



JXTG REPORT
for a Sustainable
Future

2017

JXTG Holdings, Inc.

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Editorial Policy

The purpose of the JXTG Report for a Sustainable Future 2017 is to compile the approaches taken and initiatives implemented by the JXTG Group in fiscal 2016 in relation to a range of CSR issues including the environment, society and governance.

Used in conjunction with the JXTG Integrated Report 2017, which summarizes the 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 688 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 2016 to March 2017. However, some information from April 2017 onwards is also included, as necessary.

Publication Date

January 2018
(Previous issue: December 2016; Next issue: January 2019)

Guidelines Used as Reference

- G4 Sustainability Reporting Guidelines and GRI Sector Disclosures (Mining and Metals, Oil and Gas), Global Reporting Initiative (GRI)
- The Environmental Reporting Guidelines (2012 Edition), Ministry of the Environment, Japan

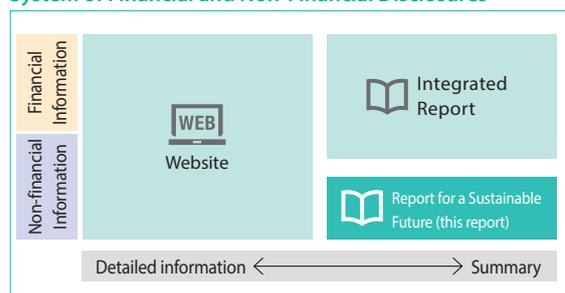
Enhancing Reporting Reliability

The quantitative environmental information data has been assured by an independent practitioner to ensure objective and reliable reporting. Information that has been assured by an independent practitioner is indicated with a check mark (✓).

Inquiries

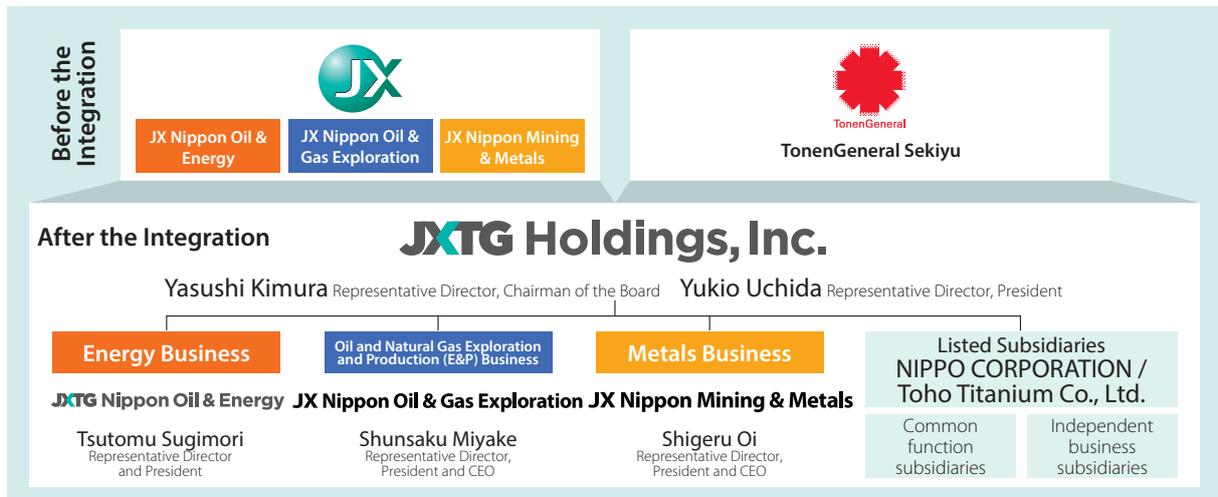
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1-2 Otemachi, 1-chome, Chiyoda-ku, Tokyo 100-8161, Japan
<http://www.hd.jxtg-group.co.jp/english/>
Email: csr@jxtd.com

System of Financial and Non-Financial Disclosures



JXTG Group Overview

The JXTG Group — Created through a Business Integration



The JXTG Group's Businesses

<h3>JXTG Nippon Oil & Energy</h3> <p>Principal Business</p> <ul style="list-style-type: none"> 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	<p>Petroleum products: Gasoline, kerosene, diesel fuel, heavy fuel oil, naphtha, lubricants, asphalt, etc.</p> <p>Basic chemical products: Paraxylene, benzene, propylene, ethylene, etc.</p> <p>Specialty and performance chemical products: Ethylidene norbornene (ENB), functional films, cell culture, liquid crystal polymers, etc.</p> <p>Other products: Liquefied natural gas (LNG), coal, electric power, etc.</p>	
Domestic Manufacturing Bases	<p>Refineries: Sendai, Kashima, Chiba, Kawasaki, Negishi, Sakai, Wakayama, Osaka, Mizushima, Marifu, Oita</p> <p>Plants: Muroran, Kawasaki, Yokohama, Chita</p>	
<h3>JX Nippon Oil & Gas Exploration</h3> <p>Principal Business</p> <ul style="list-style-type: none"> 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, Canada, UK North Sea, Vietnam, Myanmar, Malaysia, Indonesia, Papua New Guinea, Australia, UAE, Qatar, Japan	
<h3>JX Nippon Mining & Metals</h3> <p>Principal Business</p> <ul style="list-style-type: none"> 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	<p>Resources development: Copper concentrate, molybdenum concentrate</p> <p>Copper smelting and refining: Refined copper, precious metals, rare metals, sulfuric acid</p> <p>Electronic materials: Electro-deposited copper foil, treated rolled copper foil, precision rolled products, precision processed products, thin-film materials</p> <p>Recycling and environmental services: Precious metals, rare metals</p> <p>Titanium: Titanium sponge, titanium ingots</p>	
Principal Worksites	<p>Resources development: Caserones Copper Mine, Los Pelambres Copper Mine, Collahuasi Copper Mine, Escondida Copper Mine, etc.</p> <p>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.</p> <p>Electronic materials: Isohara Works, Hitachi Works, Kurami Works, and Kakegawa Works of JX Metals Precision Technology Co., Ltd.; Takatsuki Works of JX Metals Trading Co., Ltd., etc.</p> <p>Recycling and environmental services: HMC (Hitachi Metal Recycling Complex) Department of Hitachi Works; JX Nippon Environmental Services Co., Ltd., etc.</p> <p>Titanium: Chigasaki Works and Wakamatsu Works of Toho Titanium Co., Ltd., etc.</p>	

JXTG Group Philosophy

Mission

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

Our Five Core Values

**As a member of
the community**

High ethical standards

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

Health, safety, and environment

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

**Supporting
day-to-day life**

Focus on customers

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

**For
a vibrant future**

Taking on challenges

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

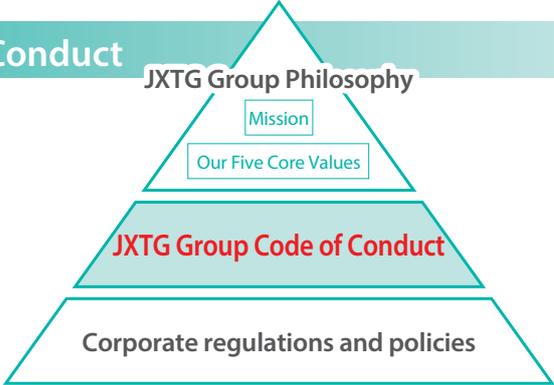
Moving forward

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

JXTG Group Code of Conduct

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 Corporate 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.

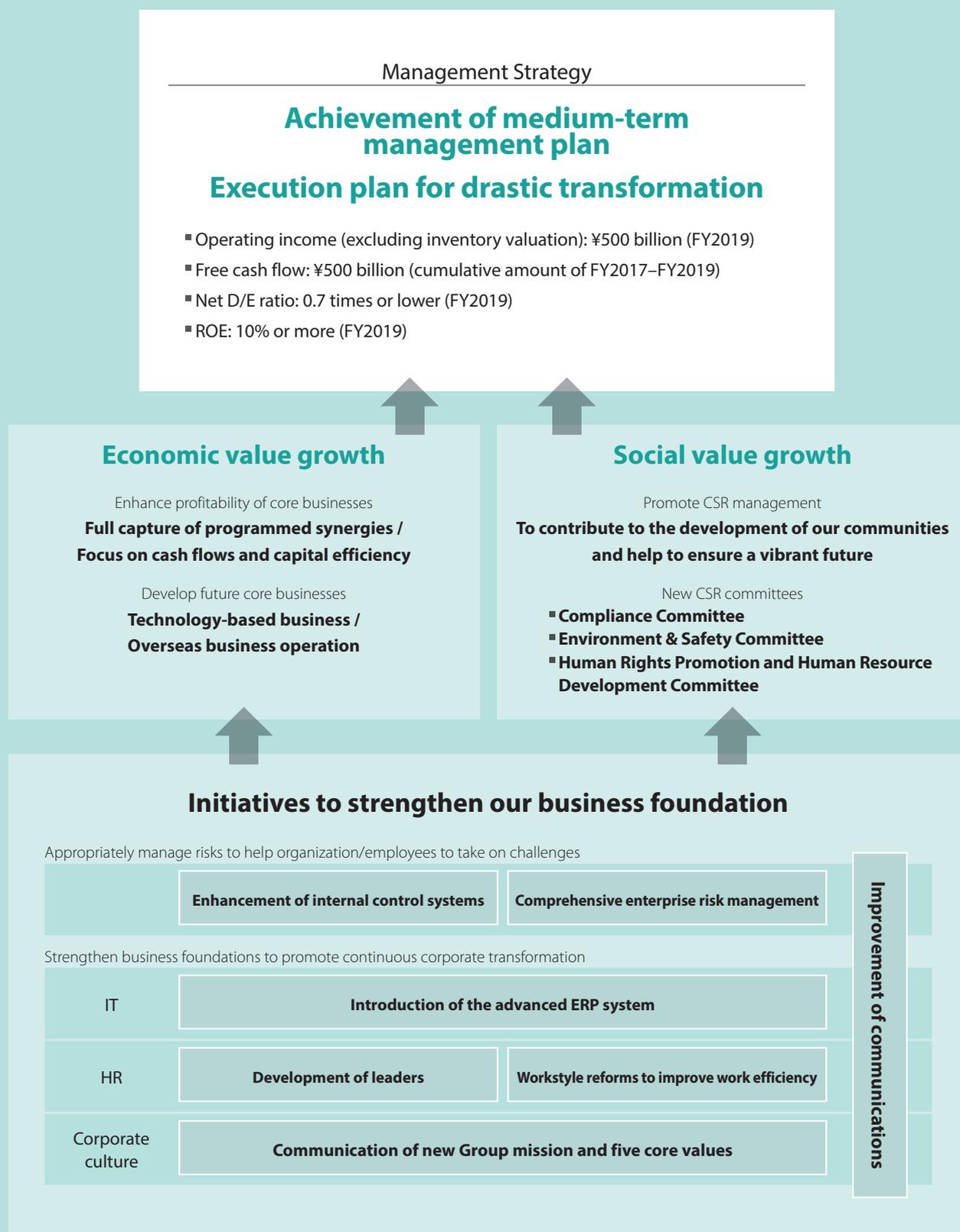
JXTG Group Code of Conduct		
1. Compliance	7. Equitable and fair transactions	10. Corporate asset protection and management
2. Safety and security	8. Appropriate relationships with governments and public administrations	11. Information management and disclosure
3. Environmental conservation	9. Avoidance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

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

 [JXTG Group Code of Conduct](#)

Overview of Corporate Transformation

The JXTG Group will implement a corporate transformation to increase both economic value and social value and to develop into one of the most prominent and internationally competitive comprehensive energy, natural resource, and material company groups in Asia. Our execution plan for the first three years has been announced in the form of our medium-term management plan.





What we strive for

Continuous growth of social and economic value

Our aim

To develop into one of the most prominent and internationally competitive comprehensive energy, natural resource, and material company groups in Asia



Management Message



Yasushi Kimura

Representative Director, Chairman of the Board

Yukio Uchida

Representative Director, President

Taking on the Challenge of Continuously Improving Social Value

In April 2017, the JX Group and the TonenGeneral Group implemented a business integration, starting anew as the JXTG Group.

We have reached a scale where we can adequately compete on the global stage. However, to withstand major changes in our business environment and achieve sustainable growth, we are carrying out intensive business reforms and working to build a robust management foundation at an early stage.

In addition, various organizations have identified social issues that need to be resolved to achieve a sustainable society. These include the Sustainable Development Goals (SDGs) adopted by the United Nations in

September 2015 and the Paris Agreement agreed upon at the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (COP21) in December 2015. As a corporate group dealing with energy, resources, and materials essential to people's lives and economic activities, it is our corporate social responsibility (CSR) to sincerely respond to society's expectations and requirements of us and work on resolving various social issues through the creation of new value that only we can provide.

Based on this understanding, our Group has built the following new CSR management system aimed at continuously improving both economic and social value.

Establishing Our New Philosophy and Code of Conduct

We have established the JXTG Group Philosophy, which is the foundation for all our business activities.

In the new philosophy, we have defined our mission as providing added value through creation and innovation, and stated our five core values, upon which all executives and employees should base their actions.

In addition, we have established the JXTG Group Code of Conduct as a set of standards to be applied in order to realize our philosophy through our business

activities and fulfill our social responsibilities. There are 14 items in the code of conduct, covering compliance, safety and security, environmental conservation, health enhancement, respect for human rights, and more.

By quickly spreading our new philosophy and code of conduct, we hope to foster a corporate culture in which we embrace change and continue to boldly take on challenges for a vibrant future.

Strengthening the Foundation of CSR Management

We have identified focus areas for the Group's ESG efforts.

Specifically, based on our five core values and code of conduct, we have 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. Furthermore, for fiscal 2018, we are working on identifying material issues based on priorities as seen from within and outside the Group.

We have established a CSR promotion system

centered on the JXTG Group CSR Council, chaired by the President of JXTG Holdings. This CSR Council — which comprises members from across the Group — carries out tasks such as formulating policies for the entire Group, and overseeing and evaluating the state of initiatives. Of these, important policies and standards involving the entire Group are passed as resolutions by the JXTG Holdings Board of Directors, thereby ensuring the robust implementation of CSR management by the Group as a whole.

Aiming Even Higher

The JXTG Group is now a leading corporate group in Japan with net sales of around 10 trillion yen. We have entered a new stage of operations that is higher and broader than before.

Even at this new stage, we are not satisfied to simply

maintain the status quo. We are always aiming higher, carrying out intensive business reforms to keep moving forward.

We ask our stakeholders for your continued understanding and support for the JXTG Group.

Messages from Senior Management of the JXTG Group's Core Operating Companies

JXTG Nippon Oil & Energy Corporation



Tsutomu Sugimori

Representative Director and President
JXTG Nippon Oil & Energy
Corporation

JXTG Nippon Oil & Energy—Executing a Corporate Transformation with an Enterprising Spirit to Create New Value

In April 2017, JXTG Nippon Oil & Energy was formed through the business integration of the JX Group and the TonenGeneral Group.

Consolidating the management resources of both companies, we continue to assume the important responsibility of ensuring a stable supply of energy, and create new value with the determination of a completely reborn company. We are also taking great strides toward developing into one of the

most prominent and comprehensive energy companies in Asia, suited to the future age.

With this business integration, our social responsibility has grown. Initiatives related to CSR and environmental, social, and governance issues (ESG) are an important part of our management foundation. We will promote these initiatives even further to help realize a sustainable society.

JX Nippon Oil & Gas Exploration Corporation



Shunsaku Miyake

Representative Director, President
and CEO
JX Nippon Oil & Gas Exploration
Corporation

Developing Oil and Gas Resources with the Utmost Consideration for the Environment and Safety as a Member of Society

The JX Nippon Oil & Gas Exploration Group conducts its oil and gas exploration and production business around the world. In particular, we have operator projects in Vietnam and Malaysia. We are also working on a CO₂-EOR project in the United States which increases oil production and reduces CO₂ emissions at the same time by injecting CO₂ captured from a coal-fired power plant

into oil fields.

As a good corporate citizen trusted by society, we are working through our business activities to enhance our corporate value while also contributing to the development of society and helping to ensure a vibrant future, with compliance and health, safety and environment (HSE) as our top priorities.

JX Nippon Mining & Metals Corporation



Shigeru Oi

Representative Director, President
and CEO
JX Nippon Mining & Metals
Corporation

Contributing to the Sustainable Development of a Global Society through the Stable Supply and Efficient Use of Non-Ferrous Metal Resources

The JX Nippon Mining & Metals Group makes full use of the technology and knowledge accumulated over our history of more than a century in the pursuit of innovation in the productivity of resources and materials. In this way, we are fulfilling our social responsibility of stably and efficiently supplying non-ferrous metal resources such as copper, which is widely used in our daily lives and is essential for the future development of society.

In carrying out our business operations, we give all due attention to minimizing any negative impacts on society. We endeavor to deepen communication with relevant stakeholders in order to ensure the effectiveness of our efforts to protect the environment, maintain occupational health and safety, enhance compliance, coexist and prosper along with local communities, and ensure respect for human rights.

CSR Management

Basic Approach

On the occasion of the JXTG Group's business integration in April 2017, at JXTG Holdings' inaugural Board of Directors' meeting, the Group formulated the JXTG Group Philosophy, which underpins all business activities, and the JXTG Group Code of Conduct, which serves as a standard to be followed by all executives and employees. The Executive Council, which met prior to the Board of Directors, formulated the JXTG Group's basic policy for corporate social responsibility (CSR),

priority fields for CSR activities, and the Group-wide CSR promotion structure.

The JXTG Group recognizes that society's trust is a prerequisite 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 ensure a vibrant future.

Basic Policy for CSR

In order for JXTG Group executives and employees to realize the mission outlined by 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 establish a corporate group worthy of the trust of our stakeholders.

Priority Fields for CSR Activities

Summarizing the 14 categories in the JXTG Group Code of Conduct, we have established eight priority fields for CSR activities.

The JXTG Group Code of Conduct

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



Priority Fields for CSR Activities

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

Identifying the Group's Top CSR Priorities (Material Issues)

The JXTG Group is making progress in identifying its top CSR priorities (material issues). Specifically, eight material issues to be addressed have been identified from two viewpoints: priority from an external perspective and priority from the Group's internal perspective. In the lead-up to fiscal 2018, the Group will proceed to formulate specific initiatives and goals.

