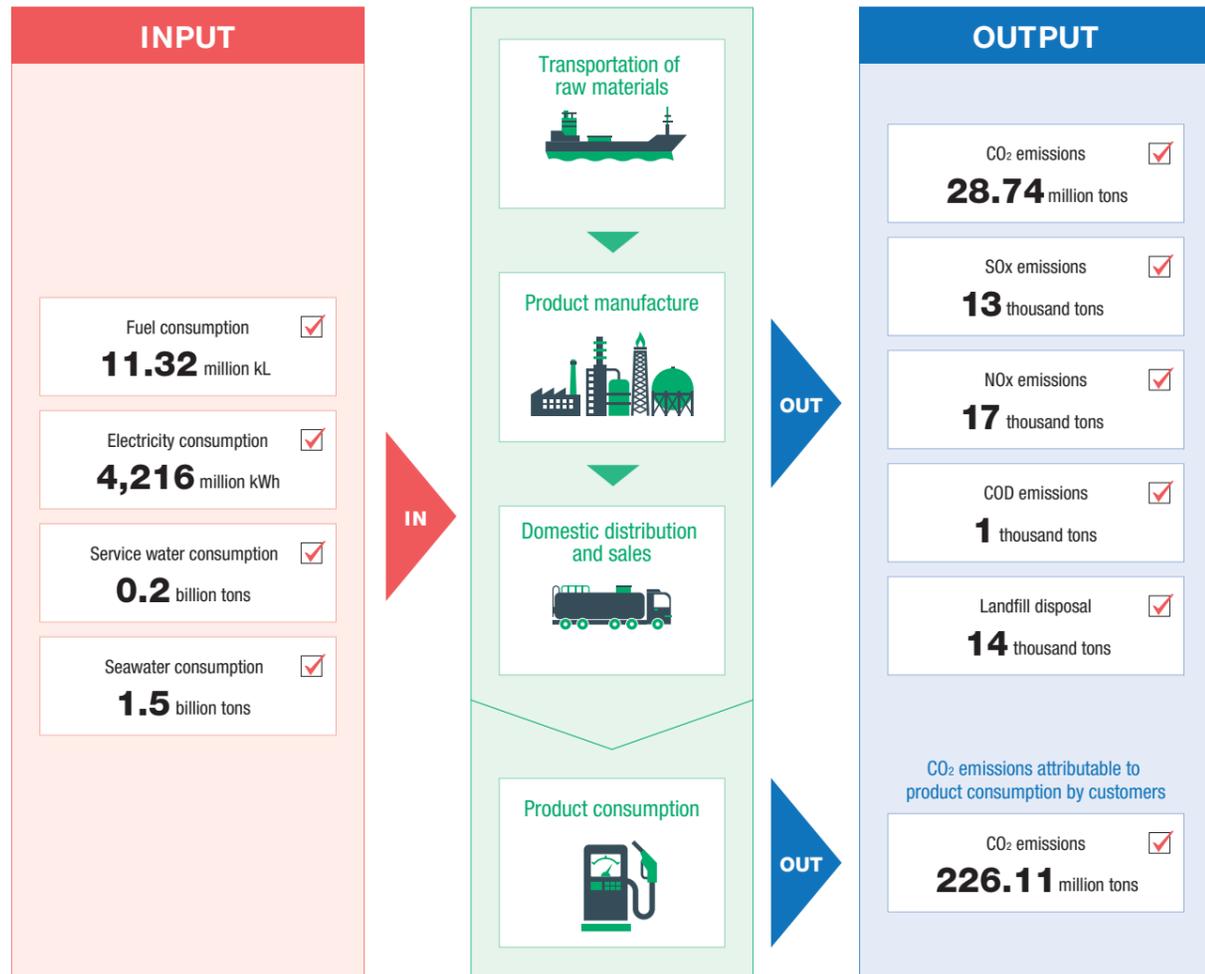
Environmental Accidents

There were no environmental accidents in fiscal 2018. Going forward, we will continue our accident prevention efforts.

Overview of the JXTG Group's Environmental Impact

Input-Output of the JXTG Group (results from fiscal 2018)

(The graphic illustrates both the CO₂ emissions from business activities and those attributable to the consumption of products)



Notes: CO₂ emissions calculated based on the Act on Promotion of Global Warming Countermeasures. CO₂ emissions from the consumption of electricity calculated using Emission Factors by Business Operator. CO₂ emissions attributable to consumption by customers calculated using the latest oil product sales volumes (for JXTG Nippon Oil & Energy) in Japan based on the Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain.



Basic Approach

The JXTG Group is working to reduce CO₂ emissions across the entire supply chain in order to contribute to the development of a low-carbon society. To achieve this, we are reducing CO₂ 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 environmental management structure, see p. 28.

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 p. 21.

Initiatives at Production Sites*

Energy Conservation

The Group's CO₂ emissions in fiscal 2018 totaled 28.74 million tons, slightly less than the previous fiscal year.

At our refineries and plants, we are engaged in efforts to increase the number and efficiency of heat exchangers and introduce higher efficiency rotary equipment.

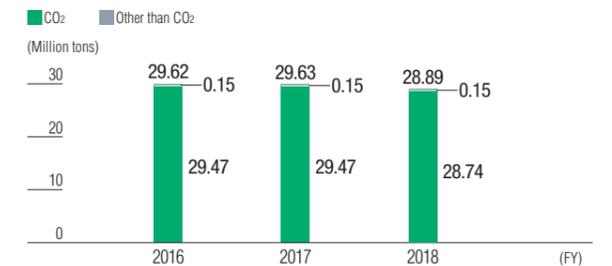
Our crude oil refining energy consumption intensity worsened by 0.2 points due to a lower operation rate and other factors.

The energy consumption intensity of our smelting and refining facilities was 13.3 GJ/t and the intensity of CO₂ emissions was 0.82 t-CO₂/t. Both figures improved compared to the previous year.

In fiscal 2018, the Group invested around 3.08 billion yen in facilities for energy conservation. Going forward, we remain committed to promoting greater energy conservation by introducing energy-saving technologies and optimizing operations at our refineries and plants.

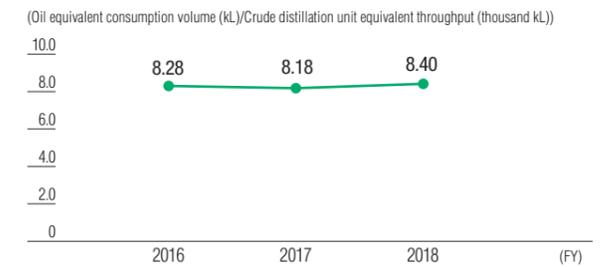
* Scope 1 and Scope 2 as defined in the GHG Protocol.

Changes in Total GHG Emissions



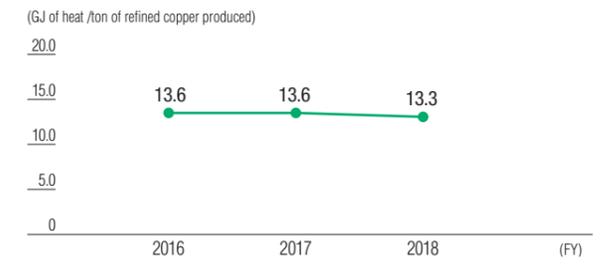
Notes: Calculated in accordance with the Act on Promotion of Global Warming Countermeasures. For detailed data, see p. 79 of the Data section.

Energy Consumption Intensity for Oil Refining



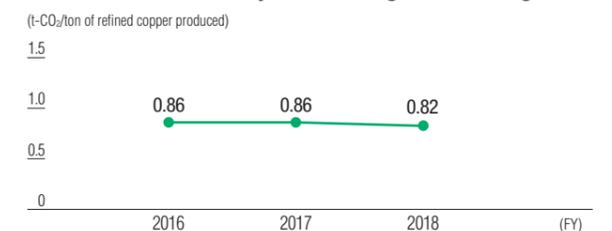
Note: Covers the refining sites of the JXTG Nippon Oil & Energy Group.

Energy Consumption Intensity for Smelting and Refining



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

CO₂ Emissions Intensity for Smelting and Refining



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

♥: Indicates the Group's top CSR priorities. Please see pp. 5-6.

Environmental Management

Initiatives to Prevent Global Warming

Initiatives to Promote the 3Rs

Management of Chemical Substances

Initiatives to Prevent Environmental Pollution

Initiatives for Biodiversity

Breakdown of GHG Emissions Other Than CO₂ (Fiscal 2018)

Total emissions other than CO ₂	Tons	147,664
1. CH ₄ (methane)	Tons	42,259
2. N ₂ O (nitrous oxide)	Tons	104,782
3. HFCs (hydrofluorocarbons)	Tons	411
4. PFCs (perfluorinated compounds)	Tons	0
5. SF ₆ (sulfur hexafluoride)	Tons	212
6. NF ₃ (nitrogen trifluoride)	Tons	0

The main greenhouse gases other than CO₂ include CH₄, produced during crude oil extraction, and N₂O, 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 CO₂ emissions from product consumption by customers in fiscal 2018 totaled 226.11 million tons.

The JXTG Group is working to reduce CO₂ emissions outside of its production sites by selling environmentally friendly products. Currently, we are working toward our targets of reducing these emissions by 1.15 million tons in fiscal 2019 and by 1.8 million tons in fiscal 2030, both compared to fiscal 2009.

* Scope 3 as defined in the GHG Protocol.

R&D

The JXTG Group spent a total of around 19.1 billion yen on research and development.

Response to Climate Change

The JXTG Group is moving ahead with research into climate change response in the following fields in order to address climate change issues.

- Rationalization and streamlining of oil refining processes
- Cellulose-type bio-ethanol
- Technical development for the manufacture, storage, transport and supply of hydrogen that contributes to the effective use of renewable energy
- Development of environmentally friendly products (fuel-efficient automotive lubricants, etc.)

Technical Development for the Manufacture, Storage, Transport and Supply of Hydrogen That Contributes to the Effective Use of Renewable Energy

We successfully developed the world's first technology for manufacturing CO₂-free hydrogen at a low cost. This technology involves converting toluene to methylcyclohexane using electrolytic hydrogenation with electricity generated by solar power in Australia, and then extracting the hydrogen in Japan.

Going forward, we will work on further development of this CO₂-free hydrogen manufacturing technology for societal implementation, with the goal of realizing a hydrogen society and preventing global warming.

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

JXTG Nippon Oil & Energy 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 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, the Group 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.

Distribution

The Group is actively implementing power-saving measures at its service stations nationwide through efforts such as the installation of photovoltaic power generation systems and the adoption of LED lighting.

Consumption

The Group 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.

Main environmentally friendly products

- Fuel-efficient lubricants
- Natural gas (LNG)
- Liquid crystal polymers
- Electricity generation using renewable energy

See the following for more information on JXTG Nippon Oil & Energy's environmentally friendly products. (Available in Japanese only)
<https://www.no.e.jxtg-group.co.jp/ecoproducts/>

Collaboration with Business Partners (Green Procurement)

When purchasing equipment and materials, the Group practices green procurement, taking into account the environmental burden and other social impacts.

For more information, see p. 69.

♥: Indicates the Group's top CSR priorities. Please see pp. 5-6.

Environmental Management

Initiatives to Prevent Global Warming

Initiatives to Promote the 3Rs

Management of Chemical Substances

Initiatives to Prevent Environmental Pollution

Initiatives for Biodiversity

Renewable Energy and Hydrogen Supply Business Initiatives

As an initiative for the use and supply of low-carbon energy, the Group operates a renewable energy power generation business, which leverages renewable energy sources such as solar power, wind power and hydro power, and a hydrogen supply business.

Generation Capacity by Energy Source (as of June 2019)

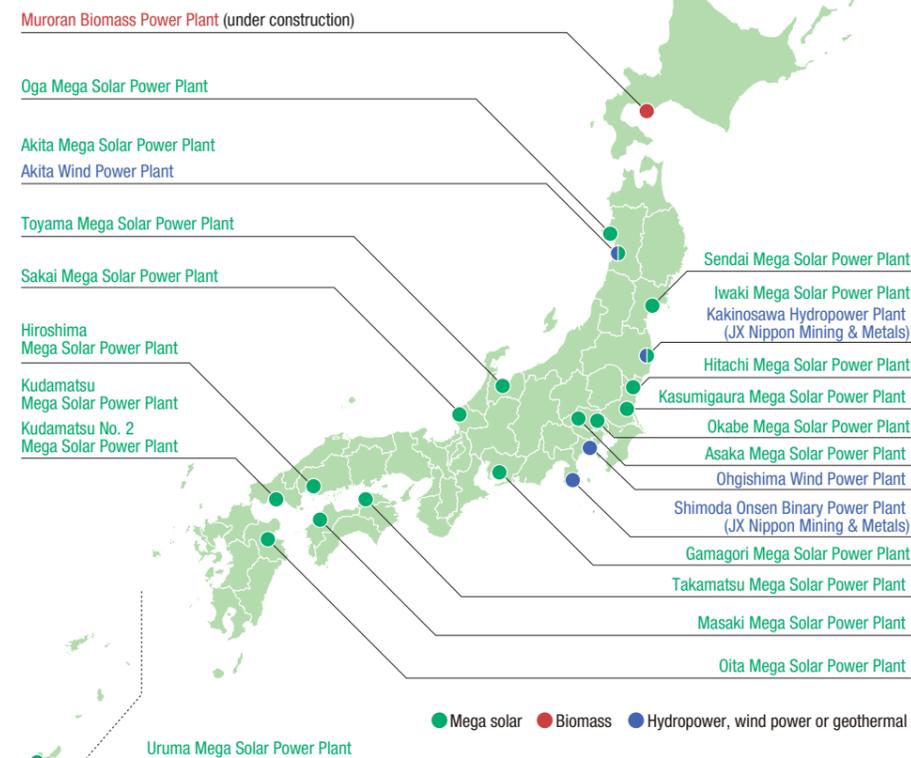
Thermal (10 sites)	Oil, etc. (9 sites)	1,077MW
	LNG (1 site)	421MW
Solar (18 sites)		46MW
Hydro (1 site)		5MW
Wind (2 sites)		3MW
Geothermal (1 site)		0.1MW

Power Generation by Renewable Energy (2018)

Solar	51,078MWh
Hydro	28,755MWh
Wind	3,990MWh
Geothermal	591MWh

Note: The GHG emission factor for JXTG Nippon Oil & Energy's electric power business in fiscal 2018 was 0.000509 t-CO₂/kWh (after adjustment).

Renewable Energy Power Plants



A wind turbine



Shimoda Onsen Binary Power Plant



Kudamatsu Mega Solar Power Plant

Advancement of Renewable Energy Power Generation Business

In order to contribute to the reduction of CO₂ emissions through the use of clean energy, the JXTG Group is actively engaged in the mega solar power generation business using its idle land. Beginning with the start of commercial operation of the Sendai Mega Solar Power Plant in February 2013, the Group has established mega solar power plants in 18 locations nationwide. In fiscal 2018, the Group began operation of the new Okabe Mega Solar Power Plant, built at the former site of the Okabe Depot.

The Group is also actively advancing power generation businesses using renewable energies other than solar, including biomass, hydro power, wind power and geothermal, and has amassed a total generation capacity of approximately 54 MW (as of June 2019).

Outside of Japan, the Group is involved in an offshore wind farm in Taiwan, which is slated to begin operations by December 2021.

In April 2019, the Group established the Renewable Energy Department, which will contribute to achieving the 3Es (energy security, economical efficiency and environment) of future energy by helping us adapt to the shift to a low-carbon society and to grow the renewable energy business as a mainstay of the future.

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

Hydrogen is a clean energy source that does not emit CO₂ during use. Because it enables the use of renewable energy and untapped energy sources in manufacturing processes, hydrogen is considered an important form of energy for the future.

