

**JXTG REPORT**  
CSR Report  
for a Sustainable Future  
**2018**



The JXTG Group supports Kizukai Undo ("tree use movement"), a program implemented by Japan's Forestry Agency. Accordingly, this report has been printed on "3,9 paper," which is made from wood obtained through tree thinning in areas where the JXTG Group is engaged in forest maintenance activities, thus contributing to the increased absorption of CO<sub>2</sub> by forests in Japan.

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Editorial Policy

The purpose of the JXTG Report CSR Report for a Sustainable Future 2018 is to compile the approaches taken and initiatives implemented by the JXTG Group in fiscal 2017 for a range of environmental, social and governance-related CSR issues.

Used in conjunction with the JXTG Integrated Report 2018, which summarizes the JXTG Group's medium- to long-term growth through both financial and non-financial information, the report enables even more stakeholders to gain an understanding of the JXTG Group as it aims to become one of the world's largest integrated energy, resources, and materials business groups. It should be read together with CSR-related information from each Group company.

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 716 companies.

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

Reporting Period

In principle, the report covers the period from April 2017 to March 2018. However, some information from April 2018 onwards is also included, as necessary.

Publication Date

January 2019  
(Previous issue: January 2018; Next issue: January 2020)

Guidelines Used as Reference

- Global Reporting Initiative (GRI) Sustainability Reporting Standards
- The Environmental Reporting Guidelines (2012 Edition), Ministry of the Environment, Japan

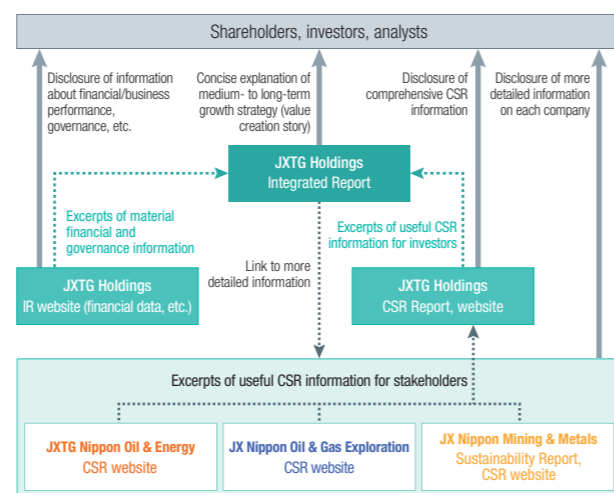
Enhancing Reporting Reliability

Environmental and social information for fiscal 2017 indicated with  has been assured by an independent practitioner to ensure objective and reliable reporting.

Inquiries

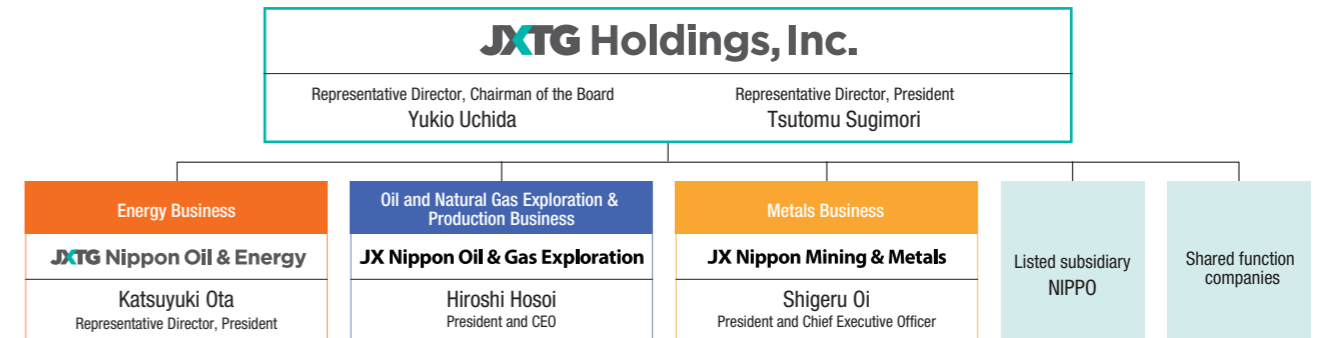
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Disclosure media framework



JXTG Group Overview

JXTG Group




The JXTG Group's Businesses

**JXTG Nippon Oil & Energy**

**Principal Business**

- Manufacture and marketing of petroleum products (gasoline, kerosene, lubricants, etc.)
- Manufacture and marketing of petrochemical products
- Import and marketing of gas (LPG and LNG) and coal
- Electric power sales




Main Products	Petroleum products	Gasoline, kerosene, diesel fuel, heavy fuel oil, naphtha, lubricants, asphalt, etc.
	Basic chemical products	Paraxylene, benzene, propylene, ethylene, etc.
	Specialty and performance chemical products	Ethylidene norbornene (ENB), functional films, liquid crystal polymers, etc.
	Other products	Liquefied natural gas (LNG), coal, electric power, etc.
Domestic Manufacturing Sites	Refineries	Sendai, Kashima, Chiba, Kawasaki, Negishi, Sakai, Wakayama, Osaka, Mizushima, Marifu, Oita
	Plants	Muroran, Kawasaki, Yokohama, Chita

**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 petroleum, 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 non-ferrous metal resources, smelting and refining, and marketing of non-ferrous metals (copper, gold, silver, etc.); manufacture and marketing of electronic materials
- Recycling of non-ferrous metal materials; treatment of industrial waste for reuse



Main Products	Resources development	Copper concentrate, molybdenum concentrate
	Copper smelting and refining	Copper, precious metals, rare metals, sulfuric acid
	Electronic materials	Electro-deposited copper foil, treated rolled copper foil, precision rolled products, precision processed products, thin-film materials
	Recycling and environmental services	Precious metals, rare metals
	Titanium	Titanium sponge, titanium ingots
Principal Worksites	Tantalum and niobium	Tantalum and niobium products (high purity metal powders and oxides, etc.)
	Resources development	Caserones Copper Mine, Los Pelambres Copper Mine, Escondida Copper Mine
	Copper smelting and refining	Pan Pacific Copper Co., Ltd. (Saganoseki Smelter & Refinery, Hitachi Refinery), Tamano Smelter of Hibi Kyodo Smelting Co., Ltd., LS-Nikko Copper Inc. (South Korea), etc.
	Electronic materials	Ishihara Works, Hitachi Works, Kurami Works, Kakegawa Works of JX Metals Precision Technology Co., Ltd., Takatsuki Works of JX Metals Trading Co., Ltd., etc.
	Recycling and environmental services	HMC (Hitachi Metal Recycling Complex) Department of Hitachi Works, JX Nippon Environmental Services Co., Ltd., etc.
Titanium		Chigasaki Works and Wakamatsu Works of Toho Titanium Co., Ltd., etc.
	Tantalum and niobium	H.C. Starck Tantalum and Niobium GmbH

## 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

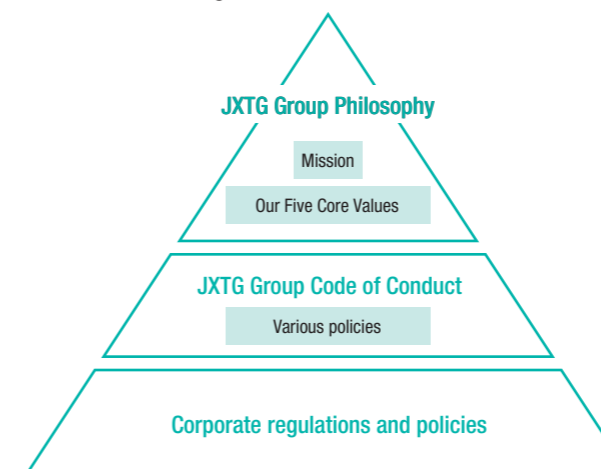
Taking changes in stride, we rise to the challenge of creating new value while seeking innovative solutions for today and tomorrow.

### 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

 The full text of the JXTG Group Code of Conduct is available on our website.

JXTG Group Code of Conduct



## To Our Stakeholders

Over the past several years, the global environment has undergone great changes, including the occurrence of extreme weather conditions around the world. Japan, too, has suffered extensive damage due to heat waves, torrential rains and super typhoons. At the same time, there is a growing number of global social issues that need to be resolved, including poverty, as well as food and energy issues resulting from population increases.

Amidst these circumstances, the JXTG Group, as a group of companies engaged in the energy, resources and materials businesses, has formulated its Group Philosophy and Group Code of Conduct. We have also determined the following eight ESG focus areas: high ethical standards, compliance, safety and the environment, human rights, human resource development, health, quality, and social contribution.

In addition, based on these eight focus areas, we have identified material issues in the form of the top CSR priorities of the Group, reflecting priorities as seen from within and outside the Group.

In fiscal 2018, we are advancing initiatives based on these ESG focus areas and the top CSR priorities of the Group.

Through innovation and by taking on new challenges, the JXTG Group will address changes taking place in the social environment in a swift and flexible manner to achieve sustainable growth as a corporation, while engaging in active dialogue with stakeholders to fulfill our various corporate social responsibilities. Through these efforts, we will contribute to the development of society and help to create a vibrant future.

**Yukio Uchida**  
Representative Director,  
Chairman of the Board

**Tsutomu Sugimori**  
Representative Director,  
President

Representative Director,  
Chairman of the Board

Representative Director,  
President

JXTG Nippon Oil & Energy

Further incorporation of ESG perspectives for agile response to changes in the business climate



**Katsuyuki Ota**  
Representative Director, President  
JXTG Nippon Oil & Energy

The business climate faced by JXTG Nippon Oil & Energy is changing rapidly, as evidenced by declining demand for oil products in Japan, initiatives aimed at realizing a low-carbon society, and the growing presence of electric vehicles.

In light of these circumstances, since the business integration we at JXTG Nippon Oil & Energy have worked to strengthen our response to change and create a system for contributing to the attainment of the SDGs. These efforts include the formulation of an ESG promotion policy by the CSR Management Council, which comprises management at the director, senior vice president level and above. Consideration for the environment, spanning our businesses and the entire supply chain, including the environment near our refineries and plants, as well as maintaining the health and safety of our employees, a stable supply of energy, and compliance are critical issues for management, and we recognize that these are also priority issues for our business operations. Going forward, we will place even greater emphasis on these matters in the management of our business.

In addition, as an ESG perspective is important for the identification of risks and opportunities for JXTG Nippon Oil & Energy, we will incorporate ESG more actively into our business operations to adapt to the rapidly changing business climate.

JX Nippon Oil & Gas Exploration

Developing oil and natural gas resources as a responsible member of society, with close attention to safety and the environment



**Hiroshi Hosoi**  
President and CEO  
JX Nippon Oil & Gas Exploration

The JX Nippon Oil & Gas Exploration Group is engaged in the oil and natural gas E&P business worldwide. We lead projects, in particular, as an operator in Vietnam and Malaysia. In addition, in the United States, we are implementing the CO<sub>2</sub>-EOR project, in which CO<sub>2</sub> is captured from the flue gas of a thermal power plant and injected into a depleted oil field to both increase crude oil production and reduce CO<sub>2</sub> emissions.

Through these and other day-to-day business activities, the JX Nippon Oil & Gas Exploration Group, as a good corporate citizen trusted by society, seeks to enhance its corporate value while promoting ESG initiatives with a central focus on HSE (occupational health, safety and the environment) and compliance, thereby contributing to the development of society and the creation of a vibrant future.

JX Nippon Mining & Metals

Contributing to the attainment of the SDGs through a stable supply of resources and materials



**Shigeru Oi**  
President and Chief Executive Officer  
JX Nippon Mining & Metals

Copper, a metal resource that is central to the business operations of the JX Nippon Mining & Metals Group, is vital for the development of society. As copper is unevenly distributed and its reserves are limited, we must use existing resources effectively by improving extraction efficiency and promoting recycling, among other initiatives.

We recognize that our corporate social responsibility is to provide a stable and efficient supply of high-quality copper to contribute to economic growth and improved quality of life, while addressing social issues such as the mitigation of environmental impacts and respect for human rights, as well as pursuing innovation in the productivity of resources and materials using the technologies and knowledge accumulated throughout our history of more than 100 years. Taking into account the social climate and the needs of our stakeholders, we will contribute to the attainment of the SDGs through all of our business activities, including those in the supply chain.

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
  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



Correlation with United Nations Sustainable Development Goals (SDGs)

The JXTG Group strives to realize the SDGs adopted at the United Nations summit in September 2015.

Priority Fields for CSR Activities	Related SDGs	Priority Fields for CSR Activities	Related SDGs
High Ethical Standards	16 PEACE, JUSTICE AND STRONG INSTITUTIONS 17 PARTNERSHIPS FOR THE GOALS	Human Resource Development	4 QUALITY EDUCATION 5 GENDER EQUALITY
Compliance	16 PEACE, JUSTICE AND STRONG INSTITUTIONS	Health	3 GOOD HEALTH AND WELL-BEING 5 GENDER EQUALITY 8 DECENT WORK AND ECONOMIC GROWTH
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	Quality	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Human Rights	5 GENDER EQUALITY	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 nine issues as top CSR priorities (material issues) from two viewpoints: priority from an external perspective and priority from the Group's internal perspective. In addition, we have established 12 targets (KPI) for the top CSR priorities. Going forward, we will make efforts to achieve each KPI through the Group's CSR promotion system. A heart symbol ♥ is used to indicate initiatives for the Group's top CSR priorities.

#### Considerations at each step

##### STEP 1 Identify social issues to consider

Following an exhaustive review of various guidelines (GRI G4 Guidelines, 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 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 particularly high priority were identified as the Group's top CSR priorities.

Diagram of the Group's Top CSR Priorities

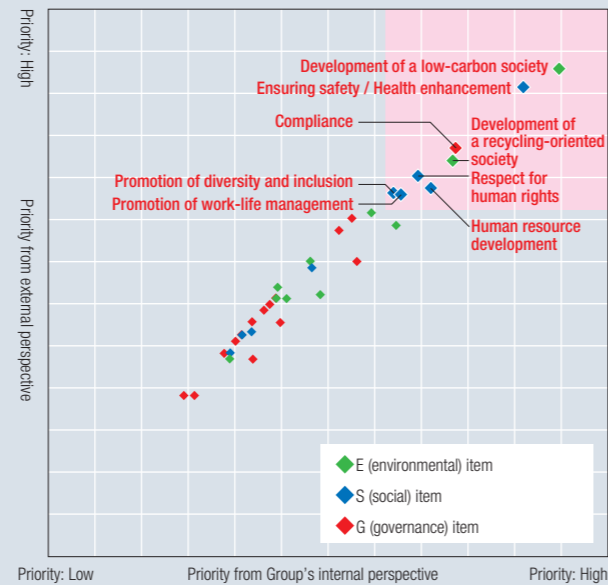


Table of the Group's Top CSR Priorities (Material Issues)

Category	The Group's top CSR priorities	Initiative	Target (KPI)	Achievement target (fiscal year)	Applicable companies
Environment	Development of a low-carbon society	Reduction in CO <sub>2</sub> emissions (Reduction amount through own efforts)	Reduce by 2.72 million tons compared to 2009	Fiscal 2019	Core operating company groups NIPPO (Total of 38 companies)
	Development of a recycling-oriented society	Reduction in landfill disposal	Ratio of landfill disposal Maintain zero emissions (less than 1%)	Fiscal 2019	Core operating company groups NIPPO (Total of 41 companies)
Society	Ensuring safety	Reduction in occupational injuries	Zero occupational fatalities	Fiscal 2018	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	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	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 by fiscal 2020	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	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	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	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	JXTG Holdings, JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals (Total of 4 companies)	
Corporate governance	Thorough compliance	Legal compliance inspections	Conduct legal compliance inspections	Fiscal 2018	Companies for which legal compliance inspections are carried out* (Total of 89 companies)
		Compliance with important laws and regulations (Anti-Monopoly Act, etc.)	Implement training on important laws and regulations (Anti-Monopoly Act, etc.)	Fiscal 2018	Companies for which legal compliance inspections are carried out* (Total of 89 companies)

\* JXTG Holdings, core operating company groups, and Nippon Corporation.

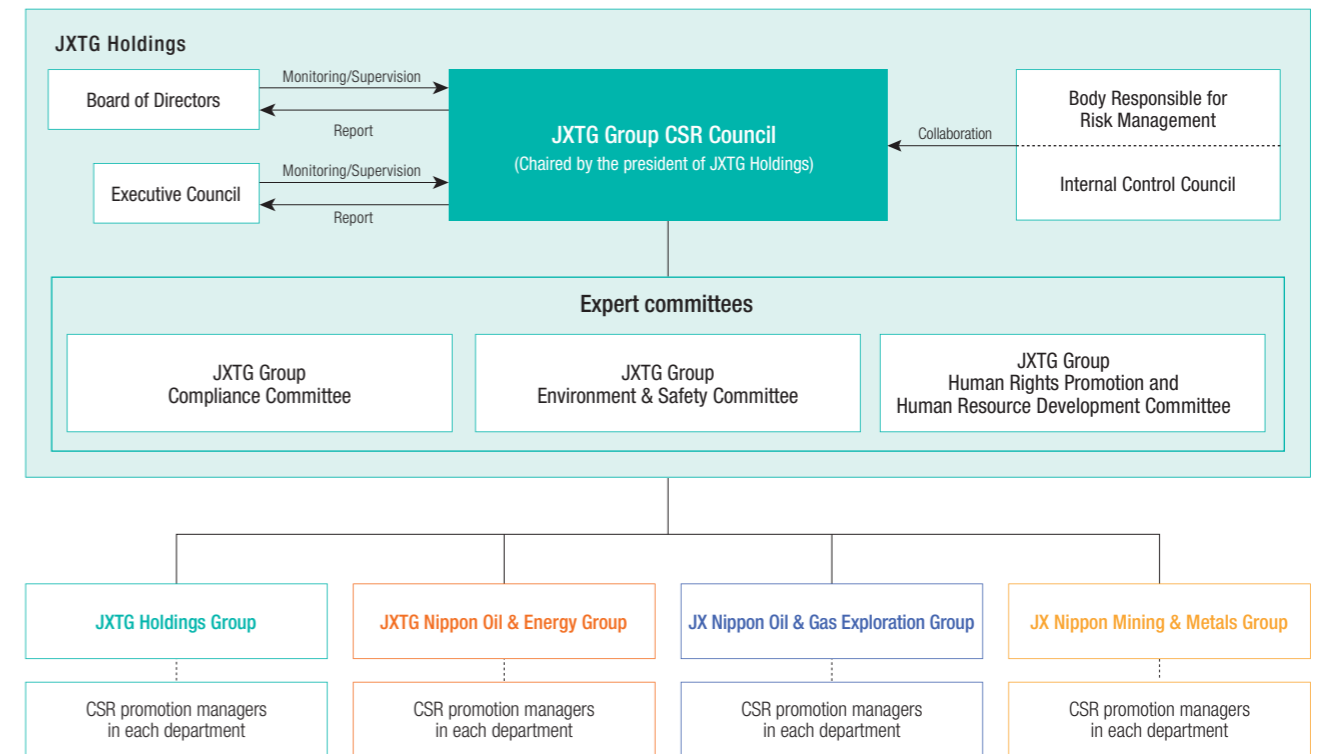
### CSR Promotion Structure

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. From a perspective that spans the entire Group, the council deliberates basic policies and reviews and evaluates the status of activities. The matters deliberated

by and reported to the JXTG Group CSR Council are in turn reported to the JXTG Holdings Board of Directors, which provides instructions.