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 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

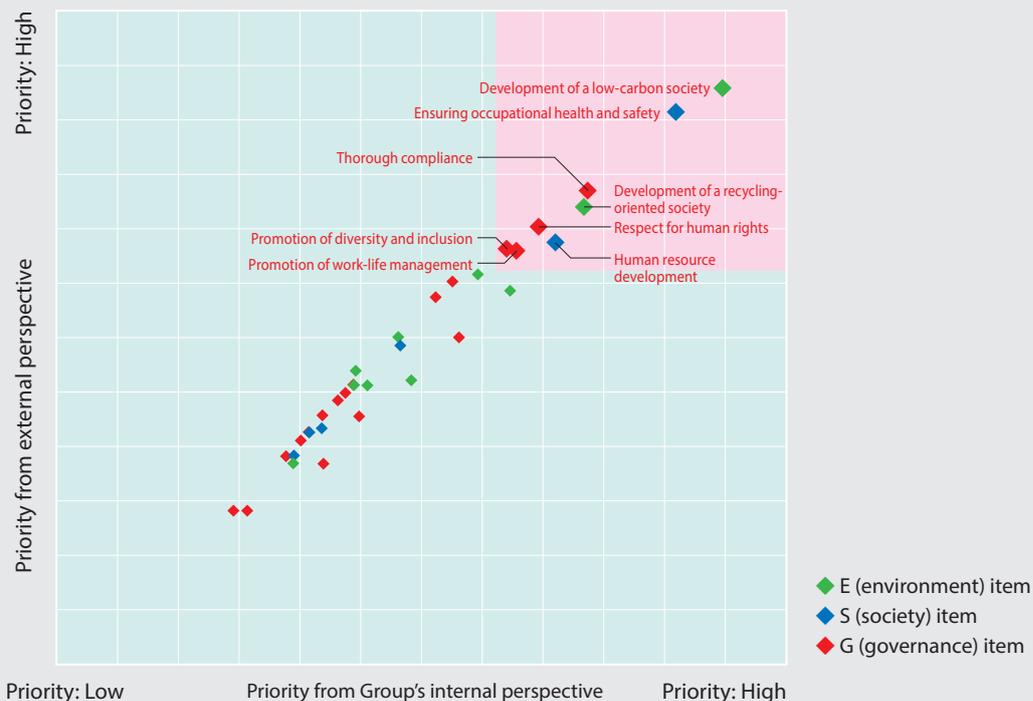
Priority from the Group's internal perspective was assessed, taking into account such factors as reviews of the expert committees within the CSR promotion structure, as well as the guidelines of the U.S. Sustainability Accounting Standards Board (SASB).

STEP 4

Identify the Group's top CSR priorities

After assessing priority from an external perspective and priority from the Group's internal perspective, eight issues of particularly high priority were identified as the Group's priority CSR issues.

■ Diagram of the Group's Priority CSR Issues



Connection 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

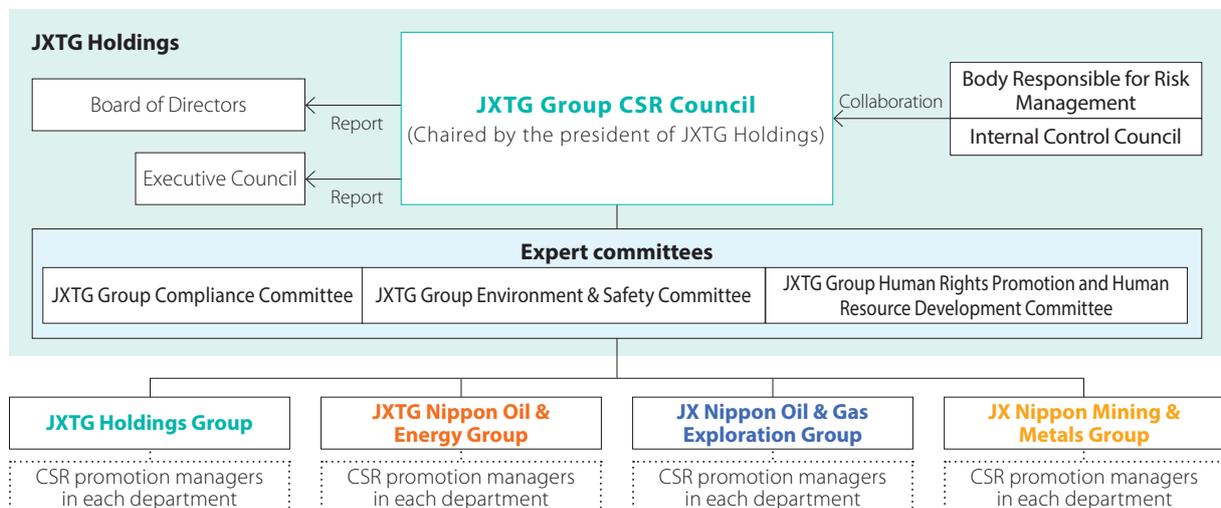
CSR Promotion Structure

We have established the JXTG Group CSR Council, which is chaired by the 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 related executives. Adopting a perspective that spans

the entire Group, the council deliberates basic policies and reviews and evaluates the status of activities.

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 (conceptual diagram)



■ JXTG Group CSR Council

Position	Organization subordinate to the JXTG Holdings Executive Council
Roles	1. Formulation and promotion of the JXTG Group's basic policy on CSR 2. Summarization 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	President of JXTG Holdings
Members	1. Members of the JXTG Holdings Executive Council 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 of responsibility and provisions of the JXTG Group Code of Conduct	All matters

■ 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 responsible for the Legal & Corporate Affairs Department at JXTG Holdings								
Members	1. Relevant general managers at JXTG Holdings nominated by the Committee Chair 2. Relevant executives and general managers at the Group's core business companies 3. Other persons nominated by the Committee Chair								
Frequency of meetings	In principle, twice a year (April and October), and extraordinarily as required								
Priority fields of responsibility and provisions of the JXTG Group Code of Conduct	<p>Priority field: Compliance</p> <table border="0"> <tr> <td>1. Compliance</td> <td>10. Corporate asset protection and management</td> </tr> <tr> <td>7. Equitable and fair transactions</td> <td>11. Information management and disclosure</td> </tr> <tr> <td>8. Appropriate relationships with governments and public administrations</td> <td>14. Actions for violations and measures to prevent recurrence (development of internal whistle-blowing systems, and promoting their use)</td> </tr> <tr> <td>9. Avoidance of conflicts of interest</td> <td></td> </tr> </table>	1. Compliance	10. Corporate asset protection and management	7. Equitable and fair transactions	11. Information management and disclosure	8. Appropriate relationships with governments and public administrations	14. Actions for violations and measures to prevent recurrence (development of internal whistle-blowing systems, and promoting their use)	9. Avoidance of conflicts of interest	
1. Compliance	10. Corporate asset protection and management								
7. Equitable and fair transactions	11. Information management and disclosure								
8. Appropriate relationships with governments and public administrations	14. Actions for violations and measures to prevent recurrence (development of internal whistle-blowing systems, and promoting their use)								
9. Avoidance of conflicts of interest									

■ 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 for concerning safety and the environment at each JXTG Group company, and reporting to the JXTG Group CSR Council				
Chair	Officer responsible for the department in charge of environment and safety at JXTG Holdings				
Members	1. Relevant general managers at JXTG Holdings nominated by the Committee Chair 2. Relevant executives and general managers at the Group's core business companies 3. Other persons nominated by the Committee Chair				
Frequency of meetings	In principle, twice a year (April and October), and extraordinarily as required				
Priority fields of responsibility and provisions of the JXTG Group Code of Conduct	<p>Priority field: Safety and Environment</p> <table border="0"> <tr> <td>1. Compliance (laws and regulations concerning safety and the environment)</td> <td>3. Environmental conservation</td> </tr> <tr> <td>2. Safety and security</td> <td>4. Health enhancement (primarily occupational safety)</td> </tr> </table>	1. Compliance (laws and regulations concerning safety and the environment)	3. Environmental conservation	2. Safety and security	4. Health enhancement (primarily occupational safety)
1. Compliance (laws and regulations concerning safety and the environment)	3. Environmental conservation				
2. Safety and security	4. Health enhancement (primarily occupational safety)				

■ JXTG Group Human Rights Promotion and Human Resource Development Committee

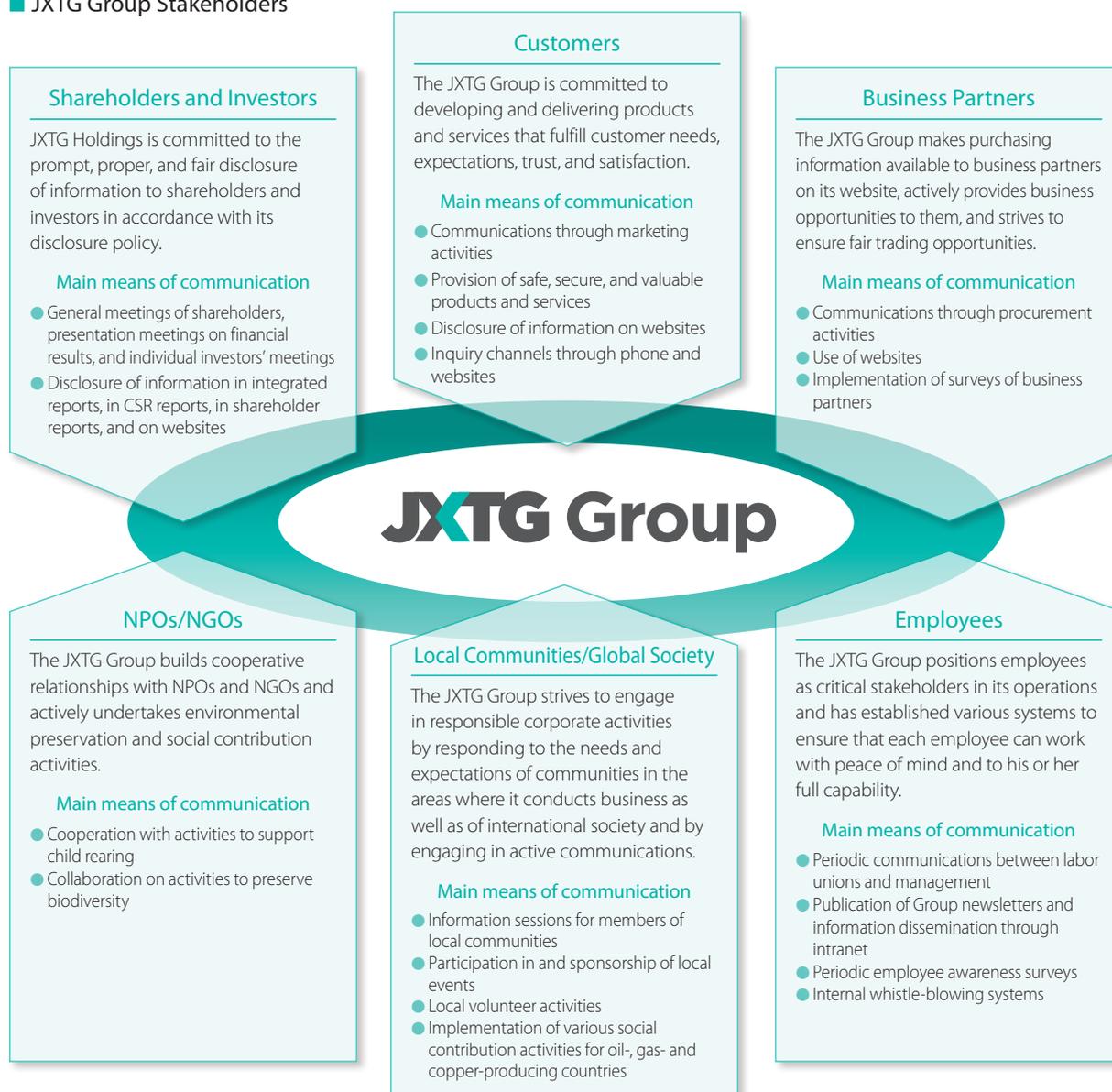
Position	Advisory body to the President of JXTG Holdings
Roles	1. Deliberation on matters concerning human rights, human resource development and health (policy, direction, etc.) for the JXTG Group, and reporting on these matters to the JXTG Group CSR Council 2. Confirmation, evaluation and the sharing 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 responsible for the Human Resources Department at JXTG Holdings
Members	1. Relevant general managers at JXTG Holdings nominated by the Committee Chair 2. Relevant executives and general managers at the Group's core business companies 3. Other persons nominated by the Committee Chair
Frequency of meetings	In principle, twice a year (April and October), and extraordinarily as required
Priority fields of responsibility and provisions of the JXTG Group Code of Conduct	Priority fields: Human Rights, Human Resource Development, Health 1. Compliance (laws and regulation concerning human rights, human resource development and health) 2. Respect for human rights 3. Health enhancement (primarily occupational safety) 4. Establishment of a healthy work environment 5. Respect for human rights 6. Establishment of a healthy work environment

Communication with Stakeholders

The JXTG Group conducts 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 these various stakeholders and sincerely responding to them.

JXTG Group Stakeholders



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

Carbon Disclosure Project (CDP)

The CDP is a project in which institutional investors around the world seek to disclose companies’ strategies on climate change and greenhouse gas emissions. The JXTG Group is in agreement with the purpose of the project and strives to disclose information proactively.



International Council on Mining & Metals (ICMM)

As a member company of the ICMM, JX Nippon Mining & Metals has formulated a corporate code of conduct based on the ICMM Position Statements and strives to resolve the issues local communities face in such areas as the environment, health and safety, management of chemical substances, and human rights, including matters outlined in ICMM statements.



Extractive Industries Transparency Initiative (EITI)

The EITI strives to enhance the transparency of money flows from industries involved in the development and production of such resources as oil, natural gas, and minerals to the governments of resource-producing countries. In this manner, the EITI works to create an international framework for resource development aimed at preventing corruption and disputes, providing a basis for sustainable economic growth, and eliminating poverty. JX Nippon Mining & Metals affirms the EITI’s principles and proactively supports its efforts.

Keidanren 1% Club, the Council for Better Corporate Citizenship (CBCC)

The Keidanren 1% Club creates a framework for promoting corporate social contribution activities. Established by the Japan Business Federation (Keidanren), the CBCC endeavors to promote CSR at Japanese companies, assisting their efforts to be good corporate citizens through dialogue and interaction with CSR-related organizations in Japan and overseas.



Japan Business Initiative for Biodiversity (JBIB)

Established in 2008, JBIB is an organization of interested companies with an aim of contributing to the protection of biodiversity in Japan and overseas. Representing the JXTG Group, JXTG Nippon Oil & Energy is a member.



Sport for Tomorrow

Sport for Tomorrow is a program promoted by the Japanese government for international contribution through sports, targeting more than 10 million people in over 100 countries, including developing countries, during the seven years (2014–2020) leading up to the 2020 Tokyo Olympic and Paralympic Games.



Communication with Industry Organizations

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

TOPICS

CSR Promotion Manager Workshop

In order to remain a corporate group that continues to enjoy the trust of all stakeholders, the JXTG Group believes it is important for every executive and employee to put the JXTG Group Code of Conduct into practice in pursuit of the realization of the JXTG Group Philosophy.

Based on this approach, at each workplace, personnel at the deputy general manager level are appointed as CSR promotion managers, and are responsible for promoting CSR activities in their respective workplaces at each Group company. Each year, a meeting for all of the Group's CSR promotion managers is held to communicate CSR policies and share information.



CSR promotion manager meeting

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 2016, 22,407 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.



JXTG Customer Service Center

Biennial Employee Awareness Survey for Identifying and Improving Issues

Once every two years, the JXTG Group conducts an anonymous survey of all employees on such topics as the Group Philosophy and Code of Conduct, compliance, daily work and workplace culture. Identifying the level of employee awareness and any issues inherent in each workplace assists in improving a variety of CSR issues. The most recent survey was conducted in the first half of fiscal 2017.

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 activities.

Priority Fields for CSR Activities

High Ethical Standards

Compliance

Safety and Environment

Human Rights

Human Resource Development

Health

Quality

Social Contribution

Basic Approach

In order to achieve sustainable growth and increase our corporate value over the medium to long term, the JXTG Group established the JXTG Group Basic Policy on Corporate Governance with the objective of establishing and operating a corporate governance framework for transparent, fair, timely, and decisive decision-making in the Group's business operations.

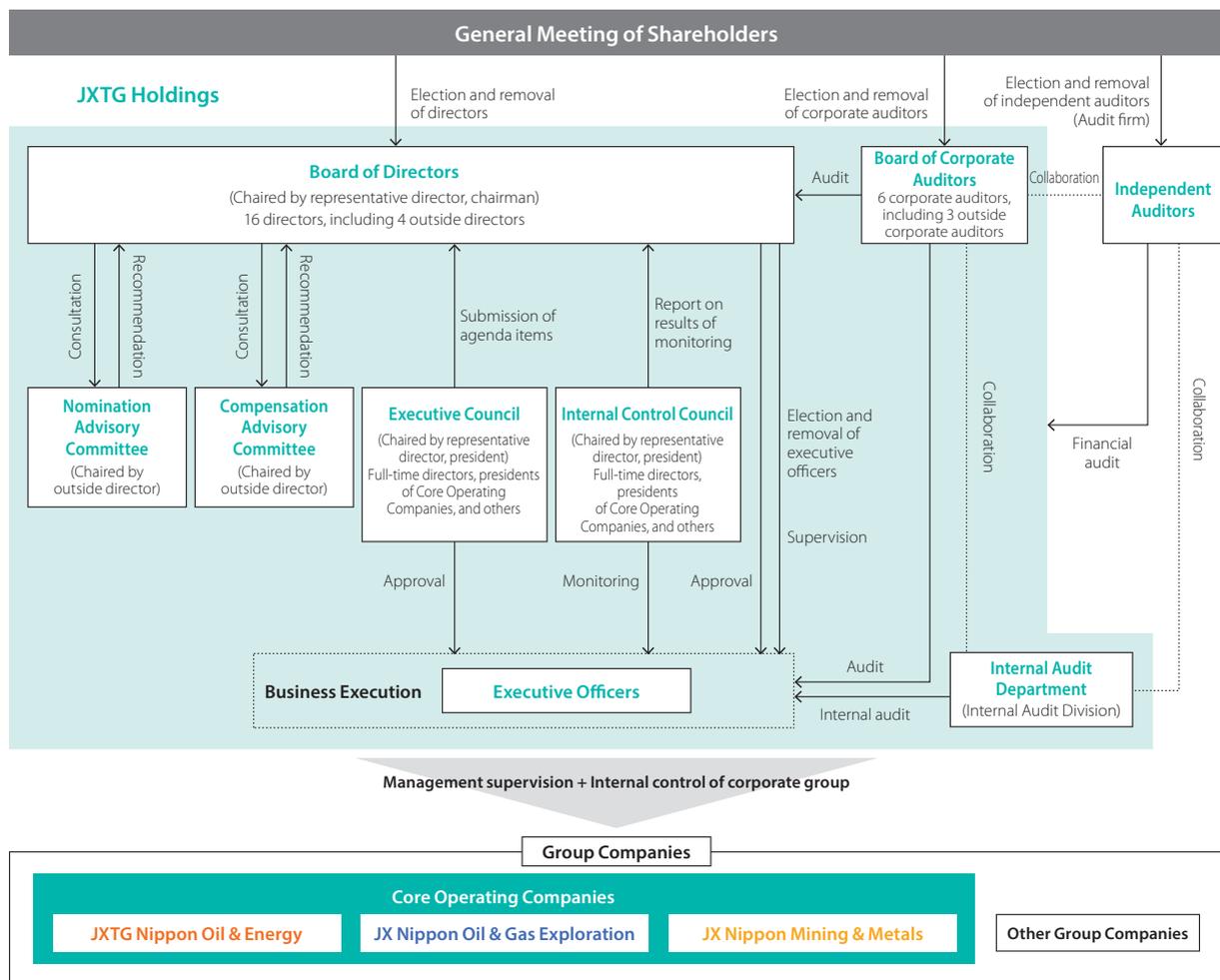
In response to the formulation of Japan's Corporate Governance Code by the Tokyo Stock Exchange, this Basic Policy systematically and comprehensively sets out the JXTG Group's basic approach to corporate

governance as well as matters pertaining to its establishment and operation.