In Japan, hydrogen use has already begun in the field of mobility. As of April 30, 2019, there were around 3,100 fuel cell vehicles (FCVs) nationwide. At 107, Japan has the largest number of hydrogen stations in the world, 41 of which are operated by JXTG Nippon Oil & Energy.

Our ENEOS Yokohama Tsunashima Hydrogen Station features a showroom for sharing various forms of information on hydrogen called Suiso Terrace, where active efforts are taking place to raise awareness about the growth of hydrogen.

Moving forward, JXTG Nippon Oil & Energy will leverage its long-standing infrastructure and expertise for the supply of automotive fuel to build a streamlined hydrogen supply chain in Japan, thereby contributing to the realization of a hydrogen society.



Hydrogen Manufacturing and Shipment Center (Naka Ward, Yokohama City)



ENEOS Yokohama Tsunashima Hydrogen Station and Suiso Terrace

Initiatives to Enhance Business Activities while Reducing CO₂

Increasing Crude Oil Production while reducing Greenhouse Gas (CO₂) through CO₂-EOR (Enhanced Oil Recovery)

JX Nippon Oil & Gas Exploration carries out its business activities with attention to the reduction of greenhouse gas emissions, a cause of global warming.

Through its equal-stake joint venture in the state of Texas with NRG Energy, Inc., a major power company in the United States, JX Nippon Oil & Gas Exploration is implementing a CO₂-EOR project that increases output from an oil field by injecting CO₂, recovered from flue gas at NRG's W.A. Parish power plant¹, into the West Ranch oil field².

CO₂-EOR refers to the injection of CO₂ into depleted oil reservoirs, thereby improving oil recovery and storing the injected CO₂ securely underground, thus reducing CO₂ emissions into the air.

This project, as a sustainable business, aims to achieve increases of output at legacy oil fields while simultaneously reducing CO₂ emissions released into the air.

The world's largest CO₂ recovery plant, the primary facility of the project, was completed on schedule and its operation begun in December 2016. As of March 2019, a cumulative total of 2.5 million tons of CO₂ was captured through the project.

¹ The largest thermal electric power plant in the United States. It is located southwest of Houston in the state of Texas.

² West Ranch oil field is located about 130km southwest of the W.A. Parish power plant. JX Nippon Oil & Gas Exploration holds a 25% interest in the West Ranch oil field through its joint venture with NRG. CO₂ is transported from the power plant to the oil field via a newly installed pipeline.



CO₂ recovery plant

Initiatives to Promote the 3Rs (Reduce, Reuse, Recycle)

Basic Approach

As part of our efforts to contribute to the development of a recycling-oriented society, the JXTG 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 environmental management structure, see p. 28.

Information on our targets can be found in the Medium-Term Environmental Management Plan section on p. 27.

Major Initiatives

Industry-Academia Collaboration

In recent years, the number of researchers and engineers in Japan working in fields related to smelting, refining and recycling nonferrous metals has been declining. In response to this situation, JX Nippon Mining & Metals, in collaboration with the Institute of Industrial Science, the University of Tokyo, launched the Endowed Unit for Nonferrous Metal Resource Recovery Engineering (JX Metals Endowed Unit) with the aim of unifying the forces of industry, academia and government to energize the industry and raise the level of its efforts. Through industry-academia collaboration, the JX Metals Endowed Unit carries out various initiatives for the development of human resources to work on the utilization and development of smelting and refining technologies and in the fields of nonferrous base metals and rare metals.

For details, see pp. 42–44 of Sustainability Report 2019 published by JX Nippon Mining & Metals.

Research and Development Initiatives

JX Nippon Mining & Metals built a testing facility in Tsuruga City, Fukui Prefecture in 2010 to develop recycling technologies for lithium ion batteries. It is now working on developing technologies for recovering rare metals such as cobalt and lithium from these batteries.

As part of this effort, the company has almost established a fundamental technology to extract, from materials recovered from lithium ion batteries, nickel sulfate and cobalt sulfate of sufficient quality to be reused as raw materials in the manufacture of lithium ion batteries. In this manner, we are actively

working to achieve closed loop recycling.

Initiatives to Reduce Waste

In fiscal 2018, waste totaled 1.649 million tons, and landfill waste after recycling and reuse efforts totaled 14 thousand tons.

The waste-to-landfill ratio was 0.9%, indicating that we continue to achieve zero emissions (waste-to-landfill ratio of less than 1%).

Specific initiatives for waste reduction include using the collected particulate matter and sludge released from oil refineries as raw materials for cement, and the repeated use of neutralized slag¹ at our smelting and refining facilities.

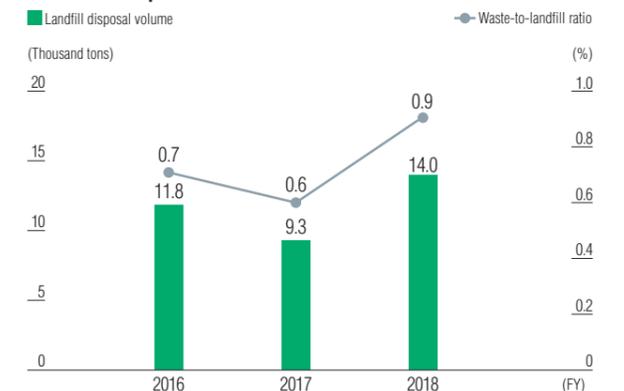
In addition, we use LCA methodology² in evaluating the development of certain lubricant products.

Zero emissions has also been highlighted as a Group objective in the JXTG Group Medium-Term Environmental Management Plan and environmental targets. With this in mind, we will continue to implement proper waste management and recycling programs.

¹ Neutralized slag: Product generated by the neutralization reaction in the smelting process.

² LCA methodology: LCA is an acronym for "life cycle assessment." 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.

Waste-to-Landfill Ratio and Landfill Disposal Volume



Note: For detailed data, see p. 79 of the Data section.

♥: Indicates the Group's top CSR priorities. Please see pp. 5–6.

Initiatives for the Effective Use of Resources

The JXTG Group is working to reduce its use of raw materials by streamlining production and expanding the use of recycled raw materials.

JX Nippon Mining & Metals promotes the effective use of resources by efficiently recovering copper, precious metals, and rare metals from recyclable resources, drawing from processes that harness our smelting technology developed over more than a century. In fiscal 2018, 271 thousand tons of the 2.711 million tons of raw materials used in the company's business activities were recycled resources.

Recycling and Environmental Services Business

JX Nippon Mining & Metals is engaged in an integrated range of businesses related to nonferrous metals such as copper and rare metals. These organically related businesses encompass resource development, metal smelting and refining, recycling and environmental services, and the provision of high-value-added materials, such as electronic materials. Our mid-stream recycling and environmental services business, which is a "vein" of this value chain, includes environmental services for detoxifying industrial waste and the recycling of materials containing nonferrous metals into refined metals. Utilizing the key features and strengths of this business, including zero emissions, proprietary treatment processes based on smelting and refining technologies, and a global collection network, we contribute significantly to the development of a sustainable, recycling-oriented society.



Hitachi Metal Recycling Complex (HMC) Department of Hitachi Works

Key Features and Strengths of the Recycling and Environmental Services Business

(1) Zero Emissions

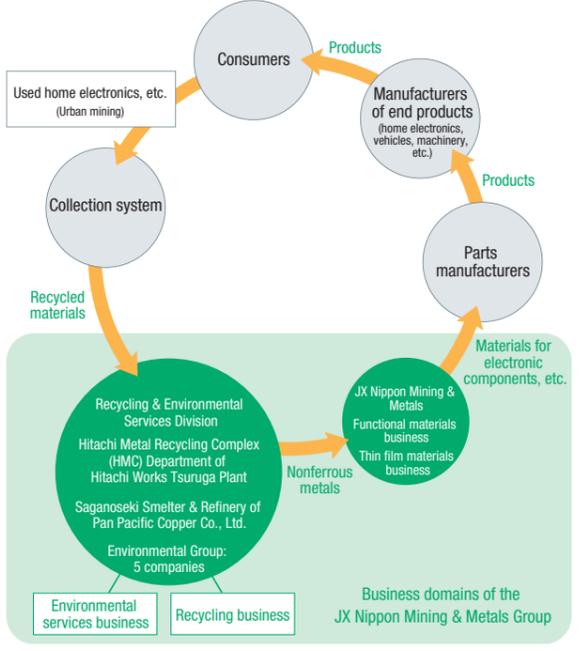
In the processes for detoxification of industrial waste and conversion of recycled materials into reusable resources as refined metals, we are pursuing zero emissions, where no secondary waste that requires landfill disposal is produced. Iron and other ferrous metals other than nonferrous metals are 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.

(2) Proprietary Treatment Processes Based on Smelting and Refining Technologies

The recycling of nonferrous metals is carried out using uniquely developed, efficient and reliable treatment processes, which are based on the technologies we have developed over many years through our operations at mines, smelters, and refineries.

At the Pan Pacific Copper Saganoseki Smelter & Refinery, which boasts Asia's largest treatment capacity for recycling copper and precious metals, energy is conserved by using the excess heat generated from copper concentrate smelting for melting recycled materials.

Resource-Recycling Initiatives in Pursuit of Zero Emissions



(3) Global Collection Network

At Tomakomai (Hokkaido), Hitachi (Ibaraki Prefecture), Mikkaichi (Toyama Prefecture), Tsuruga (Fukui Prefecture), and Saganoseki (Oita Prefecture), we recycle and detoxify recycled materials and industrial waste collected through the nationwide collection network we have built. As the amount of scrap generated in Japan has declined, we are enhancing our collection operations overseas and have established a collection and pre-treatment site in Taichung, Taiwan, and an operating site in Arizona, the United States.



Management of Chemical Substances

Basic Approach

Based on laws and regulations such as the Pollutant Release and Transfer Register (PRTR) Law, the JXTG 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.

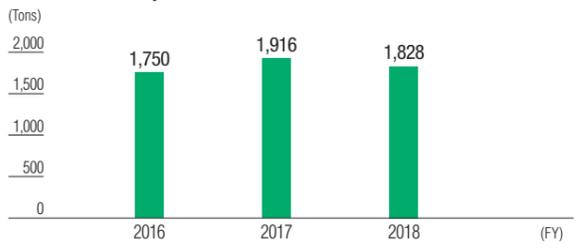
Major Initiatives

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

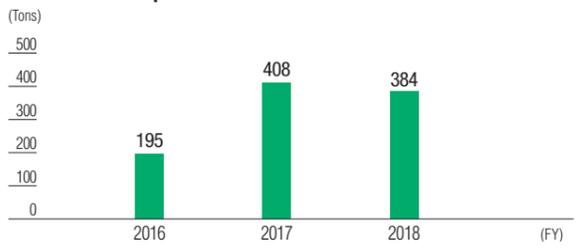
The JXTG Group manages and monitors the release and transfer amounts of specified chemical substances, such as benzene, toluene, and xylene, which are found in gasoline, based on Japan's Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (Pollutant Release and Transfer Register Act).

For fiscal 2018, the emission volume of these substances was 1,828 tons, a reduction of 88 tons from the previous fiscal year, while the transfer volume was 384 tons, a reduction of 24 tons from the previous fiscal year.

Release of Specified Chemical Substances



Transfer of Specified Chemical Substances



Note: For detailed data, see p. 79 of the Data section.

Management and Detoxification of PCB¹ Waste Based on the PCB Special Measures Act

The JXTG 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 details, refer to p. 37.

¹ PCB: Abbreviation for polychlorinated biphenyl. 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 Stockholm Convention on Persistent Organic Pollutants: 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 2018, the company treated approximately 3,988 tons of waste asbestos.

Compliance with the REACH Regulation

The European Union's Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH Regulation) went into effect in June 2007. The purpose of this regulation, which is based on precautionary principles, is to standardize the management of chemicals that are distributed within the EU in order to identify these chemicals, as well as their risks and environmental impacts.

The JXTG Group respects the intent of the REACH Regulation. The JX Nippon Mining & Metals Group has completed preliminary registration of products that are subject to the regulation. In addition, JXTG Nippon Oil & Energy has completed registration of chemicals that it may export to Europe as follows.

Export volume 1,000 tons or more per year	November 2010
Export volume less than 1,000 tons per year; 100 tons or more per year	May 2013
Export volume less than 100 tons per year; 1 ton or more per year	May 2018

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

JXTG Nippon Oil & Energy 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.

Initiatives to Prevent Environmental Pollution

Basic Approach

In addition to complying with relevant laws and regulations, the JXTG 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 of each company.

For information on our environmental management structure, see the Environmental Management section on p. 28.

Initiatives to Reduce the Release of Air Pollutants

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 JXTG Group carries out measures such as using fuels with low sulfur content, removing SOx using flue gas desulfurizers, and managing emissions using voluntary standards.

Thirteen thousand tons of SOx were emitted in fiscal 2018, about the same as the previous fiscal year.



Flue gas desulfurizer

Reducing NOx Emissions

Nitrogen oxides (NOx), which are also known to cause acid rain, are released into the atmosphere mainly as a component of exhaust gases from combustion facilities.

The JXTG 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.

Seventeen thousand tons of NOx were emitted in fiscal 2018, an increase of two 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 JXTG Group has installed VOC recovery equipment in storage facilities and truck loading facilities.

Fifteen thousand tons of VOCs were released in fiscal 2018, a decrease of one thousand tons from the previous fiscal year. The decrease can be attributed to a decline in the storage and handling volume of gasoline intermediates.

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

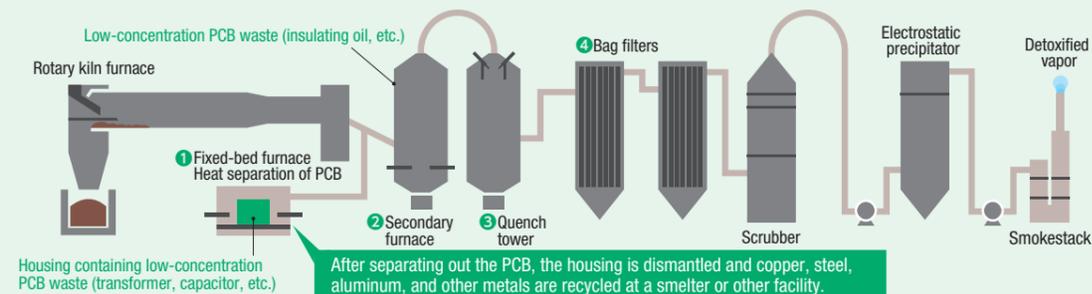
Since March 2014, when JX Nippon Tomakomai Chemical received certification from the Minister of the Environment as the first low-concentration PCB waste detoxification facility in Hokkaido, the company has been working to improve its treatment capacity.

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, as of September 2019, there were 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.