We have assigned CSR promotion managers from each department to serve at the front lines of the Group CSR promotion structure, spearheading various activities and sharing 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 business 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

**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 business 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 (development of internal whistleblowing systems and promoting their 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 department in charge of environment and safety 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 business 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: Safty 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 business 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**

During the two meetings of the JXTG Group CSR Council convened in fiscal 2017, discussions were held to determine the Group's top CSR priorities (material issues). Reports were made on the activities of the JXTG Group Compliance Committee, the JXTG Group Environment & Safety Committee, and the JXTG Group Human Rights Promotion and Human Resource Development Committee, as well as progress on raising awareness of the Group Philosophy and the Code of Conduct.

The discussions and reports heard by the JXTG Group CSR Council were reported to the Board of Directors, which affirmed the direction of the Group's CSR activities in fiscal 2018.

**CSR Promotion Manager Workshop**

In order to help ensure that we maintain the trust of our stakeholders, the JXTG Group appoints personnel at the deputy general manager level as CSR promotion managers. These CSR promotion managers are responsible for the implementation of CSR activities in their respective workplaces at each Group company. Every year, CSR promotion managers from across the Group meet for a workshop, where we convey our basic policy on CSR and share information.

In fiscal 2017, we organized a presentation by an outside expert on worldwide trends concerning the SDGs and the latest developments in ESG investment. There was also a report on the Group's CSR activities undertaken in fiscal 2017.



CSR promotion manager workshop

**Establishment of Policies**

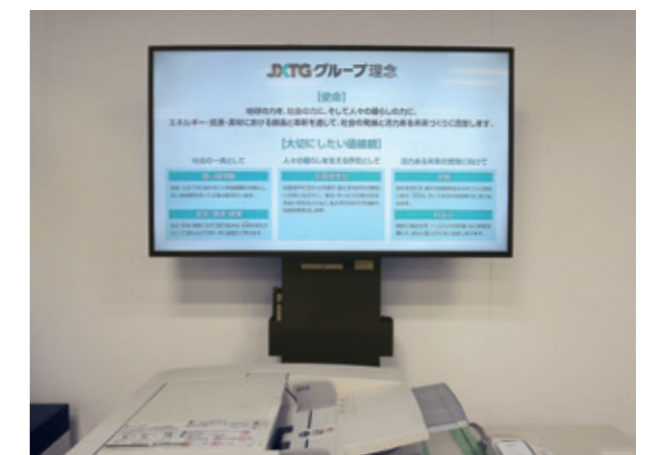
In 2018, the JXTG Group established the Anti-Corruption Policy and the Human Rights Policy to supplement the JXTG Group Code of Conduct, following deliberations by the JXTG Group CSR Council.

For details, please see the following: p.24 for the Anti-Corruption Policy and p.51 for the Human Rights Policy.

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

The JXTG Group established the JXTG Group Philosophy and the JXTG Group Code of Conduct in 2017. We are now implementing various measures to raise awareness of the Group Philosophy and the JXTG Group Code of Conduct among the JXTG Group's officers and employees, and to foster understanding and cooperation among everyone involved in the JXTG Group's business activities.

Purpose	Measure
Ensure awareness	Hold briefings nationwide
	Distribute Group Philosophy cards and Code of Conduct handbooks
	Display posters
	Use of digital signage in company workplaces
Promote understanding	Translation into 9 languages (English, Chinese [Simplified / Traditional], Korean, Spanish, Portuguese, Vietnamese, Thai, Indonesian) and distribution
	Publication of special feature series in Group employee magazine E-learning for all officers and employees
Monitoring	Confirmation using employee awareness surveys



Digital signage in company workplace

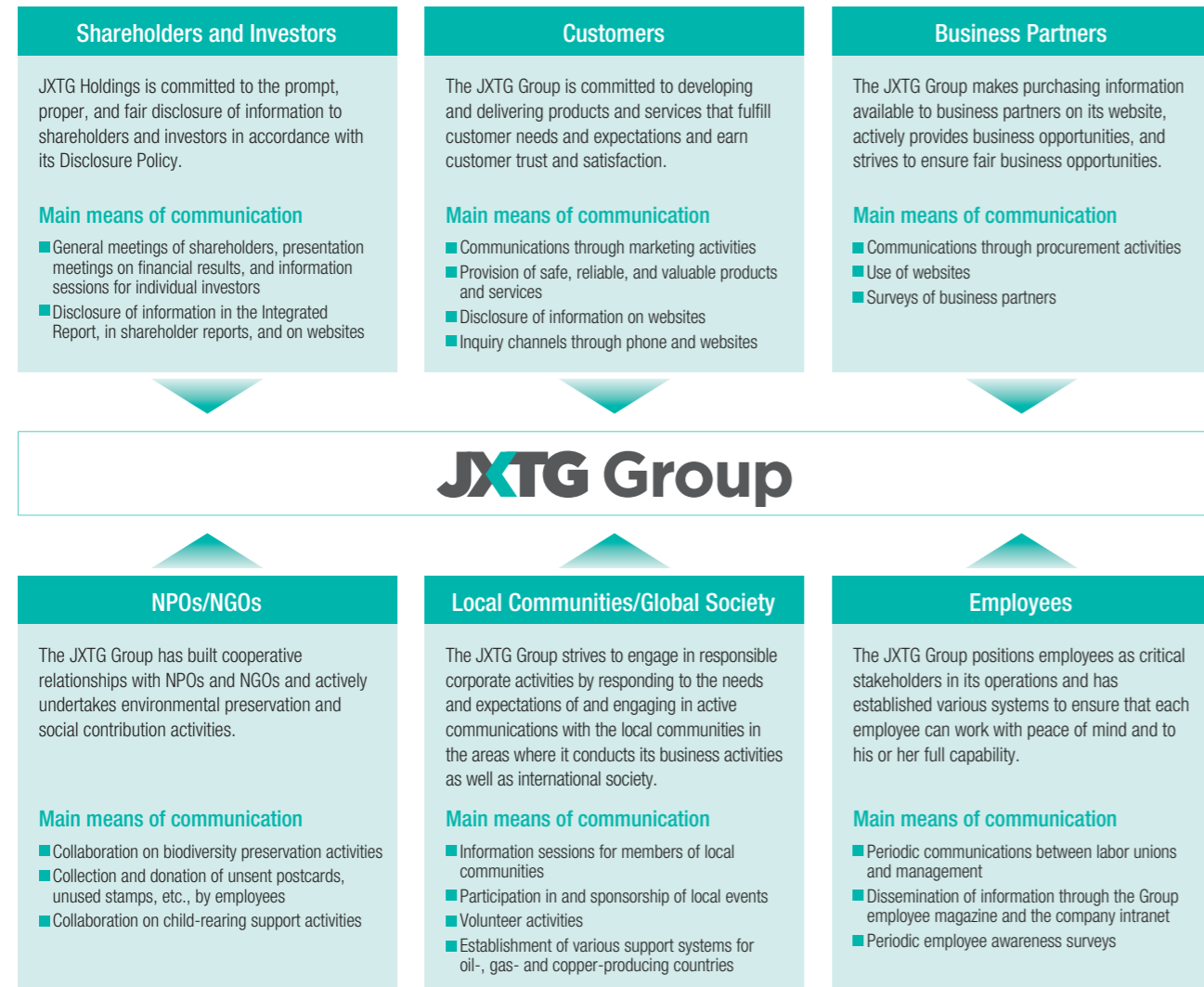


Code of Conduct handbook

Group Philosophy card

### Stakeholder Engagement

The JXTG Group conducts its business activities while maintaining relationships with a variety 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.



### Participation in the Global Conference on Business and Human Rights

The JXTG Group participated in the 2018 Global Conference on Business and Human Rights in Tokyo, hosted by Caux Round Table Japan (CRT JAPAN), on September 13 and 14, 2018. Through discussions with human rights experts from overseas, human rights NGOs/NPOs, and the many companies in attendance, we shared and exchanged information on the latest worldwide trends and viewpoints on business and human rights, along with best practices in human rights due diligence used by other companies.

Through ongoing dialogue with stakeholders, we will continue to maintain an accurate understanding of human rights issues we need to address as a company.

**WEB** For more information, please see the CRT Japan website. <http://crt-japan.jp/en/>

### Reflecting Customer Feedback to Achieve Further Improvements

JXTG Nippon Oil & Energy receives feedback and requests from customers through the JXTG Customer Service Center. In fiscal 2017, 23,695 inquiries were received by the former JX Nippon Oil & Energy's ENEOS Customer Service Center. The JXTG Customer Service Center replies within 24 hours to customers who wish to be contacted, and strives to resolve inquiries satisfactorily for customers within 72 hours.

### Employee Awareness Survey

Once every two years, the JXTG Group conducts an anonymous survey of all employees on such topics as the Group Philosophy, the Code of Conduct, compliance, day-to-day work and workplace culture.

Identifying the level of employee awareness and any issues inherent in each workplace assists in the improvement of a variety of CSR issues. The most recent survey was conducted in the first half of fiscal 2017, and the results were reported to the Board of Directors and the management team 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	Principle 1
make sure that they are not complicit in human rights abuses.	Principle 2
Labour	
Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	Principle 3
the elimination of all forms of forced and compulsory labour;	Principle 4
the effective abolition of child labour; and	Principle 5
the elimination of discrimination in respect of employment and occupation.	Principle 6
Environment	
Businesses should support a precautionary approach to environmental challenges;	Principle 7
undertake initiatives to promote greater environmental responsibility; and	Principle 8
encourage the development and diffusion of environmentally friendly technologies.	Principle 9
Anti-Corruption	
Businesses should work against corruption in all its forms, including extortion and bribery.	Principle 10

• CDP



• International Council on Mining & Metals (ICMM)



• Extractive Industries Transparency Initiative (EITI)

• Keidanren 1% Club

• 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, Director, Permanent Secretary
JXTG Nippon Oil & Energy	Petroleum Association of Japan	Vice-President
	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





# 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.

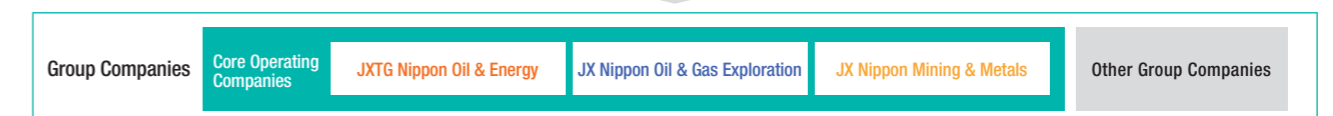
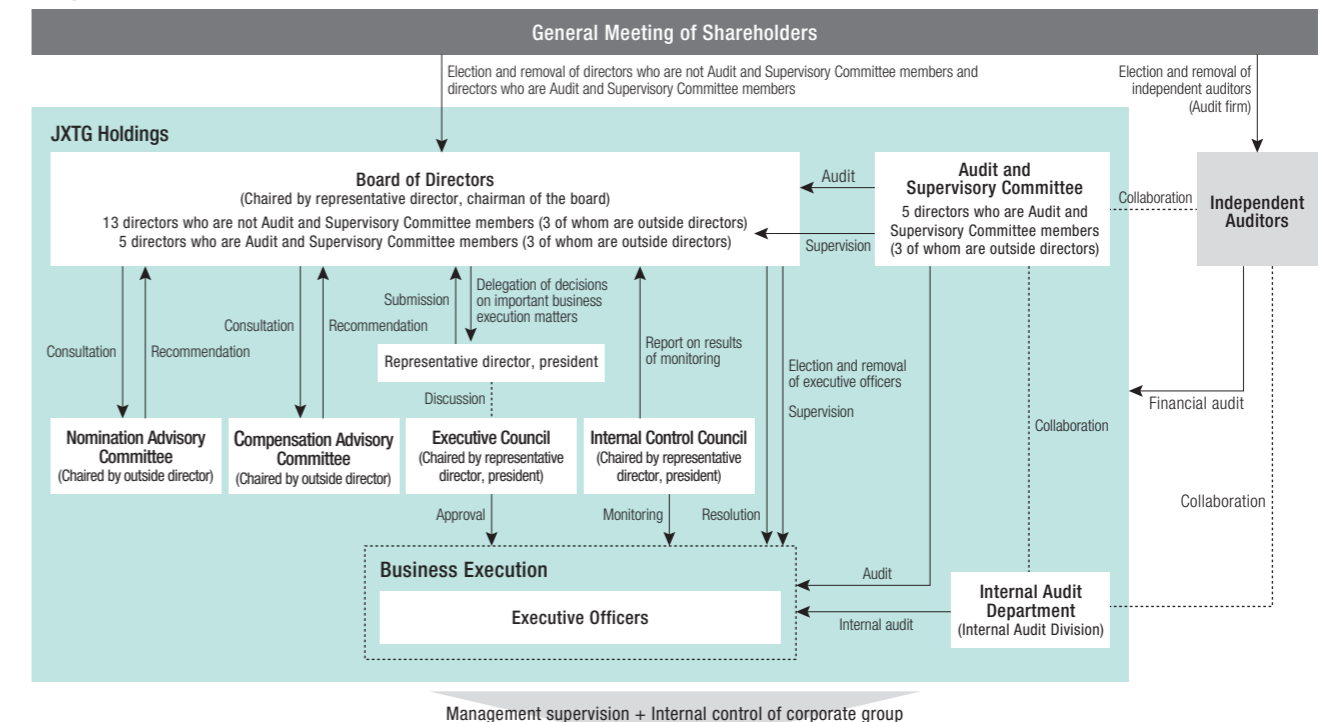
## Priority Fields for CSR Activities

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



#### Corporate Governance Data (As of June 27, 2018)

Item	Details
Format of institutional design	Company with an audit and supervisory committee
Number of directors who are not Audit and Supervisory Committee members	13 (10 inside, 3 outside)
Number of directors who are Audit and Supervisory Committee members	5 (2 inside, 3 outside)
Total number of directors	18 (12 inside, 6 outside)
Ratio of outside (independent) officers	33.3%
Ratio of female officers	11.1%
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 institutions for the Board of Directors	Establishment of Nomination Advisory Committee and Compensation Advisory Committee

### Transition to a Company with an Audit and Supervisory Committee

The Company transitioned to a company with an audit and supervisory committee effective June 27, 2018, with the aim of further strengthening the management functions (deliberation and determination of basic management policies) and supervisory functions of the Board of Directors, as well as to further improve the agility of the execution of operations. Through this transition, the Company will promote the separation of management and supervision from the execution of operations, and strive to further enhance corporate governance.

### 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 JXTG Group Basic Policy on Corporate Governance, 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 created 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.

[WEB JXTG Group Basic Policy on Corporate Governance \(Available in Japanese only\)](https://www.hd.jxtg-group.co.jp/company/system/pdf/governance01.pdf)  
<https://www.hd.jxtg-group.co.jp/company/system/pdf/governance01.pdf>

### Basic Approach to Corporate Governance

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

#### Basic Principles on the Establishment and Operation of Corporate Governance

1. Role of each company in the holding company structure  
 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 promote each core business, 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, and the medium-term and long-term management plan and budget (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.

2. Institutional design  
 The Company is a company with an audit and supervisory committee.
3. 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 is operated pursuant to the policy below:
  - (1) The Board of Directors will focus on deliberation/determination of basic management policies, and the supervision of business execution;
  - (2) 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
  - (3) With respect to material matters related to investment return evaluations for, as well as risks and progress of, important business execution projects for the Company and core operating companies, the president of the Company and the presidents of the core operating companies will submit reports, which will be verified for consistency with the basic management policies and then supervised.
4. Audit and Supervisory Committee  
 (1) The Audit and Supervisory Committee of the Company will carry out organized and systematic audits with high efficiency and objectivity through appropriate collaboration between full-time Audit and Supervisory Committee members, who possess powerful information-gathering skill, and outside directors who are Audit and Supervisory Committee members, who possess strong independence along with a wealth of knowledge and experience; and  
 (2) The Audit and Supervisory Committee of the Company will supervise business execution by means of each director who is an Audit and Supervisory Committee member exercising their voting rights at meetings of the Board of Directors and by means of each director who is not an Audit and Supervisory Committee member exercising their right to voice their opinion concerning personnel and compensation matters.
5. 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:
  - (1) 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 the execution of material operations as well as supervision of execution of material operations, fully verify consistency with the basic management policies, taking opinions of outside directors into account; and
- (2) 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, half of whose members are outside directors, and which are chaired by an outside director.
6. Executive officers and Executive Council  
 (1) The Company will appoint executive officers as an institution for the agile execution of operations pursuant to the decisions of the Board of Directors.  
 (2) For the determination of business execution by the president, the Company has established the Executive Council as the institution for discussing matters approved by the president. The Executive Council, comprising the chairman of the Board of Directors, president and executive officer, executive vice presidents, senior vice presidents appointed by the president, and the presidents of core operating companies, makes decisions based on prudent deliberations.  
 (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 as a mechanism enabling directors to fulfill mutual supervision functions, and 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 important business of the core operating companies (including the execution of important business projects under the control of the core operating companies), after a decision by the Board of Directors of a core operating company, in principle, the matter must be decided by or reported to the Board of Directors of the Company. With respect to the execution of other business of the core operating companies, execution will be entrusted to each core operating company within the scope of the basic management policies and management resource allocation determined by the Company, and these matters shall be approved by the president of the core operating company after deliberation by the Executive Council of the core operating company.

#### Composition of Nomination Advisory Committee and Compensation Advisory Committee and Fiscal 2017 Results

Advisory Bodies	Nomination Advisory Committee	Compensation Advisory Committee
Chairperson	Outside director (Otsuka)*	Outside director (Otsuka)*
Members (including chairperson)	Representative directors: 3 (Uchida, Sugimori, Mutoh)* Outside directors: 3 (Ota, Otsuka, Miyata)*	Representative directors: 3 (Uchida, Sugimori, Mutoh)* Outside directors: 3 (Ota, Otsuka, Miyata)*
Purpose	Ensure the transparency of the process of determining director candidates	Ensure the transparency and objectivity of the process of determining the compensation and other benefits for directors and executive officers
Results in fiscal 2017	The committee met a total of three times and held deliberations on personnel matters for the Company's director candidates and corporate auditor candidates.	The committee met a total of three times and held deliberations on the introduction of a stock compensation system and the policy for determining the compensation for the Company's directors and executive officers.

\* Please see <https://www.hd.jxtg-group.co.jp/english/company/directors/> for the profiles of officers (Board of Directors and Audit and Supervisory Committee Members)

#### Nomination Advisory Committee

To ensure the transparency of the process of determining the director candidates of the Company, the Nomination Advisory Committee has been established to provide advice to the Board of Directors. The Nomination Advisory Committee consists of three outside directors and three representative directors, and one of the outside directors on the committee acts as chairperson. At meetings of the Nomination Advisory Committee, deliberations are held on the personnel matters of the Company's director candidates, and recommendations are made to the Board of Directors on the results of these deliberations. In addition, opinions are exchanged on the issue of succession planning for the Company's chairman and president and for the presidents of the core operating companies, and advice is received from the outside directors.