The Basic Policy has also been disclosed on the JXTG Holdings website and other channels as part of the Group's commitment to its stakeholders, including shareholders of JXTG Holdings, as well as JXTG Group customers, business partners and employees, and local communities.

 [JXTG Group Basic Policy on Corporate Governance](#)

Corporate Governance Framework



Internal Control

Based on the JXTG Group Philosophy and Code of Conduct, we have established internal control systems to ensure appropriate operations. We have also formulated the Basic Policy for the Establishment and Operation of Internal Control Systems, which addresses the operation of these systems, and are monitoring the status of operation of these systems. Our Basic Policy for the Establishment and Operation of Internal Control Systems is published on our website.

In addition, the Internal Control Department was established within JXTG Holdings on April 1, 2017, for the purpose of supporting, evaluating, coordinating, and strengthening the establishment and operation of the Group's internal control systems. For risk management

in overall operations, the department is leading the establishment of internal control initiatives based on the framework of the United States' Committee of Sponsoring Organizations of the Treadway Commission (COSO), the global standard for internal controls. The implementation of these initiatives will be spearheaded by JXTG Holdings and JXTG Nippon Oil & Energy from April 2018 onward.

For details, please refer to the JXTG Integrated Report 2017.



JXTG Integrated Report 2017



Basic Policy for the Establishment and Operation of Internal Control Systems

Risk Management

Each company in the JXTG Group has prepared risk management systems appropriate for its respective lines of business, and implements measures in accordance with individual risks in areas such as compliance, occupational safety, and the environment.



JXTG Integrated Report 2017

Risk Management Framework

To prepare for changes in the business environment while achieving sustainable growth and increasing our corporate value in the medium to long term, we must identify and manage risks in our business activities and take proper steps to prevent damage and loss.

In the JXTG Group, a department that oversees risk management has been established in JXTG Holdings as part of a framework in which risks in the Group's business activities are analyzed and reassessed, and response to and management of any risks identified are carried out in conjunction with the Group's CSR promotion structure (see pp. 12–14) and Group companies.

In addition, each Group company has established a framework for identifying and managing risks in its business operations.

Risk Assessment of Business Activities

The JXTG Group has put in place internal regulations to handle various risks in our business activities. Furthermore, in our screening process for new investments, in addition to risks pertaining to factors such as country and fluctuations in exchange rates, we also analyze and assess risks in ESG fields—such

as environmental risks (including identifying the scope for dealing with factors such as biodiversity and environmental regulations); risks in the procurement of raw materials such as water; and human resource risks including aspects of occupational safety and health—and take appropriate measures as necessary.

In addition, for ESG-related risks in our businesses, we carry out appropriate management and monitoring within the framework of our CSR promotion structure.

Crisis Management

Drawing on lessons learned from the Great East Japan Earthquake, we have developed business continuity plans (BCPs) and conduct ongoing training in order to enhance our response for major disasters such as earthquakes, new types of influenza, and overseas crises and emergencies. This is to enable us to fulfill our role as a company that supports the social infrastructure even in times of emergency.

When emergency situations arise that may significantly affect the management of the Group, JXTG Holdings exercises overall control and has prepared its Crisis and Emergency Response Regulations, which specifies measures to be taken to minimize any damage that may occur.

The General Administration Department of JXTG Holdings functions as the standing organizational unit in charge of emergency response and management, and the general manager of this department acts as head of this unit. When emergency situations occur, details of the emergency as well as measures taken are reported immediately to the President of JXTG Holdings.

In addition, depending on the magnitude of the emergency, we establish an Emergency Headquarters or a Joint Emergency Headquarters with Group companies to ensure swift and appropriate response to the crisis in order to fulfill the social mission of the JXTG Group.

For earthquake measures for facilities at refineries and plants, and measures to cope with accidents and problems, please refer to pp. 50–51.

Information Security Management

We have established the Basic Rules for Information Security to maintain the accuracy and reliability of our corporate information, and based on these rules, we have developed various preventive measures against the improper use and disclosure, as well as leakage, of company information, a corporate asset.

Basic Principles for Information Security (excerpt from the Basic Rules for Information Security)

1. Executives and employees must comply with these rules and other rules and regulations to ensure information security for company information.
2. To ensure information security, executives and employees must observe the following.
 - (1) Do not use (obtain, peruse, disclose, print, copy, etc.) company information beyond the scope necessary for work.
 - (2) At public places where information security cannot be ensured, do not act in ways which may harm information security, such as having conversations pertaining to company information, and perusing media stating or recording company information.
 - (3) Implement necessary information systems and other means to ensure information security.
 - (4) When disclosing company information to third parties, or consigning the handling of company information to third parties, implement contractual or de facto measures to effectively ensure information security.

Compliance

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

ESG-related cases in which the JXTG Group paid heavy fines or indemnities in fiscal 2016 are stated under “Compliance Violations” on p. 21.

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 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 discover violations of laws at an early stage and take prompt corrective actions, whistle-blowing systems (compliance hotlines) have been established in principal Group companies. Whistle-blowers (who can remain anonymous)—either employees of our companies or those of our contractors—can make reports not only to each company’s section in charge of the system, but also to designated external attorneys-at-law.

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 executed. 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 booklets 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.

For fiscal 2016, 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 is part of the United Nations Global Compact, and openly supports the Ten Principles, including anti-corruption.

To ensure that executives and employees of JXTG Group companies, whether in Japan or overseas, do not violate applicable anti-bribery laws and regulations, we have set forth our basic approach and specified forms of bribery and corruption (gifts and hospitality exceeding social norms, and political activities, including lobbying, that violate the laws and regulations of the relevant countries and regions) in "7. Equitable and fair transactions" and "8. Appropriate relationships with governments and public administrations" of the JXTG Group Code of Conduct, and we also request the cooperation of our business partners, who make up our supply chain, in observing these principles. In addition, we have established internal regulations, including the JXTG Group Basic Rules for the Prevention of Bribery, as well as policies covering the entire Group, anti-bribery activities to enforce these policies, basic principles for the responsibility framework in carrying out these activities, and actions to be taken in the event that bribery is identified.

We aim to ensure that employees are thoroughly aware of these measures by making them available at all times through the company's intranet, as well as through activities such as interviews with supervisors during

compliance inspections, and compliance training on topics such as the prevention of bribery.

In addition, for bribery and corruption risks in the course of daily business activities, we have put in place systems to conduct assessment through our internal control systems, and carry out individual monitoring of operational processes assessed to have high risks.

The final status of activities and results of monitoring are reported to the JXTG Holdings Board of Directors through the CSR promotion structure (see pp. 12–14) and the Internal Control Council.

For fiscal 2016, there were no occurrences of serious violations related to bribery, corruption or labor standards, and no internal disciplinary measures related to such violations.

For similar initiatives in the supply chain, please see pp. 68–69.

Compliance Violations

Our Group company, NIPPO CORPORATION, violated Japan's Act on Prohibition of Private Monopolization and Maintenance of Fair Trade (commonly known as the Antimonopoly Act) when bidding for disaster restoration paving works for the Great East Japan Earthquake, which occurred in 2011, ordered by the Tohoku Branch of East Nippon Expressway Company Ltd. In addition to being issued a cease and desist order and a surcharge payment order (219.17 million yen) by the Japan Fair Trade Commission on September 6, 2016, NIPPO CORPORATION and related parties were found guilty by the Tokyo District Court on September 15, 2016. In addition, the Japan Fair Trade Commission issued a cease and desist order to NIPPO CORPORATION on September 21, 2016 for violating the Antimonopoly Act during the bidding for disaster restoration paving works for the Great East Japan Earthquake ordered by the Kanto Branch of East Nippon Expressway Company Ltd.

NIPPO CORPORATION is working to ensure thorough compliance with the Antimonopoly Act to prevent reoccurrence of such violations, and JXTG Holdings will continue to provide guidance to NIPPO CORPORATION.

Tax Matters Policy

The JXTG Group recognizes that 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 established the JXTG Group Tax Matters Policy and are

working to ensure transparency in tax matters.

The JXTG Group Tax Matters Policy is published on our website.



[JXTG Group Tax Matters Policy](#)

Disclosure Policy

JXTG Holdings is fully aware that the timely and proper disclosure of corporate information is a key element of healthy capital markets, and has therefore formulated our Disclosure Policy. In addition to information related to JXTG Holdings, we make efforts to ensure prompt, appropriate, and fair disclosure of information to shareholders and other investors by putting in place systems to obtain, manage, and disclose information on

Group companies quickly and accurately.

Our Disclosure Policy is published on our website.

In addition, please see our JXTG Integrated Report 2017 for details about our Disclosure Policy.



[JXTG Integrated Report 2017](#)



[Disclosure Policy](#)

TOPICS

Proactively Promoting Investor Relations Activities

To improve understanding of the business activities of the JXTG Group, JXTG Holdings proactively disseminates information on management policies, performance, and other matters.

For analysts and institutional investors in Japan, analyst meetings, in which we present our financial results, are held on a quarterly basis, with members of management in attendance. The presentation materials, videos, and other information presented at the meetings can be accessed through the JXTG Holdings website.

In addition, for institutional investors in Japan, we proactively disseminate information through means such as one-on-one meetings on a regular basis with the president, the director responsible for investor relations, and others. We also arrange visits to the Group's refineries, smelters, and other facilities once or twice each year.

Similarly, for overseas investors, we also conduct one-on-one meetings by making periodic visits to investors and participating in investment conferences.

For individual investors, we hold periodic presentations in major cities in Japan to provide information on our business situation. In fiscal 2016, these presentations were held 20 times and were attended by approximately 1,000 individual investors.

The Investor Relations section of the JXTG Holdings website contains useful materials for investors, such as financial results and related presentation materials, annual reports, shareholder

brochures, and presentation materials used at the aforementioned meetings.

For our General Meeting of Shareholders, we endeavor to send out convocation notices in Japanese and English at least three weeks in advance in order to ensure adequate time for shareholders in Japan and overseas to deliberate on the proposed resolution items.

In fiscal 2016, we received the following awards from external organizations.

Former JX Holdings, Inc.

- Nikko Investor Relations:
Best Company Surveyed Award (in Nikko Investor Relations' ranking of the websites of listed companies in fiscal 2016)
- Daiwa Investor Relations Co., Ltd.:
2016 Internet IR Commendation Award
- Morningstar:
Gomez Investor Relations Site Ranking 2016, Silver Prize

Former TonenGeneral Sekiyu K.K.

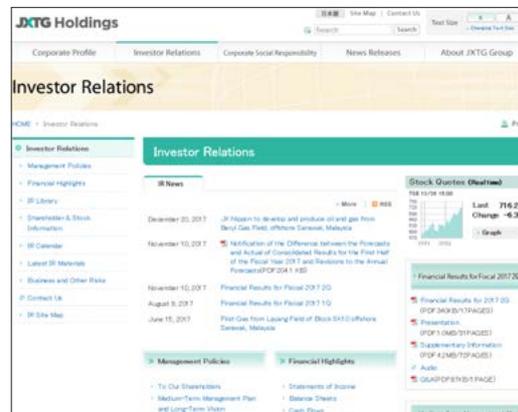
- Nikko Investor Relations:
Best Company Surveyed Award (in Nikko Investor Relations' ranking of the websites of listed companies in fiscal 2016)



Investor Relations



Analyst and institutional investor briefing



JXTG Holdings website for shareholders and investors

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.

Priority Fields for CSR Activities

High Ethical Standards

Compliance

Safety and **Environment**

Human Rights

Human Resource Development

Health

Quality

Social Contribution



Environmental Management

Basic Approach

Agreement on global environmental issues has been reached in commitments such as the Paris Agreement and the United Nations Sustainable Development Goals (SDGs). The role played by companies in achieving these commitments is becoming increasingly important.

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 that its business activities have 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. United as one, we are implementing initiatives to create 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.

JXTG Group Environmental Policy

The JXTG Group and its employees will follow the basic policies outlined below as part of efforts to help build a sustainable society.

1. Comply with environmental laws and regulations
We comply with laws and regulations related to the environment, with a high sense of ethics.
2. Promote environmental conservation in business activities
We strive for the conservation and protection of natural resources in all our business activities.
3. Contribute to the formation of a low-carbon society
We work to promote energy conservation and the spread of renewable energy.
4. Contribute to the formation of a resource recycling society
We promote the reuse, recycling, and reduction of resources.

Formulation of the JXTG Group Medium-Term Environmental Management Plan and Environmental Targets

The Group has formulated the Medium-Term Environmental Management Plan (fiscal 2017–2019) and established fiscal 2030 environmental targets. We will continue to promote further environmental activities

aimed at contributing to the development of a low-carbon, recycling-oriented society as stipulated in the JXTG Group Environmental Policy.

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

1. Reduction in CO₂ emissions along the entire supply chain (as compared with FY2009)
 - Medium-term target (FY2019): Reduction of 2.72 million tons
 - FY2030 target: Reduction of 4.08 million tons
2. Waste-to-landfill ratio
 - Maintain zero emissions (waste-to-landfill ratio of less than 1%)

Major Initiatives for Achieving the Medium-Term Environmental Management Plan

1. Reduction in CO₂ emissions (excerpt)

(1) Reduction in CO₂ emissions at Group production sites, etc.

The JXTG Group will promote reductions in CO₂ emissions through energy saving measures during the manufacturing stage (business activities with the greatest CO₂ emissions) and the operation of plants with the largest scales of CO₂ recovery in the world.

- Promotion of energy saving measures at oil refineries and smelters, etc.
- Recovery of CO₂ through a CO₂-EOR*¹ project in the United States

(2) Reduction in CO₂ emissions outside of Group production sites

The JXTG Group will strive to curb CO₂ emissions during the consumption stage such as by selling and promoting the development of environmentally friendly products.

- Lubricant products that improve fuel efficiency performance
- Increased sales and development of environmentally friendly products such as ETBE-blended gasoline
- Expansion of the hydrogen and renewable energy business

2. Waste-to-landfill ratio

(1) Thorough separation of waste, and reuse and recycling

*¹ CO₂-EOR (Enhanced Oil Recovery): Technology for the improved recovery of oil through the injection of CO₂ gas. This technology simultaneously increases production of crude oil and reduces emissions of CO₂ into the atmosphere by transporting the CO₂, captured out of the processed flue gas from a coal-fired power plant, to an oil field, and injecting and storing the CO₂ into legacy fields.

Structure

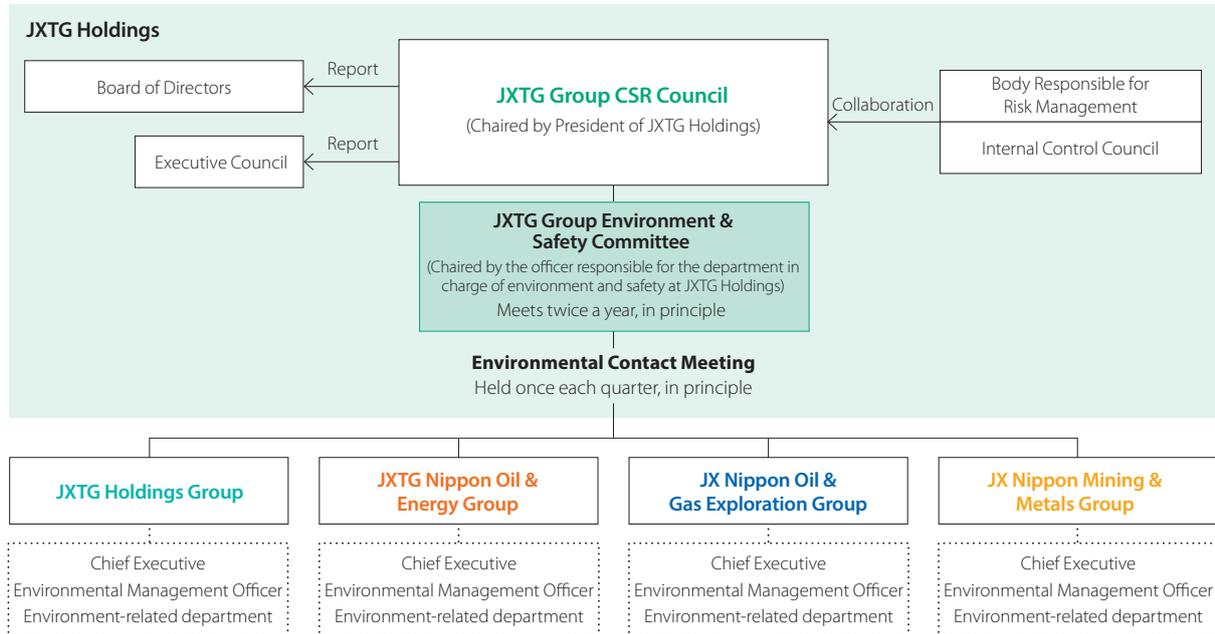
The JXTG Group Environment & Safety Committee is chaired by the officer responsible for the department in charge of the environment and safety at JXTG Holdings, and has been established under the JXTG Group CSR Council, which is chaired by the President of JXTG Holdings.

The Environment & Safety Committee deliberates matters related to the environment and confirms operation of the Environmental Management System (EMS) across the entire Group.

In addition, Chief Executives and Environmental Management Officers have been appointed at each Group company, and environment-related departments have been established.

The Group is also promoting ISO 14001 certification at its business sites where the EMS has been adopted (72 business sites in total). Fifty-six business sites have obtained certification, representing a certification rate of 78%.

JXTG Group Environmental Management Promotion Structure



Note: See CSR Management on pp. 10–16 for an overview of the Group’s CSR implementation structure.