Process for Complete Detoxification of Low-Concentration PCB Waste



JX Nippon Tomakomai Chemical rotary kiln furnace

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 Management

Initiatives to Prevent Global Warming

Initiatives to Promote the 3Rs

Management of Chemical Substances

Initiatives to Prevent Environmental Pollution

Initiatives for Biodiversity

VOC Recovery

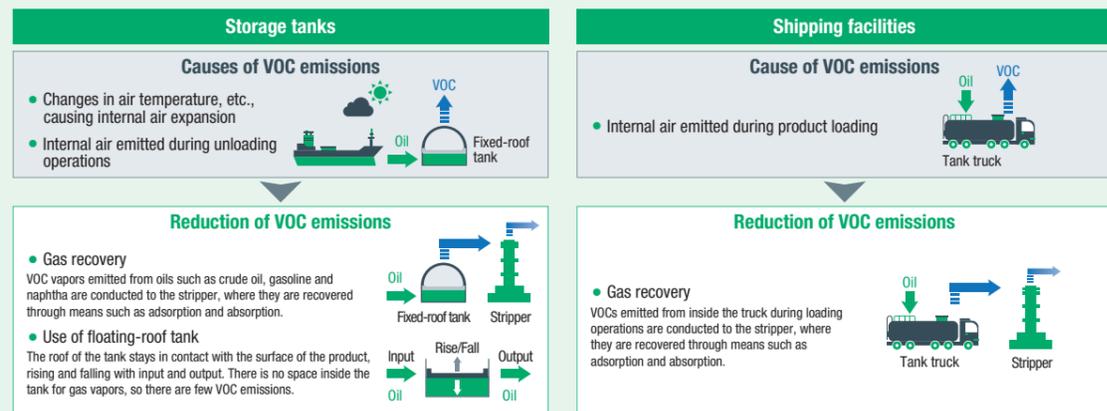
Volatile organic compounds (VOCs) containing hydrocarbons are released into the air whenever gasoline is pumped from a tank truck into a storage tank at a service station. These VOCs are not only a source of photochemical oxidants, but also cause irritating odors in neighboring communities and can adversely affect the health of both customers and employees.

Therefore, JXTG Nippon Oil & Energy 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 JXTG Nippon Oil & Energy 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 JXTG 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

Effective Utilization of Water Resources

The JXTG 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 2018, the volume of water used was 1.74 billion tons, and the water discharge volume was 1.83 billion tons.

For the effective use of water resources, the JXTG 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 also partially switched to recycled water.

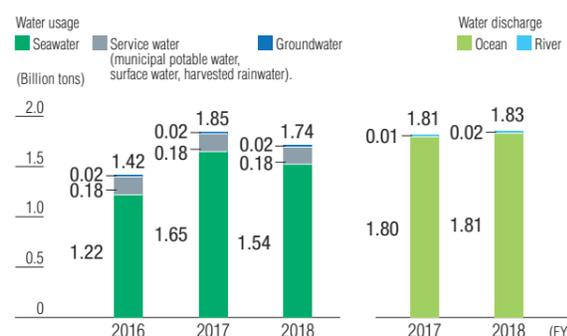
As part of our continuous efforts to ascertain the status of water resources, we use tools, such as water risk maps from the World Resource Institute, to verify whether the locations of our business sites in Japan and overseas are in areas of elevated water risk.

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.

At each of its refineries and smelters, the Group has implemented environmental management systems, which are utilized to assess the environmental impact of water usage and respond accordingly.

JXTG Group Water Usage and Water Discharge



Note: For detailed data, see p. 79 of the Data section.

Environmental Management

Initiatives to Prevent Global Warming

Initiatives to Promote the 3Rs

Management of Chemical Substances

Initiatives to Prevent Environmental Pollution

Initiatives for Biodiversity

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.

Preventing Marine Pollution

With regard to marine transport of oil, the JXTG 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 that includes regulations for the prevention of environmental pollution by 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.

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, and 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.

Closed Mines Where AMD Treatment Is Carried Out

Twelve closed mines where AMD treatment is carried out



Motoyama AMD treatment facility at Toyoha Mine



Gallery inspection at Hanawa Mine

Soil Contamination Countermeasures

JXTG Nippon Oil & Energy 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.

In addition, Nippo Corporation, a JXTG Group company, has been involved in the contamination purification business since before Japan's Soil Contamination Countermeasures Act took effect.

Soil Surveys and Countermeasures in Fiscal 2018

(Expenditure: million yen)

	Surveys		Countermeasures	
	Number of cases	Expenditure	Number of cases	Expenditure
Service stations	116	220	39	767
Oil depots	2	4	2	536
Refineries/Business sites	9	10	0	0
Total	127	234	41	1,303

Note: JXTG Nippon Oil & Energy

Soil Contamination on Group Property Reported in Fiscal 2018

Category	Location	Survey results				Status
		Soil		Groundwater		
		Substance	Scale factor	Substance	Scale factor	
Idle land	Aichi	Benzene	4.80	—	—	Countermeasures completed
Idle land	Aichi	Benzene	2.10	—	—	Countermeasures currently under implementation

Note: JXTG Nippon Oil & Energy



Initiatives for Biodiversity

Basic Approach

The operations of the JXTG 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 JXTG 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 environmental management structure, see p. 28.

Major Initiatives in Japan

JXTG Nippon Oil & Energy, which has many production sites, has established the JXTG Nippon Oil & Energy Group Guidelines on Biodiversity. In addition, we systematically carry out activities for the preservation of biodiversity by conducting ecosystem studies at our major business sites in Japan, many of which are surrounded by large green belts. 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.

JXTG Nippon Oil & 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.

Involvement in Biodiversity Initiatives

JXTG Nippon Oil & Energy 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



Initiatives at the JXTG Nippon Oil & Energy Chita Plant

The JXTG Nippon Oil & Energy Chita Plant is a member of 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 local governments (Aichi Prefecture, Chita City), NPOs, students and companies located in the coastal area, utilize corporate green belts and other areas to provide safe and secure habitats for local flora and fauna.

The plant is working to mainstream biodiversity through measures such as ecosystem surveys (monitoring) of its biotope, conducted with students in the local community. In fiscal 2018, ecosystem surveys of the biotope and nature observation walks were conducted on one occasion each.

As a result of these activities, the Chita Plant was granted certification by the Association for Business Innovation in Harmony with Nature and Community (ABINC) in 2015 after undergoing a third-party screening developed by the Japan Business Initiative for Biodiversity (JBIB). This certification was renewed in 2018.



ABINC certification mark



Nature observation walk in the greenbelt with local children (Chita Plant)

Initiatives at the JXTG Nippon Oil & Energy Negishi Refinery

The JXTG Nippon Oil & Energy 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 green belt 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 green belt (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 initiatives such as forest thinning, laying of trails (wooden paths) and installation of bird-watching sheds were begun in fiscal 2016 and completed in fiscal 2018.

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, as a new initiative, we held interactive events and weeded the green belt areas using goats.

In fiscal 2019 and beyond, we will continue our initiatives to conserve biodiversity by stepping up efforts to maintain the green belt and appropriately utilizing areas where initiatives have been completed.



Interactive event (Negishi Refinery)

Forest Stewardship and Afforestation Activities

JXTG Group companies are involved in forest stewardship activities that contribute to the preservation of biodiversity.

JXTG Nippon Oil & Energy implements forest stewardship activities called ENEOS no Mori at eight 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 also working to maintain 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 forest conservation activity



JX Nakajo Forest afforestation activity



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

Providing Sustainable Seafood Menu Options at the Employee Cafeteria

Since March 2019, JXTG Holdings has been offering sustainable seafood* menu options at the JX Building employee cafeteria, used by the Company and its Group companies.

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 Caserones Copper Mine

At the Caserones Copper Mine in Chile, 48,200 seedlings of 15 native flora species in an area spanning 1.43 square kilometers are being planted to protect biodiversity. The areas being planted are those around Ramadilla on the mine site, and the off-site areas around Maitencillo and Amolanas. Completion is slated for 2020.

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 (Sea Water)

Oil tankers from Japan bound for oil-producing countries carry ballast water (sea water) as weight to maintain stability for unloaded voyages.

However, this ballast water contains microorganisms and plankton that are carried to the waters of oil-producing countries, where, if released, they can disturb the balance of local ecosystems.

Since 2004, the JXTG Nippon Oil & Energy 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 coastal waters of oil-producing countries.

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

Social Report

The JXTG 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 data pertaining to the Social Report, please refer to the Data section.



Priority Fields for CSR Activities

High Ethical Standards

Compliance

Safety and Environment

Human Rights

Human Resource Development

Health

Quality

Social Contribution

Safety



Basic Approach

As a corporate group responsible for the stable supply of energy, resources and materials, the JXTG 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 JXTG Group Philosophy, and our basic policy on safety and security has been stipulated in the JXTG Group Code of Conduct.

In addition, based on the above, each Group company assesses risks pertaining to occupational safety and establishes its own safety policy in accordance with its own business characteristics, 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 partner companies also participate, and we have established preventive and emergency measures to cope with all manner of accidents, problems and natural disasters.

JXTG 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.

WEB See the following for further details on the safety policies of the Group's core operating companies.
<https://www.no.e.jxtg-group.co.jp/english/company/policy/>
<http://www.nex.jx-group.co.jp/english/environment/hse/policy.html>
<https://www.nmm.jx-group.co.jp/company/guidelines/safety.html>
 (Available in Japanese only)

Structure

The JXTG Group Environment & Safety Committee, chaired by the officer (director) responsible for the Safety, Health & Environment Department at JXTG Holdings, has been established under the JXTG Group CSR Council, which is chaired by the president of JXTG Holdings.

The Committee evaluates and shares information on occupational injuries and the implementation of safety activities at each Group company, and also reviews and implements measures to prevent occupational injuries.

For information on our structure, see the Management Structure section on p. 28.

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.

JXTG Nippon Oil & Energy has established and implemented its own safe operations management system (SOMS), which conforms to ISO standards, at its refineries and plants.

JX Nippon Oil & Gas Exploration has adopted its own HSE¹ management system (HSEMS), which conforms to ISO standards. Through HSEMS systems management, the company has established an integrated safe operations framework that includes overseas business sites.

At JX Nippon Mining & Metals, 12 business sites in Japan have obtained OHSAS 18001² certification, and operate this management system to promote safety management. The company is now working to switch this certification to international standards (ISO) by March 2021.

¹ Acronym for "health, safety and environment."
² OHSAS 18001: An occupational health and safety management system

Safety Activities

At the JXTG Group Safety Education Center (Hitachi City, Ibaraki Prefecture), the JXTG Group works to improve employee sensitivity to risks (see p. 47 for further details). Group companies are also working individually to raise safety awareness and enhance safety management.

Every year in July, JXTG Nippon Oil & Energy releases a

video message on safety by its president to demonstrate 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 STOP¹ card and safety activities known as UCUX² dictate that if an unsafe behavior is found during a work task, the work task will be suspended temporarily 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, by such means as introducing hazard simulation equipment at each business site, preparing and implementing safety curriculum based on past accidents (videos re-enacting occupational accidents), and holding safety lectures led by outside instructors.

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

Building a Mutual Assistance System for Refineries and Other Sites

For response in the event that a refinery sustains damage from an earthquake and is unable to regain control unaided, JXTG Nippon Oil & Energy has established a system for emergency response operations and measures to enable organized support from within the Group. This system ensures the execution of a swift and agile response.

Results of Major Initiatives for Ensuring Safety

With the goal of eliminating all serious occupational injuries,* the JXTG Group conducts extensive safety activities and safety training programs, in which employees from its partner companies also participate.

In fiscal 2018, there were a total of 40 occupational injuries, four more than the previous fiscal year. However, there were no fatal occupational injuries of contractor company workers, for which there was one each for two consecutive years in fiscal 2016 and fiscal 2017. 20 directly hired employees sustained occupational injuries, an increase of 11 from the previous fiscal year.

The occupational injury frequency rate (the number of occupational fatalities and injuries per million working hours) and the occupational injury severity rate (the number of lost working days per thousand working hours) were both significantly below the average for all industries (Ministry of Health, Labour and Welfare survey).

In fiscal 2017, we adopted Group-wide safety efforts for occupational injuries that occur with greater frequency or which

* Fatal occupational injuries

are likely to lead to serious occupational injuries, and are making further efforts to prevent their occurrence.

Group-wide Safety Efforts

- Separating people and heavy machinery
- Preventing falls from high places
- Preventing workers from falling down
- Preventing heatstroke

As a main initiative for fiscal 2018, we collected and shared information on the Group companies' initiatives to address mutual safety items, including safety education, important rules, and supervision and monitoring systems.

Occupational Injuries

		(Persons)		
		FY2016	FY2017	FY2018
Number of occupational injuries	JXTG Group employees	Fatalities	0	0
		Lost work time	16	9
		Subtotal	16	9
	Contractors (partner companies, etc.)	Fatalities	1	1
		Lost work time	18	26
		Subtotal	19	27
Total		35	36	40

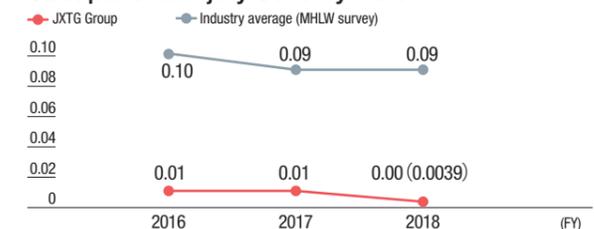
Note: Scope of occupational injury statistics: the three core operating companies (JXTG Nippon Oil & Energy, JX Nippon Mining & Metals and JX Nippon Oil & Gas Exploration).

Occupational Injury Frequency Rate



Notes: Scope: The refineries, plants and business sites of the three core operating companies. (For details, see p. 82.)
 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 MHLW (Available in Japanese only):
<https://www.mhlw.go.jp/toukei/tiran/roudou/saigai/03/2.html>

Occupational Injury Severity Rate



Notes: Scope: The refineries, plants and business sites of the three core operating companies. (For details, see p. 82.)
 Severity rate: The aggregated number of workdays lost per thousand cumulative hours worked; indicates the severity of occupational injuries.
 Definition of terms by MHLW (Available in Japanese only):
<https://www.mhlw.go.jp/toukei/tiran/roudou/saigai/03/2.html>

TRIR and LTIR

	FY2016	FY2017	FY2018
TRIR	1.11	0.81	1.25
LTIR	0.28	0.20	0.39

Notes: Scope: JXTG Holdings and the head offices, refineries, plants and business sites of the three core operating companies. (For details, see p. 82.)
 TRIR (total recordable incident rate): number of non-lost-time occupational injuries, lost-time occupational injuries and fatalities per one million hours
 LTIR (lost time injury rate): number of lost-time occupational injuries and fatalities per one million hours

♥: Indicates the Group's top CSR priorities. Please see pp. 5-6.

Safety Training Program Using Virtual Reality

In 2013, the JXTG Group established the JXTG Group Safety Education Center in Hitachi City, Ibaraki Prefecture. Established to enable workers to experience the risks inherent in their work, the aim of the facility is to raise the safety awareness of individual employees through simulation training.

In fiscal 2018, 1,538 employees participated in training at the facility, bringing the total number since the center opened to 10,005.

In addition, a new Group training program that utilizes virtual reality (VR) technology was launched in September 2017. Since then, the program has been expanded to include a larger number of VR experiences. This program enables workers to feel what it is like to be personally involved in an accident and think about victims' psychological state, as well as accident causes and preventive measures. Using VR technology, participants can experience accidents that cannot be safely replicated in the real world, such as steam explosions, being struck by heavy machinery, entanglement in high-speed rotors, and falling from high places, from a victim's perspective, thereby increasing the effectiveness of the training. Since its introduction, VR experiences with dispersal of liquid chemicals, getting fingers caught in slings, grinder recoil, and falling down stairs have been added to the program, further enhancing the training.

Our production sites are also equipped with hazard simulation equipment, and workers are required to undergo training using this equipment before they can begin actual work. Through these and other efforts, we are working to ensure safety across the entire Group.



JXTG Group Safety Education Center



Virtual-reality training equipment

Preventing Collisions Between Heavy Machinery and People

The JX Nippon Mining & Metals Group considers the prevention of collisions between heavy machinery and people as a key safety issue. This is because there is a high risk of collisions on the manufacturing floor, where heavy machinery, such as forklifts, is used, increasing the potential for serious accidents. The company has implemented a number of countermeasures at workplaces to prevent collisions, including demarcation of separate routes for heavy machinery and people.