#### Compensation Advisory Committee

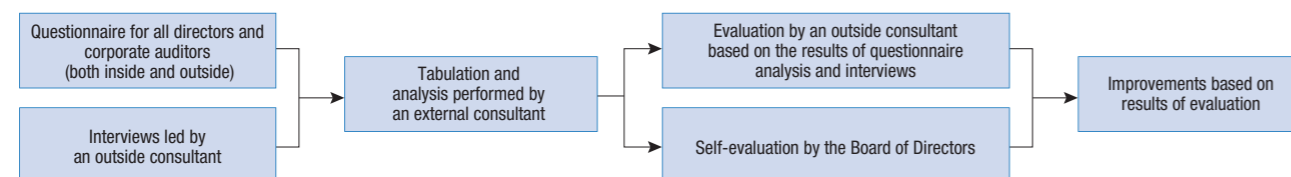
To ensure the transparency and objectivity of the process of determining the compensation and other benefits for directors and executive officers, the Compensation Advisory Committee has been established to provide advice to the Board of Directors. The Compensation Advisory Committee comprises three outside directors and three representative directors, and one of the outside directors on the committee acts as chairperson. The Compensation Advisory Committee is responsible for deliberating the policies for determining the compensation and other benefits for directors and executive officers as well as other related matters. The results of the committee's deliberations are recommended to the Board of Directors.

## Evaluation of the Effectiveness of the Board of Directors

### Overview of Evaluation of the Effectiveness of the Board of Directors

From November to December 2017, the Company conducted an evaluation of the effectiveness of the entire Board of Directors. To conduct the evaluation, the Company employed an external consultant, and a questionnaire and interviews were implemented for all directors and corporate auditors, including outside directors and corporate auditors. The results were analyzed and it was determined that improvements have

### Process for Evaluation of Board Effectiveness



## Method of Appointing Director Candidates

The Company strives to appoint independent outside directors\* to at least one-third of director positions. As of June 27, 2018, the ratio of outside independent officers was 33.3%.

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."

## Support System for Outside Directors

Each of the three outside directors who are not Audit and Supervisory Board members and the three outside directors who are Audit and Supervisory Board 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

been made in the provision of information to outside officers, which was cited as an issue last year, and that the Board was generally evaluated as effective. In addition, each director and corporate auditor evaluated initiatives underway since fiscal 2017 to improve the operation of the Board of Directors, including ensuring enough time for deliberations.

On the other hand, directors and corporate auditors continued to point out certain issues, such as the roles of the holding company and the core operating companies, the organization of matters for deliberation, and improvement of monitoring. Moving forward, the Company will work to make further improvements in these areas.

provides explanations to the outside directors about important agenda items 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 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 business execution, the Board Members' Support Office has been established, and full-time staff members have been assigned.

## Training for Directors and the 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 sustained 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 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 also pays for expenses arising from self-study initiatives. Furthermore, when outside directors are appointed, the Company provides explanations of basic matters regarding the JXTG Group's businesses, and after their appointment, the Company offers business presentations and worksite tours to deepen their understanding.

## Training for Outside Directors (Fiscal 2017 and Fiscal 2018)

Topic	Intended for	Timing (fiscal year)	Content of training
Corporate governance	Newly appointed directors and corporate auditors	2017	JXTG Group corporate governance
Internal control	Newly appointed directors and corporate auditors	2017	JXTG Group internal control systems
Overview of JXTG Holdings and core operating companies	Newly appointed directors and corporate auditors	2017	Basic knowledge about JXTG Holdings and the core operating companies
Worksite tours	All directors and corporate auditors	2017	(Energy) Kawasaki Refinery, Kawasaki Plant, Bulga Coal Mine (Australia) (Oil E&P) Nakajo Oil and Gas Field
		2018 (plan)	(Energy) Oita Refinery, Malaysia LNG Plant (Metals) Toho Titanium, Kurami Works, Saganoseki Smelter and Refinery
Investor relations	All directors and corporate auditors	2017, 2018 (plan)	Opinions of institutional investors (expectations regarding the JXTG Group)

## 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 amount of compensation for directors who are not Audit and Supervisory Committee members shall be equal to or less than 1,100 million yen (including 200 million yen for outside directors who are not Audit and Supervisory Committee members) per business year.
- The amount of compensation for directors who are Audit and Supervisory Committee members shall be equal to or less than 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 determined 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, "the Directors, etc.") would be implemented once again. The upper limit of the plan is 600 million yen over a period of three fiscal years.

The compensation and other benefits of directors who are not Audit and Supervisory Committee members comprises the three components of fixed compensation paid monthly based on role, a bonus whose amount fluctuates based on performance, and share compensation in which the Company's shares are provided based on role. This is a balanced compensation system that reflects the Company's business performance for the business year as well as stock 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 to the Compensation Advisory Committee (comprising three outside directors and three representative directors; and chaired by an outside director). Compensation is paid out within the above maximum amount pursuant to this policy.

The compensation and other benefits of directors who are Audit and Supervisory Committee members comprise a fixed compensation amount in view of the independence of their duties. Compensation is paid out within the above maximum amount pursuant to deliberations involving each director who is an Audit and Supervisory Committee member.

## 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 2017)

Grantee	Total amount of compensation and other benefits (Millions of yen)	Total amount of compensation and other benefits by type (Millions of yen)		Number of eligible officers	Total amount of compensation and other benefits by type (Millions of yen)	
		Fixed compensation	Bonus		Share compensation	Number of eligible officers
Directors (excluding outside directors)	605	354	228	14	23	8
Corporate auditors (excluding outside corporate auditors)	104	104	—	4	—	—
Outside directors	60	60	—	5	—	—
Outside corporate auditors	33	33	—	4	—	—

## Amount of Compensation and Other Benefits for Each Officer (Fiscal 2017)

Name	Grantee	Total amount of compensation and other benefits (Millions of yen)	Total amount of compensation and other benefits by type (Millions of yen)		
			Fixed compensation	Bonus	Share compensation
Yasushi Kimura	Representative Director	112	67	42	4
Yukio Uchida	Representative Director	112	67	42	4

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

## Risk Management

The JXTG Group has introduced an enterprise risk management (ERM) system, through which it strives to share and visualize risk information that contributes to management decision making and the day-to-day execution of business operations.

### Enterprise Risk Management (ERM)

The Company established an office in charge of risk management within the Corporate Planning Department in April 2017, which has been working on the development and operation of an ERM system.

In fiscal 2017, based on the COSO\* ERM framework, the Company comprehensively identified risks facing the JXTG Group with an eye on the current condition of the entire JXTG Group and future changes in the social and economic situation. Afterward, through interviews of managers and other means, we determined specific risk events that could affect the JXTG Group. After calculating the impact and probability of these risks according to assessment criteria, we selected those risks exceeding a certain threshold as "material risk events." Furthermore, we determined the degree of latency of these material risk events in a comprehensive manner and defined multiple priority response risk events. The Board of Directors receives reports on these priority response risk events and verifies the effectiveness of the overall ERM process.

In fiscal 2018, we will examine detailed contingencies for each designated priority response risk event and begin implementing these contingencies after reporting them to the Board of Directors. We will also continue to closely monitor changes in the social and economic situation as we identify material risk events that could affect the JXTG Group and assess these risks, as well as designate priority response risk events and prepare for them.

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 closely on their individual business operations and characteristics.

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

Based on the JXTG Group Philosophy and in alignment with the Code of Conduct, the Company has established and operates an internal control system to ensure appropriate operations. The Board of Directors formulated the Basic Policy on Internal Control System, which addresses the operation of this system, and is monitoring the status of operation of this system.

 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>

The Internal Control Department takes the lead in assistance and general management for the development and operation of the JXTG Group's internal control system. In particular, the department works on building and reinforcing internal control systems for general operations pursuant to the COSO framework, which has become a global standard on internal controls. Starting in fiscal 2018, an approach to internal controls following a risk-based PDCA cycle was rolled out and deployed at JXTG Holdings and JXTG Nippon Oil & Energy. Under this approach, each organization identifies and evaluates risks that could impede business operations, formulates and implements appropriate controls based on the risks identified, and then regularly monitors these risks. We plan to roll out and deploy this same approach at other Group companies in the future.

## Risks and Opportunities Concerning Climate Change

The Company has identified climate change as a management strategy risk within ERM. Specifically, the Company faces risks related to the transition to a low-carbon society and risks related to the physical impacts of climate change.

The JXTG Group maintains a diverse business portfolio that spans the fields of energy, resources and materials. Along with risks related to the transition to a low-carbon society, there are various business opportunities that can be gained from this transition as well, including those in sectors such as natural gas, electricity, renewable energy, functional materials, and electronic materials. In particular, the Company believes that development and strengthening of businesses that will be mainstays of the future as indicated in the medium-term management plan (overseas business, power and gas business, and technology-driving business) will help it cope with the transition to a low-carbon society.

 Please see the Special Feature section on pp.33-40 of our Integrated Report for more about the JXTG Group's contributions to the realization of a low-carbon society.

<https://www.hd.jxtg-group.co.jp/english/ir/library/annual/>

## 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 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 screenings, 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 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 its 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.

## 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.

# 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.

Compliance-related cases in which the JXTG Group incurred heavy fines or penalties in fiscal 2017 are stated under "Compliance Violations" on p.25.

### JXTG Group Code of Conduct (excerpt)

#### 1. Compliance

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

## 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 Hotline)

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.

## 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 and the prevention of bribery.

In fiscal 2017, training was conducted for Group companies for the following: prevention of insider trading, compliance with competition laws, and the prevention of bribery.

## 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 to prevent bribery.

In addition, as indicated below, we have established the JXTG Group Anti-Corruption Policy.

Specifically, a mechanism has been put in place to check for bribery involving travel expenses, business entertainment, gift giving, and donations, taking into consideration the laws and regulations of each country. We also implement third-party due diligence procedures to prevent our involvement in bribery through a third party such as an agent, agency, or distributor.

Employees are able to access relevant internal regulations at any time via the company's in-house intranet or other means. They also undergo various forms of compliance

♥: Indicates the Group's top CSR priorities. Please see p. 9.

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 JXTG Holdings 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 2017, there were no occurrences of serious violations related to bribery or corruption, and no internal disciplinary measures related to such violations.

The Group is participate in the United Nations Global Compact, and actively supports the 10 Principles, including anti-corruption.

## Establishment of Anti-Corruption Policy

The JXTG Group established basic rules on the prevention of bribery and corruption within "7. Equitable and fair transactions" and "8. Appropriate relationships with governments and public administrations" of the JXTG Group Code of Conduct, and requested cooperation not only from the Group but also companies in the value chain to aid in compliance. However, we decided to establish an official anti-corruption policy in order to further clarify that the Company will not be involved in nor tolerate any acts of bribery or corruption. Going forward, we will continue to raise awareness concerning the application of the JXTG Group Code of Conduct and ensure compliance with it.

### 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, 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, or 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

Nippo Corporation, a member of the JXTG Group, received a cease and desist order along with a surcharge payment order (134.24 million yen) 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 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.

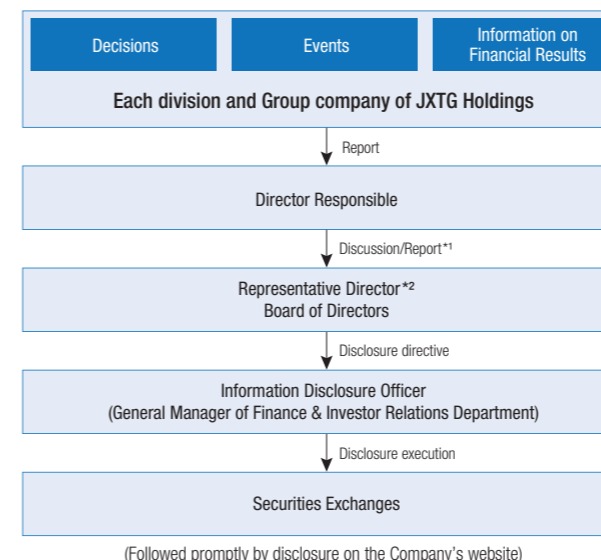
### Disclosure Policy

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 Insider Trading Prevention Regulations, 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 Companies Act, 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 <b>Environment</b>
Human Rights
Human Resource Development
Health
Quality
Social Contribution

## Environmental Management

### Basic Approach

As part of its responsibilities as a corporate group involved in 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.

Specifically, the JXTG Group has formulated the JXTG Group Environmental Policy and set relevant 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.

We now plan to draw up a long-term vision for the Group along with the next Medium-Term Management Plan, set to begin in fiscal 2020, with the goal of actualizing our medium- to long-term strategy. This includes expanding disclosures considering the final report of the Task Force on Climate-related Financial Disclosures (TCFD) released in June 2017.

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

#### 1. Reduction in CO<sub>2</sub> 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%)

♥: Indicates the Group's top CSR priorities. Please see p. 9.

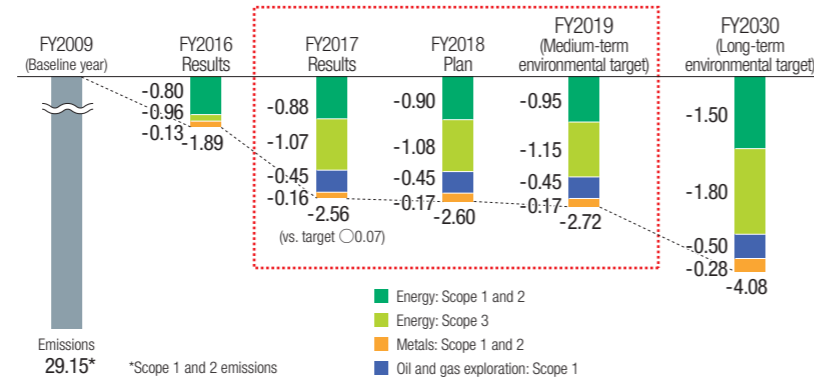
**Major Initiatives for Achieving the Medium-Term Environmental Management Plan and Results in Fiscal 2017**

<b>1. Reduction in CO<sub>2</sub> emissions (compared to 2009) ♥</b>	
(1) Reduction in CO <sub>2</sub> emissions at Group production sites:	1.49 million tons
Energy conservation:	1.04 million tons
CO <sub>2</sub> -EOR*	450 thousand tons
(2) Reduction in CO <sub>2</sub> emissions other than at Group production sites:	1.07 million tons
<b>2. Waste-to-landfill ratio ♥</b>	
(1) Thorough separation of waste, and reuse and recycling:	0.6%

\*CO<sub>2</sub>-EOR (Enhanced Oil Recovery): Technology for the improved recovery of oil through the injection of CO<sub>2</sub> gas. This technology simultaneously increases production of crude oil and reduces emissions of CO<sub>2</sub> into the atmosphere by transporting the CO<sub>2</sub>, captured out of the processed flue gas from a coal-fired power plant, to an oil field, and injecting and storing the CO<sub>2</sub> into legacy fields.

**Reduction in CO<sub>2</sub> Emissions**

Amount of reduction in CO<sub>2</sub> emissions (Million tons)



**Major initiatives for reducing CO<sub>2</sub> emissions ♥**

- Modifications to xylene recovery equipment at the Chiba Refinery
- Concentrated investments in energy conservation at the Negishi Refinery
- CO<sub>2</sub> separation and capture, etc., with the CO<sub>2</sub>-EOR project
- Increased sales of environmentally friendly products

**Main initiatives for reducing waste-to-landfill ratio ♥**

- Use of sludge, soot and dust as a raw material for concrete
- Recovery of valuable metals from waste catalysts

**Structure**

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

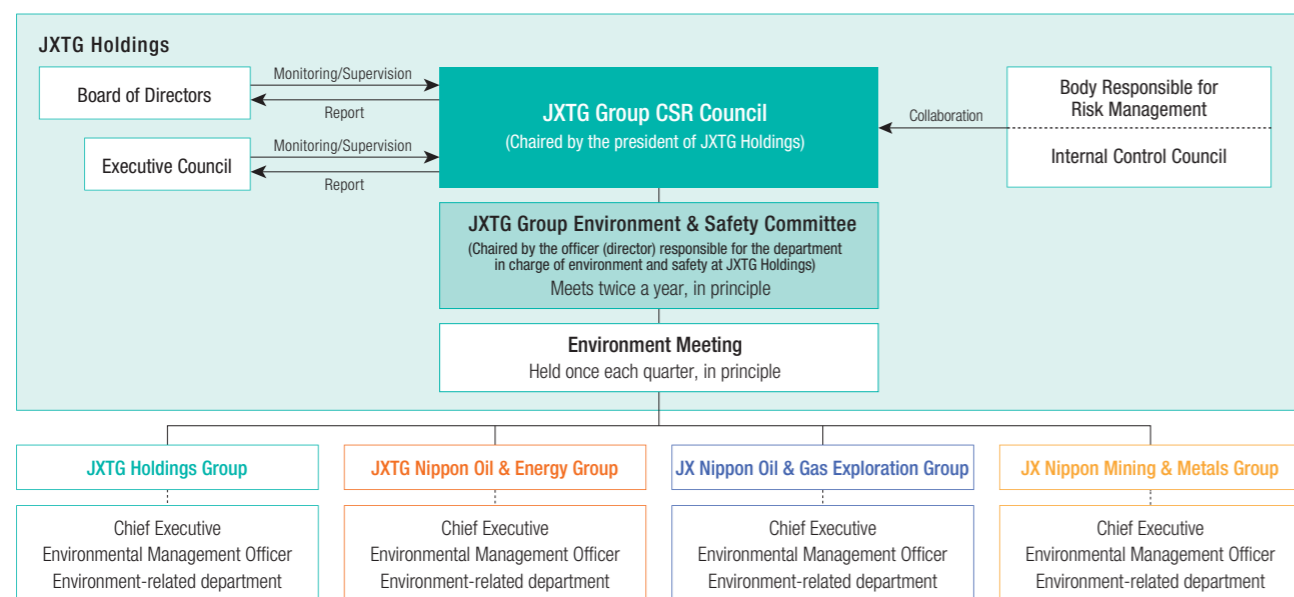
The Environment & Safety Committee deliberates environment-related matters and confirms operation of the Environmental Management System (EMS) across the entire Group, and results are reported to the Board of Directors

through the 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. 8-14 for an overview of the Group's CSR implementation structure.

♥: Indicates the Group's top CSR priorities. Please see p. 9.