Results of 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 the Group’s basic environmental policies, business plans and 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

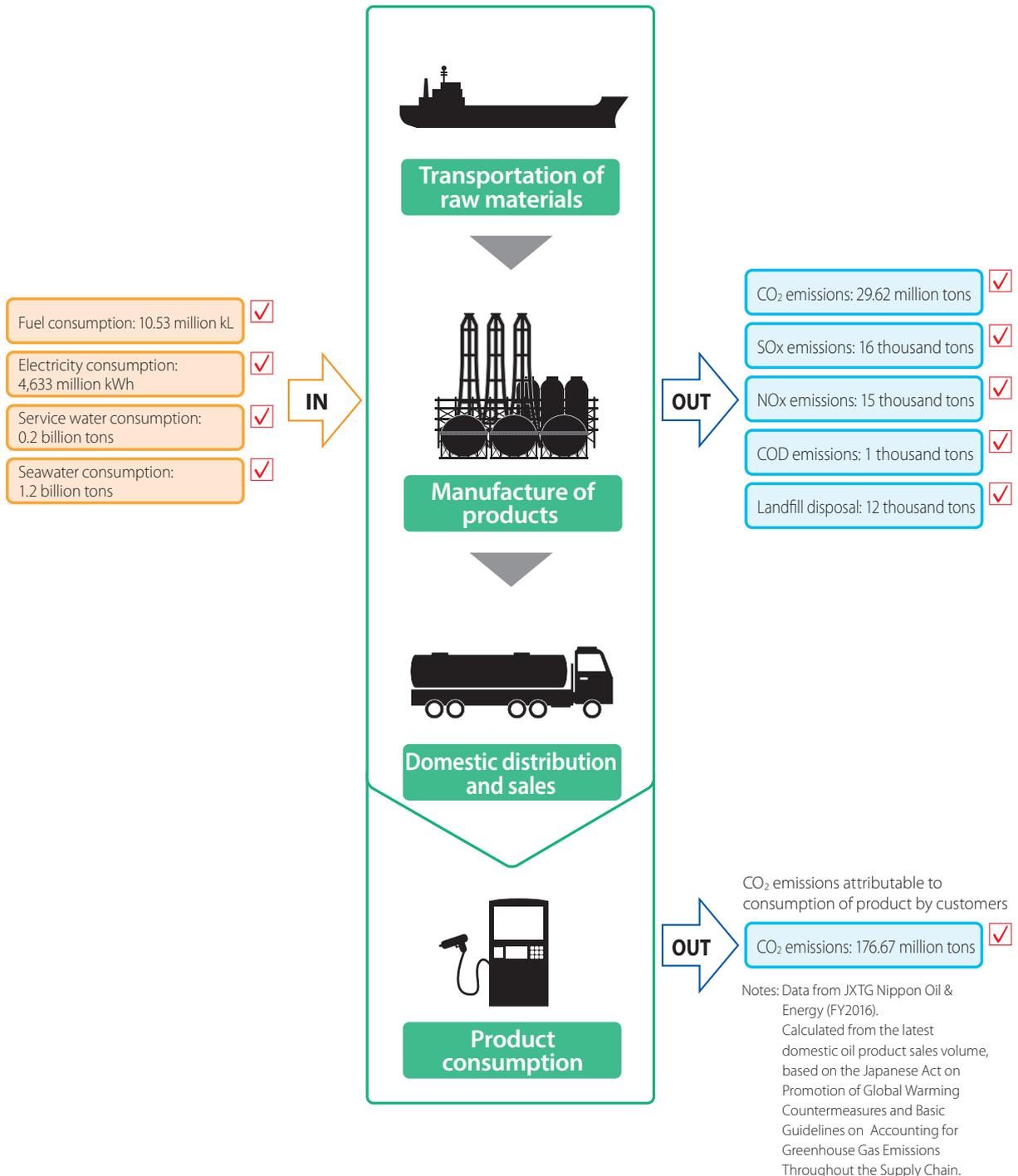
In fiscal 2016, the following two environmental accidents occurred. In each case, necessary measures were taken to address these accidents and prevent their recurrence.

Date	Place	Description
August 2016	Tamano Smelter, Hibi Kyodo Smelting	• Soot and dust concentration at the outlet of flue gas desulfurization unit exceeded limits set in the Air Pollution Control Act.
November 2016	Hitachi Works, JX Nippon Mining & Metals	• Corrosion caused deterioration and damage to drainpipes in the Daioin district. Wastewater leaked into the river, and effluent exceeded limits for lead, etc.

Overview of the JXTG Group's Environmental Impact

Input-Output of the JXTG Group (results from fiscal 2016)

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



Initiatives to Prevent Global Warming

Basic Approach

The JXTG Group is working to reduce CO₂ emissions along the entire supply chain in order to contribute to the development of a low-carbon society as stipulated in the JXTG Group Environmental Policy. To achieve this, we are reducing CO₂ emissions by promoting energy conservation during the production stage (business activities), as well as selling, developing, and promoting ecofriendly products that have a lower environmental

impact. At the same time, we are expanding our renewable energy business.

Meanwhile, in response to climate change, we carry out emergency drills for floods and tidal surges as well as initiatives to prevent heatstroke.

For information on our environmental management structure, see p. 26.

Initiatives to Reduce CO₂ Emissions along the Entire Supply Chain

Initiatives at Production Sites*¹

In fiscal 2016, CO₂ emissions totaled 29.62 million tons, an increase of 0.91 million tons from the previous fiscal year.

The main reason for this was an increase in energy consumption associated with increases in the processing of crude oil and the production of copper products. At refineries and smelters, the Group is advancing energy-saving measures, such as the introduction of high-efficiency, energy-saving facilities and optimizing the operation of equipment.

The energy consumption unit for oil refining increased by 0.06 points due to extensive regular maintenance at refineries.

The energy consumption unit for smelting and refining decreased by 0.2 points.

For further details on specific initiatives to reduce CO₂ emissions, see TOPICS on pp. 31–33.

Going forward, we will continue to work toward our reduction targets of 1.57 million tons by fiscal 2019 and 2.28 million tons by fiscal 2030, compared with fiscal 2009. *¹ Scopes 1 and 2 as defined in the GHG Protocol.

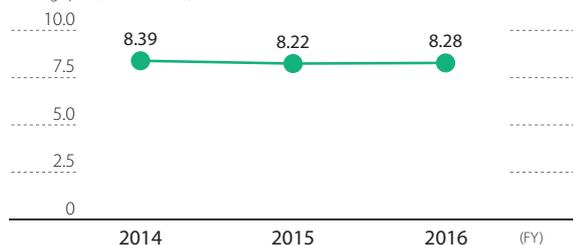
Total CO₂ Emissions



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

Energy Consumption Unit for Oil Refining

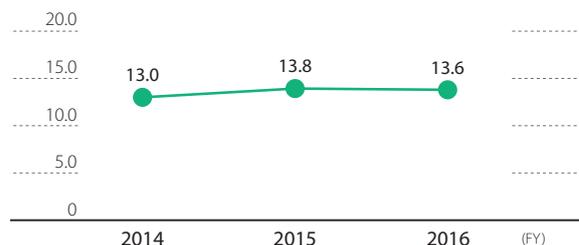
(Oil equivalent consumption volume (kL)/Crude distillation unit equivalent throughput (thousand kL))



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

Energy Consumption Unit for Smelting and Refining (Fuel + Electricity)

(GJ of heat per ton of refined copper produced)



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

Governance Report		Environmental Report	Social Report		Data		Comparative Table with GRI Guidelines	
Environmental Management	Initiatives to Prevent Global Warming	Initiatives to Reduce Waste	Management of Chemical Substances	Initiatives to Prevent Environmental Pollution	Initiatives for Biodiversity			

Initiatives for Operations Outside of Production Sites*1

In fiscal 2016, CO₂ emissions totaled 176.67 million tons.

The JXTG Group is also working to reduce CO₂ emissions in operations outside of its production sites.

*1 Scope 3 as defined in the GHG Protocol.

Procurement/Transport

With regard to marine transportation, which primarily concerns hauling 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 striving 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, with some having installed photovoltaic power generation systems and others having adopted 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:

- Bio-ETBE blended gasoline
- Fuel-saving lubricants
- Natural gas (LNG)
- Liquid crystal polymers

Renewable Energy Power Generation and Hydrogen Supply Businesses

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.

The greenhouse gas emission coefficient for JX Nippon Oil & Energy power plants in fiscal 2015 was 0.000491 tons of CO₂ per kilowatt-hour (after adjustment).

For further details, see TOPICS on pp. 31–32.

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 further details, see pp. 68–69.

Going forward, we will continue to work toward our reduction targets of 1.15 million tons by fiscal 2019 and 1.8 million tons by fiscal 2030, compared with fiscal 2009.

TOPICS

Promotion of Renewable Energy Power Generation Business for CO₂ Reduction

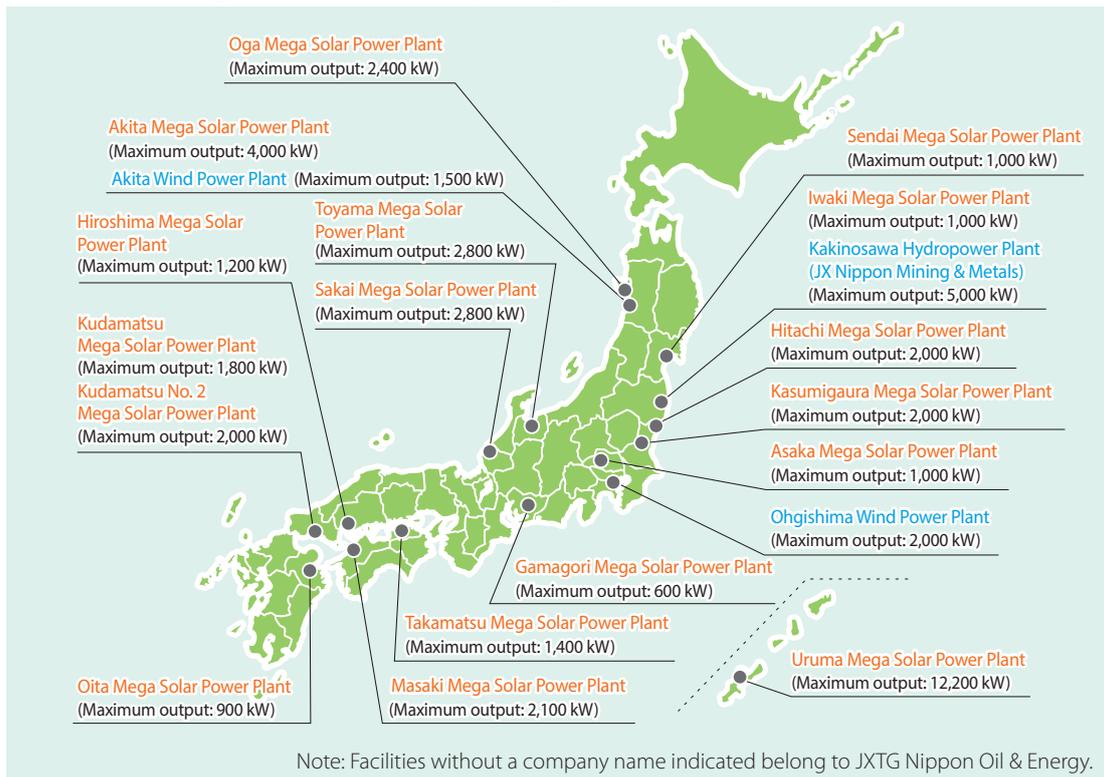
In light of the introduction of the feed-in tariff system for renewable energy in 2012, the JXTG Nippon Oil & Energy Group has been actively engaged in the mega solar power generation business using its idle land. Beginning with the start of commercial operation of the Sendai Mega Solar Power Plant in February 2013, the Group now has mega solar power plants in 17 locations nationwide. During fiscal 2016, the Group began operation of new mega solar power plants installed 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 old Gamagori Gas Terminal in Aichi Prefecture.

The Group is also actively promoting renewable energy generation businesses besides solar, including biomass, hydro and wind power, and has amassed a total generation capacity of approximately 49,000 kilowatts (as of April 2017).

The Group will continue to utilize these clean energies, thereby contributing to the reduction of CO₂ emissions.

Renewable Energy Generation Plants Expanding Nationwide (19 locations)



Kakinosawa Hydropower Plant



A wind turbine



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 CO₂ during use. Combining hydrogen with fuel cell systems enables high energy efficiency. Given this, the use of hydrogen is being advanced in a variety of fields, including fuel cell vehicles (FCV).

As an energy supplier, JXTG Nippon Oil & Energy is putting in place hydrogen supply stations for fuel cell vehicles, working to apply the accumulated technologies and expertise needed for the proliferation of these vehicles.

We opened our first commercial hydrogen

station in December 2014, and by the end of September 2017 the number of locations had grown to 40, accounting for nearly half of about 90 hydrogen stations nationwide.

Moving forward, we will leverage our infrastructure and expertise in hydrogen production and the provision of fuel for vehicles to create an efficient business model for the production, transport and sale of hydrogen, contributing to the realization of a hydrogen society.

Hydrogen Supply Chain



Aiding Research into 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 energy society.

The fund is Japan's first public trust specializing in aiding research into 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.

Increasing Crude Oil Production and Decreasing CO₂ through CO₂-EOR (Enhanced Oil Recovery)

JX Nippon Oil & Gas Exploration is participating in a CO₂-EOR project that utilizes cutting edge technology to decrease CO₂ emissions, which are a cause of global warming.

CO₂-EOR refers to injecting CO₂ into an aged oil reservoir, improving oil recovery and storing the injected CO₂ underground securely, thus reducing CO₂ emissions in the air.

CO₂-EOR Project Using Post-Combustion Carbon-Capture System at Coal-Fueled Power Plant in the United States

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 CO₂ from the flue gas of a coal-fired power plant. The captured CO₂ can then be injected into an oil field to increase oil recovery and CO₂ is stored in the oil reservoir instead of being emitted into the air.

The world's largest post-combustion carbon capture facility has been constructed at NRG Energy's WA Parish power plant southwest of Houston, Texas. The captured CO₂ is piped through a 130-kilometer pipeline and injected into the West

Ranch oil field,*¹ where it is expected to increase the field's output.

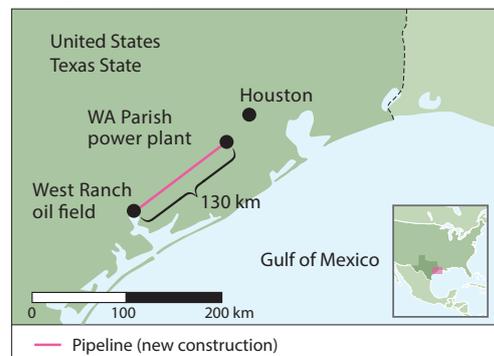
This is an epoch-making project set to boost oil production in aging oil fields while at the same time reducing greenhouse gas emissions from thermal power plants. It is particularly forward-thinking in its use of emissions as a commercial resource. The project is expected to capture approximately 1.6 million tons of CO₂ annually that would otherwise be released into the atmosphere.

*1 West Ranch oil field: JX Nippon Oil & Gas Exploration holds a 25% interest.



CO₂ recovery plant

Project Map



Promotion of Energy Conservation with the Installation of New Equipment

In December 2016, upgrades were completed to the oxygen production facility at the Tamano Smelter of JX Nippon Mining & Metals Group's Hibi Kyodo Smelting (Tamano City, Okayama Prefecture).

During the initial stages of smelting, copper concentrate is melted using the heat of reaction between oxygen and the sulfur contained in the copper concentrate. As the amount of ore to be processed increases, so does the amount of oxygen required. At the Tamano Smelter, new oxygen production facilities were constructed in this

manner in step with increases in copper production (five units in total).

The upgrade work at the Tamano Smelter involved consolidating and updating the five superannuated oxygen production units into one large state-of-the-art facility that uses less electricity, and resulted in a significant reduction in the electric power consumption rate (an approximate 15% improvement in the amount of power used per ton of copper metal produced).



Exterior view of the new oxygen production facility



Equipment for compressing the air used to make oxygen

Initiatives to Reduce Waste

Basic Approach

With the aim of contributing to the formation of a resource recycling society as stipulated in the JXTG Group Environmental Policy, the JXTG Group promotes the effective use of resources and the reduction, reuse, and recycling of waste within the group. We also

contribute to waste reduction and resource recycling in greater society through our recycling and environmental services business.

For information on our environmental management structure, see p. 26.

Results of Major Initiatives

Initiatives to Reduce Waste

In fiscal 2016, waste totaled 1.741 million tons, and landfill after recycling and reuse efforts totaled 11.8 thousand tons, an increase of 1.9 thousand tons versus the previous fiscal year. The main factors for this increase include an increase in the number of oil refineries undergoing scheduled maintenance, the temporary release of incineration ash in JX Nippon Mining & Metals' recycling and environmental services business, and an increase in demolition waste as a result of increased orders for construction work. Nevertheless, the waste-to-landfill ratio was 0.7%, meaning that we have continued 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 making cement, and the repeated use of neutralized slag*1 at our smelting and refining facilities.

In addition, some products are undergoing life-cycle assessment in their development processes.

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 promote proper waste management and recycling programs.

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

Waste-to-Landfill Ratio and Landfill Disposal Volume



Note: For detailed data related to the above, see p. 79 of the data booklet.

Initiatives for the Effective Use of Resources

JX Nippon Mining & Metals efficiently recovers copper, precious metals, and rare metals from recyclable resources and detoxifies industrial waste with zero emissions, so that no secondary waste is produced. To do this, we use processes drawn from the technologies of our smelting and refining business that we have accumulated over more than a century.

TOPICS

Effective Utilization of Resources

Achievement of a Recycling-Oriented Society through Our Recycling and Environmental Services Business

JX Nippon Mining & Metals engages in an integrated range of businesses related to non-ferrous metals, centering on copper, which encompass resource development, metal smelting and refining, electronic materials, and recycling and environmental services. The recycling and environmental services business, which is the “vein” of this value chain, consists of environmental services for detoxifying industrial waste and the recycling of materials containing non-ferrous metals into refined metals. The group contributes significantly to the development of a sustainable, recycling-oriented society by 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.



Hitachi Metal Recycling Complex (HMC)
Department of Hitachi Works

Key Features and Strengths of the Recycling and Environmental Services Business

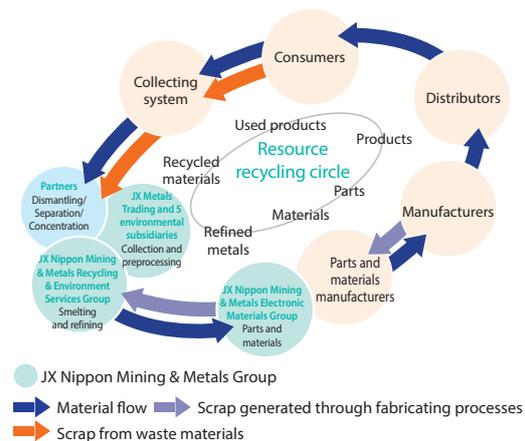
(1) Zero Emissions

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 would require landfill disposal is produced. All ferrous metals are recovered as slag and used for such purposes as cement material. 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 non-ferrous 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 operations at mines, smelters, and refineries. In particular, at the Saganoseki Smelter & Refinery of Pan Pacific Copper Co., Ltd., which boasts Asia’s largest treatment capacity for recycled materials, 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 the recycled materials and industrial waste collected through the nationwide collection network we have built. Also, with less generation of scrap in Japan, we are enhancing our collection operations overseas and have established a collection and pretreatment 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

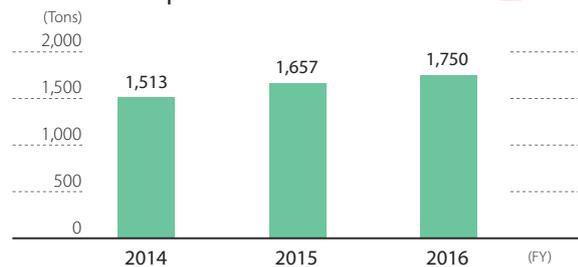
Group strives to properly manage specified chemical substances and control emissions of such substances.