Since 2017, the introduction of measures that go a step beyond conventional approaches, making the use of the latest preventive safety technologies, has been under consideration. From fiscal 2017 to fiscal 2018, a system for automatically braking heavy machinery was tested at the Saganoseki Smelter & Refinery of JX Mining & Metals Group company Pan Pacific Copper, while a system that issues warnings and commands to both operators and workers was tested at JX Nippon Coil Center. Based on the test results, these solutions were introduced at both business sites and put into operation in 2018.



Test in progress at the Saganoseki Smelter & Refinery

Acquisition of Super Certification for High Pressure Gas

JXTG Nippon Oil & Energy's 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 August 2019.

This certification, established by Japan's Ministry of Economy, Trade and Industry, is awarded to refineries that satisfy certain criteria for such areas as advanced safety activities and operational support systems. 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 JXTG 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 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 training every year.



Elevated warehouse (Sakai Refinery)

Measures for Seismic Reinforcement of Facilities

We are moving forward with 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 taken measures such as the installation of disaster prevention equipment and facilities in preparation for potential accidents and disasters.

Oil Spill Countermeasures

We are able to respond quickly to oil leaks on land or at sea. We have multiple oil dikes surrounding our storage tanks and systems to prevent leaks from spreading offsite. We also have oil fences and oil recovery vessels in place to respond to oil leaks at sea.



Deploying an oil fence as part of a drill to help prevent marine pollution

Fire Countermeasures

In addition to large ladder trucks with hazardous material response capabilities, compressed air foam system (CAFS) tankers and high-capacity water cannons, numerous foam extinguishing systems, sprinkler systems and large extinguishers have been placed onsite for response in the unlikely event of a major fire.

Our facilities also have disaster response vessels with firefighting capabilities to respond to accidents or disasters at sea.



Firefighting vehicles

Disaster Drills

We regularly implement comprehensive disaster drills for our own disaster response organizations 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 and disaster response organizations from nearby companies.



Water discharge drill using a high-capacity sprayer



Firefighting during a large-scale comprehensive disaster drill

Human Rights



Basic Approach

As a corporate group with global business operations, the JXTG Group believes that an important element in striving for sustainable development is respect for the human rights of all stakeholders, including employees.

The JXTG 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.

JXTG 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 (LGBT), 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

The JXTG Group has established basic principles on respect for human rights under "5. Respect for human rights" within the Group Code of Conduct. We have requested cooperation with these efforts not only from Group companies but also other companies across our value chain. In addition, we established a human rights policy to further clarify our stance and the importance of respect for human rights. We will continue our efforts to communicate the applicable scope of the Group Code of Conduct to all concerned and ensure compliance with it.

JXTG Group Human Rights Policy

The JXTG Group conducts its business activities under the JXTG 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 JXTG 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 JXTG Group complies with the laws, ordinances and regulations applicable in the countries and regions where it conducts its business activities. In addition, the JXTG 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 JXTG 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 Cul-

tural 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 JXTG 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 JXTG Group will promote the following initiatives.

- **Human Rights Due Diligence**
The JXTG 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 JXTG Group conducts in earnest dialogue and discus-

sions 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 JXTG 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 JXTG 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 JXTG Group. All business partners involved in the JXTG Group's business activities will be asked to cooperate with this policy.

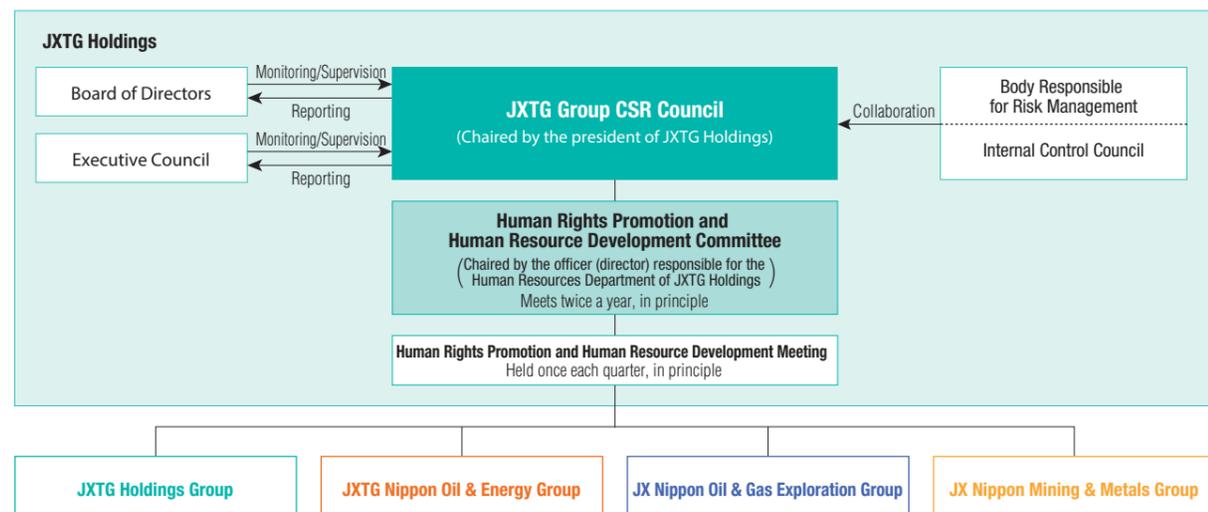
8. Positioning

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

Structure

The JXTG Group Human Rights Promotion and Human Resource Development Committee, chaired by the officer (director) responsible for the Human Resources Department of JXTG Holdings, has been established under the JXTG Group CSR Council, which is chaired by the president of JXTG Holdings.

Structure for Promoting Human Rights, Human Resource Development and Health



The committee is responsible for deliberation on Group-wide policies and approaches to human rights. It confirms and evaluates the activities of each Group company and shares information.

Specifically, each Group company implements various measures to ensure respect for human rights, which is stipulated in the Group Code of Conduct. These measures include the implementation of human rights awareness training and human rights due diligence in accordance with the business characteristics of each company.

Group company initiatives are also shared at Human Rights Promotion and Human Resource Development meetings, held once each quarter, and are used to improve the level of business activities across the entire Group.

Major Initiatives

Participation in the UN Global Compact

JXTG Holdings, JXTG Nippon Oil & Energy, 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 JXTG Group became subject to Corporate Human Rights Benchmark (CHRB) assessment in fiscal 2019.

Please refer to the CHRB website for the assessment results.

Going forward, in order to sufficiently address the questions posed by the CHRB, we will carry out initiatives on business and human rights and proactively disclose relevant information.

In addition, on July 30, 2019, we met with CHRB and shared opinions on business and human rights.



Raising Awareness of Human Rights through Training and e-Learning

Group companies conduct human rights training, new employee training, rank-based training, and e-learning for all officers and employees in an effort to raise awareness of human rights and prevent human rights issues from occurring.

The participation rate in human rights training in fiscal 2018 was 94.2%. In fiscal 2019, in an effort to achieve a 100% participation rate in human rights training, we will encourage officer and employee participation by providing access to training materials through various means, such as the company intranet and email.

♥: Indicates the Group's top CSR priorities. Please see pp. 5-6.

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 up trust.



Briefing

Response to the UK Modern Slavery Act 2015

JX Nippon Oil & Energy Europe Limited (JXTG Nippon Oil & Energy Group) and JX Nippon Exploration and Production (U.K.) Limited (JX Nippon Oil & Gas Exploration Group) have released statements in response to the United Kingdom Modern Slavery Act 2015, which came into effect in October 2015.

See the following websites for further details.
http://www.eneos.eu/wp-content/uploads/2018/07/Anti-Slavery-Statement_FY2017.pdf
http://www.nex.jx-group.co.jp/environment/compliance/active/pdf/human_01.pdf

Response to the South African Black Economic Empowerment Policy (BEE Policy)

JXTG Nippon Oil & Energy operates a representative office in Johannesburg, South Africa, for the purpose of gathering information. The office does not engage in sales and marketing activities. Therefore, this representative office has not obtained approval under this policy because the nature of its activities does not require it.

Human Rights Due Diligence

The JXTG Group has checked for human rights violations (harassment, etc.) at each workplace through employee awareness surveys and legal compliance inspections. In fiscal 2018, we began implementing human rights due diligence based on our human rights policy.

The Group identified human rights issues for human rights due diligence, referencing the Guiding Principles on Business and Human Rights (United Nations) and Guidance on Human Rights Due Diligence (Japan Federation of Bar Associations). (See table below.)

List of Human Rights Issues

Stakeholders	Human rights issues
Employees	Harassment
	Management of working hours
	Discrimination
	Health
	Safety
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 management)
Local communities	Environment (including environmental degradation, health impacts, and damage in local areas)

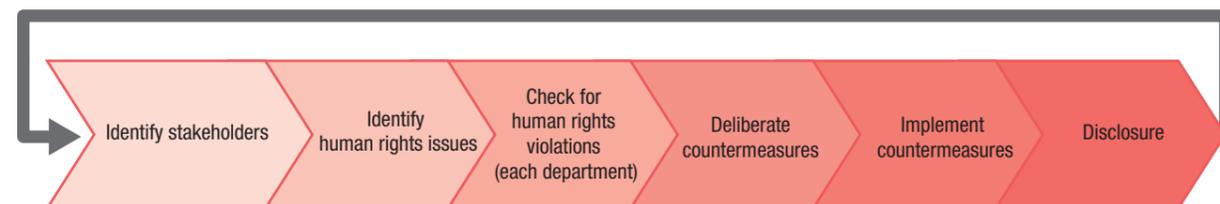
The JXTG Group's business operations involve a wide range of stakeholders, and the Group recognizes the importance of respecting the human rights of all stakeholders. In the human rights due diligence we carried out in fiscal 2019, we verified whether any human rights violations involving employees or customers, as well as local residents living near refineries and plants, local residents living near service stations, or suppliers, were committed by the Group.

We verified the following rights concerning our stakeholders.

At the time of publication of this report, no serious human rights violations had been identified.

- 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



• Supply Chain

With the cooperation of its suppliers, the JXTG Group introduced CSR procurement in fiscal 2018. In CSR procurement, we ask our suppliers to respond to verification surveys for human rights due diligence in order to ascertain the status of suppliers' human rights efforts.

The JXTG Group will continue its efforts to ensure that no human rights violations occur within its supply chain. For details, see pp. 68–69.

In addition, the JX Nippon Mining & Metals Group is taking measures against conflict minerals. For details, see p. 70.

• Consultation Contact Points (Remedy Measures)

The JXTG Group has established a compliance hotline and a harassment contact point as internal contact points for consultation and reporting of issues including human rights violations. These contact points accept anonymous reports of 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.

Persons who contact these contact points for reporting or consultation are not in any way subject to unfavorable treatment. Furthermore, these persons are free to seek remediation through external parties for any incidents they have reported to these contact points.

• Views from Employees

We collect the opinions of employees through JXTG Group employee awareness surveys, which target all officers and employees (including temporary workers), as well as various other surveys and initiatives, for use in in-house initiatives. Furthermore, for women's empowerment, we held a panel discussion and an exchange of ideas between officers and employees on the themes of career advancement and balancing childcare and work.

Third Party Opinion

The JXTG 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 asked Human Rights Now to conduct desk research in the interest of ensuring verification from a third-party perspective.

Within the JXTG Group CSR promotion structure, we will carefully review the feedback received and make improvements to our business and human rights initiatives as necessary. Our progress will be disclosed in future ESG Data Books.



Human rights due diligence briefing session presented by Human Rights Now

A portion of the third party opinion is summarized as follows.

Items requiring prompt response in accordance with international standards (Guiding Principles on Business and Human Rights, the ILO Declaration, etc.)

• Right to access to remedies

Thorough dissemination of the use of internal whistleblower system (hotline)

• Discrimination and harassment

Advanced efforts for discrimination and harassment prevention training

• Occupational health and safety

Improvement on initiatives aimed at eliminating all occupational injuries, not only serious occupational injuries (fatalities)

• Supply chain management

Effective implementation of the JXTG Group Code of Conduct in Japan and overseas
Response to human rights risks across the entire value chain, including overseas

Human Resource Development



Basic Approach

The JXTG 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. Therefore, in addition to incorporating this belief into our Code of Conduct, we have established consistent systems for each phase of human resource development, including hiring, assignment, assessment, promotion, and training.

JXTG 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

The Human Rights Promotion and Human Resource Development Committee, chaired by the officer (director) responsible for the Human Resources Department of JXTG Holdings, has been established under the JXTG Group CSR Council, which is chaired by the president of JXTG Holdings.

The committee coordinates Group policy on human resource development, manages human resource requirements, and carries out discussion to foster a shared awareness of human resource development among Group companies.

As for specific measures concerning the development of human resources, each Group company conducts a development program tailored to its own business characteristics and suited to the aptitude of individual employees. The challenges and objectives of each Group company are addressed by the committee, and the PDCA cycle is implemented for the Group as a whole for effective human resource development.

For more about the structure, see p. 51.

Major Initiatives

JXTG Group

Development of future leaders

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

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.



Training for future Group management positions

JXTG Nippon Oil & Energy

Training by rank

Classification-level 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.

Local staff training

Face to face training is implemented for local staff in Japan.

Promotion of career opportunities for female employees

Seminars are held to follow up with employees who have returned to work from childcare leave, to raise awareness among supervisors, and to support the career development of female employees.

Self-assessment interviews

Regular interviews are conducted in which we listen to employees' ambitions for long-term career design and skill development. This gives the company and supervisors a better understanding of employees' wishes, helping to ensure optimal assignment, relocation, and development of employees.

JX Nippon Oil & Gas Exploration

Training by rank

Classification-level 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.

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.

Employee training programs

A total of 12 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.

JX Nippon Mining & Metals

Training by rank

Classification-level 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.

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.

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 Programs Implemented in Fiscal 2018

	(Hours)	
	Total training hours	Training hours per employee
JXTG Holdings	2,017	18.34
JXTG Nippon Oil & Energy	81,183	9.23
JX Nippon Oil & Gas Exploration	8,338	22.47
JX Nippon Mining & Metals	29,424	15.71
Total	120,962	10.85

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

♥ Indicates the Group's top CSR priorities. Please see pp. 5-6.

Initiatives to Develop Management Resources

With an eye on the future direction of its companies, the JXTG 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.

As the development of these management resources is a challenge facing JXTG Holdings as well as its core operating companies, we will work together to identify employees qualified for management positions and provide comprehensive training to fully draw out their skills as future senior executives.

Specific Approaches to the Development of Management Resources

- Identify management resources using impartial and objective measures, taking into account the ideal attributes for senior management positions.
- Management resources are provided with growth opportunities by combining on-the-job training (interdepartmental transfers, challenging assignments, etc.) and off-the-job training (rank-based training in house, enrollment in business schools inside or outside of Japan, etc.) to enable them to acquire the necessary experience, knowledge and perspective required of future senior management. In addition, individual development plans are formulated for each of these processes.
- The Human Resource Development Committee examines the suitability of management resources in a multifaceted manner and implements the PDCA cycle for the development plan.

Implementation of Various Measures

Dialogue Session Between Employees and Management

JXTG Holdings hosted a dialogue session for around 400 employees and seven directors.

The objective of this session was to share the company's direction through dialogue between employees and management to ensure that we can all think independently and work with vigor while moving toward the same objectives.

During the first part of the session, the president and executive vice president gave presentations with the theme "moving toward the future of the JXTG Group." In the second part, participants were split up into several rooms, where employees and management sat in a circle to discuss questions and share views.

Participant feedback included the following: "I gained a better understanding of management's efforts and approaches after hearing their responses to various opinions, questions and thoughts" and "Hearing the thoughts of people from different departments and age groups was refreshing and inspiring."



Dialogue session between employees and management

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

JXTG Nippon Oil & Energy 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 foreign cultures.