**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**

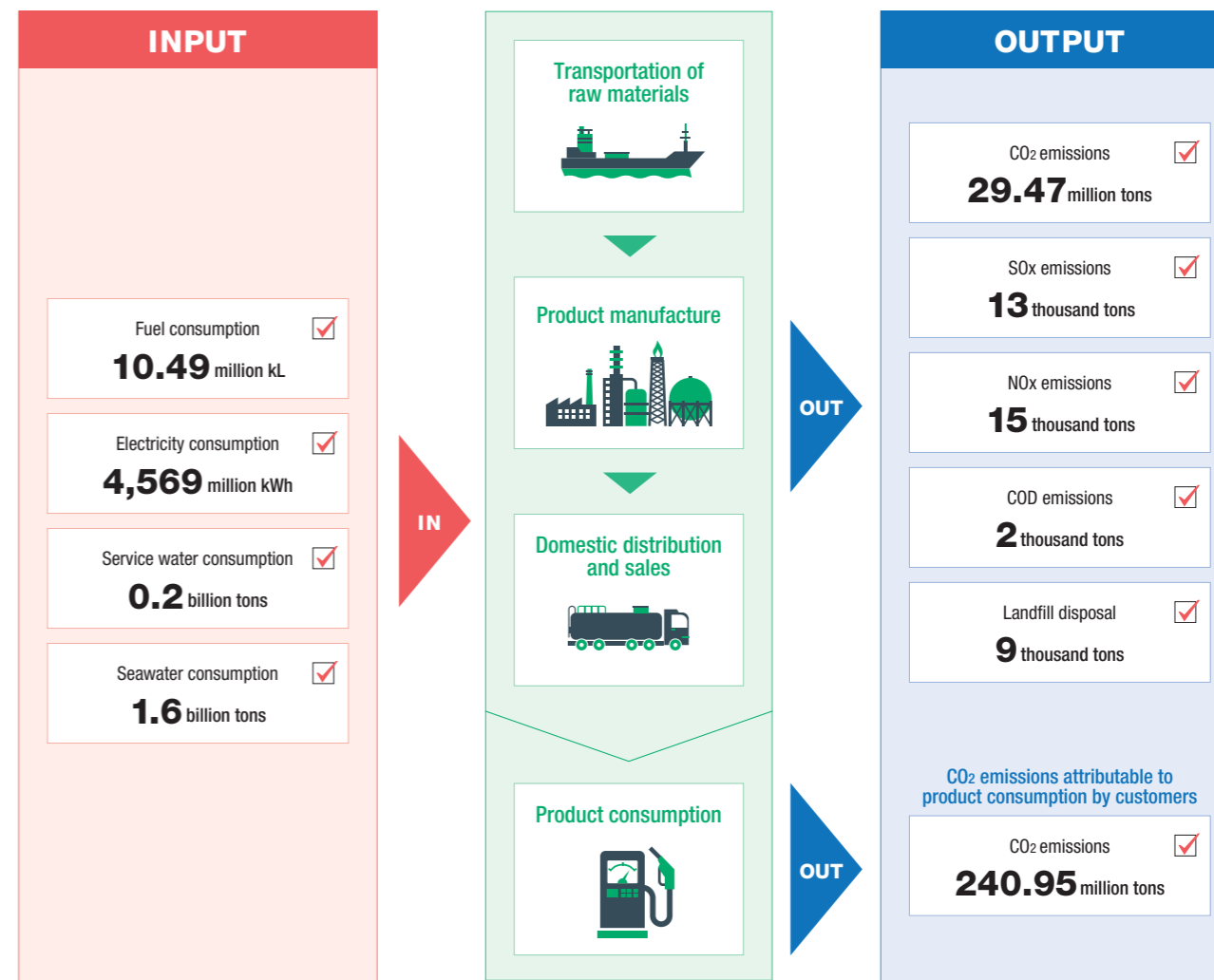
In fiscal 2017, one environmental accident occurred. Necessary measures were taken to address this accident and prevent a recurrence.

Date	Place	Description
April 2017	Hitachi Works, JX Nippon Mining & Metals	Alkaline wastewater leaked into a river from a crack in a concrete thickener

**Overview of the JXTG Group's Environmental Impact**

**Input-Output of the JXTG Group (results from fiscal 2017)**

(The graphic illustrates both the CO<sub>2</sub> emissions associated with business activities and the CO<sub>2</sub> emissions attributable to the consumption of products)



Notes: CO<sub>2</sub> emissions calculated based on the Act on Promotion of Global Warming Countermeasures. CO<sub>2</sub> emissions from the consumption of electricity calculated using *Emission Factors by Business Operator*.

CO<sub>2</sub> 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. Target oil products were revised in fiscal 2017.



## Initiatives to Prevent Global Warming

### Basic Approach

The JXTG Group is working to reduce CO<sub>2</sub> emissions across the entire supply chain in order to contribute to the development of a low-carbon society. To achieve this, we are reducing CO<sub>2</sub> 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 pp. 28–29.

### 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 information on our company-wide initiatives on climate change, see p. 21.

### Initiatives at Production Sites\* ♥

#### Energy Conservation

The Group's CO<sub>2</sub> emissions in fiscal 2017 totaled 29.47 million tons, roughly unchanged from the previous fiscal year, even though the utilization rate of production facilities increased.

Greenhouse gas emissions other than CO<sub>2</sub> totaled 0.15 million tons.

At the Chiba Refinery, to recover xylene fractions from gasoline, we introduced an energy-efficient distillation tower technology, developed overseas, which enables the distillation of two towers in a single tower. As a result, the refinery was able to reduce energy consumption by around 20%. At the Negishi Refinery, we undertook a total of seven major investments in energy conservation, timed to coincide with regular maintenance work. These investments included increasing the number and efficiency of heat exchangers and increasing the efficiency of rotary machines. As a result, the refinery was able to reduce CO<sub>2</sub> emissions by around 0.07 million tons.

Through these and other initiatives, we reduced our crude oil refining energy consumption intensity by 0.1 points.

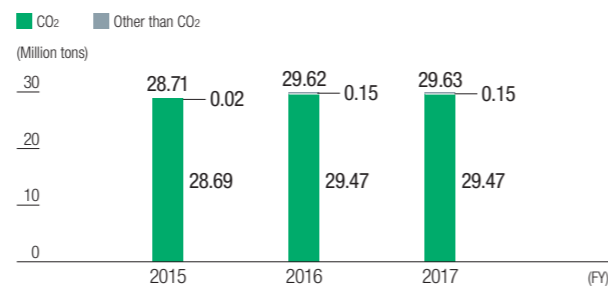
In addition, the energy consumption intensity of smelting

and refining facilities was 13.6 GJ/t and the intensity of CO<sub>2</sub> emissions was 0.86t-CO<sub>2</sub>/t. Both figures were little changed from last year.

In fiscal 2017, the Group invested around 6.0 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.

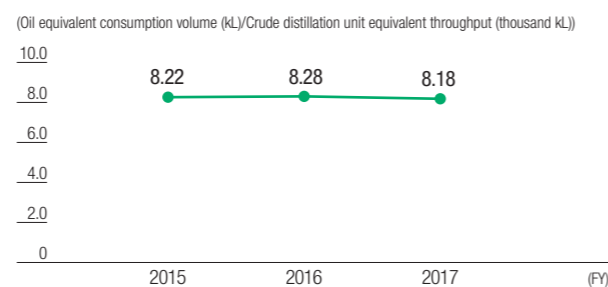
\* Scope 1 and Scope 2 as defined in the GHG Protocol.

### Changes in Total GHG Emissions ✓



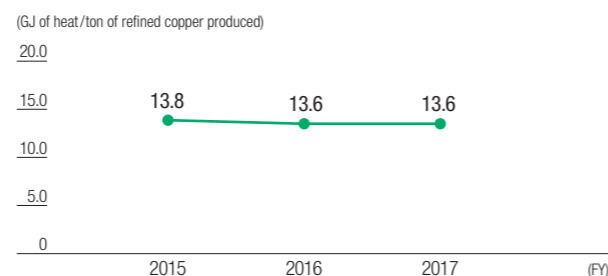
Notes: Calculated in accordance with the Act on Promotion of Global Warming Countermeasures. For detailed data, see p. 79 of the Data section.

### Energy Consumption Intensity for Oil Refining ✓



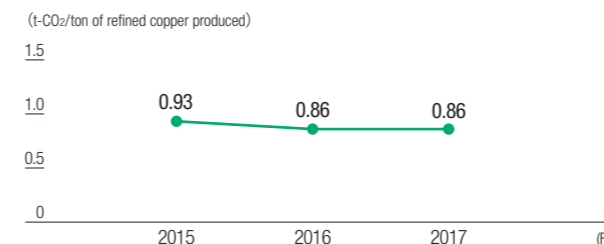
Note: Covers the refining sites of the JXTG Nippon Oil & Energy Group.

### Energy Consumption Intensity for Smelting and Refining ✓



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

### CO<sub>2</sub> Emissions Intensity for Smelting and Refining ✓



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

### Breakdown of GHG Emissions Other Than CO<sub>2</sub> ✓

Emissions other than CO <sub>2</sub>	Tons	153,727
1. CH <sub>4</sub> (methane)	Tons	41,480
2. N <sub>2</sub> O (nitrous oxide)	Tons	111,725
3. HFCs (hydrofluorocarbons)	Tons	308
4. PFCs (perfluorinated compounds)	Tons	0
5. SF <sub>6</sub> (sulfur hexafluoride)	Tons	214
6. NF <sub>3</sub> (nitrogen trifluoride)	Tons	0

The main greenhouse gases other than CO<sub>2</sub> include CH<sub>4</sub>, produced during crude oil extraction, and N<sub>2</sub>O, which is emitted from heating furnaces during the oil refining process.

We will continue working to lower these and other GHG emissions.

### Initiatives for Operations Outside of Production Sites\* ✓ ♥

The Group's CO<sub>2</sub> emissions from product consumption by customers in fiscal 2017 amounted to 240.95 million tons.

The JXTG Group is working to reduce CO<sub>2</sub> 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 Group spent a total of around 20 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
- Development of sensor materials to promote greater use of IoT

### 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-saving lubricants
- Natural gas (LNG)
- Liquid crystal polymers

### 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 p. 9.

### 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 July 2018)

Thermal (12 sites)	1,644MW
Solar (17 sites)	43MW
Hydro (1 site)	5MW
Wind (2 sites)	3MW
<b>Total</b>	<b>1,695MW</b>

#### Power Generation by Renewable Energy (2017)

Solar	50,716MWh
Hydro	26,686MWh
Wind	5,146MWh

Note: The GHG emission factor for JXTG Nippon Oil & Energy's electric power business in fiscal 2016 was 0.000495 t-CO<sub>2</sub>/kWh (after adjustment).

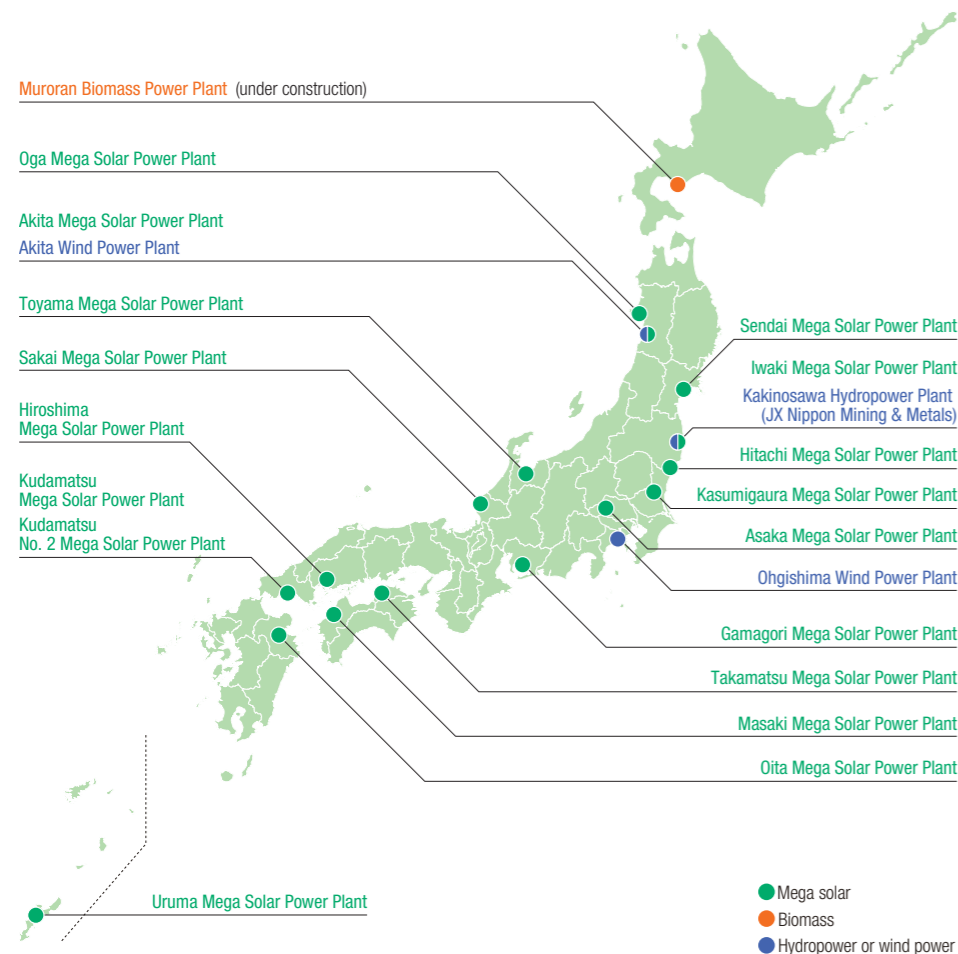
### Advancement of Renewable Energy Power Generation Business for CO<sub>2</sub> Reduction

In light of the introduction of the feed-in tariff system for renewable energy in 2012, the JXTG Group has been 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 17 locations nationwide. In fiscal 2016, the Group began operation of new mega solar power plants constructed on the premises of Nihonkai Oil in Toyama Prefecture, at the former site of the Fukui Oil Depot in Fukui Prefecture, and at the site of the former Gamagori Gas Terminal in Aichi Prefecture.

The Group is also actively advancing power generation businesses using renewable energies other than solar, including biomass, hydro power and wind power, and has amassed a total generation capacity of approximately 49,000 kilowatts (as of June 2018).

The Group will continue to utilize these clean energies, thereby contributing to the reduction of CO<sub>2</sub> emissions.

### Expansion of Renewable Energy Power Plants Nationwide



A wind turbine



Kakinosawa Hydropower Plant



Uruma Mega Solar Power Plant

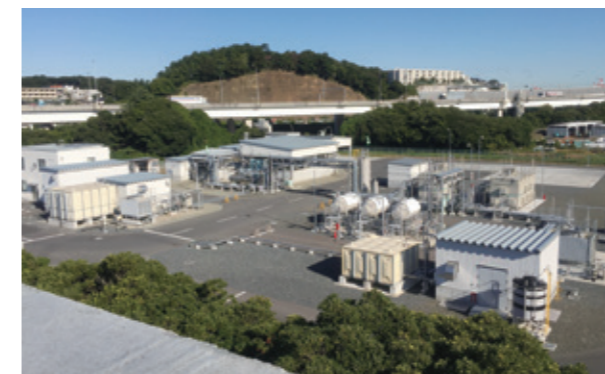
### Building an Integrated Hydrogen Supply System, from Production to Transport and Sales

Hydrogen is a clean energy source that does not emit CO<sub>2</sub> during use. Because it enables the use of renewable energy and untapped energy sources, 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 September 30, 2018, there were around 2,800 fuel cell vehicles nationwide. Japan is also the first in the world to reach 100 hydrogen stations, 40 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 now taking place to raise awareness about the growth of hydrogen.

Moving forward, JXTG Nippon Oil & Energy will leverage its long-standing infrastructure and expertise in the provision 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)



Yokohama Tsunashima Hydrogen Station and Suiso Terrace



Interior of Suiso Terrace

### Increasing Crude Oil Production and Reducing CO<sub>2</sub> through CO<sub>2</sub>-EOR (Enhanced oil recovery)

JX Nippon Oil & Gas Exploration is participating in a CO<sub>2</sub>-EOR project that utilizes cutting-edge technology to reduce CO<sub>2</sub> emissions, a cause of global warming.

CO<sub>2</sub>-EOR refers to injecting CO<sub>2</sub> into depleted oil reservoirs, thereby improving oil recovery and storing the injected CO<sub>2</sub> securely underground, thus reducing CO<sub>2</sub> emissions in the air.

In July 2014 JX Nippon Oil & Gas Exploration launched a project in the United States to build and operate a commercial-scale carbon-capture system that collects CO<sub>2</sub> from the flue gas of a thermal power plant. The captured CO<sub>2</sub> can then be injected into an oil field to increase oil recovery and the CO<sub>2</sub> is stored in the oil reservoir instead of being emitted into the air.

The world's largest post-combustion carbon capture facilities has been constructed at NRG Energy's WA Parish power plant southwest of Houston, Texas. The captured CO<sub>2</sub> is transported through a 130-kilometer pipeline and injected into the West Ranch oil field,\* where it is expected to increase the field's output.

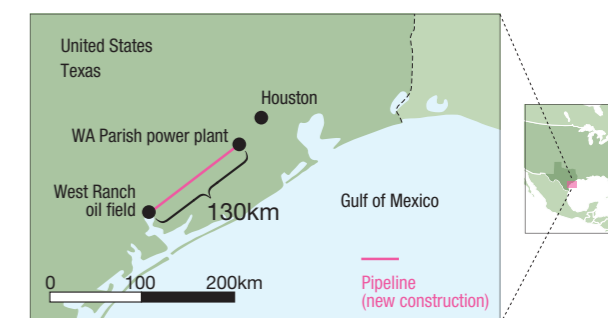
This is an epoch-making project set to revitalize legacy oil fields while reducing greenhouse gas emissions from thermal power plants, and yet it is specifically advanced that commercialization of the project has been brought by utilization of gas emissions from a thermal power station. As of February 2018, the project had captured a cumulative total of 1.2 million tons of CO<sub>2</sub>.

\* JX Nippon Oil & Gas Exploration holds a 25% interest in the West Ranch oil field.



CO<sub>2</sub> recovery plant

### Project Map



## 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 pp. 28–29. Information on our targets can be found in the Medium-Term Environmental Management Plan section on p. 28.

### 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. 76–81 of Sustainability Report 2018 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.

For details, see pp. 82–83 of Sustainability Report 2018 published by JX Nippon Mining & Metals.

### Initiatives to Reduce Waste ♥

In fiscal 2017, waste totaled 1.535 million tons, and landfill waste after recycling and reuse efforts totaled 9 thousand tons, a reduction of 2 thousand tons versus the previous fiscal year. The waste-to-landfill ratio was 0.6%, indicating that we continue to achieve zero emissions (waste-to-landfill ratio of less than 1%).

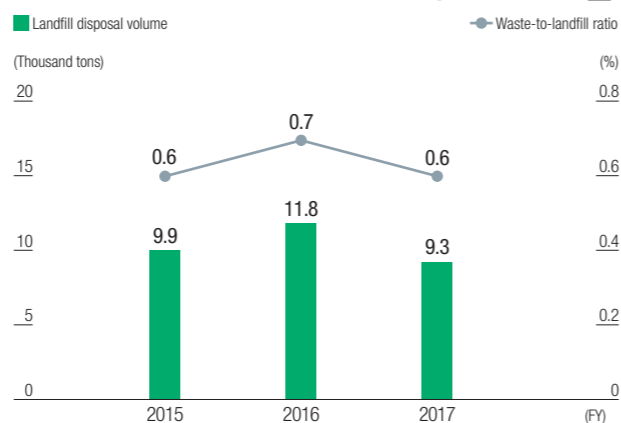
Specific initiatives for waste reduction include transforming the collected particulate matter and sludge released from oil refineries back into raw materials for cement, and the repeated use of neutralized slag<sup>1</sup> at our smelting and refining facilities.