Results of Major Initiatives

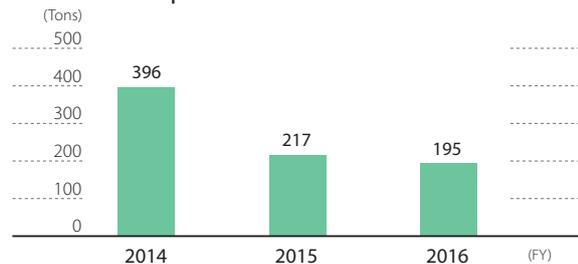
Management and Monitoring of Specified Chemical Substances under Japan's Pollutant Release and Transfer Register Act

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).

Release of Specified Chemical Substances



Transfer of Specified Chemical Substances



Note: For detailed data related to the above, refer to p. 79 of the data booklet.

For fiscal 2016, emission volume was 1,750 tons, an increase of 93 tons year-on-year, while transfer volume was 195 tons, a decrease of 22 tons year-on-year.

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

The JXTG Group carries out storage reporting 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. is certified by the Minister of the Environment to provide low concentration PCB waste treatment and carries out detoxification, thereby contributing to compliance with the Stockholm Convention on Persistent Organic Pollutants.*2

For details, refer to TOPICS on p. 37.

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

*2 Stockholm Convention on Persistent Organic Pollutants: This is 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 huge 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 2016, the company treated approximately 3,800 tons of waste asbestos.

Compliance with the REACH Regulation

The European Union's Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH Regulation) came into effect in June 2007. Based on precautionary principles, the purpose of this regulation is to standardize the management and identification of chemicals that are distributed within the EU and to monitor their risks and clarify their environmental impact.

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.

JXTG Nippon Oil & Energy has completed registration of chemicals that it may export to Europe as follows.

1,000 tons or more per year	November 2010
Less than 1,000 tons per year; more than 100 tons per year	May 2013

TOPICS

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

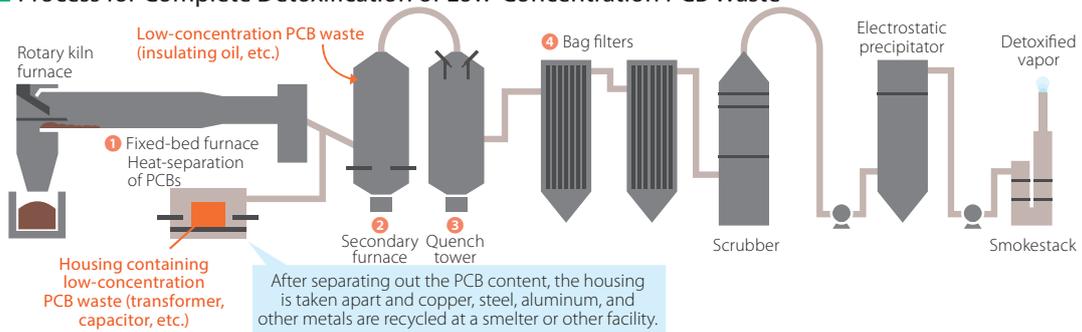
Since March 2014, when JX Nippon Tomakomai Chemical received certification from the Minister of the Environment as the first low-concentration PCB waste detoxification facility in Hokkaido, the company has been working to improve its treatment capacity.

A deadline of March 31, 2027, has been prescribed by law for disposal of waste materials containing PCBs. By that date, the owner must either dispose of them or have their disposal handled by an agent. However, as of March 2017, there are 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. There are also only 10 treatment facilities that perform decontamination by means of cleaning processes. These are still inadequate to meet the demand for low-concentration PCB waste disposal.

Moving forward, we will continue stable operations of industrial waste treatment, and 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 concentrations of PCBs	Solids: 6 tons/day (3 batches of 2 tons each) Waste oil: 8.4 kiloliters
March 2015	Waste materials from outside Hokkaido can be accepted without the need for advance consultation with local governments	
September 2015 (additional certification by Minister of the Environment)	Increased size of objects that can be treated Width: 2.5 meters / depth: 1.5 meters / height: 2.3 meters Additional treated items: Capacitors Metal-coating scrap containing low concentrations of PCBs	Increase in treatment capacity Solids: 12 tons/day (3 batches of 4 tons each)
April 2016	Additional treated item: Ballasts contaminated with low concentrations of PCBs	
March 2017	Additional treated item: Inorganic sludge (concrete scrap)	

Initiatives to Prevent Environmental Pollution

Basic Approach

In addition to complying with related laws and regulations, the JXTG Group works to maintain and conserve natural resources such as water, soil, and the

atmosphere, by promoting the prevention of further release of environmental pollutants, the effective utilization of water resources, and other measures.

Results of Major Initiatives

Initiatives Controlling the Release of Air Pollutants

Reducing the Release of SOx

Sulfur oxides (SOx) are known to cause acid rain, and are mainly released into the atmosphere 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. For fiscal 2016, 16 thousand tons of SOx were emitted, an increase of three thousand tons year-on-year. The main reasons for the increase were the increase in production of copper, and the fact that emissions were temporarily higher due to the process to recover sulfuric acid gases at Saganoseki Smelter & Refinery.



Flue gas desulfurizer

Reducing the Release of NOx

Nitrogen oxides (NOx) are also known to cause acid rain, and are mainly released into the atmosphere 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.

For fiscal 2016, 15 thousand tons of NOx were emitted, a decrease of one thousand tons year-on-year.



Flue gas denitrizer

Reducing the Release of VOCs

Volatile organic compounds (VOCs) are released from places such as storage facilities for petroleum products. They are thought to create photochemical oxidants through a photochemical smog reaction with NOx and ultraviolet rays from sunlight.

The JXTG Group is carrying out installation of recovery apparatuses on storage facilities and truck loading facilities.

For fiscal 2016, 28 tons of VOCs were released, a decrease of 2 tons year-on-year.

Please see TOPICS on p. 40 for details of this initiative.

Effective Utilization of Water Resources and Preventing 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 the water used is seawater.

For fiscal 2016, 1.37 billion tons of water (freshwater and seawater) were used, an increase of 0.22 billion tons year-on-year.

In addition, 0.37 billion tons of water were released, an increase of 0.03 billion tons year-on-year.

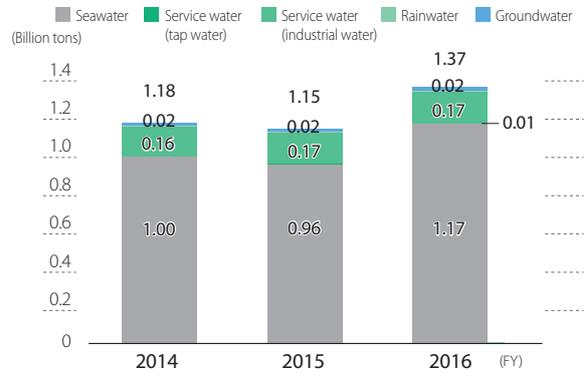
The main reason for the increase in water used and released was the increase in seawater used as a result of the increases in crude oil processing and production of copper.

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

We are working to identify water resources by using 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 high water risk.

At the Caserones Copper Mine in Chile, which has a high risk of droughts, approximately 80% of the water used in the production process is recycled. As an operating mine, it has the lowest level within Chile of water usage per ton of ore processed.

Water Used by JXTG Group



Note: For detailed data related to the above, refer to p. 79 of the data booklet.

Reducing the Release of Water Pollutants

We manage and monitor pollutants in waste water through regular maintenance of water treatment facilities, and by formulating voluntary standards that are more rigorous than laws, regulations, ordinances, and agreements, including Japan's Water Pollution Prevention Act.

In addition to refineries and smelters, we continue to carry out treatment of acid mine drainage at closed mines.

Preventing Marine Pollution

With regard to marine transport of oil, the JXTG Group strives to comply with MARPOL73/78, adopted by the International Maritime Organization (IMO), which prohibits the dumping of waste into the world's oceans and requires that signatories take steps to prevent environmental pollution caused by oil.

In addition to fully complying with this convention, we do not dump incinerator ash as defined in the convention into the sea, and instead take it back to land for proper disposal. These actions form a part of our much broader commitment to preventing marine pollution.

Soil Contamination Countermeasures

The JXTG Group performs systematic studies on all land—centered on land owned by us, such as that on which our refineries, oil depots and service stations are located—that carries the potential for soil or groundwater contamination.

If pollution is detected, we initiate proper countermeasures to address it.

Soil Surveys and Countermeasures in Fiscal 2016 (Millions of yen)

	Surveys		Countermeasures	
	Number of cases	Expenditure	Number of cases	Expenditure
Service stations	174	243	50	716
Oil depots	7	23	0	0
Refineries/terminals	12	23	0	0
Total	193	289	50	716

In addition, NIPPO Corporation has been involved in the contamination purification business since before

Soil Contamination on Group Property Reported in Fiscal 2016

Category	Location	Survey results				Status
		Soil		Groundwater		
		Substance	Scale factor	Substance	Scale factor	
Idle land	Aichi	—	—	Benzene	15	Countermeasures completed
	Hokkaido	Benzene	110	Benzene	1,100	Countermeasures currently being implemented

Japan's Soil Contamination Countermeasures Act took effect.

TOPICS

VOC Recovery

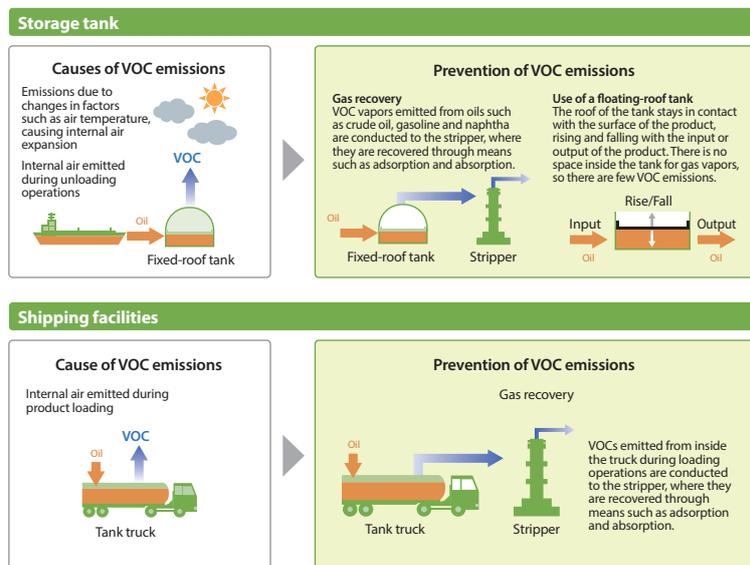
Volatile organic chemicals (VOCs) that contain hydrocarbons are released into the air whenever gasoline is pumped from a tank truck into a storage tank at a service station. These VOCs are not only a source of photochemical oxidants, but also cause irritating odors in the neighboring communities and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

Therefore, JXTG Nippon Oil & Energy has installed recovery apparatuses on the ventilation ducts of service station storage tanks that enable 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 that were not absorbed are broken down, including odor-causing ones.

The JXTG Group was the first in the world to commercialize this mechanism. This technology is now greatly contributing to environmental measures and the effective utilization of energy.

VOC Emissions at Refineries and Control Measures



Development and Sales of Environmentally Friendly High-Octane ENEOS VIGO in Anticipation of Environmental Regulations

JXTG Nippon Oil & Energy, in anticipation of environmental regulations, commenced sales of ENEOS VIGO in 2002. It was the first in Japan to commence sales of sulfur-free (guaranteed to contain less than 10 parts per million of sulfur) high-octane gasoline.

Besides being guaranteed sulfur-free, the inclusion of a high-performance cleaning agent reduces staining of the intake valve by 86%. This is therefore an environmentally friendly product which reduces components of regulated emission

gases by a maximum of 10% to 30%, and improves acceleration performance.

Through the development and sales of such environmentally friendly products, we contribute to the reduction of CO₂ at the gasoline consumption stage and the reduction of emissions of regulated emission gases.

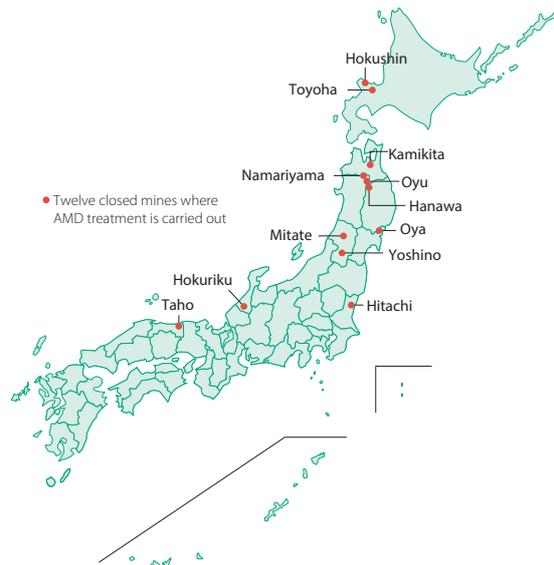


Ongoing Treatment of Acid Mine Drainage at Closed Mines

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 and other operations at these sites.

AMD, which is strongly acidic and contains heavy metals, 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.

■ Closed Mines Where AMD Treatment Is Carried Out



Motoyama AMD treatment facility at Toyoha Mine



Gallery inspection at Hanawa Mine

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 include carrying out environmental impact studies when establishing new operation and production sites in order to obtain an accurate understanding of the local ecosystem, including plants, birds and other animals, and marine life.

Results of Major Initiatives

◆ Initiatives in Japan

JXTG Nippon Oil & Energy has many production sites. In addition to establishing the JXTG Nippon Oil & Energy Group Guidelines on Biodiversity, 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.

In addition, we carry out activities such as regular environmental training for employees, and community contribution activities related to environmental conservation.

JXTG Nippon Oil & Energy Group Guidelines on Biodiversity

Basic Stance

We will take measures considerate of 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 as well as strive to make improvements.
2. We will promote activities that contribute to biodiversity preservation, such as nature protection and environmental education.
3. We will present and share information on our efforts to preserve biodiversity.

Involvement in Initiatives Related to Biodiversity

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.



Measures at Our Refineries and Plants

Improvements to the Green Belt 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 seek to utilize corporate green belts and other areas to provide a safe and secure habitat for local flora and fauna, and involve a partnership among Aichi Prefecture, Chita City, NPOs, students and companies located along the coastal area.

Improvements are being made the green belt at the Chita Plant based on the JBIB Guidelines for Sustainable Businesses Sites. As a result of these activities, the Chita Plant was granted ABINC certification by the Association for Business Innovation in Harmony with Nature and Community.

In fiscal 2017, we plan to conduct two biodiversity surveys of the biotope.



A butterfly skimmer visiting the biotope

Improvements to the Green Belt at the Negishi Refinery

At the Negishi Refinery, activities for the conservation of biodiversity are carried out using the green belt (approximately 60,000 square meters) at the center of the premises.

Ecosystem studies started in fiscal 2013, and from fiscal 2016, activities such as laying of trails (wooden paths) and installation of bird-watching sheds are taking place over a span of three years.



ABINC certification mark



Biotope established in the green belt



Ecosystem study



A spot-billed duck visiting the biotope



A bird-watching shed

Forest Stewardship and Forestation Activities

Group companies of the JXTG Group are involved in forest stewardship activities contributing to biodiversity conservation.

JXTG Nippon Oil & Energy is involved in 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 conducted forest stewardship activities of the JX Nakajo Forest, a group of pine forests located on and around the site of its Nakajo Field Office in Niigata Prefecture.

JX Nippon Mining & Metals is working to conserve biodiversity by continuing to plant vegetation, clear underbrush, and conducting other necessary work to maintain and improve the natural environment at locations such as closed mines.



Tree planting in ENEOS no Mori



Afforestation in JX Nakajo Forest



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

◆ Overseas Initiatives

Initiatives Involving Ocean Tankers

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 the local ecosystem.

Since 2004, the JXTG Nippon Oil & Energy Group has replaced this ballast water while still on the open ocean and installed water treatment systems*1 for ballast water on its new vessels in an effort to avoid disturbing the coastal waters of oil producing countries.

*1 A system that keeps the amount of aquatic life in ballast water below certain predetermined standards prior to release.

Use of Environmental-Hormone-Free Ship Bottom Paint

It was pointed out that the tributyltin used in our ship bottom paint may be an endocrine-disrupting chemical.

We have therefore switched to zinc-based paints, despite their being somewhat less effective, in an effort to protect the marine ecosystem.

Initiatives at the Caserones Copper Mine

Of the total 385 square kilometers (38,500 hectares) of land owned by the JX Nippon Mining & Metal Group's Minera Lumina Copper Chile (MLCC), MLCC has designated 0.87 square kilometers (87 hectares) as an area to be protected from the impact of construction of the mining equipment for Caserones Copper Mine and other such activities. MLCC takes steps to preserve biodiversity by protecting the animals and plants in this area.

Under the guidance of experts, plants in a wetland plant zone spanning 9,400 square meters of the Caserones Valley were transplanted to the nearest location with a suitable habitat. The vega plant, one of the protected plants at the Caserones Valley site, was then confirmed to have taken root at the transplant site.



Transplanted vega plants take root

TOPICS

Plenary Session for Biodiversity Conservation at the Negishi Refinery

JXTG Nippon Oil & Energy's Negishi Refinery has the largest site of any refinery in Japan, with an area of 2.2 million square meters, and a perimeter of approximately 12 kilometers. Many animals and plants live within the premises, and refinery operations impact the local ecosystem.

Therefore, in fiscal 2016, the refinery established a plenary session for biodiversity conservation for personnel in charge of the environment to discuss environmental studies, as well as maintenance policies and measures, for its premises.

During the first plenary session in fiscal 2016, it was decided to develop the area around the three artificial ponds within the refinery's premises into biotopes over the next three years. To this end, initiatives such as studies and maintenance of the ponds and thinning of wooded areas were promptly carried out.