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

JXTG Nippon Oil & Energy 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 group training of managers and team leaders hired locally overseas. In fiscal 2018, training was held for team leaders in which participants learned about leadership attributes, including communication skills and problem solving ability.

In addition, the company has implemented an initiative in which highly competent locally hired overseas employees are assigned to the JXTG Nippon Oil & Energy head office in Japan for several years to experience head office operations firsthand.

Support for Employee Self-Development

The JXTG Group has a self-development support system to provide employees with a desire to learn.

Voluntary Participation in Training

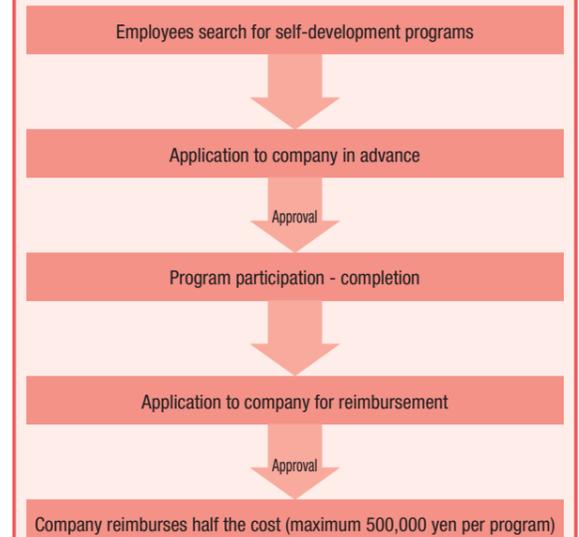
JXTG Holdings offers various seminars and correspondence courses for employees of its core operating companies and other Group companies. Employees can select seminars and courses based on their individual needs in order to support their self-development.

Self-Innovation Support

In response to employees' desire for professional growth, JX Nippon Mining & Metals has implemented a self-innovation support system, which builds upon the company's previous self-development system.

Under this system, employees can apply for and participate in external training and study programs of their choice, and at the time of completion the company reimburses half the cost, to a maximum of 500,000 yen. Under the original system, participants had to choose from among programs selected in advance by the company, but under the new system, employees have access to a much broader range of programs. The objective of this system is to encourage employees to make the most of the private time gained from work-life balance initiatives. As such, it offers a much greater level of flexibility than the previous self-development system.

Self Innovation Support Program Application Procedures



Health



Basic Approach

The JXTG 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 included health as a standard in the JXTG Group Code of Conduct and are implementing health-related initiatives.

JXTG 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

The Human Rights Promotion and Human Resource Development Committee, chaired by the officer (director) responsible for the Human Resources Department of JXTG Holdings, has been established under the JXTG Group CSR Council, which is chaired by the president of JXTG Holdings.

The committee shares information about initiatives by Group companies and determines focus items regarding health.

In addition, 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.

For details about our structure, see p. 51.

Major Initiatives

Employee Health Management♥

In addition to providing regular health screenings and annual medical examinations, both in Japan and overseas, the JXTG Group¹ offers cancer screenings² and works to prevent infectious diseases³. For employees on overseas assignments, we offer vaccinations as required and medical support. In fiscal 2019, we launched proactive initiatives to thoroughly eliminate the risk of passive smoking in accordance with Japan's Health Promotion Act.

In fiscal 2018, 100% of employees underwent regular health screenings, while the cancer screening rate was 65%. 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 JXTG Holdings and core operating companies

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

³ Influenza vaccination (subsidized through company health insurance), work exemption for measles vaccination, etc.

Mental Health Measures

To help prevent mental health issues, the JXTG Group makes effective use of a stress check system.

This 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 towards improvements in high-stress work environments.

Health Measures for Employees Traveling and Working Overseas

To prevent illness in employees traveling and working overseas, the JXTG 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.

JXTG Nippon Oil & Energy stockpiles supplies for its overseas sites as a safety measure against the spread of new types of influenza.

♥: Indicates the Group's top CSR priorities. Please see pp. 5-6.

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.

External Evaluation of Our Health Management

In February 2019, JXTG Holdings was selected as a brand of the 2019 Health & Productivity Stock Selection, a program jointly organized by the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange. In addition, JXTG Holdings and its core operating companies received recognition as a Certified Health and Productivity Management Organization (White 500), which they also received last year.

JXTG Holdings' health management initiatives are introduced in external seminars and informational magazines in order to promote the growth of health and productivity management.



Industrial Hygiene

The JXTG Group carries out industrial hygiene activities to prevent health hazards to workers at refineries, plants and other business sites. In particular, we are implementing measures against exposure to chemical substances and noise.

Measures Against Exposure to Chemical Substances

JXTG Nippon Oil & Energy conducts voluntary 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.



Employee testing for exposure using individual samplers

Measures Against Exposure to Noise

JXTG Nippon Oil & Energy 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 areas of refineries and plants with potentially high noise levels, such as those where production equipment is located, to identify areas with noise levels of 85 decibels or higher, the reference value for preventing noise-induced hearing loss. Based on these measurements, we have developed workplace maps for visual identification of areas that exceed the standard noise level. We have also established rules for all refineries whereby workers are required to refer to these maps and wear appropriate ear protection, such as ear plugs or ear muffs, when working in areas with high noise levels.



Noise measurement

Healthy Work Environment



Basic Approach

The JXTG 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 (LGBT), 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 such norms in the JXTG Group Code of Conduct, and have implemented a variety of initiatives for their advancement.

JXTG 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

The Human Rights Promotion and Human Resource Development Committee, chaired by the officer (director) responsible for the Human Resources Department of JXTG Holdings, has been established under the JXTG Group CSR Council, which is chaired by the president of JXTG Holdings.

The committee is responsible for deliberation on Group-wide policies and approaches to work-life management, diversi-

ty and inclusion. It confirms and evaluates the activities of each Group company and shares information.

Specifically, we are implementing measures such as work-style reforms, workplace and career advancement initiatives for female employees and employees with disabilities, and the expansion of systems promoting work-life balance. We are also raising awareness about diversity and inclusion through in-house training for officers, including the president, and employees and other initiatives, and monitoring progress through the committee.

For details about our structure, see p. 51.

Advancement of Women in the Workplace ♥

To support the career planning and growth of our female employees, the JXTG Group is working to change attitudes toward workstyle among both male and female employees, and has put various systems in place to support the work-life balance of all employees, both male and female.

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, enacted on April 1, 2016, and have implemented measures for the achievement of these plans.

For details about our systems promoting work-life balance, see p. 63.

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

- JXTG Nippon Oil & Energy: Ensure that the ratio of women among newly hired university graduates in fiscal 2020 is at least 25%.
- JX Nippon Oil & Gas Exploration: Maintain the percentage of female workers at 15% of the employed workforce.
- JX Nippon Mining & Metals: 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.

♥: Indicates the Group's top CSR priorities. Please see pp. 5-6.

Employment Status of Female Employees

(As of March 31, 2019)

Newly hired female employees	78	Percentage of women among new hires: 13.4%
Total number of female employees	1,221	Percentage of women in the workforce: 10.9%
Number of female managers	76	Percentage of women in management: 2.7%
Number of female directors*	3	Percentage of female directors: 17.6%
Average years of service for all female employees	17.5 years	Average years of service for male employees: 19.2 years Difference in average years of service between male and female employees: 1.7 years

Note: Data on number of female directors is from JXTG Holdings; other data is from JXTG Holdings and core operating companies.

* Data on number of female directors only is as of June 26, 2019.

New Systems Introduced in Fiscal 2019

Job Transfer Deferment System

JXTG Holdings and JXTG Nippon Oil & Energy have introduced a system whereby employees can defer job transfers up to a maximum of three years for personal reasons, such as marriage or childbirth.

Spouse Accompaniment Job Transfer System

JXTG Holdings and JXTG Nippon Oil & Energy have introduced a system whereby employees can request job transfers to specific regions to accompany a spouse who has been relocated to another part of Japan due to a job transfer.

Spouse Accompaniment Leave of Absence (Retirement) System

JXTG Holdings and JXTG Nippon Oil & Energy have introduced a system whereby employees can request to be re-hired within five years of taking leave of absence or retiring to accompany a spouse who was relocated due to a job transfer.

Diversity and Inclusion ♥

In accordance with the basic approach below, the JXTG Group actively incorporates diversity and inclusion to create new value across the entire organization for our continued growth.

- We implement fair and equal hiring practices that ensure diversity.
- We endeavor to maintain a healthy work environment and carry out effective human resource development to maximize the talents of a diverse workforce.
- We work to foster a corporate culture where each and every employee understands the importance of diversity, and where employees respect each other, help each other, and grow together.

Ikuboss Corporate Alliance Membership and Activities

On September 21, 2017, JXTG Nippon Oil & Energy joined the Ikuboss Corporate Alliance, established by Fathering Japan.

The Ikuboss Corporate Alliance is a network of companies that recognize the importance of ideal bosses, or "ikubosses,"* in an age of workforce diversity, which includes increased participation of women in the workplace and an increasing number of men who are actively involved in child-rearing. These companies are actively working to change management mind-sets as part of their efforts to foster ikubosses in this new age.

In fiscal 2018, we held "ikuboss lectures" on three occasions for employees at the group manager position or higher. All of the 200 participants, including the president, declared their commitment to being ikubosses.

* 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.

JXTG Nippon Oil & Energy Ikuboss Declaration

In view of the ikuboss objectives, JXTG Nippon Oil & Energy endeavors to maintain work environments where all employees in all stages of life can balance their work and private lives while maintaining motivation to work.



After the signing ceremony
Left: Tsutomu Sugimori, then president of JXTG Nippon Oil & Energy
Right: Tokiko Koso, director of Fathering Japan

Promoting Career Opportunities for Employees with Disabilities ♥

The JXTG 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.

Moreover, workplace adaptation assistance is provided for employees with disabilities, including the provision of work-life consultants and job coaches.

For fiscal 2018, the percentage of employees with disabilities was 2.4%, higher than the legal requirement of 2.2%.

Re-employment of Retired Workers

The JXTG Group has put in place a re-employment program for workers who have the desire and motivation to continue working after mandatory retirement. This program provides these employees with further opportunities to share their valuable knowledge, skills, and experience with the company.

In fiscal 2018, the number of workers re-employed after retirement was 589.

Note: Data from JXTG Holdings and core operating companies.

Creation of Local Jobs

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

Number of Locally Hired Staff at Overseas Sites (Fiscal 2018)

	(Persons)
JXTG Nippon Oil & Energy	1,056
JX Nippon Oil & Gas Exploration	413
JX Nippon Mining & Metals	2,601
Total	4,070

Initiatives for LGBT (Sexual Minorities)

JXTG Nippon Oil & Energy has implemented department- and rank-based training, e-learning and other activities as part of human rights awareness training in order to promote understanding towards sexual minorities among our employees in accordance with the JXTG Group Code of Conduct. A contact point has also been established for consultation and inquiries.

In October 2018, JXTG Nippon Oil & Energy was awarded the Silver Award by work with Pride* based on their "PRIDE Index 2018," an evaluation index on programs related to LGBT and sexual minorities within businesses and organizations.



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

Work-Life Management

In accordance with the basic approach below, the JXTG 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 JXTG 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.

In addition, Group companies are committed to eliminating unpaid work, and have put in place systems to accurately monitor and manage employees' working hours, while various initiatives have been implemented to reduce total annual working hours (reducing overtime work and encouraging taking of annual paid leave).

Encouraging Employees to Take Annual Paid Leave

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

Status of Annual Paid Leave in Fiscal 2018

Number of days granted	22.0
Number of days taken	19.8
Usage rate	90.0%

Note: Data from JXTG Holdings and core operating companies.

Major Systems Supporting Work-Life Balance

The JXTG Group has in place various systems to support work-life balance at our Group companies.

Major Systems Supporting Work-Life Balance at Group Companies

	System	Implemented at
Childbirth/Childcare	Time off before and after childbirth	All Group companies
	Time off to care for an ill child	All Group companies
	Childcare leave	All Group companies
	Special time off for wife's childbirth	All Group companies
	Return-to-work grant	JX Nippon Mining & Metals
	Childcare concierge service	JX Nippon Mining & Metals
	Support for babysitter use	JXTG Holdings, JXTG Nippon Oil & Energy, JX Nippon Mining & Metals
Family care	Childcare subsidies	JXTG Holdings, JXTG Nippon Oil & Energy, JX Nippon Mining & Metals
	Time off for family care/Family care leave	All Group companies
	Family care leave allowance	All Group companies
	Home helper subsidies	JXTG Holdings, JXTG Nippon Oil & Energy, JX Nippon Mining & Metals
	Family care subsidies	JX Nippon Mining & Metals
General	Re-hiring system for retirement due to family care	JX Nippon Oil & Gas Exploration
	Shorter workday	All Group companies
	Exemption from unscheduled work	All Group companies
	Flextime	All Group companies
	Cumulative annual paid leave	JX Nippon Mining & Metals
	Paid time off for personal injury or illness	JXTG Holdings, JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration
	Hospitalization subsidy	JXTG Holdings, JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration
	Leave system for supporting continuation of career	JX Nippon Oil & Gas Exploration
	Return-to-work system	JX Nippon Mining & Metals
	Working from home	All Group companies
	Exemption from late-night work	All Group companies
	Telework system	JXTG Holdings, JXTG Nippon Oil & Energy
	Job transfer deferment system	JXTG Holdings, JXTG Nippon Oil & Energy
	Study abroad (at own expense) leave of absence system	JXTG Holdings, JXTG Nippon Oil & Energy
	Spouse accompaniment job transfer system	JXTG Holdings, JXTG Nippon Oil & Energy
Spouse accompaniment leave of absence (retirement) system	JXTG Holdings, JXTG Nippon Oil & Energy	

Utilization of Major Systems in Fiscal 2018

Number of employees taking childcare leave	220 (of which 171 are male)
Percentage of employees returning to work after taking childcare leave	100%
Retention rate 12 months after returning to work	98.7%
Number of employees taking family care leave	5

Note: Data from JXTG Holdings and core operating companies.

Corporate Culture Reforms

Wakuwaku Council

The JXTG Group Philosophy cites taking on challenges and moving forward as important values for realizing a vibrant future. Therefore, in fiscal 2019 we launched the Wakuwaku Council to discuss and implement initiatives to foster and instill a corporate culture where employees understand and embrace the JXTG Group Philosophy and business targets, and take on challenges with enthusiasm.

The council, which will meet biannually, comprises senior management from Group companies, including the presidents of JXTG Holdings and the core operating companies. Since its establishment in 2017, the JXTG Group has implemented corporate culture reforms based on the PDCA cycle using employee awareness surveys. The council will discuss challenges and measures for boosting employee enthusiasm and continue efforts for corporate culture reform.

A dedicated webpage called Spring of Enthusiasm – Challenge and Transformation was established on our intranet. Here, we post meeting summaries of the Wakuwaku Council in an effort to increase understanding of the direction of reforms and improve internal communication. We also post examples of challenges taken on by Group companies in order to foster a sense of unity and shared awareness. Furthermore, we announced a Declaration of Conduct for Group Management, which we are working to communicate throughout the Group. The effectiveness of these initiatives will be ascertained through JXTG Group employee awareness surveys and dialogue sessions between senior management and employees.



Wakuwaku Council in session

Declaration of Conduct for Group Management

- Listen to proposals with an open mind and take the lead in trying new things rather than simply doing things as they have been done in the past.
- Make decisions promptly without demanding excessive documentation or groundwork.

Quality



Basic Approach

The JXTG Group believes that the provision of high-quality, safe, and reliable products and services that provide customer satisfaction is an important element in gaining the trust of our customers and achieving sustainable growth. Based on this approach, we have stipulated product and service 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.