In addition, we use LCA methodology<sup>2</sup> 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 p. 9.

### 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 technologies developed in our smelting business over more than a century. In fiscal 2017, 252 thousand tons of the 2.659 million tons of raw materials used in the company's business activities were recycled resources.

### Recycling and Environmental Services Business

#### Contributing to the Realization of a Recycling-Oriented Society through Our Recycling and Environmental Services Business

JX Nippon Mining & Metals is engaged in an integrated range of businesses related to copper and other nonferrous metals. These businesses encompass resource development, metal smelting and refining, electronic materials, and recycling and environmental services. Our 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—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

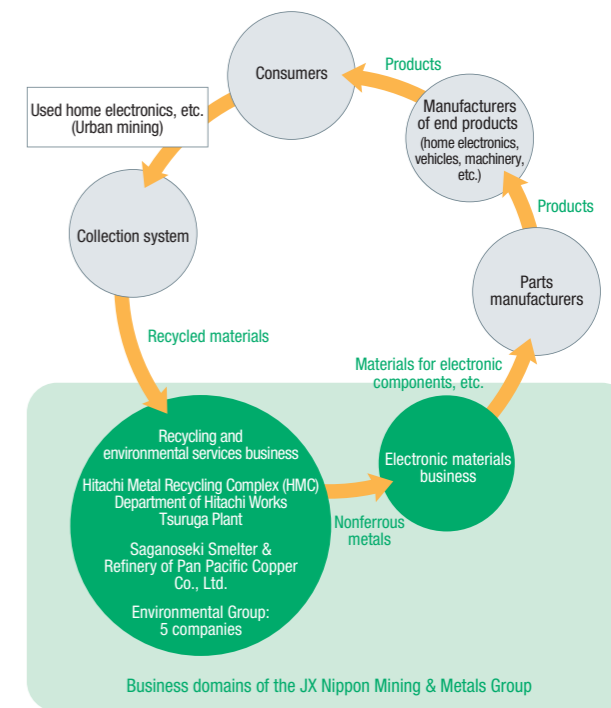
In the processes for detoxification of industrial waste and conversion of recycled materials into reusable resources as refined metals, we are pursuing zero emissions, where no

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 Saganoseki Smelter & Refinery of Pan Pacific Copper Co., Ltd., 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 are recycling and detoxifying 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.

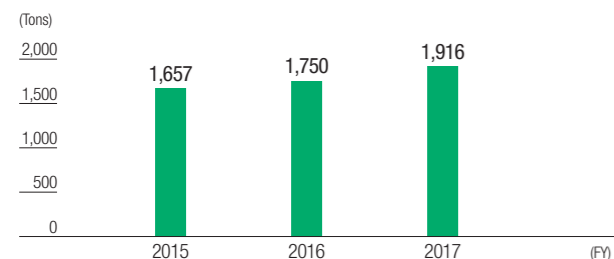
### Major Initiatives

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

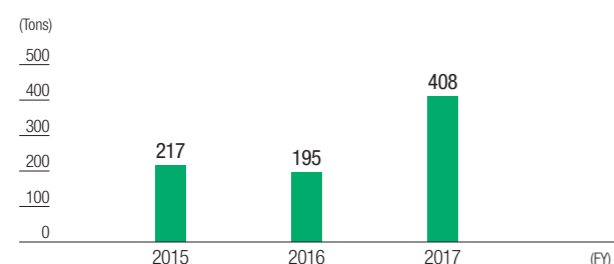
The JXTG Group manages and monitors the release and transfer amounts of specified chemical substances—such as benzene, toluene, and xylene, which are found in gasoline—based on Japan's Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements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

For fiscal 2017, the emission volume of these

#### Release of Specified Chemical Substances



#### Transfer of Specified Chemical Substances



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

substances was 1,916 tons, an increase of 166 tons from the previous fiscal year, while the transfer volume was 408 tons, an increase of 213 tons from the previous fiscal year. This was due to the increase in the volume of products handled that contain specified chemical substances.

#### Management and Detoxification of PCB<sup>1</sup> 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 Co., Ltd., 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.<sup>2</sup>

For details, refer to p. 38.

<sup>1</sup> 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.

<sup>2</sup> 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 Co., Ltd. melts down and detoxifies asbestos, responding to society's need for waste treatment. In fiscal 2017, the company treated approximately 5,600 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, and plans to complete official

registration by 2018. 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

#### 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 PCB, asbestos, and lead compounds) and substances that require monitoring (metallic compounds and VOCs such as xylene) to better manage their use in products, and are working to mitigate any harmful effects they may have.

In addition, we provide essential product safety information to customers and others involved with our products using methods such as safety data sheets (SDS). In the event that we obtain new information about any hazards or environmental impacts of our products, we promptly update the relevant SDS.

#### Low-Concentration PCB Waste Detoxification (JX Nippon Tomakomai Chemical Co., Ltd.)

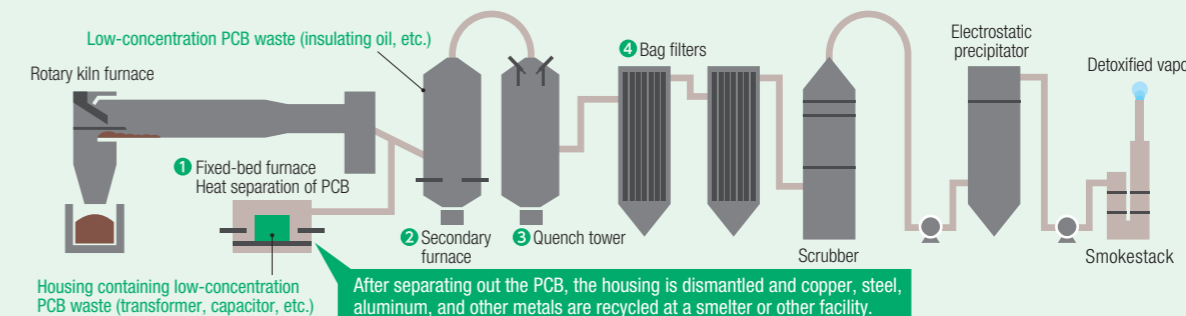
Since March 2014, when JX Nippon Tomakomai Chemical received certification from the Minister of the Environment as the first low-concentration PCB waste detoxification facility in Hokkaido, the company has been working to improve its treatment capacity.

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 March 2018, there were only 24 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 11 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)	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)
April 2016	Additional treated item: Ballast contaminated with low-concentration PCB	
March 2017	Additional treated item: Inorganic sludge (concrete scrap)	

## 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 pp. 28–29.

### 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 2017, a decrease of three thousand tons from the previous fiscal year. We will continue our efforts to reduce these emissions going forward.



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.

Fifteen thousand tons of NOx were emitted in fiscal 2017, which is about the same as 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 is installing VOC recovery equipment in storage facilities and truck loading facilities.

Sixteen thousand tons of VOCs were released in fiscal 2017, a decrease of two thousand tons from the previous fiscal year. The decrease can be attributed to a decline in the storage and handling volume of gasoline intermediates.

## VOC Recovery

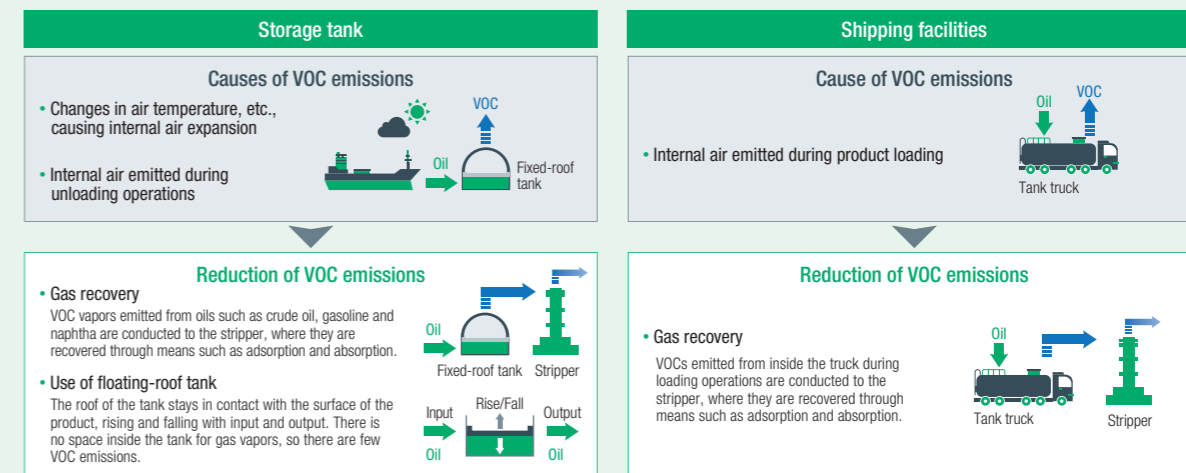
Volatile organic compounds (VOCs) containing hydrocarbons are released into the air whenever gasoline is pumped from a tank truck into a storage tank at a service station. These VOCs are not only a source of photochemical oxidants, but also cause irritating odors in neighboring communities and can adversely 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 2017, the volume of water used was 1.85 billion tons, and the water discharge volume was 1.81 billion tons. The scope of data aggregation was expanded in fiscal 2017 due to the business integration.

For the effective use of water resources, the JXTG Group recycles approximately 97% of the water used for cooling at its refineries. In addition, to reduce the amount of water used, smelters that use seawater for cooling have partially switched to recycled water.

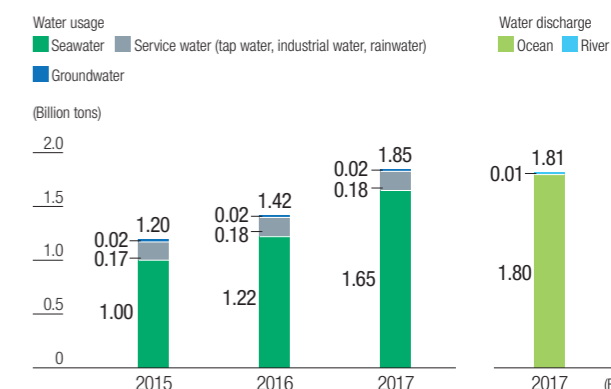
As part of our continuous efforts to ascertain the status of water resources, we use tools, such as water risk maps from the World Resource Institute, to verify whether the locations of our business sites in Japan and overseas are in areas of elevated water risk.

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.

### Reducing the Release of Water Pollutants

We manage and monitor pollutants in waste water 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 performs AMD treatment, manages tailings, and carries out other operations at these sites.

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 is generated continuously after a mine is closed as a result of the chemical reaction of rainwater and other water with ores remaining in the mines and tailings in the dams. Therefore, the operation of treatment facilities must be maintained continuously.



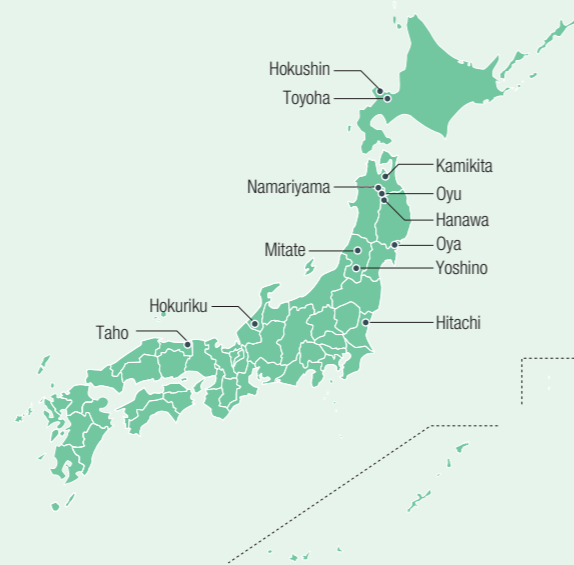
Motoyama AMD treatment facility at Toyoha Mine



Gallery inspection at Hanawa Mine

### Closed Mines Where AMD Treatment Is Carried Out

● Twelve closed mines where AMD treatment is carried out



### Soil Contamination Countermeasures

The JXTG Group performs systematic surveys on all land that it owns that has the potential for soil or groundwater contamination, focusing particular efforts on our 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 has been involved in the contamination purification business since before Japan's Soil Contamination Countermeasures Act took effect.

### Soil Surveys and Countermeasures in Fiscal 2017

(Expenditure: millions of yen)

	Surveys		Countermeasures	
	Number of cases	Expenditure	Number of cases	Expenditure
Service stations	170	224	54	1,630
Oil depots	1	0.3	0	0
Refineries/Business sites	7	18	1	1,377
<b>Total</b>	<b>178</b>	<b>243</b>	<b>55</b>	<b>3,007</b>

### Soil Contamination on Group Property Reported in Fiscal 2017

Category	Location	Survey results				Status
		Soil		Groundwater		
		Substance	Scale factor	Substance	Scale factor	
Idle land	Aichi	Benzene	5.8	Benzene	94.00	Countermeasures currently under implementation

## 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 pp. 28–29.

### 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, 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.

### 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.

We also carry out activities such as regular environmental training for employees and community contribution activities related to environmental conservation.

### Involvement in Biodiversity Initiatives

JXTG Nippon Oil & Energy has been a member of the Japan Business Initiative for Biodiversity (JBIB), a leading business initiative for biodiversity in Japan, since 2013.



### Initiatives at the Chita Plant

The 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 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 2017, ecosystem surveys of the biotope were conducted on two occasions.

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.





Survey of natural environment in the greenbelt



A butterfly skimmer in the biotope



Monitoring by an expert

### Initiatives at the Negishi Refinery

The 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 are slated to continue until fiscal 2019.

In fiscal 2017, the refinery installed a biofan to ensure the circulation of pond water and maintain water quality.

In fiscal 2018, we plan to hold interactive events and weed grassy areas using goats.



Organized tour of the refinery



Biofan installed to keep pond water clean

### 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

### Major Initiatives Overseas

#### Plans for Tree Planting and Biology Research at Caserones Copper Mine (Chile)

JX Nippon Mining & Metals is carrying out plans to plant 48,200 seedlings of 15 native flora species in an area spanning 143.51 hectares (1.43 square kilometers) to maintain biodiversity and protect plants that could be impacted by business activities at the Caserones Copper Mine. The areas being planted are those around Ramadilla on the mine site, and the off-site areas around Maitencillo and Amolanas. The work is expected to be completed in 2019. Among the types of flora being planted

are Amancay (*Balbisia peduncularis*), Carboncillo (*Cordia decandra*), and Retamo (*Bulnesia chilensis*).

In addition to these, monitoring of native plants such as Acerillo (*Buddleja suaveolens*), Flor del Minero (*Centaurea cachinalensis*), and Baylahuen (*Haplopappus baylahuen*) is being carried out to obtain information on their biological growth.

Research is also being carried out on the plant species Llaretta (*Azorella monantha*). Since Llaretta grow at altitudes between 3,000 and 3,900 meters, where the impact of the Caserones Copper Mine is greatest, these plants are of high importance as objects of study, which is aimed at learning such matters as their distribution in the Atacama region, how they propagate, and their phenology.



Biological diversity of Caserones

#### 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.

#### Use of Environmental-Hormone-Free Ship Hull Paint

Tributyltin is a compound found in paint that was once commonly applied to ship hulls, however, it is now known that this compound contains environmental hormones.

We therefore use zinc-based paints for our ship hulls, despite their being somewhat less effective, as part of our efforts to protect and maintain ecosystems.

# 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 see the Data section of this report.

## Priority Fields for CSR Activities

High Ethical Standards
Compliance
<b>Safety</b> and Environment
<b>Human Rights</b>
<b>Human Resource Development</b>
<b>Health</b>
<b>Quality</b>
<b>Social Contribution</b>

## 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 evaluates 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 Related links

See the following for further details on the safety policies of the Group's core operating companies.  
<https://www.noe.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 department in charge of environment and safety 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. 29.

### OHSAS 18001 Certification

Each Group company has built safety management systems tailored to its respective business characteristics through initiatives such as obtaining OHSAS 18001<sup>1</sup> certification. Our companies are continuously making efforts to raise safety awareness and prevent occupational injuries, through means such as conducting exhaustive investigations into the causes of any occupational injuries and formulating and implementing measures to prevent recurrence based on the results, as well as conducting regular safety education and training.

Eleven business sites in Japan have obtained OHSAS 18001 certification, a certification rate of 15%.

In addition, JX Nippon Oil & Gas Exploration has developed and deployed its own HSE<sup>2</sup> management system, which conforms to OHSAS 18001. Under this system, personnel in charge of HSE discuss safety-related matters with site managers and carry out safety checks.

<sup>1</sup> OHSAS 18001: Occupational Health and Safety Management Systems  
<sup>2</sup> Acronym for health, safety and environment.

### Safety Education Programs

In order to raise the safety awareness of our employees, we regularly implement activities such as training to improve the quality of risk assessments, as well as safety management training and safety meetings for managerial staff. We also provide safety education at the JXTG Group Safety Education Center (Hitachi City, Ibaraki Prefecture) to improve employee sensitivity to workplace risks (see pp. 47–48 for further details).



JX Nippon Oil & Energy also holds an Environment and Safety Forum to report on environment- and safety-related matters across the company, for the further improvement of environmental and safety management. In fiscal 2017, the forum was held in November, with participation by management.

At JX Nippon Oil & Gas Exploration, training programs are implemented at overseas offices (Vietnam and Malaysia) to improve safety awareness. During fiscal 2017, the programs were attended by a total of 220 participants.

### 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, JX 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 JX Group conducts extensive safety activities and safety training programs, in which employees from its partner companies also participate.

In fiscal 2017, there were a total of 36 occupational injuries, one more than the previous fiscal year. Regrettably, there was one fatal occupational injury of a contractor company's worker. We thoroughly investigated the cause, then formulated and implemented measures to prevent recurrence and rolled them out at Group companies.

Nine regular employees suffered occupational injuries, a decrease of seven from the previous fiscal year. There were no fatalities among regular employees.

The occupational injury frequency rate (the number of injuries and fatalities per million cumulative hours worked) and the occupational injury severity rate (the number of work days lost per thousand cumulative hours worked) were well below the industry average, according to a survey by the Ministry of Health, Labour and Welfare (MHLW). Both rates have declined since fiscal 2016.

In fiscal 2017, we adopted Group-wide safety efforts for occupational injuries that occur with greater frequency or which are likely to lead to serious occupational injuries, and are making further efforts to prevent their occurrence.

\* Fatal occupational injuries

#### Group-wide Safety Efforts

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

Our main efforts in fiscal 2017 included providing training to managers and using hand-held WBGT devices to prevent heat stroke, as well as confirming rules on the use of safety lanyards.

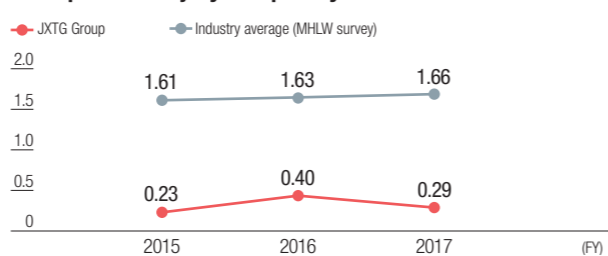
In addition, the Worker Safety (WS) system tire roller and wheel loader developed by NIPPO Corporation passed the Safety 2.0 certification screening and became the first devices from any industry to obtain this certification in February 2018.