Plenary session

Social Report

The mission of the JXTG Group 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 will contribute to resolving the issues faced by various internal and external stakeholders.

Priority Fields for CSR Activities

High Ethical Standards

Compliance

Safety and Environment

Human Rights

Human Resource Development

Health

Quality

Social Contribution

Safety

Basic Approach

As a corporate group responsible for the stable supply of energy, resources and materials, the JXTG Group believes that securing safe operations is the basis of business survival and social credibility, and is 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

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 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.



Related links

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

- JXTG Nippon Oil & Energy: Group Safety Philosophy, Group Safety Policy
- JX Nippon Oil & Gas Exploration: Health, Safety and Environmental Policy
- JX Nippon Mining & Metals: Basic Policy on Health and Safety

Structure

The JXTG Group Environment & Safety Committee, chaired by the officer 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 industrial accidents and the implementation of safety activities at each Group company, and in addition, reviews and implements measures to prevent industrial accidents.

Each Group company has also built safety management systems tailored to their respective business

characteristics, for instance obtaining OHSAS 18001*1 certification. Our companies are continuously making efforts to raise safety awareness and prevent industrial accidents, through means such as conducting exhaustive investigations into the causes of any industrial accidents, and based on the results of those investigations, formulating and implementing measures to prevent recurrence, as well as conducting regular safety education and training.

*1 OHSAS 18001: Occupational Health and Safety Management Systems

OHSAS 18001 Certification

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

In addition, JX Nippon Oil & Gas Exploration has developed and is operating its own HSE*1 management system which conforms to OHSAS 18001. Under this system, personnel in charge of HSE maintain contact with site managers and carry out safety checks.

*1 Acronym for health, safety and environment.

Safety Education Programs

Aiming to improve the safety awareness of employees, in addition to regularly carrying out safety meetings as well as safety management education for managerial staff and education programs to raise the level of risk

assessments, we also provide safety education at the JXTG Group Safety Education Center (Hitachi City, Ibaraki Prefecture) to improve employee awareness of workplace risks (see p. 49 for further details).

JXTG Nippon Oil & Energy also holds an Environmental and Safety Forum to report on environment- and safety-related matters across the company, with an eye toward further improving environmental and safety management. In fiscal 2016, the forum was held in May, 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 2016, the programs were attended by a total of 500 participants.

Results of Major Initiatives for Safety Activities

With the goal of eliminating all fatal industrial accidents, the JXTG Group conducts exhaustive safety activities and safety training programs, in which employees from its partner companies also participate.

In fiscal 2016, there were 50 industrial accidents, 15 fewer than the previous fiscal year. Regrettably, there were two fatal accidents involving contractor company workers. We thoroughly investigated the causes, then formulated and implemented measures to prevent recurrence and rolled them out to Group companies.

Eight industrial accidents involved regular employees, an increase of four from the previous fiscal year, but there were no fatalities. Although the frequency rate of industrial accidents (the number of casualties caused by industrial accidents per million hours of total work) and the accident severity rate (the number of work days lost per thousand hours of total actual work) were well below the industry average (according to a survey by the Ministry of Health, Labour and Welfare (MHLW)), both rates were higher than fiscal 2015.

From fiscal 2017, we will adopt Group-wide safety

efforts for industrial accidents that occur with greater frequency or which are likely to lead to serious industrial accidents, and will make further efforts to prevent their occurrence.

Group-wide Safety Efforts

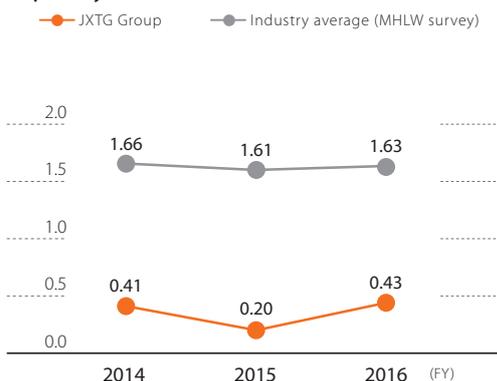
- Separating people and heavy machinery
- Preventing falls from high places
- Preventing workers from falling down
- Preventing heatstroke

Industrial Accidents

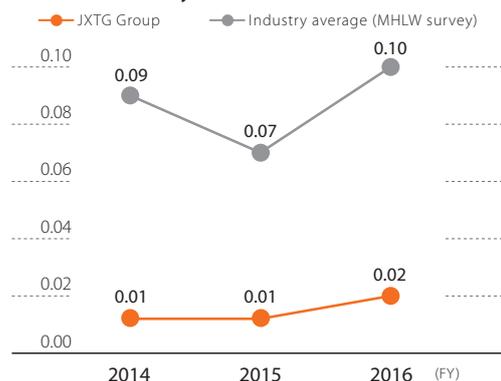
(People)

		2014	2015	2016	
Number of casualties due to industrial accidents	Group employees	Fatalities	0	0	0
		Lost work time	8	4	8
		Subtotal	8	4	8
	Contractor company workers (partner companies, etc.)	Fatalities	3	1	2
		Lost work time	85	60	40
		Subtotal	88	61	42
Total		96	65	50	

Frequency Rate of Industrial Accidents



Accident Severity Rate



Launch of Safety Training Program Using Virtual Reality

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

In fiscal 2016, 1,698 employees attended training here, bringing the total number since the center opened to 6,964.

In July 2017, a new training program which utilizes virtual reality technologies was started. This program is unique to the JXTG Group and enables workers to

experience accidents from a victim's perspective, which wouldn't be practical in the real world. Simulations include steam explosions (being splattered with molten metal) and entanglement in a roller (being caught in a low-speed rotor).

Other safety initiatives are also being promoted across the Group. For instance, one practice being widely emphasized is to set up hazard simulation devices at each production site and require workers to undergo training using these devices before they can begin actual work.



JXTG Group Safety Education Center



Virtual-reality training equipment

Earthquake Measures for Refineries and Plants

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.

Measures to Mitigate Damage from a Disaster

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.



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 type 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 following the Great East Japan Earthquake we are now retrofitting spherical tanks with braces and carrying out earthquake resistance measures on critical facilities.



Brace retrofitting for a spherical tank

Measures to Cope with 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.

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



Firefighting vehicles

Mutual Assistance System for Refineries

For response in the event that a refinery sustains damage from an earthquake and is unable to regain control unaided, we have 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.

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.



Firefighting during a comprehensive disaster drill



Water discharge drill using a high-capacity sprayer

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 international

norms such as the Universal Declaration of Human Rights, the International Labour Organization's (ILO) Core Labour Standards and the UN Guiding Principles on Business and Human Rights. We have also stipulated such norms in the JXTG Group Code of Conduct, and are promoting initiatives aimed at resolving various 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, 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.

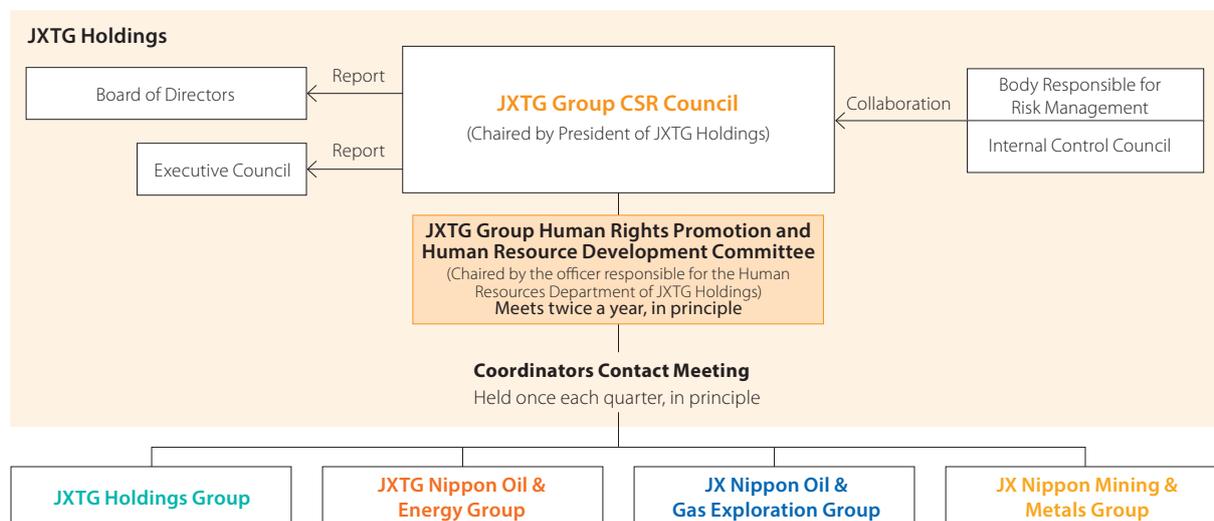
Structure

The Human Rights Promotion and Human Resource Development Committee is chaired by the officer 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 attain respect for human rights, which is stipulated in the Group Code of Conduct, such as conducting human rights awareness training in accordance with its business characteristics and implementing human rights due diligence.

Group company initiatives are also shared at the committee's Coordinators Contact Meeting and are used to improve the standard of activities.

■ Structure for Promoting Human Rights, Human Resource Development and Health, Which Are Priority Fields for CSR Activities



Major Initiatives

Participation in the UN Global Compact

JXTG Holdings, JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration and JX Nippon Mining & Metals participate in various UN Global Compact activities and are committed to realizing the Ten Principles, which are divided into four areas, including human rights.

Raising Awareness for Human Rights through Training and e-Learning

In addition to ongoing training targeted at all Group employees designed to raise human rights awareness and prevent human rights issues from occurring, each Group company also holds training for new employees, training for different ranks of employees as well as e-learning courses.

Various activities are also carried out to raise awareness and sharpen sensitivity for human rights, such as a training program where participants play blind soccer.

Preventing Harassment

As well as providing various forms of training designed to prevent harassment, we have established consultation centers at each Group company to receive reports and complaints about harassment.

Consideration for Employees with Disabilities

Employees with a variety of disabilities work in the JXTG Group, and efforts have been put into improving workplace environments to enable these employees to carry out their duties comfortably and efficiently. We also regularly hold sign language classes to facilitate smoother communication among employees.

Human Rights Due Diligence

The JX Nippon Mining & Metals Group is committed to ensuring respect for human rights, and has established the JX Nippon Mining & Metals Group Compliance Regulations to explicitly document human rights policies, including those for the prevention of discrimination, harassment, and child labor and forced labor.

Once a year, the Group also conducts checks to ensure that no child labor or forced labor is being used in connection with its business operations. It also surveys its business partners to gain written confirmation that these forms of labor are not being used.

Compliance with Labor Laws and Regulations

The JXTG Group is committed to complying with labor laws and regulations in the countries and regions where it conducts its business operations.

Both in Japan and overseas, rules are established and wages are paid based on laws and regulations on minimum wages, legally mandated benefits and other conditions that are prescribed in the respective country or region.

In Japan, we also verify the general appropriateness of wages, regularly negotiating with labor unions about reasonable wage levels and working conditions.

Response to the UK Modern Slavery Act 2015

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



See the following websites for further details.
<http://www.eneos.eu/wp-content/uploads/2017/02/MSA-2015-StatementNOEU.pdf>
http://www.nex.jx-group.co.jp/english/environment/compliance/active/pdf/human_01.pdf

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

JXTG Nippon Oil & Energy does have a base in Johannesburg in the Republic of South Africa, but has not obtained approval under the BEE Policy.

TOPICS

Come-and-Try Blind Soccer

JXTG Nippon Oil & Energy hosted a come-and-try blind soccer event at its Negishi Refinery, with participation by 21 employees, their families and friends.

Blind soccer uses a special ball that emits a sound. The aim of the event was to raise awareness for human rights by enabling participants to experience what it feels like to have impaired vision by wearing blindfolds to obstruct their vision.



Come-and-try blind soccer event

Mine Development and Respecting the Human Rights of Local Residents

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.

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.



For further details, see the JX Nippon Mining & Metals Sustainability Report 2017.
 JX Nippon Mining & Metals Sustainability Report 2017

Confronting the Issue of Conflict Minerals

Regarding the JX Nippon Mining & Metals Group, relevant industry organizations (including the LBMA*1 and EICC) have established monitoring programs for eliminating conflict minerals. These programs require that companies 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 EICC and GeSI,*2 recognition that it is taking proper measures to exclude conflict minerals.

*1 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.

*2 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

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 recruitment, 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 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 the Group policy on human resource development, manages human resource requirements, and promotes discussion necessary for Group companies to foster a shared

awareness of human resource development.

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 effective human resource development.

Major Initiatives

JXTG Group

■ **Development of the Group's senior managers**

Candidates for future Group management positions are cultivated through rank-based training of selected personnel.

■ **Promotion of various measures linked to work style reforms**

We are proactively moving ahead with a variety of measures targeting work style reforms in an effort to create an environment for effectively nurturing diverse human resources.



Training for future Group management positions

JXTG Nippon Oil & Energy

■ **Training by grade**

Training by grade 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, depending on language skills.

■ **Local staff training**

Group training is implemented for local staff based at overseas locations.

■ **Promotion of career opportunities for female employees**

We conduct training in areas such as following up with employees taking childcare leave.

■ **Self-reporting interviews**

We conduct regular interviews 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 grade**

Training by grade and training to develop core human resources are implemented.

■ **Dispatch of young employees overseas**

To enhance their capabilities through practical, comprehensive training, young employees with a few years of experience at the company are dispatched for a set period of time to overseas offices and sites where the company plays a lead role in conducting operations.

■ **Career development interviews**

We interview employees 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.

■ **International staff system**

National staff employed at overseas offices are provided with opportunities to work at our head office or regional offices to help them develop their skills and to ensure utilization and transfer of their knowledge and expertise.

JX Nippon Mining & Metals

■ **Training by grade**

Training by grade 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.

■ **Interviews to follow young employees' careers**

Focusing on the people who are the source of our organization's strength, we conduct regular HR interviews and division interviews with young employees as an effort to ensure the systematic development of these employees and enhance their proposal-making capabilities.

■ **Activation of people and organizations**

We are strengthening human resource management and human resource development as well as establishing an environment in which diverse human resources can work with enthusiasm.

■ **Training Programs Implemented in Fiscal 2016**

(Hours)

	Total training hours	Training hours per employee
JXTG Nippon Oil & Energy	72,853	7.93
JX Nippon Oil & Gas Exploration	8,458	18.35
JX Nippon Mining & Metals	33,655	12.80
Total	114,966	9.36

Notes: 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. Values for JXTG Nippon Oil & Energy represent the sum of the former JX Nippon Oil & Energy and the former TonenGeneral Group.

TOPICS

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

For this training, college graduates in their fourth or fifth year of employment 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.



Global business skills training

Creating Appropriate Personnel Evaluation Systems

JX Nippon Mining & Metals has introduced a competency evaluation system based on competency models and a performance evaluation system centered on the management of missions and goals.

For competency evaluation, employees are interviewed by their supervisors based on competency items determined by the nature of their work and job position. The resulting assessment is used in determining promotions.

For performance evaluation, employees meet with their supervisors to discuss the extent to which they attained the missions and goals agreed on with the supervisor at the beginning of the fiscal year, and the degree of challenge presented by the goals. Their performance is then evaluated, and the results of these evaluations are reflected in employee bonuses.

Through the implementation of these personnel evaluation systems, we seek to improve fairness in the treatment of employees and the development of their abilities.

Development of National Staff (Locally Hired Overseas Employees)

JXTG Nippon Oil & Energy aims to boost its overseas expansion of business operations by training national staff to become senior managers at its overseas sites.

To this end, the company has established a grading and evaluation system for its overseas sites to identify key development tasks and the career paths of locally hired overseas employees. Group training sessions are also held for local managers and team leaders. At group training sessions in fiscal 2016, participants learned communication skills and problem-solving techniques needed for optimal leadership.

Health

Basic Approach

The JXTG Group believes that placing importance on the health of employees and their families and respecting diversity in our employees and their work styles 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.

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 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.

Health Enhancement

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 2016, 100% of employees underwent regular health screenings.*1 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.

*1 Compiled using data from JXTG Holdings and core operating companies.

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 industrial physicians. Additional systems include counseling with external counselors.

We are striving to improve the work environment as needed and provide mental health care.

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.

Contributing to Local Communities at Overseas Sites

JX Nippon Oil & Gas Exploration's London office donates to several organizations including those supporting patients suffering from cancer and heart problems, while the Vietnam office supports ophthalmic treatment for the poor.

Promoting 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 and lead to our growth.

Basic Approach

- ◆ We carry out fair and equal recruitment to achieve diversity.
- ◆ We endeavor to improve our working 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.

Promoting Women's Participation

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

Furthermore, our Group companies have created their own action plans on 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 they are now implementing measures for the achievement of these plans.

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

- JXTG Nippon Oil & Energy: Ensure at least 25% of newly hired university graduates in fiscal 2020 are women.
- 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 at least 30% of newly hired university graduates are women in order to cultivate female managers early on.

■ **Employment Status of Female Employees**

Newly recruited female employees	69	Percentage of women among new recruits: 14.9%
Total number of female employees	1,255	Percentage of women in workforce: 11.3%
Number of female managers	80	Percentage of women in management: 2.6%
Number of female directors	1	Percentage of female directors: 6.3%
Average years of service for all female employees	18.2 years	Average years of service for male employees: 19.2 years Difference in average years of service between male and female employees: 1 year

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

Promoting Career Opportunities for the Disabled

For fiscal 2016, the percentage of employees with disabilities was 2.2%, higher than the legal requirement of 2.0%.

Instead of treating all disabilities the same, the JXTG Group fosters an environment where people with disabilities can thrive by assigning each person to a job suited to their own individuality and aptitude.

Re-employment of Retired Workers

The JXTG Group has put in place a re-employment program for retired workers that have the desire and motivation to continue working. This program provides these employees with another opportunity to share their valuable knowledge, skills, and experience with the company.

In fiscal 2016, the number of people re-employed after retirement was 475.

Re-employment Program for Workers Who Accompanied a Spouse on an Overseas Assignment

As one initiative to support women in the workplace, JXTG Nippon Oil & Energy has adopted a system for re-employing 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-employed within five years if they so request.

Putting in Place Systems to Support Work-Life Balance

JXTG Group companies have put in place various systems to support work-life balance, and actively work to nurture corporate cultures that make it easy to use these systems. For details about the major systems supporting work-life balance, see p. 64.

■ **Number of Employees Utilizing Major Systems in Fiscal 2016**

Number of employees taking childcare leave	173 (of which 114 are male)
Number of employees returning to work after giving birth or taking childcare leave	100%
Percentage still employed 12 months after returning to work	99.1%
Number of employees taking family care leave	4

Note: Compiled using data from JXTG Holdings and core operating companies.

Monitoring through Employee Awareness Surveys

The JXTG Group regularly conducts anonymous surveys targeting all employees on themes such as daily work and corporate culture. Bringing to light employees' awareness levels and issues within each workplace helps to improve issues, including the promotion of diversity. The most recent survey was conducted in the first half of fiscal 2017.