JXTG 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.

JXTG Nippon Oil & 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.

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

The JXTG Group positions quality as a priority field for CSR activities. Our Group companies regularly oversee, evaluate, and share information about the status of quality-related initiatives.

Many of our business sites in Japan and overseas have obtained ISO 9001 certification, a global standard for quality management systems.

Business Sites with ISO 9001 Certification

JXTG Nippon Oil & Energy	Sendai Refinery; Chiba Refinery; Kawasaki Refinery; Negishi Refinery; Sakai Refinery; Wakayama Refinery; Mizushima Refinery; Marifu Refinery; Oita Refinery; Yokohama Plant; Chita Plant; Sodegaura Terminal; Kashima Refinery, Kashima Oil Co., Ltd.; Osaka Refinery, Osaka International Refining Company, Limited; Tonen Chemical Corporation Kawasaki Plant
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.; Pan Pacific Copper Co., Ltd. (Hibi Smelter, Saganoseki Smelter & Refinery, Hitachi Refinery); Hibi Kyoto Smelting Co., Ltd.; 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. (Headquarters, Chigasaki Plant, Hitachi Plant, Yahata Plant, Wakamatsu Plant, Kurobe Plant)
	Overseas Nippon Mining & Metals (Suzhou) Co., Ltd.; Nikko Fuji Precision (Wuxi) Co., Ltd.; Nikko Metals Shanghai Co., Ltd.; Nikko Metals Taiwan Co., Ltd.; JX Nippon Mining & Metals Philippines, Inc.; Materials Service Complex Malaysia Sdn. Bhd.; JX Nippon Mining & Metals Korea Co., Ltd.
NIPPO CORPORATION	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 JXTG Nippon Oil & Energy refineries and plants to eliminate quality-related issues and prevent recurrence.

Standardization of Quality Management and Assurance Procedures

All of our refineries and plants have obtained ISO 9001 certification. In addition, we focused on ISO 9001 requirements for the manufacture of oil and petrochemical products to develop the Quality Management System as a JXTG Nippon Oil & Energy framework, which we have implemented at all sites.

One of the features of this system is the performance of risk assessments and risk reduction measures to prevent quality-related issues from occurring. Employees at all manufacturing sites learn quality 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.

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 seek to improve the quality management systems of our refineries and plants by carrying out inspections based on the Quality Management System. The strengths and weaknesses of the system at each location are identified and shared throughout the company, enabling us to make further improvements to these systems. In fiscal 2018, audits based on this Quality Management System were carried out for all refineries and plants.

Initiatives at Distribution Sites

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.

Major initiatives for preventing accidents include the installation of state-of-the-art equipment to prevent the mixing of products on tank trucks that transport gasoline, kerosene, and diesel, and thorough implementation of procedures, 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 our service stations, we work with operators to improve product quality management and customer satisfaction.

Product quality management initiatives, including regular inspections of weighing devices, underground tanks and other facilities, are implemented at our service stations, and we have 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 also established the Quality Control Committee, meetings of which are attended by management, to ascertain whether the quality management structure is functioning properly and to share any issues.

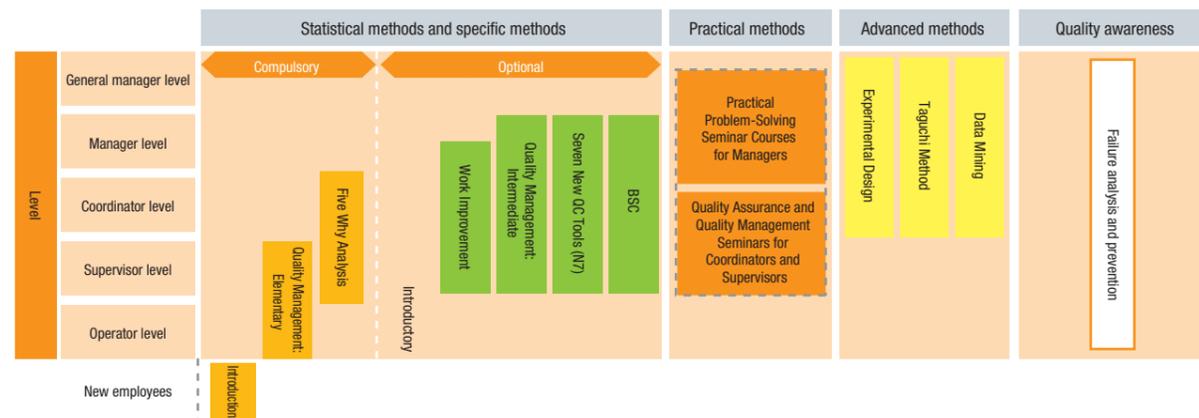
Initiatives in Quality Control Education

At JX Nippon Mining & Metals, a quality control education system has been developed with the following three objectives:

- To standardize and raise quality control levels across the JX Nippon Mining & Metals Group;
- To improve problem-solving capability, enabling employees to logically deduce the causes of problems and take the lead in solving them; and
- To pass along and inculcate quality control techniques.

A dedicated department provides quality management training year round based on the company's own training manual for all employees, from new hires to management.

Quality Control Education System



Addressing Customer Needs

JXTG Nippon Oil & Energy receives valuable feedback from our customers through the JXTG Customer Service Center. The JXTG Customer Service Center responds to enquiries with clear, courteous explanations and addresses complaints promptly and in good faith. We share customer feedback obtained through the JXTG Customer Service Center with the relevant departments.

From April 2018 to March 2019, we received a total of 22,010 enquiries.

In the quality design for products and the establishment of manufacturing standards, we conform to laws, regulations, and standards such as JIS, as well as the contractual specifications of our customers. In addition, to prevent customer use issues with our products, we carry out in-depth studies, utilizing our abundant experience and knowledge as a database, to ensure that we provide reliable products of the highest quality.

Supply Chain Management

Basic Approach

At the JXTG 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.

We have stated this approach in the JXTG Group Code of Conduct, and we have also established basic procurement policies for our Group companies in accordance with their business characteristics. Based on these policies, we work toward the continuous improvement of our procurement activities.

JXTG Group Code of Conduct (excerpt)

Applicable Scope of the Code of Conduct

In principle, this Code of Conduct is applicable to all directors, officers and employees who work at JXTG 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.

JXTG Nippon Oil & Energy CSR Procurement Policy

1. Conduct purchasing activities based on the JXTG Group Code of Conduct and relevant policies, and strive to gain understanding and cooperation from business partners with regard to the Code of Conduct.
2. Place emphasis on conducting transactions on an equal footing with business partners with whom a sustainable partnership is possible, and aim to establish a mutually trusting relationship.
3. Consider a wide range of potential business partners and determine their suitability from a comprehensive standpoint, taking into account factors such as quality, price, delivery, and stable supply requirements, as well as attention to the environment and greater society.

JX Nippon Mining & Metals Group Basic Procurement Policy

Basic Policy of the JX Nippon Mining & Metals Group

1. Comply with laws, regulations, and rules and engage in fair transactions.

- Respect the letter and spirit of relevant laws and social norms in executing business operations.
- Conduct purchasing activities based on fair evaluations.
- Maintain appropriate relationships with business partners based on the highest ethical values.

2. Protect intellectual property rights.

- Strictly control personal information obtained in the course of procurement activities.
- Do not illegally obtain or illegally use intellectual property, including the patents, utility models, designs, and trademarks of third parties, and do not infringe on such rights.

3. Build relationships with business partners based on mutual understanding and trust.

- Provide business partners with high reliability and satisfaction through accurate, fast, and highly transparent activities.
- Endeavor to achieve robust communication with business partners and consistently promote creativity and innovation through advanced ideas.
- Contribute to the development of a sustainable society by promoting the purchase of environmentally friendly materials and machinery.

4. Follow the principles below regarding conflict minerals.

- Do not engage in raw materials procurement that contributes to illegal activities in conflict-affected regions or to human rights infringements through such illegal activities.
- Respect the guidance of the Organisation for Economic Co-operation and Development related to raw materials procurement from conflict-affected areas, and control supply chains in an appropriate manner.

JX Nippon Mining & Metals Group Basic Procurement Policy

Policy for Selecting Procurement Partners

In all of its business activities, the JX Nippon Mining & Metals Group must fulfill its social responsibilities, including not only those in the Group but in the supply chain of its business partners as well. For this reason, the Group asks that its business partners comply with the following.

1. Comply with laws, regulations, and social norms, such as those below, and place priority on human rights and environmental impact.

- Obey laws and regulations related to manufacturing and sales, etc.
- Comply with labor-related laws and regulations.
- Abide by laws and regulations related to safety and health and develop a proper labor environment.
- Prohibit child labor and forced labor.
- Prohibit discrimination based on race, gender, etc., and respect the human rights, personality, and individuality of employees.
- Comply with environmental laws and regulations.
- Prohibit bribery and other unfair conduct.
- Do not engage in conflict minerals procurement or use that contributes to inhumane acts.
- Shut out relations with antisocial forces.

2. Engage in sound and fair business management.

3. Based on the JX Nippon Mining & Metals Group's Green Purchasing Guidelines, build environmental management systems and properly manage specified chemical substances.

4. Offer stable supply capacity and satisfy the quality, price, delivery, and service requirements of the JX Nippon Mining & Metals Group.

5. Possess technological capabilities that meet the requirements of the JX Nippon Mining & Metals Group.

Green Procurement

The JXTG Group practices green procurement, which prioritizes equipment and materials with lower environmental impacts. To ensure the utilization of green procurement, the Group periodically conducts surveys of its suppliers.

In fiscal 2018, surveys were sent from JXTG Nippon Oil & Energy to 165 suppliers, with responses received from 159 suppliers, a response rate of 96%.

In the JX Nippon Mining & Metals Group, surveys were sent to 449 suppliers in fiscal 2018, accounting for 95% of the value of items purchased and accepted by JX Nippon Mining & Metals, JX Nippon Environmental Services, and Pan Pacific Copper. Responses were received from 435 suppliers, a response rate of 97%.

The survey results are used for the selection of procurement partners as applicable.

CSR Procurement

Further expanding its green procurement efforts, the JXTG Group implements CSR procurement, which focuses on factors such as compliance, environmental impact reduction, human rights and labor, and health and safety.

In addition, JXTG Nippon Oil & Energy established the JXTG Nippon Oil & Energy CSR Procurement Policy in July 2018. In addition to a request for understanding of and cooperation with the JXTG Group Code of Conduct, on which the policy is based, the company's basic purchasing contract contains provisions on legal compliance, safety and health, and attention to the environment, which are basic contractual conditions for doing business with the company.

In fiscal 2018, 413 procurement partners in Japan, accounting for 80% of the value of items purchased and accepted, attended training sessions for promoting understanding of and cooperation with this policy, and also responded to a survey for risk assessment. During the sessions, we also requested understanding of and cooperation with the JXTG Group Code of Conduct. Based on analysis of the survey results, we will share measures to be implemented with our procurement partners and make necessary corrections and improvements through appropriate dialogue, such as interviews.

In addition, in fiscal 2019, JX Nippon Mining & Metals and JX Nippon Oil & Gas Exploration, as well as their Group companies, introduced CSR procurement, and are working to obtain the cooperation of their procurement partners.

Through CSR procurement, we will continue our efforts to identify human rights issues in the JXTG Group supply chain.



Training session for procurement partners

Confronting the Issue of Conflict Minerals

Industry organizations relevant to the JX Nippon Mining & Metals Group (including the LBMA¹ and RBA²) have established monitoring programs for eliminating conflict minerals. 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 (LBMA). 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 (RBA). An industry coalition for ensuring responsible conduct in supply chains within the electronics industry.

Initiatives for the Gold and Silver Supply Chains

Pan Pacific Copper, 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 Pan Pacific Copper'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. In addition, Saganoseki Smelter & Refinery and Hitachi Works are included on the RMAP Conformant Smelters list established by RBA and GeSI³, acknowledgement that we are taking appropriate steps to eliminate conflict minerals.

³ Global e-Sustainability Initiative: An organization of European information and communication technology businesses. It has established a certification program called Responsible Minerals Assurance Process (RMAP) in collaboration with RBA, as both the electronics and telecommunication devices industries are at high risk of incorporating conflict minerals in their products.

Initiatives for the Tantalum Supply Chain

H.C. Starck Tantalum and Niobium GmbH ("HCS TaNb"), a producer of tantalum powder, implements a strict program of purchasing checks based on international standards for procuring raw materials from conflict-affected and high-risk areas. For example, HCS TaNb purchases materials with tags that the ITSCI⁴ distributes and tracks to guarantee non-involvement in conflicts, child labor, or other human rights violations within conflict-affected areas. HCS TaNb also performs supply chain due diligence to confirm the tags. As a result of these initiatives, HCS TaNb has been included on the RMAP Conformant Smelters list in recognition that HCS TaNb is taking proper measures to exclude conflict minerals.

In addition, in June 2019, HCS TaNb implemented a supply chain due diligence system similar to ITSCI through the Better Sourcing Program (BSP) provided by RCS Global Group, an international auditing organization for raw material supply chains.

⁴ 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

JXTG Nippon Oil & Energy provides training and carries out activities to raise awareness among all contract transport providers responsible for transporting its products in an effort to increase awareness of safety, improve safety practices, and encourage eco-friendly driving.

At the start of every fiscal year, the company hosts a meeting between management and all contract transport providers to share the safety policy and goals for that particular fiscal year.

The company hosts a safe delivery contest intended to improve drivers' driving techniques and unloading work. It also shares good practices of transport companies at the safety manager meeting held in the autumn. Through these activities, the company is proactively working to raise awareness about safety among distribution companies.

Social Contribution



Basic Approach

The JXTG 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 the JXTG Group Code of Conduct as a basic policy of the Group. We are also striving to contribute to the economic and social development of the communities in which we operate in Japan and overseas by utilizing local companies, employing local staff and carrying out a variety of other activities.

JXTG 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

With social contribution positioned as a priority field for CSR activities, the JXTG Group regularly summarizes, evaluates and shares information on these activities as part of its CSR promotion structure.

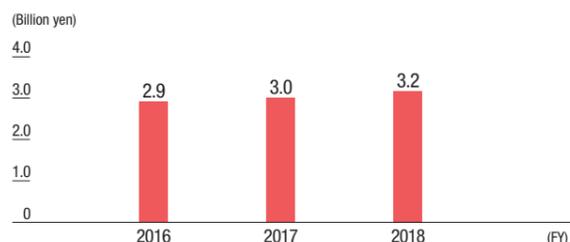
See pp. 7–8 for the Group's CSR promotion structure.

Expenditures for Social Contribution Activities

In fiscal 2018, 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 3.2 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



Notes: Results for fiscal 2016 represent the sum of the former JX Group and the former TonenGeneral Group. Actual values are the sum of expenditures for social contribution activities reported to the Keidanren 1% (One-Percent) Club plus donations of money and goods, etc.

Initiatives in Vietnam

The JXTG Nippon Oil & Energy Group and JX Nippon Oil & Gas Exploration continue to support the development of youth in Vietnam, one of the countries where they 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.

In fiscal 2018, we provided support for the construction of Trieu Trung Junior High School in Quang Tri Province.

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 2018, scholarships were awarded to 40 students.



Scholarship presentation ceremony

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, and hosted interns from the university. In September 2018, a graduation ceremony was held for the university's third class of graduates.



Graduation and new school term commencement ceremony at PetroVietnam University

A Bouquet of Children's Stories Contest by JXTG and MOGU

JXTG Nippon Oil & Energy Group company JX Nippon Oil & Energy Vietnam Consulting and Holdings Co., Ltd. (JXEV) sponsors the Bouquet of Children's Stories Contest by JXTG 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.