### Occupational Injuries

			(Persons)		
			FY2015	FY2016	FY2017
Number of occupational injuries	JX Group	Fatalities	0	0	0
		Lost work time	17	16	9
		Subtotal	17	16	9
	Contractors (partner companies, etc.)	Fatalities	0	1	1
		Lost work time	23	18	26
		Subtotal	23	19	27
Total			40	35	36

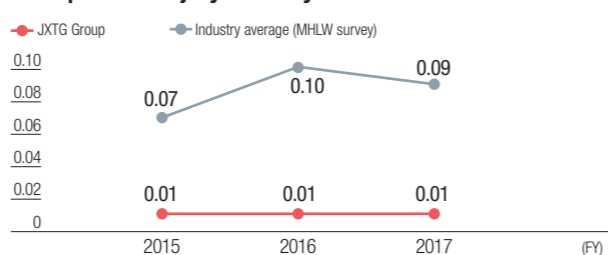
Note: Statistics on occupational injuries have been re-aggregated for previous fiscal years to cover the three core operating companies (JX Nippon Oil & Energy, JX Nippon Mining & Metals and JX Nippon Oil & Gas Exploration).

### Occupational Injury Frequency Rate



Notes: Scope: The refineries, plants and business sites of the three core operating companies. (For details, see p. 82.)  
 Data for previous fiscal years has been re-aggregated due to changes in the scope of business sites.  
 Frequency rate: The number of injuries and fatalities per million cumulative hours worked; indicating 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.)  
 Data for previous fiscal years has been re-aggregated due to changes in the scope of business sites.  
 Severity rate: The aggregated number work days lost per thousand cumulative hours worked; indicating 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>

♥: Indicates the Group's top CSR priorities. Please see p. 9.

### Safety Training Program Using Virtual Reality

In 2013, the JX Group established the JX Group Safety Education Center in Hitachi City, Ibaraki Prefecture. Established for the purpose of allowing 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.

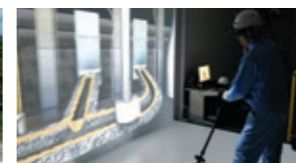
In fiscal 2017, 1,503 employees participated in training at the facility, bringing the total number since the center opened to 8,467.

In addition, a new Group training program that utilizes virtual reality technology was launched in July 2017. 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, with a focus on four kinds of experiential risk training: steam explosion, being struck by heavy machinery, entanglement in a high-speed rotor, and falling from a high place. Enabling participants to experience accidents from a victim's perspective increases the effectiveness of 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.



JX Group Safety Education Center



Virtual-reality training equipment

### Preventing Collisions Between Heavy Machinery and People

The JX Nippon Mining & Metals Group has designated the prevention of collisions between heavy machinery and people as a key safety issue. There is a high risk of collisions on the

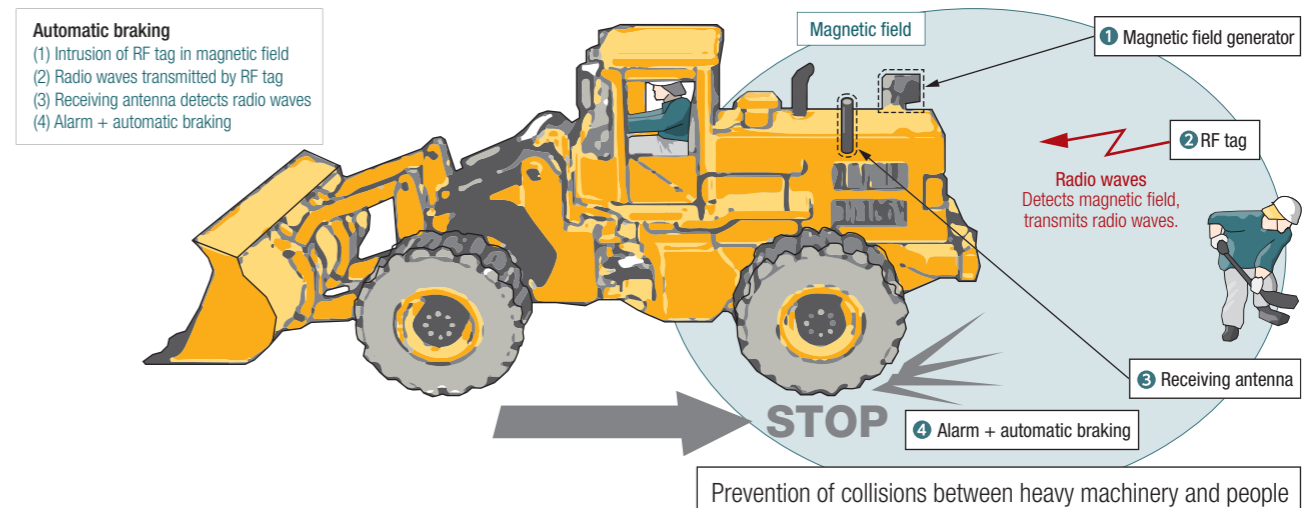
manufacturing floor, where heavy machinery, such as forklifts, is used frequently, increasing the potential for serious accidents. The company has considered and implemented a number of countermeasures at workplaces, including demarcation of separate routes for heavy machinery and people. Currently, the entire JX Nippon Mining & Metals Group is considering the introduction of measures that go a step beyond conventional approaches, making the use of the latest preventive safety technologies. From fiscal 2017 to fiscal 2018, a system for automatically braking heavy machinery was tested at the Saganoseki Smelter and Refinery of Pan Pacific Copper, while a system that issues warnings and commands to both operators and workers was tested at JX Nippon Coil Center. The following is a description of the heavy machinery automatic braking system and its benefits. It has been determined that the system will be adopted at the Saganoseki Smelter and Refinery.

### WS System – Automatic Braking System for Heavy Machinery

The Worker Safety (WS) System developed by NIPPO Corporation is the first automatic braking system for heavy machinery to be certified under Safety 2.0\*, a safety standard created by the Institute of Global Safety Promotion. Unlike conventional systems that give warnings, the WS system was developed to prevent serious accidents by physically stopping heavy machinery when its sensors detect an obstacle via radio frequency identification (RFID), stereo cameras, or other means.

The system using RFID works by emitting a magnetic field from the back of the vehicle when it is reversing. When the system detects radio waves emitted from an RF tag on a worker's helmet inside this magnetic field, it automatically applies the brakes to stop the vehicle. An advantage of this system is that RFID is not easily impacted by weather, visibility, temperature or obstacles. In addition, the system can easily be installed or removed as there is no need for modification of the heavy machinery's hydraulic piping or control equipment.

\* Safety 2.0: A standard developed to promote widespread use of cooperative safety (Safety 2.0), which utilizes information and communication technology to achieve both a reduction in accidents due to unsafe work conditions and an increase in productivity.



Prevention of collisions between heavy machinery and people

### 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 December 2017 and February 2018, respectively. 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.



Seismic reinforcement of buildings

### 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 (end of fiscal 2016). 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 since the Great East Japan Earthquake we have been retrofitting spherical tanks with braces and carrying out earthquake resistance measures on critical facilities.



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 in place 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 our employees and all stakeholders, and the mitigation of human rights-related risks in our business activities.

Based on this understanding, we support various international norms and we have stipulated a provision on respect for human rights in the JXTG Group Code of Conduct.

We support international norms such as the International Bill of Human Rights, the United Nations Guiding Principles on Business and Human Rights, and the Fundamental Principles and Rights at Work of the International Labour Organization, among others. More specifically, we strictly prohibit forced labor and child labor, work to eliminate discrimination in employment and the workplace, and maintain communication with labor unions and employees. Through these and other efforts, we work to identify and resolve human rights issues.

## 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.

## Establishment of 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. Nevertheless, we decided to establish a human rights policy to further clarify our stance and the importance of respect for human rights. Going forward, we will work to make the applicable scope of the Group Code of Conduct known to all 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 Cultural Rights), which stipulates the fundamental human rights of all people, along with international norms on human

rights such as the ILO Declaration on the Fundamental Principles and Rights at Work of the International Labor Organization, which sets forth fundamental labor rights, other conventions relating to the human rights of workers on wages and working hours, the Declaration on the Rights of Indigenous Peoples, and the Children's Rights and Business Principles. As a participant in the UN Global Compact, we support and respect the 10 principles of the UN Global Compact.

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

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

### 5. Training

The 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.

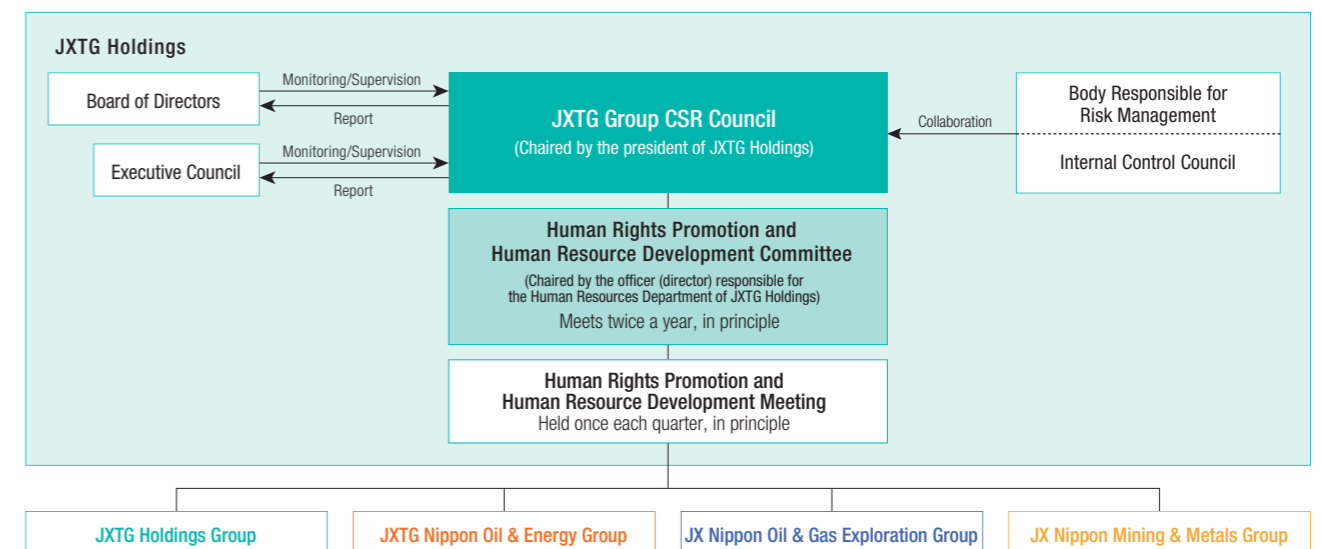
## Structure

The Human Rights Promotion and Human Resource Development Committee is chaired by the officer (director) responsible for the Human Resources Department of JXTG Holdings, and 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 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 and are used for the improvement of business activities across the entire Group.

## Structure for Promoting Human Rights, Human Resource Development and Health



## Major Initiatives

### Participation in the UN Global Compact

The JXTG Group is a participant in the UN Global Compact. We are working to protect human rights and ensure respect for the rights of workers.

### Participation in the Global Conference on Business and Human Rights

For details, see p. 13.

### Human Rights and Compliance Hotlines

To enable us to quickly identify human rights issues and take prompt action, we have established human rights and compliance hotlines inside and outside the company (run by an external law office) for consultation and reporting by employees of the company and its contractor companies.

In addressing inquiries, we maintain the privacy of the individual (reports may be filed anonymously) to ensure that those who contact the hotlines are not subject to unfavorable treatment as a result.

### 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.

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



Blind soccer event

To improve awareness of and sensitivity toward human rights, we hold workshops on blind soccer. During these workshops, instructors from the Japan Blind Soccer Association coach blindfolded participants in games and other activities requiring teamwork, mutual cooperation, and communication.

### Initiatives for Human Rights Due Diligence

#### Initiatives for Employees

The JXTG Group has formulated and disclosed guidelines for the prevention of unlawful discrimination, harassment, forced labor, child labor, etc. In addition, compliance inspections are conducted in each workplace every year to ascertain compliance with these guidelines.

We also strive to ensure compliance with relevant labor laws and regulations in the countries and regions where we operate.

Employees are compensated following rules established based on relevant laws and regulations concerning minimum wage, legal benefits, etc., in each country and region.

In Japan, we hold regular negotiations with labor unions on appropriate wage levels and labor conditions, and examine the adequacy of all aspects of pay.

#### Initiatives for the Supply Chain

The JXTG Group asks the suppliers that make up our supply chain, including raw materials suppliers, logistics companies, construction companies and sales companies, to cooperate with the JXTG Group Code of Conduct.

We have established a policy on CSR procurement for purchasing the materials and equipment needed for our business activities. We regularly conduct supplier surveys to monitor the status of compliance regarding respect for human rights across the entire supply chain.

For details, see pp. 68–69.

#### Initiatives for Business Activities

The JXTG Group analyzes and assesses human rights risks in order to combat various risks in its business activities, and when necessary, we take appropriate action.

For details, see p. 21.

♥: Indicates the Group's top CSR priorities. Please see p. 9.

### 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 explanatory meetings 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.

**WEB** For further details, see the [JX Nippon Mining & Metals Sustainability Report 2018](#).

[https://www.nmm.jx-group.co.jp/english/sustainability/pdf/report2018\\_e\\_full.pdf](https://www.nmm.jx-group.co.jp/english/sustainability/pdf/report2018_e_full.pdf)



Explanatory meeting

### 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.

**WEB** See the following websites for further details.

[http://www.eneos.eu/wp-content/uploads/2018/07/Anti-Slavery-Statement\\_FY2017.pdf](http://www.eneos.eu/wp-content/uploads/2018/07/Anti-Slavery-Statement_FY2017.pdf)

<http://www.nex.jx-group.co.jp/english/environment/compliance/active/human.html>

### 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 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 is chaired by the officer (director) responsible for the Human Resources Department of JXTG Holdings, and 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. 52.

## Major Initiatives

### JXTG Group

#### Development of future leaders

Candidates for future Group management positions are cultivated through rank-based 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

Rank-based training and training to develop core human resources are implemented.

#### Overseas training for young employees

College graduates in their fourth or fifth year of employment with the company are sent overseas for about one month for training, which includes language study and fieldwork, in accordance with language skills.

#### Local staff training

Group training is implemented for local staff at overseas locations.

#### Promotion of career opportunities for female employees

Seminars are held to follow up with employees taking childcare leave, to raise awareness among supervisors, and to support the career development of female employees, etc.

#### 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

Rank-based training and training to develop core human resources are implemented.

#### 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 13 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 curriculum developed by the company.

### JX Nippon Mining & Metals

#### Training by rank

Rank-based training and training to develop core human resources are implemented.

#### 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 English or other 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 2017

	Total training hours	Training hours per employee
JXTG Holdings	1,957	12.23
JXTG Nippon Oil & Energy	69,046	7.72
JX Nippon Oil & Gas Exploration	7,985	21.24
JX Nippon Mining & Metals	29,379	17.00
<b>Total</b>	<b>108,367</b>	<b>9.66</b>

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.

♥: Indicates the Group's top CSR priorities. Please see p. 9.

### 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 address the rapid changes expected to take place in the management climate going forward.

As the development of these management resources is a challenge facing JXTG Holdings as well as its core 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 candidates for senior management positions.
- Management resources are provided with growth opportunities by combining on-the-job training (inter-departmental 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.

### Dialogue Sessions with Management

JXTG Holdings and JXTG Nippon Oil & Energy jointly hosted dialogue sessions with management for around 900 general managers, deputy general managers and group managers across Japan.

The objective of these sessions was to foster mutual understanding by sharing roles expected of JXTG Group leaders and middle management through direct dialogue between officers and participants, as well as sharing values and issues through dialogue between employees of the same rank.

During the dialogue sessions with officers, senior management from both companies discussed a number of topics based on questions and opinions of participants. These topics included the company's future vision, organizational culture, business integration, and their own career experiences. In the dialogue sessions between participants, participants meeting each other for the first time exchanged opinions earnestly while discussing several different topics.



Dialogue session involving officers and middle 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, all employees who are college graduates in their fourth or 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 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.

All employees who are college graduates are required to take the TOEIC test every three years, and they are encouraged to continue learning English even after the completion of global business skills training.



Global business skills training

### 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. At training held for middle-management overseas staff in fiscal 2017,

participants learned about the mindset required of candidates for senior management positions at overseas sites and how to manage an organization.

In addition, the company launched an initiative in fiscal 2018 in which highly talented locally hired overseas employees are assigned to the JXTG Nippon Oil & Energy headquarters in Japan for several years to experience corporate operations firsthand.

### Supporting Employees' Self Development

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

#### Voluntary Participation in Training

To support the self development of its employees, JXTG Nippon Oil & Energy offers open seminars in which employees can participate on a voluntary basis in accordance with their individual needs. Employees can also pursue self development outside of work hours through voluntary participation in company-supported language learning and correspondence courses.

#### Self-Innovation Support

In fiscal 2017, JX Nippon Mining & Metals launched a self innovation support program in which the company defrays half the amount of costs for self development suited to the needs of participating employees or the company.

With the progress of workstyle reforms, a growing number of employees are using their increased personal time for developing their skills. Given this trend, the company introduced this program with the goal of actively supporting employees who use their personal time for skill development.

The self development programs eligible for the company's matching contribution do not necessarily need to be directly related to the employee's current work. The fact that any program that contributes to the company's operations from a medium- to long-term perspective is eligible for the matching contribution provides even greater incentive to employees with a desire to learn.

JX Nippon Mining & Metals will continue to support employees with a desire to learn.

# 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.

We place great importance on the maintenance and improvement of the health of our employees not only in Japan, but at our overseas business sites as well.

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 is chaired by the officer (director) responsible for the Human Resources Department of JXTG Holdings, and 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. 52.

## Major Initiatives ♥

### Employee Health Management

The JXTG Group works to maintain and improve the health of employees and their families by providing subsidies for regular health screenings, annual medical examinations, cancer screenings and influenza vaccinations, and for employees on overseas assignments, we also offer vaccinations as required and medical support.

In fiscal 2017, 99.9%\* of employees underwent regular health screenings. For employees diagnosed with medical issues, we work to ensure follow-up care through efforts such as encouraging these employees to undergo further testing as needed.

\* Employees of JXTG Holdings and core operating companies.

♥: Indicates the Group's top CSR priorities. Please see p. 9.

## 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 counseling with external counselors.

We also make improvements in work environments as needed as part of our mental health care efforts.

## Health Measures for Employees Traveling and Working Overseas

To prevent employees traveling and working overseas from falling ill, 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.

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.

## Recognition as a Certified Health and Productivity Management Organization (White 500)

JXTG Holdings and its core operating companies have received recognition as a Certified Health and Productivity Management Organization (White 500) for implementing outstanding health management based on a health management survey conducted by the Ministry of Economy, Trade and Industry.