TOPICS

Joining the Ikuboss Corporate Alliance Established by Fathering Japan

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, "ikubosses,"*1 in an age of diversity in the workforce, which includes increased participation of women in the workplace and men who are actively involved in child-rearing. These companies are actively working to change management mindsets and nurturing ikubosses in this new age.

When joining this alliance, we created and announced our own Ikuboss Declaration. We are continuing to focus on promoting diversity, including women's participation in the workplace and work style reform, in accordance with the ikuboss objectives.

*1 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 still enjoying their own work and private lives.

JXTG Nippon Oil & Energy Ikuboss Declaration

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



Commemorative photo-taking after signing ceremony
 Left: Tsutomu Sugimori, president of JXTG Nippon Oil & Energy
 Right: Tokiko Koso, director of Fathering Japan

Enhancing Systems for Childcare and Family Care

As a part of its initiatives for energizing individuals and organizations, JX Nippon Mining & Metals is reviewing existing systems and implementing new

ones to create environments where employees can fully utilize their abilities even when they need to provide childcare or family care.

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

	Pregnancy/Childbirth	Childcare/Parenting	Family care
Work style support	Time off before and after childbirth	Time off to care for an ill child	Time off for family care
	Special measures for mothers during pregnancy and within one year after childbirth	Childcare leave (length can now be changed, and more changes are allowed) REV.	Family care leave
	Time off for childbirth	Exemption from overtime work exceeding limit	
		Exemption from late-night work	
		Shorter workday (expanded applicability, may be used along with flextime) REV.	
		Flextime (revised core time, enabled use along with shorter workday) REV.	
		Exemption from unscheduled work	
		Childcare time	
		Cumulative annual paid time off (added childcare to conditions for use) REV.	
	Financial support, etc.	One-time maternity/childcare benefit, additional one-time maternity/childcare benefit (health insurance)	Childcare/family care subsidies NEW
Maternity allowance, additional maternity allowance (health insurance)		Return-to-work grant NEW	Family care leave allowance NEW
Exemption from paying social insurance premiums (health insurance and employees' pension) during pre- and post-childbirth leave, childcare leave, etc.		Childcare leave benefit (employment insurance)	Family care leave benefit (employment insurance)
		Childcare concierge service NEW	
		Support for babysitter use NEW	

■ Support from social insurance and employment insurance ■ New or revised (fiscal 2016, fiscal 2017)

Main New Systems (From Fiscal 2017)

Return-to-work grant

A onetime grant is paid to an employee returning to work after childcare leave to ease the economic burden of preparing to combine childcare and work, and to smooth the return to work.

Family care leave allowance

During family care leave, along with a drop in income, the burden on the individual for paying social insurance premiums and the like continues. This monthly allowance, paid during family care leave, is intended to provide partial assistance to ease this economic burden, and to make the environment 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 made with a babysitting company, enabling employees to use its services for less than the usual rates. This support makes it easier to use these services in emergencies, such as when a child is ill or sudden overtime work arises, and also for everyday childcare.

Promoting 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.

Basic Approach

- 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 encourage the preparation and utilization of effective human resource systems and programs, so that even employees limited in their work styles by circumstances, such as childcare and family care, can achieve sustainable career development and performance.
- We raise awareness of employees to promote understanding of the importance of work-life management.

Thorough and 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, putting in place systems to accurately monitor and manage employees' working hours. At the same time, various initiatives are being 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 Employees Taking Annual Paid Leave in Fiscal 2016

Number of annual paid leave days granted	20.4 days
Number of annual paid leave days taken	17.0 days
Usage rate of annual paid leave	83.3%

Note: Compiled using data from JXTG Holdings and core operating companies.

Major Systems Supporting Work-Life Balance

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

■ List of 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	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals
	Childcare leave	All Group companies
	Special paid leave for wife's childbirth	JXTG Nippon Oil & Energy
	Return-to-work grant	JX Nippon Mining & Metals
	Childcare concierge service	JX Nippon Mining & Metals
	Support for babysitter use	JX Nippon Mining & Metals
	Childcare/ family care subsidies	JX Nippon Mining & Metals
Family care	Time off for family care/Family care leave	All Group companies
	Family care leave allowance	JX Nippon Mining & Metals
	Home helper subsidies	JXTG Nippon Oil & Energy
General	Shorter workday	All Group companies
	Exemption from unscheduled work	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals
	Flextime	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals
	Cumulative annual paid time off	JX Nippon Mining & Metals
	Hospitalization subsidy	JXTG Nippon Oil & Energy
	Telecommuting	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals

Quality

Basic Approach

The JXTG Group believes that the provision of high-quality, safe, and reliable products and services that satisfy our customers 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 defines its own quality management policies according to the nature of its business and works to continuously improve quality from a customer 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 Group Quality Policy

The JXTG Nippon Oil & Energy Group and its employees will practice the following faithfully and always from the perspective of the customer in order to earn the trust and satisfy customers.

1. Provide products and services that are safe and secure ;
2. Continually strive to maintain and enhance the quality of products and services; and
3. Provide to customers information that is correct and easy to comprehend.

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.

System

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 activities.

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	Domestic	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	Domestic	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)
	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	
Toho Titanium	Headquarters; Chigasaki Plant; Hitachi Plant; Yahata Plant; Wakamatsu Plant; Kurobe Plant	

Major Initiatives

For fiscal 2016, there were no serious quality incidents as we thoroughly carried out the following initiatives.

Initiatives at Manufacturing Sites

Thorough preventive activities are promoted at JXTG Nippon Oil & Energy Group 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 have further applied the requirements in ISO 9001 to build a quality management system that focuses on the manufacture of oil and petrochemical products. This system is implemented at all sites.

One of the features of this quality management system is its contribution to significantly more effective quality management through the assessment of quality management risks and the implementation of preventive measures.

Lateral Information-Sharing about Quality Complaints and Issues

Information about quality complaints and issues that have occurred at refineries and plants is compiled into databases. This information is then shared between refineries and plants to help prevent the occurrence of quality-related issues.

Inspection of Quality Management Systems

We work on improving quality management systems at refineries and plants by inspecting them, pointing out their strengths and weaknesses, and widely disseminating the results.

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 gas oil, and being thorough in procedural aspects 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 product appearance during unloading.

Initiatives at Service Stations

At our service stations, we work with operators on improving 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 manuals and other materials for the development of knowledge and skills in order to ensure quick and accurate responses to product quality issues should they occur.

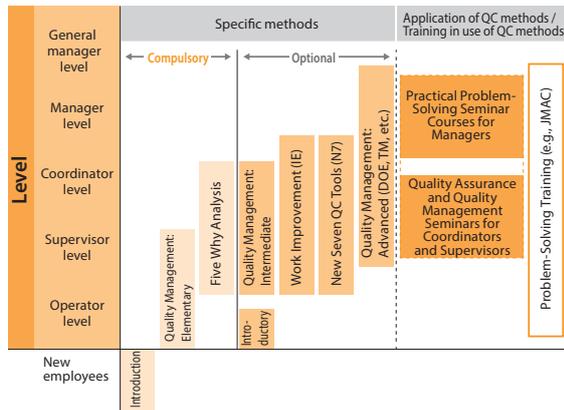
Quality Management Training

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

- To standardize and raise quality management levels across the 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 management techniques.

To achieve these objectives, we have made it compulsory for all employees to take the Elementary and “Five Why Analysis” quality management courses.

Quality Management Training System



Customer Service Center Initiatives

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 honestly and accurately.

From April 2016 to March 2017, the former JX Nippon Oil & Energy’s ENEOS Customer Service Center received a total of 22,407 enquiries, with customer service representatives answering questions on a wide range of topics, from the ENEOS credit card program benefits to our products.

Addressing Customer Needs

We share customer feedback obtained through the JXTG Customer Service Center with the relevant departments, and respond to this feedback promptly and accurately. In the quality design for products and setting of manufacturing standards, we conform to laws, regulations, and standards such as JIS standards, as well as 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.

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 PCBs, 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). If we discover new information about hazardous substances or environmental impact, we promptly update the relevant SDS.

GHS Compliance

The Globally Harmonized System of Classification and Labeling of Chemicals (GHS) is a worldwide system that standardizes the categorization and labeling of threat levels associated with specific chemical products. It identifies inherent dangers posed by chemical substances and compounds and conveys the information to the consumers and workers handling these chemicals. This safeguards health and safety while also helping to protect the environment.

Following the revisions to Japan’s Industrial Safety and Health Act, JXTG Nippon Oil & Energy ensures that container labels and the SDS for products stipulated in this law are fully compliant with GHS. We are also fully compliant with requirements for two-colored pictorial symbols on containers under JIS Z 7253.

Supply Chain Management

Basic Approach

At the JXTG Group, we believe that we must fulfill our social responsibility across the entire supply chain by cooperating with suppliers of raw materials, distribution companies, construction companies, sales companies and others involved in our business activities, while carrying out initiatives to ensure compliance, attention to the environment, and respect for human rights.

We have stated this approach in the introduction to the JXTG Group Code of Conduct, and we also ask suppliers and business partners who support our business activities through our Group companies to understand and cooperate with this policy.

We will continue to seek mutually beneficial development by enhancing communications with companies in our supply chain, and building partnerships based on mutual trust.

a policy regarding attention to the environment on the part of our business partners, which stipulates compliance with environmental laws and regulations. We share these policies with our business partners and recognize those who have implemented ISO 14001 standards or the environmental management system stipulated by JXTG Nippon Oil & Energy as green business partners.

We conduct annual surveys of our green business partners to encourage thorough implementation of environmentally friendly operations.

In fiscal 2016 (from April 2016 to March 2017), surveys were sent to 208 business partners, accounting for 90% of the value of items purchased and accepted by the former JX Nippon Oil & Energy. Responses were received from 201 suppliers for a response rate of 97%.

Survey results are reflected in supplier selection as applicable.

Results of Major Initiatives

JXTG Nippon Oil & Energy's Initiatives

In the procurement of materials and machinery required for its business activities, the JXTG Group promotes green procurement, with attention to the environmental burden and other social impacts.

We have established an environmental management system and formulated environmental policies. We have also put in place internal company regulations, including

JX Nippon Mining & Metals' Initiatives

JX Nippon Mining & Metals merged with and absorbed JX Nippon Procurement Corporation, which handled purchasing operations for the former JX Group, on April 1, 2017. A new Procurement Department has been established within JX Nippon Mining & Metals' Technology Group. In addition, a basic procurement policy has been established as follows.

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.

Promotion of Green Purchasing

In addition to establishing the Green Purchasing Policy and the Green Purchasing Guidelines, which set out specific requirements for choosing suppliers, JX Nippon Mining & Metals periodically conducts green purchasing surveys of suppliers. These surveys include items regarding suppliers' use of banned substances in their manufacturing processes, the presence of banned substances in supplied products, and procurement from companies with human rights issues.

In fiscal 2016 (from January to December 2016), surveys were sent to 584 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 537 suppliers, for a response rate of 92%. Survey results are reflected in supplier selection as applicable.

Selection of Procurement Partners

The JX Nippon Mining & Metals Group believes that our social responsibility must be fulfilled not only through our own supply chain, but through the supply chains of our business partners as well. Therefore, we also require our business partners to comply with the following policy.

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.

Confronting the Issue of Conflict Minerals

In line with global trends to restrict trade of conflict minerals, industry organizations relevant to the JX Nippon Mining & Metals Group (including the LBMA and EICC) have established monitoring programs for eliminating conflict minerals. These programs request that companies cooperate in surveys based on the programs and undergo external audits by an independent organization.

Pan Pacific Copper, a producer of gold bullion, has established and operates a supply chain due diligence management system that includes the measures shown at right.

The status of supply chain due diligence is audited by an independent organization specified by the LBMA, which then reports the results back 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.

In addition, the Saganoseki Smelter & Refinery has been included on the Conflict-Free Smelter list compiled by the EICC and GeSI—recognition that it is taking proper measures to exclude conflict minerals.

1. Perform supply chain due diligence before purchasing mineral raw materials
2. Notify suppliers of the policy on exclusion of conflict minerals
3. Conduct in-house training on supply chain due diligence and its background
4. Conduct internal audits and undergo external audits

Social Contribution

Basic Approach

The JXTG Group believes that promoting dialogue, cooperation and collaboration at our operation sites and building robust relationships of trust with local communities is an important element in maintaining our business operations and striving for 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.

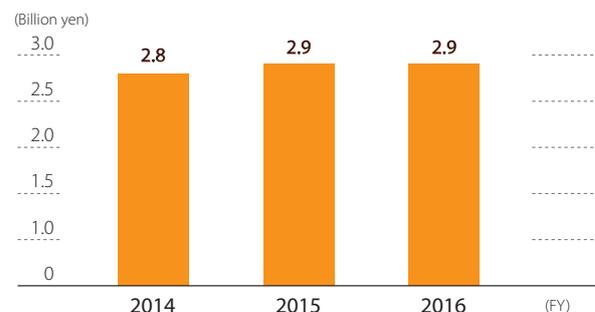
See pp. 12–14 for the Group's CSR promotion structure.

Major Initiatives

In fiscal 2016, 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 2.9 billion yen.

While actively engaging in dialogue with local communities, we will continue to promote necessary initiatives, which include activities involving the whole Group and activities unique to each Group company.

■ Expenditure for Social Contribution Activities



Notes: Results for fiscal 2014 and 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 expenditure on social contribution activities reported to the Keidanren 1% (One-Percent) Club plus donations and goods offered, etc.

◆ Overseas Initiatives

Creation of Local Jobs

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

In fiscal 2016, the number of locally employed staff at our overseas sites was as follows.

(Unit: persons)

JXTG Nippon Oil & Energy	1,290
JX Nippon Oil & Gas Exploration	500
JX Nippon Mining & Metals	2,290
Total	4,080



Pupils and staff at Hoa Mai Kindergarten

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 facilities that encourage the social participation of young Vietnamese with disabilities resulting from the effects of the Agent Orange defoliant.

Support for Construction of School Buildings

In addition to donating school buildings in various areas in Vietnam, JX Nippon Oil & Gas Exploration also provides the schools with teaching materials.

In 2016, the company contributed to the improvement of various facilities at Hoa Mai Kindergarten in Ba Ria Vung Tau Province.

■ Support for Construction of School Buildings

2002	Muong Phang Elementary School in Dien Bien 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
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



View of Hoa Mai Kindergarten

Educational Support

Since 2006, JX Nippon Oil & Gas Exploration has been providing scholarships to students in need through the Ho Chi Minh Association for Education Promotion, a public institution working to improve education in Vietnam. In 2016, scholarships were awarded to 45 students.

In 2011, PetroVietnam University was established by PetroVietnam, the state oil company of Vietnam, as a petroleum university whose goal was to develop human resources to lead the petroleum industry. In addition to making a donation of 100,000 dollars at the university's inauguration, JX Nippon Oil & Gas Exploration has provided scholarships and funding for courses. In September 2016, a graduation ceremony was held for the first batch of graduates.



Scholarship recipients



First students to graduate from PetroVietnam University

Initiatives in Malaysia

As a project operator in Malaysia, JX Nippon Oil & Gas Exploration conducts a variety of social contribution activities, with attention to regional ethnic and religious diversity.

We also cooperate in youth exchanges between Malaysia and Japan, and provide support for local cultural and sporting events.

Contribution to Community Events

As a proud sponsor of two important annual events in the Sarawak region—the Sarawak Regatta and the Borneo Jazz Festival—JX Nippon Oil & Gas Exploration plays a part in promoting sport and culture in local communities.



A boat race during the Sarawak Regatta

Consideration for Ethnic and Religious Diversity

Malaysia is a country rich in ethnic and religious diversity. In light of this fact, our support activities for the socially vulnerable are carried out primarily by local employee volunteers.



Helping to support the activities of a Muslim welfare organization, our employee volunteers pay visits to economically disadvantaged families during Ramadan

Initiatives in the United States

In 2016, in collaboration with three other companies, JX Nippon Oil & Gas Exploration donated a solar-power generation facility to a community center in Thompsons, Texas. Thompsons is a town in the vicinity of the site of the CO₂-EOR*¹ project, a venture in which the company is participating with project partner and fellow donor, NRG Energy.

*1 CO₂-EOR (Enhanced Oil Recovery): Technology for the improved recovery of oil through the injection of CO₂ gas. This technology simultaneously increases production of crude oil and reduces emissions of CO₂ into the atmosphere by transporting the CO₂ captured out of the processed flue gas from a coal-fired power plant to an oil field, and injecting and storing the CO₂ in legacy fields. For further details, see pp. 32–33.



Thompsons Community Center



Ceremony to commemorate completion of the photovoltaic generation facility

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 in the Republic of Chile.

Hosting of Movie Shows for Local Children

In December 2016, MLCC hosted movie shows as a Christmas present to around 500 children living in the districts that link the Caserones Copper Mine with the city of Tierra Amarilla.

Children with few opportunities to go to a movie theater welcome this event, which has been held since 2010 and is also enjoyed by parents and teachers.



Children watching a movie

Assistance to Areas Affected by Major Disasters

In January 2017, assistance was provided to the municipality of San Nicolás in the Bío Bío region of central Chile, which was affected by a wide-ranging wildfire.

MLCC supported the efforts of volunteers from the Los Loros fire brigade in distributing a total of 40,000 tons of relief supplies, including 1,000 bottles of drinking water, around 1,700 emergency meals, and daily needs sets for 200 persons.

The company also provided relief goods to other municipalities.



Assembled relief goods



Supplying drinking water

◆ Social Contribution Activities in Japan

Youth Baseball Classes and Basketball Clinics

The JXTG Group runs 60 to 70 baseball classes and basketball clinics each year throughout Japan. The sessions are targeted at 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.



Baseball class at the Todoroki Ground



Basketball clinic

Sponsoring Wheelchair Basketball in Japan

Since 2006, JXTG Nippon Oil & Energy has sponsored the Japan Wheelchair Basketball Championship Tournament for the promotion of wheelchair basketball. Employee volunteers also take part in the tournament, providing operational support and assistance.

Inviting Children to FC Tokyo's J-League Home Matches

JXTG Nippon Oil & Energy is an official sponsor of J-League team FC Tokyo. Special ENEOS Friend-Crew Seats have been set up for FC Tokyo's home matches, with invitations extended to children and their guardians via foster-care facilities, single-mother support facilities and the NPO Tokyo Yoikukatei-No-Kai.

In fiscal 2016, we invited a total of 1,700 people (100 people for each of the 17 matches) to attend FC Tokyo home matches.

JX-ENEOS Children's Story Award (currently the JXTG Children's Story Award)

The JX-ENEOS 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 11,047 heartwarming entries were submitted for the 47th awards, presented in fiscal 2016.