In fiscal 2018, the first year of the contest, the first creative children's story contest in Vietnam, around 260 submissions were received across the three categories of elementary school, junior high school and general. First place in the elementary school category went to *The Pouring Rain*, written by 11-year-old Phan Khanh An.

A Bouquet of Children's Stories, a compilation of all 14 award-winning stories, is sold together with a Vietnamese translation of *A Bouquet of Children's Stories* from the JXTG

Children's Story Award. Proceeds from sales are donated to fund picture book promotion activities and scholarships.

JXEV 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



Children reading the Vietnamese translation of *A Bouquet of Children's Stories* from the JXTG Children's Story Award

Initiatives in Malaysia

As a project operator in Malaysia, JX Nippon Oil & Gas Exploration conducts a variety of social contribution activities closely in tune with the needs of local communities.

We also provide support for local cultural and sporting events.

Contribution to Community Events

As a proud sponsor of the Sarawak Regatta (boat race) and the Borneo Jazz Festival, annual events in the state of Sarawak, we play a part in promoting culture and sports in local communities.



The Sarawak Regatta

Assisting People in Need

We deliver gifts to economically disadvantaged families during Ramadan (a month of fasting observed by Muslims) to support the activities of a local Muslim welfare association.



JX Nippon Oil & Gas Exploration staff delivering a gift

Initiatives in Chile

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

Support for the Establishment of a High-Altitude Laboratory by the University of Atacama

MLCC donated to the establishment of a high-altitude research facility by the university. The university plans to build a laboratory near the Nevado Ojos del Salado volcano, at an elevation of 3,800 meters above sea level, for conducting scientific research in multiple fields of study. Positioning Atacama as a benchmark for resource exploration in high-altitude regions, the university is promoting international collaboration in interdisciplinary research, and has expressed hopes for mutual technical cooperation with MLCC.



The University of Atacama's high altitude laboratory

Initiatives in Japan

Baseball Classes and Basketball Clinics

The JXTG 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 JX-ENEOS baseball team and the JX-ENEOS Sunflowers women's basketball team. In fiscal 2018, we held 9 baseball classes for 578 participants and 73 basketball clinics for 3,270 participants.



Baseball class



Basketball clinic

Support for Disabled Sports

Sponsorship for the Japan Wheelchair Basketball Federation

Since 2006, JXTG Nippon Oil & Energy 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 Dream Baseball League

Since 2007, JXTG Nippon Oil & Energy 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.

JXTG Children's Story Award

The JXTG 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 of "heart-to-heart." The award has been presented by the JXTG Group since 1970.

A total of 12,591 heartwarming entries were submitted for the 49th awards, presented in fiscal 2018.



Awards ceremony for the 49th JXTG Children's Story Award

Scholarship Support for Children Living in Child Welfare Facilities

The JXTG Group sells copies of *A Bouquet of Children's Stories*, a compilation of works awarded the JXTG Children's Story Award, to raise money for charity. All proceeds are donated to the JXTG 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 2018, scholarship support was provided to 590 children (enrolling in fiscal 2018), bringing the total number of recipients since the scholarship program was created in fiscal 2003 to 5,362.

JXTG 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 JXTG 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 JXTG Children's Culture Award and Music Awards

Performances by Past Recipient of the Children's Culture Award

JXTG Nippon Oil & Energy presented outreach performances at elementary schools in Shizuoka, Miyagi, Okayama, Wakayama, Osaka, Chiba and Kanagawa featuring performers from the Kazenoko Theatre Company, recipient of the 11th JXTG Children's Culture Award in 1976.

Designed to provide children with opportunities to nurture a rich sensitivity and imagination, the performances delivered inspiration to attendees, which totaled around 3,600.

ENEOS Summer Holiday Science Bus Tour for Fun Learning

At the refineries of JXTG Nippon Oil & Energy, 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.

These tours were held at nine of our locations in fiscal 2018, with 704 participants, including children and their guardians.



Bus tour at the Oita Refinery

Summer STEM Challenge 2018

As part of the STEM Challenge (Experience Jobs in Science and Technology) initiative, the JX Nippon Mining & Metals Group hosted plant tours and interactive experiments for junior high school students during their summer break at Isohara Works, Hitachi Works, Kurami Works, and Pan Pacific Copper's Saganoseki Smelter & Refinery.

Engineers working at the tour locations taught participants about the strengths of copper, and why it is indispensable in modern society, along with the interesting nature of jobs in the fields of science and technology.



Tour at the Kurami Works



Note: The STEM Challenge is an initiative established by the Cabinet Office to support female students (junior high, high school, and university level) interested in science and technology in their selection of a future career path. Both boys and girls can participate in the JX Nippon Mining & Metals Group initiative.

JX Nippon Oil & Gas Exploration International Student Scholarship

Since it launched 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, which is involved in the company's crude oil and LNG production business.

In fiscal 2018, the scope of this scholarship program was expanded to include international students from Indonesia, which is involved in the company's LNG production business.

Support for the TonenGeneral Sekiyu R&D Encouragement and Assistance Foundation

JXTG Nippon Oil & Energy 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

JXTG Nippon Oil & Energy 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

The JXTG Group is involved in various forest stewardship activities at each of its Group companies.

JXTG Nippon Oil & Energy carries out tree thinning, removal of undergrowth, and other forest stewardship activities across Japan in partnership with local governments, the National Land Afforestation Promotion Organization (NLAPO) and others. In fiscal 2018, a total of 1,271 employees and their family members took part in the activities.

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 fiscal 2018, a total of 78 officers, employees and their families undertook forest preservation work together with nearby residents.

JX Nippon Mining & Metals promotes reforestation activities in cooperation with local forestry associations and other groups, especially at the sites of its closed mines.

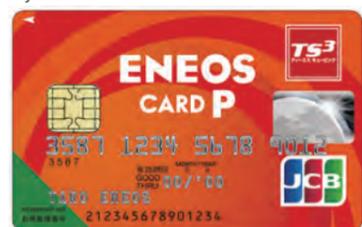


ENEOS no Mori activity

Promoting Afforestation through the ENEOS Credit Card

Ever since ENEOS credit cards were first issued in October 2001, JXTG Nippon Oil & Energy has donated 0.01% of the spending on these cards at ENEOS service stations to NLAPO. These funds are being used to help support a host of environmental programs run by the organization, including afforestation work, youth tree-planting activities, the revitalization of tropical forests and the prevention of desertification.

In fiscal 2018, approximately 43.17 million yen was donated, bringing total donations through this initiative to about 510 million yen.



ENEOS credit card

Rural Community Support Team

JXTG Nippon Oil & Energy's 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 people caused by aging demographics and depopulation.

As part of this program, employees took part in the festival of Yurugi Shrine located in the Kujuno area of Taketa City. Due to depopulation and the aging population, the community had difficulty finding people to carry the *mikoshi* (portable shrine) for this festival, which has a history of almost 1,000 years. The support team was welcomed by the local community for making it possible to pass down this important tradition.

In fiscal 2018, 14 employees donned traditional white clothing to take part in a Shinto ritual, after which they carried the *mikoshi* in a procession.



Employees carrying the *mikoshi* (portable shrine)

Summer Night Festivals

Every year, the JXTG Nippon Oil & Energy's refineries and the JX Nippon Mining & Metals Group's main business locations hold summer festivals for the enjoyment of not only employees and their families, but also the local community members. The festivities are enlivened by refreshment stands, prize drawings, and lion dance and other dance performances by local children. Some of the festivals feature performances of traditional performing arts or fireworks displays. These events have become a much-anticipated summer tradition for local communities.



Yamanokami Festival at Hitachi Works

Joint Disaster Drills with Local Governments

At the oil refineries and depots of JXTG Nippon Oil & Energy, disaster drills are conducted in collaboration with local governments, fire departments and other relevant groups, using scenarios of a major disaster or accident in 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.

Bread Sales Drives in Support of People with Disabilities

As part of its activities to foster greater employee awareness of people with disabilities, JXTG Nippon Oil & Energy holds bread and baked goods sales drives run by staff from a bakery that employs people with disabilities. These activities not only contribute to the bakery's sales but also offer a sense of encouragement through interactions with many of the company's employees, as well as providing indirect support for the employment of people with disabilities.

In fiscal 2018, bread sales drives for Koro-Koro bakery, which began in fiscal 2015, were held on six occasions at the company's head office. Some of the company's refineries also host baked goods sales drives by businesses in the local community that employ people with disabilities.

Assistance to Areas Affected by Major Disasters

The JXTG Group provides assistance to areas affected by major disasters.

Assistance Provided in Fiscal 2018

Month	Event	Amount
July 2018	Donation for the torrential rains of July 2018	30 million yen
September 2018	Donation for the Hokkaido earthquake of 2018	5 million yen
October 2018	Donation for the Sulawesi earthquake in Indonesia	500 million Indonesian rupiah (approx. 3.75 million yen)

Disaster Relief Volunteer Activities for Torrential Rains in Western Japan

Based on its commitment to make a difference in the local community, JXTG Nippon Oil & Energy's Mizushima Refinery carried out disaster relief volunteer activities, including providing supplies and lending out a microbus, in the Mabi district of Kurashiki City. Participants removed mud and furniture from homes and provided other assistance. A total of 19 volunteer sessions were held during the six-month period from July to December 2018, with 293 employees taking part.



Rubble removal work

Introduction of Volunteer Activity Leave System

JXTG Holdings and JXTG Nippon Oil & Energy 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.

Through the introduction of this system, we offer support for the volunteer activities of our employees.



Governance

	Item	FY2016	FY2017	FY2018
Board of Directors	Number of meetings	14	15	14
	Number of members	19	From April 1: 25 From June 28: 22	From April 1: 22 From June 27: 18
	Number of independent outside directors	4	From April 1: 5 From June 28: 4	From April 1: 4 From June 27: 6
	Average attendance rate (%)	98.9	98.6	97.3
Board of Corporate Auditors	Number of meetings	15	16	4
	Number of members	5	From April 1: 7 From June 28: 6	6
	Number of independent outside corporate auditors	3	From April 1: 4 From June 28: 3	3
Audit and Supervisory Committee	Average attendance rate (%)	96.0	100.0	100.0
	Number of meetings			11
	Number of members			5
	Number of independent outside directors (Audit and Supervisory Committee members)			3
Compensation Advisory Committee	Average attendance rate (%)			96.4
	Number of meetings	2	3	4
	Number of members	4	6	6
	Number of independent outside directors	2	3	3
Nomination Advisory Committee	Average attendance rate (%)	100.0	100.0	95.7
	Number of meetings	3	3	4
	Number of members	4	6	6
	Number of independent outside directors	2	3	3
	Average attendance rate (%)	100.0	100.0	95.7

Note: The Company transitioned to a company with an Audit and Supervisory Committee at the conclusion of the 8th 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 77 business sites at 41 companies in the JXTG Nippon Oil & Energy Group, the JX Nippon Oil & Gas Exploration Group, the JX Nippon Mining & Metals Group and other operating companies (JXTG Nippon Oil & Energy Group: 48 business sites at 26 companies; JX Nippon Oil & Gas Exploration Group: 3 business sites at 1 company; JX Nippon Mining & Metals Group: 26 business sites at 13 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 environmental information indicated with for fiscal 2018 has been assured by an independent practitioner.
- Some figures from past fiscal years have been revised due to revisions in the scope of data, etc.

Energy Consumption (crude oil equivalent)

	Unit	FY2016	FY2017	FY2018	Scope of data
Energy consumption (crude oil equivalent)	Million kL	11.74	11.75	11.32	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO CORPORATION
Fuel consumption (crude oil equivalent)	Million kL	10.53	10.49	10.13	
Electricity consumption	Million kWh	4,630	4,569	4,216	

Note: Figures for JXTG Nippon Oil & Energy Group data include energy consumption from distribution activities.

Energy Consumption Intensity

	Unit	FY2016	FY2017	FY2018	Scope of data
Energy consumption intensity for oil refining	Oil equivalent (kL)/Crude distillation unit equivalent throughput (thousand kL)	8.28	8.18	8.40	Petroleum refining business of the JXTG Nippon Oil & Energy Group
Energy consumption intensity for smelting and refining	GJ of heat/ton of refined copper produced	13.6	13.6	13.3	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	0.86	0.86	0.82	Smelting and refining business sites of the JX Nippon Mining & Metals Group

GHG Emissions

	Unit	FY2016	FY2017	FY2018	Scope of data
CO ₂ emissions	Million tons	29.47	29.47	28.74	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO CORPORATION
(1) Scope 1	Million tons	26.29	26.25	24.42	
(2) Scope 2	Million tons	3.12	3.12	3.10	
(3) Non-energy-derived CO ₂	Million tons	0.07	0.11	1.21	
GHG emissions other than CO ₂	tons	146,795	153,727	147,664	
(1) CH ₄	tons	38,592	41,480	42,259	
(2) N ₂ O	tons	108,203	111,725	104,782	
(3) HFCs	tons	0	308	411	
(4) PFCs	tons	0	0	0	
(5) SF ₆	tons	0	214	212	
(6) NF ₃	tons	0	0	0	
Total GHG emissions	Million tons	29.62	29.63	28.89	

Notes: CO₂ emissions include CO₂ equivalent emissions from energy consumption (electricity, fuel, etc.) as well as greenhouse gases emitted mainly in oil and gas production. Figures for JXTG Nippon Oil & Energy Group data include emissions from distribution activities. Non-energy-derived CO₂ emissions for the JXTG Nippon Oil & Energy Group were included in Scope 1 emissions in previous fiscal years, but were included in a different category beginning in fiscal 2018. The scope of CO₂ emissions data was expanded in fiscal 2018. This data now includes Nippon Corporation.

Air Pollution Load

	Unit	FY2016	FY2017	FY2018	Scope of data
(1) SO _x	tons	16,049	13,398	13,208	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO CORPORATION
(2) NO _x	tons	15,568	15,449	16,878	
(3) Soot	tons	936	1,062	1,192	
(4) VOC	tons	17,819	15,872	14,825	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration

Notes: SO_x and NO_x figures for Nippon Corporation have been estimated based on its 50 main plants. The scope of data for the JX Nippon Mining & Metals Group includes only business sites that are subject to legal requirements. VOC figures from past fiscal years have been revised due to expansion of the scope of data in fiscal 2017.

Use of Water Resources

	Unit	FY2016	FY2017	FY2018	Scope of data
Water used (1) + (2) + (3) + (4) + (5)	Million tons	1,419.63	1,847.41	1,735.39	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO CORPORATION
(1) Service water (municipal potable water)	Million tons	4.61	4.94	4.95	
(2) Service water (surface water)	Million tons	171.70	175.78	173.60	
(3) Harvested rainwater	Million tons	0.11	0.07	0.06	
(4) Groundwater	Million tons	21.09	18.57	19.02	
(5) Seawater	Million tons	1,222.11	1,648.04	1,537.77	
Water discharged	Million tons	1,340.70	1,813.94	1,825.88	
(1) River discharge	Million tons	—	15.48	15.64	
(2) Sea discharge	Million tons	—	1,798.46	1,810.24	

Notes: Overseas sites (Malaysia and Vietnam) are not included in figures for the JX Nippon Oil & Gas Exploration Group. The volume of water used and water discharged by the JX Nippon Mining & Metals Group is the product of volume multiplied by density (seawater: 1.024 t/m³; fresh water: 1.000 t/m³). Data for water discharged from past fiscal years has been revised due to expansion of the scope of data in fiscal 2017. The scope of water-related data was expanded in fiscal 2018. This data now includes Nippon Corporation.