Representatives of corporations recognized as Certified Health and Productivity Management Organizations



## 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 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.

\* Direct measurement of individual workers' exposure to harmful substances (individual exposure measurement). This method, which is used worldwide, is currently being reviewed by the Ministry of Health, Labour, and Welfare for incorporation into the current Industrial Safety and Health Act as part of the 13th Occupational Safety & Health Program.

## 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 each refinery 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 is chaired by the officer (director) responsible for the Human Resources Department of JXTG Holdings, and 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, diversity and inclusion. It confirms and evaluates the activities of each Group company and shares information.

Specifically, we are implementing measures such as workstyle reforms, workplace and career advancement initiatives for female employees and employees with disabilities, and the expansion of systems promoting work-life balance.

For details about our structure, See p.52.

### 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 p. 9.

### Employment Status of Female Employees

(As of March 31, 2018)

Newly hired female employees	65	Percentage of women among new hires: 14.1%
Total number of female employees	1,226	Percentage of women in the workforce: 10.9%
Number of female managers	76	Percentage of women in management: 2.5%
Number of female directors	2	Percentage of female directors: 11.1%
Average years of service for all female employees	17.3 years	Average years of service for male employees: 19.4 years Difference in average years of service between male and female employees: 2.1 years

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

### Monitoring through Employee Awareness Surveys

Once every two years, the JXTG Group conducts an anonymous survey of all employees. In fiscal 2017, the survey was conducted on topics such as the advancement of women in the workplace, work-life balance, and LGBT. The results were reported to the Board of Directors and reflected in policies concerning women's career advancement.

### Re-hiring Program for Employees Who Accompany a Spouse on an Overseas Assignment

As one initiative to support women's advancement in the workplace, JXTG Nippon Oil & Energy has adopted a system for re-hiring employees who resign in order to accompany a spouse who has been transferred overseas. Employees who register at the time of resignation can be re-hired within five years if they so request.

### 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 mindsets as part of their efforts to foster ikubosses in this new age.

Upon joining this alliance, we created and announced our own Ikuboss Declaration. We continue to focus on the promotion of diversity, including women's participation in the workplace and workstyle reform, in accordance with the ikuboss objectives.

\* 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 ♥

For fiscal 2017, the percentage of employees with disabilities was 2.3%, higher than the legal requirement of 2.0%.

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.

### 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 2017, the number of workers re-employed after retirement was 710.



### Creation of Local Jobs

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

In fiscal 2017, the number of locally employed staff at our overseas sites was as follows.

	(Persons)
JXTG Nippon Oil & Energy	1,279
JX Nippon Oil & Gas Exploration	450
JX Nippon Mining & Metals	2,029
<b>Total</b>	<b>3,758</b>

### 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's 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. At the same time, 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 2017

Number of days granted	22.3
Number of days taken	18.8
Usage rate	84.0%

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
General	Family care subsidies	JX Nippon Mining & Metals
	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
	Flexitime	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
	Re-hiring program for employees who accompany a spouse on an overseas assignment	JXTG Holdings, JXTG Nippon Oil & Energy
	Leave system for supporting continuation of career	JX Nippon Oil & Gas Exploration
	Return-to-work system	JX Nippon Mining & Metals
	Telecommuting	All Group companies
Exemption from late-night work	All Group companies	

### Number of Employees Utilizing Major Systems in Fiscal 2017

Number of employees taking childcare leave	164 (of which 107 are male)
Percentage of employees returning to work after giving birth or taking childcare leave	100%
Percentage still employed 12 months after returning to work	96.6%
Number of employees taking family care leave	3

Note: Data from JXTG Holdings and core operating companies.

### Enhancing Systems for Childcare and Family Care

As a part of its efforts for energizing of individuals and organizations, JX Nippon Mining & Metals is reviewing its existing systems and implementing new ones to create an environment where even employees involved in childcare or family care can fully realize their capabilities.

#### Overview of Childcare and Family Care Systems (JX Nippon Mining & Metals)

	Pregnancy/Childbirth	Childcare/Parenting	Family care
Workstyle support	Time off before and after childbirth	Time off to care for an ill child	Time off for family care
	Special measures for women during pregnancy and within one year after childbirth	Childcare leave <b>REVISED</b> (duration can be shortened, more changes in duration allowed)	Family care leave
	Time off for childbirth	Exemption from overtime work exceeding limit	
		Exemption from late-night work	
		Shorter workday (applicability expanded, may be used in conjunction with flexitime) <b>REVISED</b>	
		Flexitime (core time revised, may be used in conjunction with shorter workday) <b>REVISED</b>	
		Exemption from unscheduled work	
		Childcare time	
		Cumulative annual paid leave (childcare added to conditions for use) <b>REVISED</b>	
		Telecommuting <b>NEW</b>	
Financial support, etc.	One-time maternity/childcare benefit, additional one-time maternity/childcare benefit (health insurance)	Childcare/family care subsidies <b>NEW</b>	
	Maternity allowance, additional maternity allowance (health insurance)	Return-to-work grant <b>NEW</b>	Family care leave allowance <b>NEW</b>
	Exemption from paying social insurance premiums (health insurance and employee pension) during pre- and post-childbirth leave, childcare leave, etc.	Childcare leave benefit (employment insurance)	Family care leave benefit (employment insurance)
		Childcare concierge service <b>NEW</b>	
		Support for babysitter use <b>NEW</b>	
		Return to work <b>NEW</b>	

■ Support from social insurance and employment insurance ■ Fiscal 2017 New or Revised ■ Fiscal 2016 New or Revised Note: Telecommuting may also be utilized for reasons other than involvement in childcare or family care.

#### Main New Systems (From Fiscal 2017)

- Return-to-work grant**  
In order to facilitate a smooth transition back to work, a one-time grant is paid to an employee returning to work after childcare leave to ease the economic burden of preparing to combine childcare and work.
- Family care leave allowance**  
During family care leave, the obligation to pay social insurance premiums and the like remains even as income declines. The family care leave allowance, paid monthly during family care leave, is intended to provide partial assistance to ease this economic burden, and to make conditions more conducive to taking advantage of the family care leave system.
- Childcare/family care subsidies**  
To enable employees to combine work and childcare or family care, monthly subsidies are paid to help cover the costs of childcare-related services (to the extent these costs exceed ordinary daycare) or family care services (as stipulated in the Long-Term Care Insurance Act, excluding services received during continued residence in a facility) used to enable the employee to continue working.
- Childcare concierge service**  
With the aim of helping employees return to work early or balance work and childcare, outside advisers have been appointed to provide employees with information and advice on such matters as finding a daycare center or childcare in general.
- Support for babysitter use**  
In another measure to support employees in balancing work and childcare, a corporate contract has been concluded with a babysitting company, enabling employees to use its services for less than the usual rates. This support makes it easier for employees to use these services in emergencies, such as when a child is ill or sudden overtime work arises, and also for everyday childcare.

# 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; Muroran Plant; Kawasaki Plant; Yokohama Plant; Chita Plant; Sodegaura Terminal; Osaka Refinery, Osaka International Refining Company, Limited; Kashima Refinery, Kashima Oil Co., Ltd.; Advanced Polymers Business Unit; CF Composites Unit
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 Kyodo 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 USA, Inc.; 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.

## Standardization of Quality Management and Assurance Procedures

Although all of our refineries and plants have obtained ISO 9001 certification, we focused on ISO 9001 requirements for the manufacture of oil and petrochemical products to develop the Quality Management System, which has been implemented at all sites.

One of the features of this system is that risk assessments and risk reduction measures are performed 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 those risks, 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 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.

## 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.

In addition, 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.

## Initiatives at Service Stations

At our service stations, we work with operators to improve product quality management and customer satisfaction.

Product quality management initiatives at our service stations include regular inspections of weighing devices, underground tanks, and other facilities.

In addition, we have prepared a quality management manual and other materials for the development of 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

In January 2018, as part of its efforts to strengthen its quality management structure, JX Nippon Mining & Metals established the Quality Control Department, which is in charge of planning, proposing and implementing policies aimed at maintaining as well as improving quality management at the company. 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 Quality Control Committee was also established to ascertain whether the quality management structure is functioning properly and to share any issues.

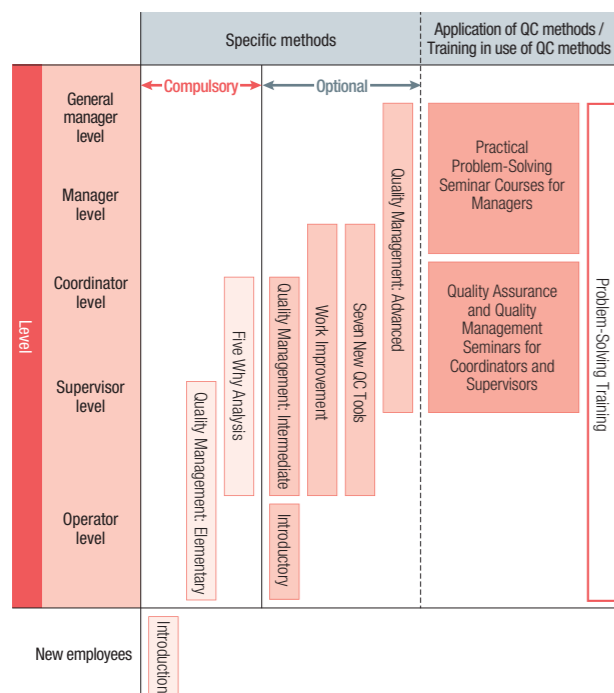
### Initiatives in Quality Control Education

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

- To standardize and raise quality control levels across 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.

To achieve these objectives, the company has made it compulsory for all employees to take the Elementary and "Five Why Analysis" quality control courses.

### 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 2017 to March 2018, we received a total of 23,695 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 to ensure compliance, attention to environmental preservation, and respect for human rights.

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)

#### 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.

### 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

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 Policy for Selecting Procurement Partners

- 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.**

### Promotion of Green Purchasing

The JXTG Group periodically conducts surveys among its suppliers as part of its efforts to promote green purchasing, which prioritizes equipment and materials with a lower environmental impact, and helps to ensure the use of such equipment and materials.

In fiscal 2017, surveys were sent from JXTG Nippon Oil & Energy to 160 suppliers, with responses received from 155 suppliers, a response rate of 97%.

In fiscal 2017, surveys were sent from JX Nippon Mining & Metals to 449 suppliers, 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 supplier selection as applicable.

### Promotion of CSR Procurement

Further expanding its green purchasing efforts, the JXTG Group is working toward the introduction of CSR procurement, which focuses on factors such as compliance, respect for human rights, enhancing the work environment, reducing environmental impacts, and assuring safety.

JXTG Nippon Oil & Energy established the JXTG Nippon Oil & Energy CSR Procurement Policy in July 2018.

In October 2018, 59 suppliers, accounting for 60% of the value of items purchased and accepted, attended a training session for promoting understanding and cooperation with regard to this policy, and also responded to a survey for risk assessment.

Based on analysis of the survey results, we will share measures to be implemented with our suppliers and make necessary corrections and improvements through proper dialogue.

Based on the results of JXTG Nippon Oil & Energy's initial efforts, other Group companies will also integrate CSR procurement into their business operations going forward.

### Confronting the Issue of Conflict Minerals

Regarding the JX Nippon Mining & Metals Group, relevant industry organizations (including the LBMA<sup>1</sup> and RBA) have established monitoring programs for eliminating conflict minerals. Under these programs, companies are requested to carry out surveys and undergo external audits by an independent organization.

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.

Specifically, Pan Pacific Copper, a producer of gold bullion, has established and operates a management system for supply chain due diligence that calls for the following actions to be taken:

1. Performing supply chain due diligence before purchasing mineral raw materials.
2. Notifying suppliers of the policy on exclusion of conflict minerals.
3. Conducting in-house education on supply chain due diligence and its background.
4. Conducting internal audits and undergoing external audits.

Operation of the system is audited by an independent organization specified by the LBMA, and the results are reported to the LBMA. As a result of following these procedures, the gold bullion produced at Pan Pacific Copper's Saganoseki Smelter & Refinery is included on the LBMA's Good Delivery List.

The Saganoseki Smelter & Refinery has also been included on the Conflict-Free Smelter list compiled by the RBA and GeSI,<sup>2</sup> recognition that it is taking proper measures to exclude conflict minerals.

Moreover, in September 2017, the LBMA announced its Responsible Silver Guidance (RSG), which requests appropriate due diligence in silver supply chains. The JX Nippon Mining & Metals Group intends to follow RSG, and in fiscal 2018 began establishing rules and taking other steps to ensure conformance.

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

<sup>2</sup> Global e-Sustainability Initiative (a trade association of the information and communications technology industry in Europe). The LBMA and GeSI together created the Conflict-Free Smelter (CFS) certification program given the high risk of conflict minerals being used in electronic and communications equipment.



Certificate from the LBMA

# 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.

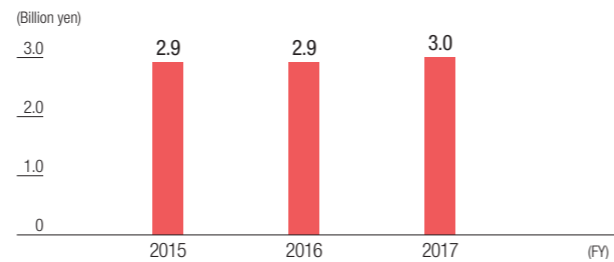
See pp. 8–10 for the Group's CSR promotion structure.

## Expenditure for Social Contribution Activities

In fiscal 2017, 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 3.0 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.

## Expenditure for Social Contribution Activities



Notes: Results for fiscal 2015 are based on the former JX Group. Results for fiscal 2016 represent the sum of the former JX Group and the former TonenGeneral Group. Actual values are the sum of expenditures on social contribution activities reported to the Keidanren 1% (One-Percent) Club plus donations of money and goods, etc.

## Initiatives in Vietnam

As a project operator in Vietnam, JX Nippon Oil & Gas Exploration is continuously implementing a variety of social contribution activities, including the provision of scholarships and donations for school building projects. We also support vocational training facilities that enable the social participation of young Vietnamese with disabilities resulting from the effects of defoliants.

### Support for Construction of School Buildings

In addition to providing support for the construction of school buildings in various areas of Vietnam, we also provide the schools with teaching materials.

In fiscal 2017, we provided support for the construction of Nguyen Ba Ngoc Elementary School in Dak Nong 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



Nguyen Ba Ngoc Elementary School



Vocational training

## Educational Support

Since 2006, JXTG 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 2017, scholarships were awarded to 45 students.



Scholarship recipients in fiscal 2017

In 2011, PetroVietnam University was established 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 making a donation of 100,000 US dollars at the university's inauguration, We have provided scholarships and funding for operations, and hosted interns from the university.

In September 2017, a graduation ceremony was held for the university's second class of graduates.



Interns from PetroVietnam University with a company official

## 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 important annual events in the state of Sarawak—the Sarawak Regatta (boat race) and the Borneo Jazz Festival—we play a part in promoting sports and culture in local communities.



A boat race during the Sarawak Regatta

### Enhancing Community Facilities

We donated a kidney dialysis machine to a medical facility in Miri, Sarawak, and donated a new water supply system to a school in a rural part of the same state.



Water supply system donated by the company

### 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.

### Assistance to Local Residents Impacted by Torrential Rain and Heavy Snowfall

In May 2017, MLCC provided assistance in the form of drinking water, food, charcoal, blankets and other items to the residents in the area near the mine who suffered damage from heavy rain and snow. The company also provided container houses and a shared storage facility to five households in the Hornitos district who lost their homes to flooding of the Copiapó River.



Providing relief supplies

### Initiatives in Japan

#### Youth 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 2017, we held 6 baseball classes for 431 participants and 70 basketball clinics for 2,778 participants.



Youth baseball class



Basketball clinic

#### Support for Disabled Sports

##### Sponsoring Wheelchair Basketball in Japan

Since 2006, JXTG Nippon Oil & Energy has sponsored the Japan Wheelchair Basketball Championship Tournament, known as the Prime Minister's Cup, for the promotion of wheelchair basketball.

Many employees and their families watch the tournament to cheer on the athletes as well as volunteer to provide operational support and assistance.

##### Sponsoring a Baseball League for People with Disabilities

Since 2007, JXTG Nippon Oil & Energy has been working to promote and develop baseball for people with disabilities as a sponsor of the Japan Dream Baseball League. The company sponsors a nationwide tournament for disabled baseball and helps to make the games exciting, with employees and their families cheering on the players.

### JXTG Children's Story Award

The JXTG Children's Story Award is a contest, open to the general public, which recognizes the best works from among submissions of original children's literature on the theme of "heart-to-heart contact." The award has been presented by the JXTG Group since 1970.

A total of 11,897 heartwarming entries were submitted for the 48th awards, presented in fiscal 2017.



Awards ceremony for the 48th 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 2017, scholarship support was provided to 496 children (enrolling in fiscal 2017), bringing the total number of recipients since the scholarship program was created in fiscal 2003 to 4,772.

### 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 Osaka, Chiba and Shizuoka 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 1,300.

### Summer Holiday Science Bus Tour for Fun Learning

At the refineries of JXTG Nippon Oil & Energy, Summer Holiday Science Bus Tours are run in collaboration with various newspaper companies for elementary school students and their guardians.

Each group is taken on a tour of the refinery on board a bus, where they learn about refinery processes, from the import of crude oil and refining to product shipment. They also observe firefighting drills involving firefighting vehicles and other equipment.

These bus tours were held at nine of our locations in fiscal 2017, attracting 706 participants, including children and their guardians.



Bus tour at the Sendai Refinery

### Summer STEM Challenge 2017

The JX Nippon Mining & Metals Group supports the STEM Challenge —Experience Jobs in Science and Technology— initiative, which is implemented mainly by the Gender Equality Bureau Cabinet Office. As part of this initiative, during the summer break period, the Group hosted plant tours and interactive experiments for junior high school students at five of its business locations across Japan.

Participants got to experience the unique work environment of each business site and learned about the societal benefits of copper and other non-ferrous metals along with what it is like to work in a science and technology job.



Interactive experiment



Note: The STEM Challenge is an initiative established to support female students interested in science and technology in their selection of a future career path. The JX Nippon Mining & Metals Group has held related events since 2015 as a science and technology supporter.

### JX Nippon Oil & Gas Exploration International Student Scholarship

As part of its social contribution activities, JX Nippon Oil & Gas Exploration provides assistance to international students studying in Japan. Through an initiative targeting the countries where the company operates, in fiscal 2017 one-year scholarships were awarded to two international students from Papua New Guinea.

### 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 conducts 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 2017, a total of 1,447 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 2017, 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 2017, approximately 39.2 million yen was donated, bringing total donations through this initiative to about 470 million yen.



ENEOS credit card

### Firefly Watching Event

JX Nippon Mining & Metals Group company JX Nippon Tsuruga Recycle Co., Ltd. has offered firefly watching as an annual event for more than a decade. In 2017, activities were expanded as Mito City, Ibaraki Prefecture, the sister city of Tsuruga City, Fukui Prefecture, and the junior high school affiliated with Tsuruga Kehi High School newly co-sponsored the event. In addition to the viewing, students from the junior high school gave presentations, craft workshops were held, and the habitat distribution of Tsuruga's fireflies was explained, with large attendance at each of the events. Many fireflies could be seen at the firefly viewing, enabling children to experience the wonder of the natural environment.