Water Pollution Load

	Unit	FY2016	FY2017	FY2018	Scope of data
COD	Tons	1,477	1,598	1,493	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals

Release and Transfer of Chemical Substances (PRTR)

	Unit	FY2016	FY2017	FY2018	Scope of data
(1) Released	tons	1,750	1,916	1,828	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO CORPORATION
(2) Transferred	tons	195	408	384	

Notes: Overseas sites (Malaysia and Vietnam) are not included in figures for the JX Nippon Oil & Gas Exploration Group. The scope for the JX Nippon Mining & Metals Group includes only companies with business sites required to give notification under the PRTR Law. Overseas offices and plants are not included.

Waste

	Unit	FY2016	FY2017	FY2018	Scope of data
Total waste	tons	1,742,239	1,535,182	1,648,547	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO CORPORATION
Landfill disposal volume	tons	11,765	9,304	14,035	
Waste-to-landfill ratio	%	0.7	0.6	0.9	

Environmental Accidents

	FY2018	Monetary penalties	FY2018
Number of environmental accidents	0		Nil

Social

- Social information covers the JXTG Nippon Oil & Energy 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 companies covered are indicated in the "Scope of data" column.
- The social information indicated with for fiscal 2018 has been assured by an independent practitioner.
- Some figures from past fiscal years have been revised.

Employees

		Item	Total	JXTG Holdings	JXTG Nippon Oil & Energy	JX Nippon Oil & Gas Exploration	JX Nippon Mining & Metals
Number of Employees (by employment status)	Male	Full time	9,901	76	7,863	319	1,643
		Fixed term	185	0	49	17	119
		Non-fixed term (regular employees)	9,716	76	7,814	302	1,524
		Other than full time	29	0	1	0	28
		Fixed term	28	0	1	0	27
		Non-fixed term	1	0	0	0	1
		Subtotal	9,930	76	7,864	319	1,671
	Female	Full time	1,205	34	933	50	188
		Fixed term	26	1	7	3	15
		Non-fixed term (regular employees)	1,179	33	926	47	173
		Other than full time	16	0	0	2	14
		Fixed term	6	0	0	2	4
		Non-fixed term	10	0	0	0	10
		Subtotal	1,221	34	933	52	202
		Ratio of female employees	10.9%	30.9%	10.6%	14.0%	10.8%
		Temporary staff	563	2	479	0	82
		Male	324	0	282	0	42
		Female	239	2	197	0	40
	Ratio of temporary staff	4.8%	1.8%	5.2%	0.0%	4.2%	
	Total	11,714	112	9,276	371	1,955	
	Foreign nationals	58	0	37	9	12	
	Male	35	0	23	6	6	
	Female	23	0	14	3	6	
	Number of locally employed staff at overseas sites	4,070	0	1,056	413	2,601	

		Item	Total	JXTG Holdings	JXTG Nippon Oil & Energy	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)		2,797	60	2,269	143	325
		Male	2,721	56	2,206	139	320
		Female	76	4	63	4	5
		Ratio of female managerial staff	2.7%	6.7%	2.8%	2.8%	1.5%
	Age	Up to 29 years old	0	0	0	0	0
		30–49 years old	1,154	39	926	56	133
		50 years old and over	1,643	21	1,343	87	192
		Average age	50.8	47.6	51.0	51.3	50.3
		Average years of service	25.6	22.5	26.2	25.4	21.9
	Non-managerial staff (regular employees)		8,098	49	6,471	206	1,372
		Male	6,995	20	5,608	163	1,204
		Female	1,103	29	863	43	168
		Up to 29 years old	2,479	8	2,059	47	365
		30–49 years old	3,918	34	2,962	146	776
		50 years old and over	1,701	7	1,450	13	231
		Average age	39.3	38.0	39.6	35.3	38.8
		Average years of service	16.9	11.7	17.7	9.6	14.1
		Total	10,895	109	8,740	349	1,697
Average age (regular employees)		42.3	43.3	42.5	41.9	41.0	
	Average age – male	42.3	44.0	42.4	42.0	41.4	
	Average age – female	42.4	41.6	43.3	41.0	37.6	
Average years of service (regular employees)		19.1	17.5	19.9	16.0	15.6	
	Average years of service – male	19.2	18.8	20.0	16.4	16.1	
	Average years of service – female	17.5	14.5	19.6	13.8	10.8	

Item		Total	JXTG Holdings	JXTG Nippon Oil & Energy	JX Nippon Oil & Gas Exploration	JX Nippon Mining & Metals
Number of New Hires (incl. mid-career hires) (regular employees)	Up to 29 years old	367	0	285	8	74
	Percentage of regular employees as of March 2019	3.4%	0.0%	3.3%	2.3%	4.4%
	30–49 years old	127	0	55	5	67
	Percentage of regular employees as of March 2019	1.2%	0.0%	0.6%	1.4%	3.9%
	50 years old and over	11	0	7	0	4
	Percentage of regular employees as of March 2019	0.1%	0.0%	0.1%	0.0%	0.2%
	Subtotal	505	0	347	13	145
	Percentage of regular employees as of March 2019	4.6%	0.0%	4.0%	3.7%	8.5%
	Up to 29 years old	52	0	35	2	15
	Percentage of regular employees as of March 2019	0.5%	0.0%	0.4%	0.6%	0.9%
	30–49 years old	21	0	13	1	7
	Percentage of regular employees as of March 2019	0.2%	0.0%	0.1%	0.3%	0.4%
	50 years old and over	5	0	4	0	1
	Percentage of regular employees as of March 2019	0.0%	0.0%	0.0%	0.0%	0.1%
Subtotal	78	0	52	3	23	
Percentage of regular employees as of March 2019	0.7%	0.0%	0.6%	0.9%	1.4%	
Total	583	0	399	16	168	
Percentage of regular employees as of March 2019	5.4%	0.0%	4.6%	4.6%	9.9%	
Employee Turnover (regular employees)	Up to 29 years old	74	0	64	2	8
	Percentage of regular employees as of March 2019	0.7%	0.0%	0.7%	0.6%	0.5%
	30–49 years old	64	0	49	1	14
	Percentage of regular employees as of March 2019	0.6%	0.0%	0.6%	0.3%	0.8%
	50 years old and over	151	0	137	1	13
	Percentage of regular employees as of March 2019	1.4%	0.0%	1.6%	0.3%	0.8%
	Subtotal	289	0	250	4	35
	Percentage of regular employees as of March 2019	2.7%	0.0%	2.9%	1.1%	2.1%
	Up to 29 years old	12	0	9	0	3
	Percentage of regular employees as of March 2019	0.1%	0.0%	0.1%	0.0%	0.2%
	30–49 years old	19	0	14	1	4
	Percentage of regular employees as of March 2019	0.2%	0.0%	0.2%	0.3%	0.2%
	50 years old and over	13	0	12	0	1
	Percentage of regular employees as of March 2019	0.1%	0.0%	0.1%	0.0%	0.1%
Subtotal	44	0	35	1	8	
Percentage of regular employees as of March 2019	0.4%	0.0%	0.4%	0.3%	0.5%	
Total	333	0	285	5	43	
Percentage of regular employees as of March 2019	3.1%	0.0%	3.3%	1.4%	2.5%	
Employment rate of persons with disabilities	2.4%	—	2.4%	2.8%	2.3%	
Number of employees re-employed after retirement	589	1	516	15	57	
Paid annual leave	Number of days of paid annual leave granted	22.0	22.7	22.5	22.0	20.2
	Number of days of paid annual leave taken	19.8	18.0	21.2	16.6	15.4
	Usage rate of paid annual leave	90.0%	79.3%	94.2%	75.5%	75.9%
	Number of employees taking family care leave	5	0	4	0	1
Childbirth/childcare	Number of employees taking childcare leave	220	6	197	9	8
	Male employees	171	2	157	9	3
	Number of employees returning to work after giving birth or taking childcare leave	100.0%	100.0%	100.0%	100.0%	100.0%
	Percentage still employed 12 months after returning to work	98.3%	100.0%	98.7%	100.0%	93.8%
Labor unions	Number of members	9,328	No labor unions	7,176	No labor unions	2,152
	Membership rate	99.5%	No labor unions	99.7%	No labor unions	98.9%
Participation rate for regular health screenings	100.0%	100.0%	100.0%	100.0%	100.0%	

Note: Employees of JXTG Holdings are seconded from operating companies. The number of new hires and employee turnover are accounted for at their companies of origin.

Training Programs Implemented in Fiscal 2018

	Total training hours	Training hours per employee
JXTG Holdings	2,017	18.34
JXTG Nippon Oil & Energy	81,183	9.23
JX Nippon Oil & Gas Exploration	8,338	22.47
JX Nippon Mining & Metals	29,424	15.71
Total	120,962	10.85

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

Occupational Injuries

		FY2016	FY2017	FY2018	Scope of data
Number of occupational injuries	JXTG Group	Subtotal	16	9	20
		Fatalities	0	0	0
		Lost work time	16	9	20
	Contractors (partner companies, etc.)	Subtotal	19	27	20
		Fatalities	1	1	0
		Lost work time	18	26	20
Total	35	36	40	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals	
Occupational injury frequency rate		0.40	0.29	0.39	15 JXTG Nippon Oil & Energy Group refineries and plants, 5 JX Nippon Oil & Gas Exploration business sites, and 6 JX Nippon Mining & Metals business sites
Occupational injury severity rate		0.01	0.01	0.00	
Lost work days due to occupational injuries		197	251	70	

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 work days due to occupational injuries: Employees directly employed by 15 JXTG Nippon Oil & Energy Group refineries and plants, 5 JX Nippon Oil & Gas Exploration business sites (Miri, Vietnam, Kuala Lumpur, Doha¹, and Nakajo) and 6 JX Nippon Mining & Metals business sites (head office, Hitachi, Isohara, Kurami, Turuga, and Saganoseki).

¹ The Doha business site is included in data up to fiscal 2017, when it ceased operations.

	FY2016	FY2017	FY2018	Scope of data
Total Recordable Incident Rate (TRIR)	1.11	0.81	1.25	JXTG Holdings, JXTG Nippon Oil & Energy head office and 15 refineries and plants, JX Nippon Oil & Gas Exploration head office and 5 business sites, and JX Nippon Mining & Metals head office and 5 business sites
Lost Time Injury Rate (LTIR)	0.28	0.20	0.39	

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 JXTG Holdings, JXTG Nippon Oil & Energy Group head office and its 15 refineries and plants, JX Nippon Oil & Gas Exploration head office and its 5 business sites (Miri, Vietnam, Kuala Lumpur, Doha¹, and Nakajo) and JX Nippon Mining & Metals head office and its 5 business sites (Hitachi, Isohara, Kurami, Tsuruga, and Saganoseki).

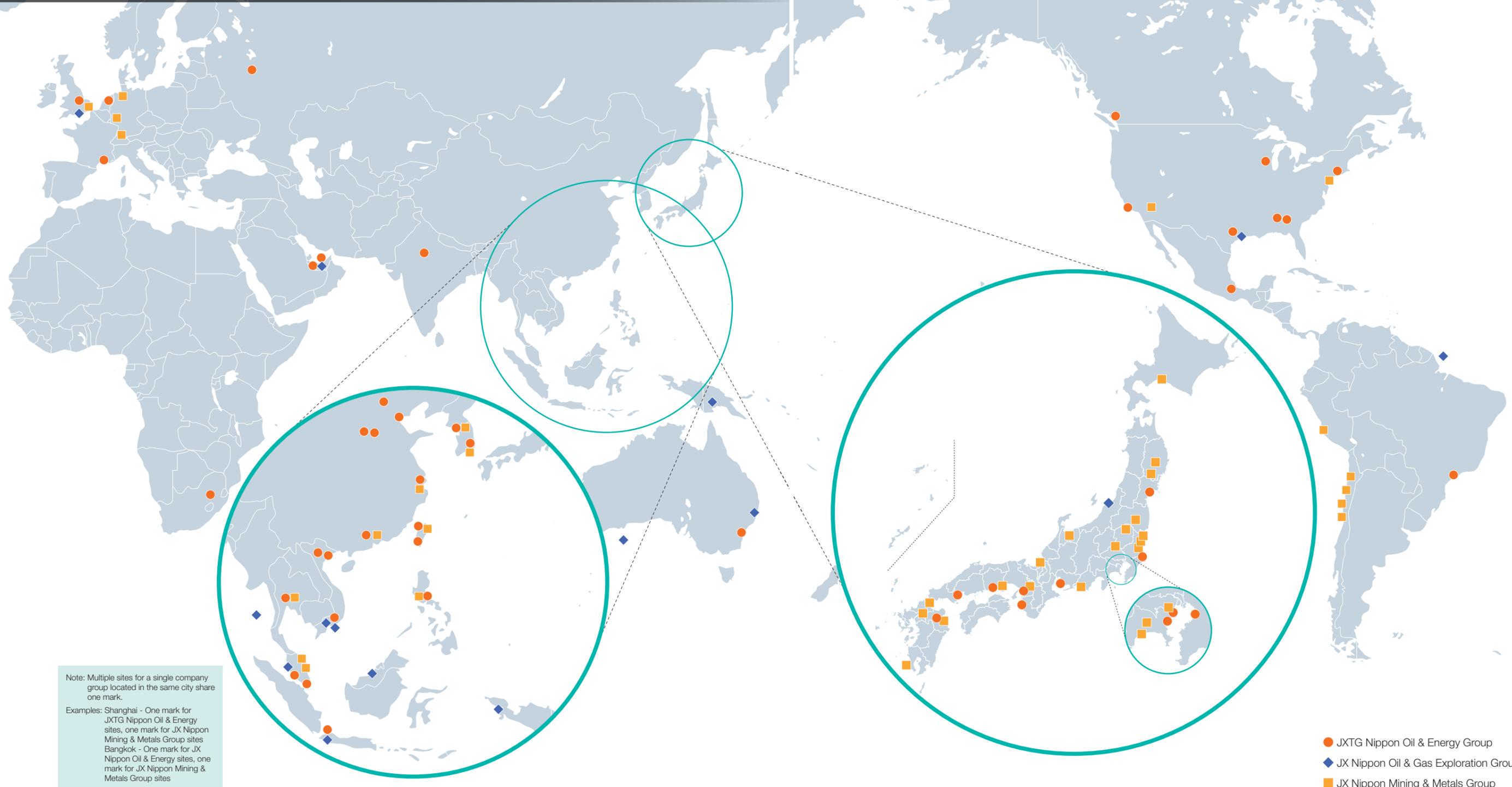
¹ The Doha business site is included in data up to fiscal 2017, when it ceased operations.

JXTG Group Safety Education Center Training Participation

	FY2016	FY2017	FY2018	Scope of data
Number of participants	1,698	1,503	1,538	JXTG Holdings, JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, affiliated Group companies, partner companies, etc.

Main Sites and Areas of Core Operating Company Groups

With many business operation sites and areas in Japan and overseas, the JXTG Group is a global business, working to become one of Asia's leading integrated energy, resources, and materials company groups.



Note: Multiple sites for a single company group located in the same city share one mark.

Examples: Shanghai - One mark for JXTG Nippon Oil & Energy sites, one mark for JX Nippon Mining & Metals Group sites
 Bangkok - One mark for JX Nippon Oil & Energy sites, one mark for JX Nippon Mining & Metals Group sites

- JXTG Nippon Oil & Energy Group
- ◆ JX Nippon Oil & Gas Exploration Group
- JX Nippon Mining & Metals Group

Independent Practitioner's Assurance Report

Deloitte.

デロイト トーマツ

(TRANSLATION)

Independent Practitioner's Assurance Report

November 19, 2019

Mr. Tsutomu Sugimori,
Representative Director, President,
JXTG 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, 2019 (the "Sustainability Information") included in the "JXTG REPORT ESG DATA BOOK 2019" (the "Report") of JXTG 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 1, 78, 80 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.
- Undertaking site visits 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.

Member of
Deloitte Touche Tohmatsu Limited

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ECONOMIC

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