Presentation on the habitat distribution of fireflies

### Summer Festivals Enjoyed by Local Residents

Every year, the JX Nippon Mining & Metals Group plans and holds summer festivals for the enjoyment of not only employees and their families, but also the local communities around its business sites. The festivities are enlivened by refreshment stands run by employees, prize drawings, and music and 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.



Toho Titanium Summer Festival

### 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, assuming 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, not to mention providing indirect support to employment of people with disabilities.

In fiscal 2017, bread sales drives for the Koro-Koro bakery, which began in fiscal 2015, were held on six occasions at the company's headquarters. 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 2017

Date	Event	Amount
July 2017	Monetary donation for torrential rains in northern Kyushu	6 million yen
September 2017	Monetary donation for Hurricane Harvey in the United States	100,000 US dollars (approx. 11 million yen)
March 2018	Monetary donation for victims of the major earthquake in Papua New Guinea	100,000 US dollars (approx. 10.6 million yen)

# Data

## Governance

	Item	FY2015	FY2016	FY2017
Board of Directors	Number of meetings	14	14	15
	Number of members	19	19	From April 1: 25 From June 28: 22
	Number of independent outside directors	4	4	From April 1: 5 From June 28: 4
	Average attendance rate	98.1	98.9	98.6
Board of Corporate Auditors	Number of meetings	15	15	16
	Number of members	5	5	From April 1: 7 From June 28: 6
	Number of independent outside corporate auditors	3	3	From April 1: 4 From June 28: 3
	Average attendance rate	98.7	96	100
Nomination Advisory Committee	Number of meetings	1	2	3
	Number of members	4	4	6
	Number of independent outside directors	2	2	3
	Average attendance rate	100	100	100
Compensation Advisory Committee	Number of meetings	-	3	3
	Number of members	-	4	6
	Number of independent outside directors	-	2	3
	Average attendance rate	-	100	100

Notes: The number of members of the Board of Directors was changed to the following at the General Meeting of Shareholders on June 28, 2017: directors: 16, corporate auditors: 6.  
The number of members of the Board of Corporate Auditors was changed from seven to six at the General Meeting of Shareholders on June 28, 2017.  
The number of independent outside corporate auditors on the Board of Corporate Auditors was changed from four to three at the General Meeting of Shareholders on June 28, 2017.  
As the Compensation Advisory Committee was established in April 2016, there are no figures for fiscal 2015.

## Environmental

- The environmental information covers a total of 76 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: 46 business sites at 25 companies; JX Nippon Oil & Gas Exploration Group: 3 business sites at 1 company; JX Nippon Mining & Metals Group: 27 business sites at 14 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 2017 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	FY2015	FY2016	FY2017	Scope of data
Energy consumption (crude oil equivalent)	Million kL	11.75	11.74	11.75	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO CORPORATION
Fuel consumption (crude oil equivalent)	Million kL	10.68	10.53	10.49	
Electricity consumption	Million kWh	4,335	4,630	4,569	

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

### Energy Consumption Intensity

	Unit	FY2015	FY2016	FY2017	Scope of data
Energy consumption intensity for oil refining	Oil equivalent (kL)/Crude distillation unit equivalent throughput (thousand kL)	8.22	8.28	8.18	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	13.8	13.6	13.6	Smelting and refining business sites of the JX Nippon Mining & Metals Group
CO <sub>2</sub> emissions intensity for smelting and refining	t-CO <sub>2</sub> /ton of refined copper produced	0.93	0.86	0.86	Smelting and refining business sites of the JX Nippon Mining & Metals Group



GHG Emissions 

	Unit	FY2015	FY2016	FY2017	Scope of data
CO <sub>2</sub> emissions	Million tons	28.69	29.47	29.47	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals
(1) Scope 1	Million tons	25.56	26.29	26.25	
(2) Scope 2	Million tons	3.07	3.12	3.12	
(3) Non-energy-derived CO <sub>2</sub>	Million tons	0.05	0.07	0.11	
GHG emissions other than CO <sub>2</sub>	tons	17,987	146,795	153,727	
(1) CH <sub>4</sub>	tons	17,628	38,592	41,480	
(2) N <sub>2</sub> O	tons	359	108,203	111,725	
(3) HFCs	tons	0	0	308	
(4) PFCs	tons	0	0	0	
(5) SF <sub>6</sub>	tons	0	0	214	
(6) NF <sub>3</sub>	tons	0	0	0	
Total GHG emissions	Million tons	28.71	29.62	29.63	

Notes: CO<sub>2</sub> emissions include CO<sub>2</sub> 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.

Air Pollution Load 

	Unit	FY2015	FY2016	FY2017	Scope of data
(1) SO <sub>x</sub>	tons	13,010	16,049	13,398	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO CORPORATION
(2) NO <sub>x</sub>	tons	15,606	15,568	15,449	
(3) Soot	tons	1,001	936	1,062	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration
(4) VOC	tons	17,841	17,819	15,872	

Notes: SO<sub>x</sub> and NO<sub>x</sub> figures for NIPPO 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 from fiscal 2017.

Use of Water Resources 

	Unit	FY2015	FY2016	FY2017	Scope of data
Water used (1) + (2) + (3) + (4) + (5)	Million tons	1,198.68	1,419.63	1,847.41	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals
(1) Service water (tap water)	Million tons	3.88	4.61	4.94	
(2) Service water (industrial water)	Million tons	167.34	171.70	175.78	
(3) Rainwater	Million tons	0.07	0.11	0.07	
(4) Groundwater	Million tons	18.08	21.09	18.57	
(5) Seawater	Million tons	1,009.30	1,222.11	1,648.04	
Water discharged	Million tons	1,259.74	1,340.70	1,813.94	
(1) River discharge	Million tons	-	-	15.48	
(2) Sea discharge	Million tons	-	-	1,798.46	

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/m<sup>3</sup>; fresh water: 1,000 t/m<sup>3</sup>).  
Data for water discharged from past fiscal years has been revised due to expansion of the scope of data in fiscal 2017.

Water Pollution Load 

	Unit	FY2015	FY2016	FY2017	Scope of data
COD	tons	1,472	1,477	1,598	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals

Release and Transfer of Chemical Substances (PRTR) 

	Unit	FY2015	FY2016	FY2017	Scope of data
(1) Released	tons	1,657	1,750	1,916	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO CORPORATION
(2) Transferred	tons	217	195	408	

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	FY2015	FY2016	FY2017	Scope of data
Total waste	tons	1,748,859	1,742,239	1,535,182	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO CORPORATION
Landfill disposal volume	tons	9,896	11,765	9,304	
Waste-to-landfill ratio	%	0.6	0.7	0.6	

## Environmental Accidents

	FY2017	Monetary penalties	FY2017
Number of environmental accidents	1		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 2017 has been assured by an independent practitioner.
- Some figures from past fiscal years have been revised.

## Employees

		Item	Total	JXTG Holdings	Energy	Oil & Gas Exploration	Metals
Number of Employees (by employment status)	Male	Full Time	9,935	114	7,968	327	1,526
		Fixed term	346	1	232	13	100
		Non-fixed term	9,589	113	7,736	314	1,426
		Other than full time	52	0	26	0	26
		Fixed term	48	0	26	0	22
		Non-fixed term	4	0	0	0	4
		Subtotal	9,987	114	7,994	327	1,552
	Female	Full Time	1,198	46	948	47	157
		Fixed term	66	1	55	2	8
		Non-fixed term	1,132	45	893	45	149
		Other than full time	28	0	7	2	19
		Fixed term	15	0	7	2	6
		Non-fixed term	13	0	0	0	13
		Subtotal	1,226	46	955	49	176
		Ratio of female employees	10.9%	28.8%	10.7%	13.0%	10.2%
		Temporary staff	505	2	417	6	80
		Male	244	0	203	1	40
		Female	261	2	214	5	40
		Ratio of temporary staff	4.3%	1.2%	4.5%	1.6%	4.4%
		Total	11,718	162	9,366	382	1,808
		Foreign nationals	59	0	37	9	13
		Male	37	0	22	6	9
		Female	22	0	15	3	4
		Number of locally employed staff at overseas sites	3,758	0	1,279	450	2,029
Number of Employees (by category), Average Age and Average Years of Service	Managerial staff		3,052	93	2,487	157	315
	Male		2,976	85	2,424	155	312
	Female		76	8	63	2	3
	Ratio of female managerial staff		2.5%	8.6%	2.5%	1.3%	1.0%
	Age	Up to 29 years old	0	0	0	0	0
		30-49 years old	1,416	56	1,176	59	125
		50 years old and over	1,636	37	1,311	98	190
	Average age		50.5	53.7	50.3	52.0	50.1
	Average years of service		25.3	23.6	25.9	25.6	21.3
	Non-managerial staff		7,669	65	6,142	202	1,260
	Male		6,613	28	5,312	159	1,114
	Female		1,056	37	830	43	146
	Age	Up to 29 years old	2,449	9	2,064	49	327
		30-49 years old	3,645	49	2,741	140	715
		50 years old and over	1,575	7	1,337	13	218
	Average age		38.9	38.2	39.1	34.9	38.8
	Average years of service		16.9	12.8	17.8	10.1	13.9
Total		10,721	158	8,629	359	1,575	
Average age		42.2	44.2	42.3	42.4	41.1	
Average age - male		42.2	45.5	42.3	42.7	41.5	
Average age - female		41.5	41.1	42.3	40.5	36.8	
Average years of service		19.2	19.1	20.1	15.6	15.4	
Average years of service - male		19.4	20.2	20.2	15.1	15.9	
Average years of service - female		17.3	16.4	19.5	13.2	10.3	

Item		Total	JXTG Holdings	Energy	Oil & Gas Exploration	Metals	
Number of New Hires (incl. mid-career hires)	Male	Up to 29 years old	311	0	248	7	56
		Percentage of regular employees as of March 2018	2.9%	0.0%	2.9%	1.9%	3.6%
		30-49 years old	78	0	20	3	55
		Percentage of regular employees as of March 2018	0.7%	0.0%	0.2%	0.8%	3.5%
		50 years old and over	7	0	1	0	6
		Percentage of regular employees as of March 2018	0.1%	0.0%	0.0%	0.0%	0.4%
	Female	Subtotal	396	0	269	10	117
		Percentage of regular employees as of March 2018	3.7%	0.0%	3.1%	2.8%	7.4%
		Up to 29 years old	57	0	43	0	14
		Percentage of regular employees as of March 2018	0.5%	0.0%	0.5%	0.0%	0.9%
		30-49 years old	7	0	1	0	6
		Percentage of regular employees as of March 2018	0.1%	0.0%	0.0%	0.0%	0.4%
Total	50 years old and over	1	0	0	0	1	
	Percentage of regular employees as of March 2018	0.0%	0.0%	0.0%	0.0%	0.1%	
	Subtotal	65	0	44	0	21	
	Percentage of regular employees as of March 2018	0.6%	0.0%	0.5%	0.0%	1.3%	
	Total	461	0	313	10	138	
	Percentage of regular employees as of March 2018	4.3%	0.0%	3.6%	2.8%	8.8%	
Employee Turnover	Male	Up to 29 years old	34	0	30	1	3
		Percentage of regular employees as of March 2018	0.3%	0.0%	0.3%	0.3%	0.2%
		30-49 years old	38	0	23	2	13
		Percentage of regular employees as of March 2018	0.4%	0.0%	0.3%	0.6%	0.8%
		50 years old and over	102	0	87	0	15
		Percentage of regular employees as of March 2018	1.0%	0.0%	1.0%	0.0%	1.0%
	Female	Subtotal	174	0	140	3	31
		Percentage of regular employees as of March 2018	1.6%	0.0%	1.6%	0.8%	2.0%
		Up to 29 years old	9	0	8	0	1
		Percentage of regular employees as of March 2018	0.1%	0.0%	0.1%	0.0%	0.1%
		30-49 years old	5	0	2	0	3
		Percentage of regular employees as of March 2018	0.0%	0.0%	0.0%	0.0%	0.2%
	Total	50 years old and over	6	0	6	0	0
		Percentage of regular employees as of March 2018	0.1%	0.0%	0.1%	0.0%	0.0%
		Subtotal	20	0	16	0	4
		Percentage of regular employees as of March 2018	0.2%	0.0%	0.2%	0.0%	0.3%
		Total	194	0	156	3	35
		Percentage of regular employees as of March 2018	1.8%	0.0%	1.8%	0.8%	2.2%
Employment rate of persons with disabilities	2.3%	-	2.2%	2.8%	2.3%		
Number of employees re-employed after retirement	710	3	688	10	9		
Paid annual leave	Number of days of paid annual leave granted	22.3	23.2	22.8	22.0	19.8	
	Number of days of paid annual leave taken	18.8	18.8	19.7	14.2	14.8	
	Usage rate of paid annual leave	84.0%	81.0%	86.4%	64.4%	74.4%	
Number of employees taking family care leave	3	0	2	1	0		
Childbirth/child care	Number of employees taking childcare leave	164	3	142	7	12	
	Male employees	107	1	94	6	6	
	Number of employees returning to work after giving birth or taking childcare leave	100%	100%	100%	100%	100%	
Percentage still employed 12 months after returning to work	96.6%	100%	97.1%	100%	66.7%		
Labor unions	Labor unions	8,141	No labor unions	6,890	No labor unions	1,251	
	Number of members	99.7%	No labor unions	99.6%	No labor unions	100.0%	
Participation rate for regular health screenings	99.9%	100.0%	99.9%	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 2017

	Total training hours	Training hours per employee
JXTG Holdings	1,957	12.23
Energy	69,046	7.72
Oil & Gas Exploration	7,985	21.24
Metals	29,379	17.00
Total	108,367	9.66

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 injury

		FY2015	FY2016	FY2017	Scope of data		
Number of occupational injuries	JXTG Group	Subtotal	17	16	9	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals	
		Fatalities	0	0	0		
		Lost work time	17	16	9		
	Contractors (partner companies, etc.)	Subtotal	23	19	27		
		Fatalities	0	1	1		
		Lost work time	23	18	26		
	Total		40	35	36		
	Occupational injury frequency rate		0.23	0.40	0.29		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	0.01		
Lost work days due to occupational injury		263	197	251			

Notes: Number of contractors in "Number of occupational injuries" is for reference.

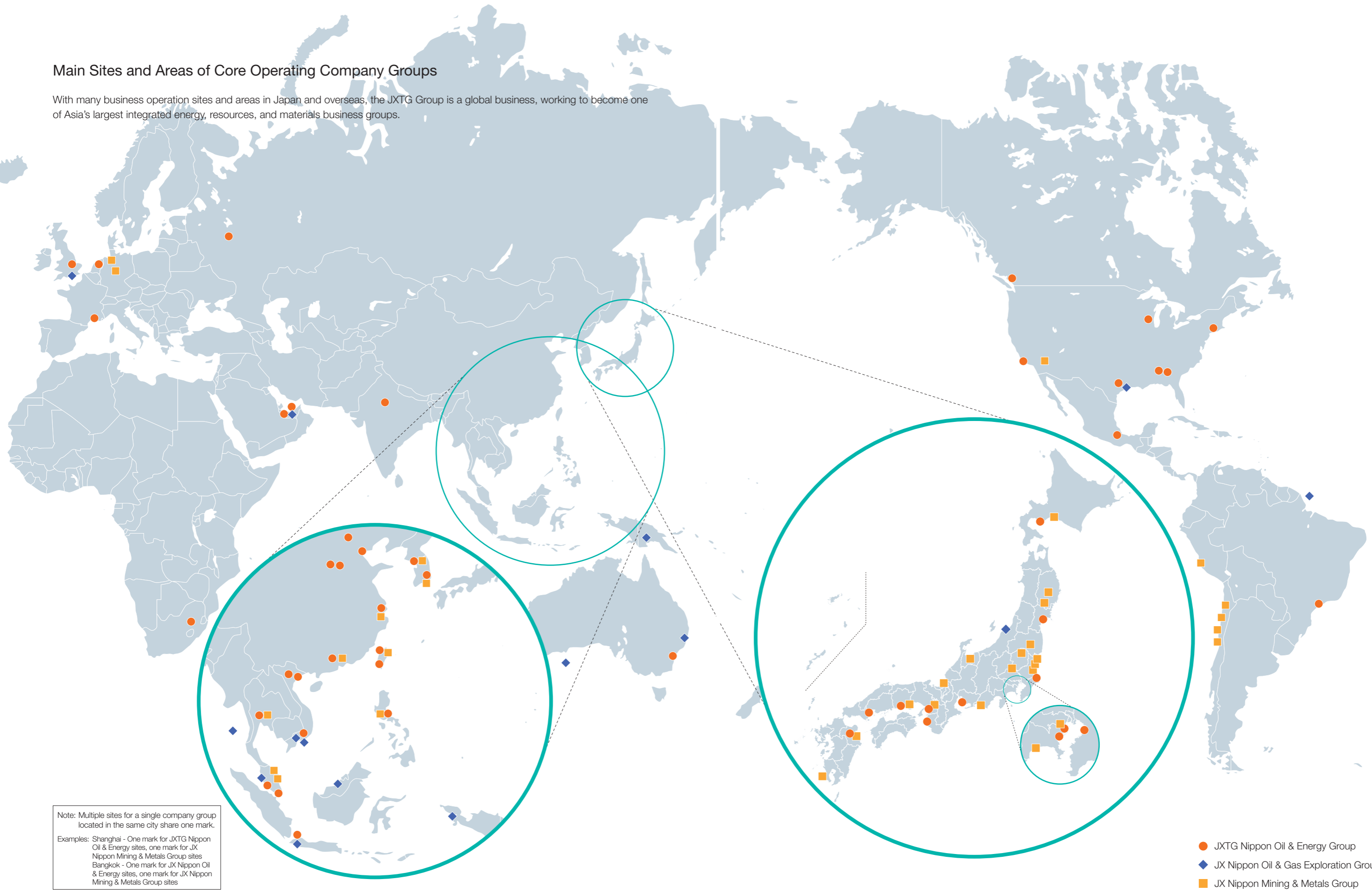
Targets for inclusion in the occupational injury frequency rate, occupational injury severity rate, and lost work days due to occupational injuries cover 15 JXTG Nippon Oil & Energy Group refineries and plants, 5 JX Nippon Oil & Gas Exploration business sites (Miri, Vietnam, Kuala Lumpur, Doha, and Nakajo) and 6 JX Nippon Mining & Metals business sites (head office, Hitachi, Isohara, Kurami, Turuga, and Saganoseki).

### JXTG Group Safety Education Center Training Participation

	FY2015	FY2016	FY2017	Scope of data
Number of participants	1,793	1,698	1,503	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 largest integrated energy, resources, and materials business 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 29, 2018

Mr. Tsutomu Sugimori,  
Representative Director, President,  
JXTG Holdings, Inc.

Masahiko Sugiyama  
Representative Director  
Deloitte Tohmatsu Sustainability Co., Ltd.  
3-3-1, 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, 2018 (the "Sustainability Information") included in the "JXTG REPORT CSR Report for a Sustainable Future 2018" (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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**ENVIRONMENTAL**

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