Awards ceremony for the 47th JX-ENEOS 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 JX-ENEOS Children's Story Award (currently the JXTG Children's Story Award)—to raise money for charity. All proceeds are donated to the JX-ENEOS Scholarship Program, established by the Japan National Council of Social Welfare (JNCSSW), to be used as admission support funds when children living in child welfare facilities enter university or other institutions of higher education.

In April 2016, scholarship support was provided to 496 children (enrolling in fiscal 2016), bringing the total number of recipients since the scholarship program was created in fiscal 2003 to 4,276.

TonenGeneral Children's Culture Award and Music Awards (currently the 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 TonenGeneral Children's Culture Award and Music Awards

Performances by Past Recipient of the Children's Culture Award

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

Designed to provide children with opportunities to nurture a rich sensitivity and imagination, the performances delivered inspiration to audiences of about 1,400.

Bread Sales Drive in Support of People with Disabilities

As part of its activities to foster greater awareness among employees for people with disabilities, since fiscal 2015, JXTG Nippon Oil & Energy has held bread sales drives run by staff from Koro-Koro, a bakery that employs people with disabilities. Sales drives were held five times in fiscal 2016.

Summer Holiday Science Bus Tour for Fun Learning

At the refineries of JXTG Nippon Oil & Energy, in collaboration with various newspaper companies, Summer Holiday Science Bus Tours are run 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 in which firefighting vehicles and other equipment are used.

These bus tours were held at nine of our locations in fiscal 2016, attracting 714 participants, including children and their guardians.



Bus tour at the Kashima Refinery

Summer Night Festivals Enjoyed by Local Residents

Every year, JX Nippon Mining & Metals and Pan Pacific Copper plan and hold summer festivals for the enjoyment of the local communities around our major domestic operating sites.

The festivities are enlivened by refreshment stands run by employees, lotteries, and local children playing instruments and dancing.



Sanjinsai Festival, Hitachi Works (July)

Joint Disaster Drills with Local Governments

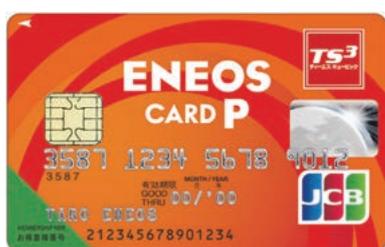
At the oil refineries and depots of JXTG Nippon Oil & Energy, disaster drills are conducted in collaboration with local governments, fire departments and other relevant groups, assuming scenarios of a major disaster or accident in a refinery.

In addition to carrying out practical drills to strengthen systems for cooperation in the event of a disaster, the company is committed to ensuring that local residents can live their lives with peace of mind.

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 spending on these cards to the National Land Afforestation Promotion Organization (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 2016, approximately 37.83 million yen was donated, bringing total donations through this initiative to about 430 million yen.



ENEOS Credit Card

Firefly Watching Event

Firefly watching is an annual event that JX Nippon Tsuruga Recycle Co., Ltd. of the JX Nippon Mining & Metals Group has been offering for more than a decade.

In June 2016, with the co-sponsorship of Fukui Prefecture, the event drew 113 nearby residents and others.

Prior to the actual firefly viewing, children were told about the wonders of the local natural environment, including an explanation of the habitat distribution of fireflies in the Tsuruga area.



Explaining the habitat distribution of fireflies

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-planting, thinning and other forest stewardship activities across Japan in partnership with local governments and NLAPO. In fiscal 2016, a total of 1,548 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 2016, a total of 72 executives, employees and their families undertook 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 closed mines.



Activities in ENEOS no Mori

Support for the ENEOS Living Creatures School Hosted by a Local Government

Since 2006, JXTG Nippon Oil & Energy has supported a project based out of Toyooka City, Hyogo Prefecture, for reintroduction of the oriental white stork.

Since 2010, the company has also sponsored the ENEOS Living Creatures School, a program also organized by Toyooka City as a place for children to deepen their understanding of biodiversity.

The location for these activities is the Tai Wetlands, a site designated under the Ramsar Convention (Convention on Wetlands of International Importance especially as Waterfowl Habitat).



ENEOS Living Creatures School

Data



ABCDEF

JKLMNOPQRST

ABCDEF

ABCDEF

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Governance

Item		FY2014	FY2015	FY2016
Board of Directors	Number of meetings	13	14	14
	Number of members	Apr. 21–May 19: 20 From June 26: 19	19	19
	Number of independent outside directors	4	4	4
	Average attendance rate	96%	98%	99%
Board of Corporate Auditors	Number of meetings	14	15	15
	Number of members	Apr. 21–May 19: 6 From June 26: 5	5	5
	Number of independent outside corporate auditors	Apr. 21–May 19: 4 From June 26: 3	3	3
	Average attendance rate	96%	99%	96%
Nomination Advisory Committee	Number of meetings	–	–	3
	Number of members	–	–	4
	Number of independent outside directors	–	–	2
	Average attendance rate	–	–	100%
Compensation Advisory Committee	Number of meetings	1	1	2
	Number of members	4	4	4
	Number of independent outside directors	2	2	2
	Average attendance rate	100%	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 26, 2014: directors: 14, corporate auditors: 5.

The number of members of the Board of Corporate Auditors was changed from six to five at the General Meeting of Shareholders on June 26, 2014.

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 26, 2014.

As the Nomination Advisory Committee was established in April 2016, there are no figures for fiscal 2014–2015.

Environment

- The quantitative environmental data covers a total of 79 business sites at 45 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: 49 business sites at 28 companies; JX Nippon Oil & Gas Exploration Group: 3 business sites at 1 company; JX Nippon Mining & Metals Group: 23 business sites at 14 companies; other operating companies: 4 business sites at 2 companies). However, the scope of companies covered varies depending on the subject data. For further details, refer to the separate description field.
- The independent assurance check mark (✓) indicates that quantitative environmental data for fiscal 2016 has been assured by an independent practitioner.
- Some figures from past fiscal years were revised.

Energy Consumption (crude oil equivalent) ✓

	Unit	FY2014	FY2015	FY2016	Scope of data
Fuel consumption (crude oil equivalent)	Million kL	10.10	10.68	10.53	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO CORPORATION
Electricity consumption	Million kWh	4,241	4,338	4,633	

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

Energy Consumption Unit ✓

	Unit	FY2014	FY2015	FY2016	Scope of data
Energy consumption unit for oil refining	Oil equivalent consumption volume (kL)/Crude distillation unit equivalent throughput (thousand kL)	8.39	8.22	8.28	Petroleum refining business of the JXTG Nippon Oil & Energy Group
Energy consumption unit for smelting and refining (fuel + electricity)	GJ of heat per ton of refined copper produced	13.0	13.8	13.6	Smelting and refining business sites of the JX Nippon Mining & Metals Group

CO₂ Emissions

	Unit	FY2014	FY2015	FY2016	Scope of data
Scope 1	Million tons	24.62	25.58	26.42	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals
Scope 2	Million tons	2.98	3.07	3.14	
Non-energy-derived	Million tons	0.06	0.05	0.06	
Total	Million tons	27.66	28.71	29.62	JX Nippon Mining & Metals

Notes: CO₂ emissions include emissions from energy consumption (electricity, fuel, etc.) as well as greenhouse gases emitted mainly in oil and gas production converted to CO₂.
Figures for JXTG Nippon Oil & Energy Group data include emissions from distribution activities.

Air Pollution Load

	Unit	FY2014	FY2015	FY2016	Scope of data
SOx	Tons	14,310	13,011	16,049	JXTG Nippon Oil & Energy, JX Nippon Mining & Metals, NIPPO CORPORATION
NOx	Tons	15,640	15,606	14,666	
VOC	Tons	32	30	28	
Soot	Tons	1,125	1,001	936	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, NIPPO CORPORATION

Note: SOx and NOx figures for NIPPO CORPORATION were estimated based on its 50 main plants. The scope for the JX Nippon Mining & Metals Group is business sites that are subject to legal requirements.

Use of Water Resources/Water Pollution Load

	Unit	FY2014	FY2015	FY2016	Scope of data
Water used (fresh water)	Million tons	181.63	189.39	197.99	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals
(1) Service water (tap water)	Million tons	3.81	3.89	4.61	
(2) Service water (industrial water)	Million tons	159.41	167.34	172.17	
(3) Rainwater	Million tons	0.07	0.07	0.11	
(4) Groundwater	Million tons	18.34	18.08	21.09	
Water used (seawater)	Million tons	998.73	959.55	1,174.54	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals
Water discharge	Million tons	344.65	346.21	376.04	JXTG Nippon Oil & Energy, JX Nippon Mining & Metals
Chemical oxygen demand load volume	Tons	1,331	1,472	1,477	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals

Notes: Figures for overseas offices and plants (Malaysia and Vietnam) are not applicable for the JX Nippon Oil & Gas Exploration Group.
Water used by the JX Nippon Mining & Metals Group is the product of volume multiplied by density (1,024 t/m³ for seawater and 1,000 t/m³ for fresh water).

Release and Transfer of Specified Chemical Substances

	Unit	FY2014	FY2015	FY2016	Scope of data
Released	Tons	1,513	1,657	1,750	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO CORPORATION
Transferred	Tons	396	217	195	

Notes: Figures for overseas offices and plants (Malaysia and Vietnam) are not applicable for the JX Nippon Oil & Gas Exploration Group.
The scope for the JX Nippon Mining & Metals Group is companies with business sites required to give notification under the PRTR Law. Figures for overseas offices and plants are not applicable.

Waste

	Unit	FY2014	FY2015	FY2016	Scope of data
Volume of landfill disposal	Tons	9,622	9,896	11,765	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, NIPPO CORPORATION
Waste-to-landfill ratio	%	0.5	0.6	0.7	
Total waste	Tons	1,759,646	1,750,053	1,741,044	

Number of Environmental Accidents	FY2016	2
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Monetary Penalties	FY2016	Nil
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Society

Employees

Item	Total	JXTG Holdings	JXTG Nippon Oil & Energy			JX Nippon Oil & Gas Exploration	JX Nippon Mining & Metals	
			Subtotal	Former JX Nippon Oil & Energy	Former TonenGeneral			
Number of Employees in Fiscal 2016 (by employment status and contract)								
Male	Full-time	9,770	82	7,969	5,503	2,466	332	1,387
	Fixed-term	351	0	238	0	238	14	99
	Non-fixed term	9,419	82	7,731	5,503	2,228	318	1,288
	Other than full-time	68	0	47	23	24	1	20
	Fixed-term	68	0	47	23	24	1	20
	Non-fixed term	0	0	0	0	0	0	0
Subtotal	9,838	82	8,016	5,526	2,490	333	1,407	
Female	Full-time	1,221	26	1,000	669	331	49	146
	Fixed-term	111	1	98	0	98	2	10
	Non-fixed term	1,110	25	902	669	233	47	136
	Other than full-time	34	0	17	8	9	2	15
	Fixed-term	26	0	17	8	9	2	7
	Non-fixed term	8	0	0	0	0	0	8
Subtotal	1,255	26	1,017	677	340	51	161	
Ratio of female employees	11.3%	24.1%	11.3%	10.9%	12.0%	13.3%	10.3%	
Foreign nationals	61	0	34	26	8	12	15	
Male	39	0	21	16	5	9	9	
Female	22	0	13	10	3	3	6	
Temporary staff	536	4	459	185	274	3	70	
Male	254	1	212	121	91	1	40	
Female	282	3	247	64	183	2	30	
Total	11,629	112	9,492	6,388	3,104	387	1,638	

Number of Employees (by employee category), Average Age and Average Years of Service in Fiscal 2016

Managerial staff	3,050	63	2,533	1,468	1,065	162	292
Male	2,970	61	2,461	1,454	1,007	159	289
Female	80	2	72	14	58	3	3
Ratio of female managerial staff	2.6%	3.2%	2.8%	1.0%	5.4%	1.9%	1.0%
Age bracket							
Up to 29 years old	0	0	0	0	0	0	0
30–49 years old	1,590	36	1,363	797	566	66	125
Over 50 years old	1,460	27	1,170	671	499	96	167
Average age	48.7	48.3	49.5	49.8	49.2	51.3	50.7
Average years of service	24.5	23.9	25.4	25.6	25.2	25.0	21.9
General staff	7,038	45	5,517	4,121	1,396	200	1,276
Male	6,052	21	4,757	3,536	1,221	156	1,118
Female	986	24	760	585	175	44	158
Age bracket							
Up to 29 years old	2,256	6	1,913	1,266	647	52	285
30–49 years old	3,480	34	2,632	2,029	603	137	677
Over 50 years old	1,302	5	972	826	146	11	314
Average age	37.8	39.0	37.5	38.7	33.9	34.0	40.8
Average years of service	15.6	14.8	16.3	17.7	12.1	8.0	14.3
Total	10,088	108	8,050	5,589	2,461	362	1,568
Average years of employment, male	19.2	20.4	19.5	19.8	18.8	16.7	18.4
Average years of employment, female	18.2	19.2	19.8	20.1	19.0	12.3	11.2
Average years of employment	18.8	20.1	19.5	19.8	18.8	16.1	15.7

Item	Total	JXTG Holdings	JXTG Nippon Oil & Energy			JX Nippon Oil & Gas Exploration	JX Nippon Mining & Metals	
			Subtotal	Former JX Nippon Oil & Energy	Former TonenGeneral			
Number of New Recruits (incl. mid-career recruits) in Fiscal 2016								
Male	Up to 29 years old	297	0	246	202	44	6	45
	Percentage of total full-time employees as of March 2017	2.8%	0.0%	2.8%	3.3%	1.8%	1.6%	3.1%
	30–49 years old	89	0	49	9	40	1	39
	Percentage of total full-time employees as of March 2017	0.8%	0.0%	0.6%	0.1%	1.6%	0.3%	2.7%
	Over 50 years old	9	0	3	0	3	2	4
	Percentage of total full-time employees as of March 2017	0.1%	0.0%	0.0%	0.0%	0.1%	0.5%	0.3%
Subtotal	395	0	298	211	87	9	88	
Percentage of total full-time employees as of March 2017	3.7%	0.0%	3.5%	3.4%	3.5%	2.5%	6.1%	
Female	Up to 29 years old	49	0	37	27	10	1	11
	Percentage of total full-time employees as of March 2017	0.5%	0.0%	0.4%	0.4%	0.4%	0.3%	0.8%
	30–49 years old	18	0	10	6	4	0	8
	Percentage of total full-time employees as of March 2017	0.2%	0.0%	0.1%	0.1%	0.2%	0.0%	0.6%
	Over 50 years old	2	0	1	0	1	0	1
	Percentage of total full-time employees as of March 2017	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Subtotal	69	0	48	33	15	1	20	
Percentage of total full-time employees as of March 2017	0.7%	0.0%	0.6%	0.5%	0.6%	0.3%	1.4%	
Total	464	0	346	244	102	10	108	
Percentage of total full-time employees as of March 2017	4.4%	0.0%	4.0%	4.0%	4.1%	2.7%	7.5%	

Number of Employees Resigning in Fiscal 2016								
Male	Up to 29 years old	35	0	28	11	17	0	7
	Percentage of total full-time employees as of March 2017	0.3%	0.0%	0.3%	0.2%	0.7%	0.0%	0.5%
	30–49 years old	40	0	25	13	12	1	14
	Percentage of total full-time employees as of March 2017	0.4%	0.0%	0.3%	0.2%	0.5%	0.3%	1.0%
	Over 50 years old	75	0	55	49	6	0	20
	Percentage of total full-time employees as of March 2017	0.7%	0.0%	0.6%	0.8%	0.2%	0.0%	1.4%
Subtotal	150	0	108	73	35	1	41	
Percentage of total full-time employees as of March 2017	1.4%	0.0%	1.3%	1.2%	1.4%	0.3%	2.9%	
Female	Up to 29 years old	3	0	3	1	2	0	0
	Percentage of total full-time employees as of March 2017	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
	30–49 years old	11	0	8	3	5	0	3
	Percentage of total full-time employees as of March 2017	0.1%	0.0%	0.1%	0.0%	0.2%	0.0%	0.2%
	Over 50 years old	3	0	3	1	2	0	0
	Percentage of total full-time employees as of March 2017	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Subtotal	17	0	14	5	9	0	3	
Percentage of total full-time employees as of March 2017	0.2%	0.0%	0.2%	0.1%	0.4%	0.0%	0.2%	
Total	167	0	122	78*	44	1	44	
Percentage of total full-time employees as of March 2017	1.6%	0.0%	1.4%	1.3%	1.8%	0.3%	3.1%	

Note: Number of employees resigning from the former JX Nippon Oil & Energy includes those resigning on March 31, 2017.

Item	Total	JXTG Holdings	JXTG Nippon Oil & Energy			JX Nippon Oil & Gas Exploration	JX Nippon Mining & Metals	
			Subtotal	Former JX Nippon Oil & Energy	Former TonenGeneral			
Employment rate of people with disabilities	2.2%	— *1	2.3%	2.2%	2.5%	2.1%	2.1%	
Number of employees re-employed after retirement	474	— *1	441	378	63	9	24	
Annual paid leave	Number of annual paid leave days granted	20.4	19.9	20.5	19.5	22.6	19.6	20.5
	Number of annual paid leave days taken	17.0	10.9	17.5	15.6	21.7	13.0	15.7
	Usage rate of annual paid leave	83.3%	55.0%	85.5%	80.0%	95.9%*2	66.3%	76.6%
Number of employees taking family care leave	4	0	4	2	2	0	0	
Childbirth/child care	Number of employees taking childcare leave	173	2	154	129	25*3	5	12
		Male employees	114	0	107	96	11*3	5
	Number of employees returning to work after giving birth or taking childcare leave	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Percentage still employed 12 months after returning to work	99.1%	100.0%	99.0%	98.8%	100.0%	100.0%	100.0%
Labor unions	Number of union members	8,920	No labor unions	6,994	5,431	1,563	No labor unions	1,926
	Membership rate	99.6%	No labor unions	99.5%	100.0%	97.7%	No labor unions	100.0%

*1 Employees of JXTG Holdings are seconded from operating companies and are accounted for at their companies of origin.

*2 The period included in the calculation of annual leave for the former TonenGeneral is January 2016–December 2016.

*3 Total of TonenGeneral Sekiyu, EMG Marketing and Tonen Chemical.

Industrial Accidents

		FY2014	FY2015	FY2016	Scope of data
Number of casualties due to industrial accidents	Total	8	4	8	JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals
	Fatalities	0	0	0	
	Lost work time	8	4	8	
Lost work days due to industrial accidents	121	246	282		
Accident frequency rate	0.41	0.20	0.43		
Accident severity rate	0.01	0.01	0.02		
JXTG Group Safety Education Center lecture participants	1,814	1,793	1,698	JXTG Holdings, JXTG Nippon Oil & Energy, JX Nippon Oil & Gas Exploration, JX Nippon Mining & Metals, Group affiliated companies and cooperating companies	

Training Programs Implemented in Fiscal 2016

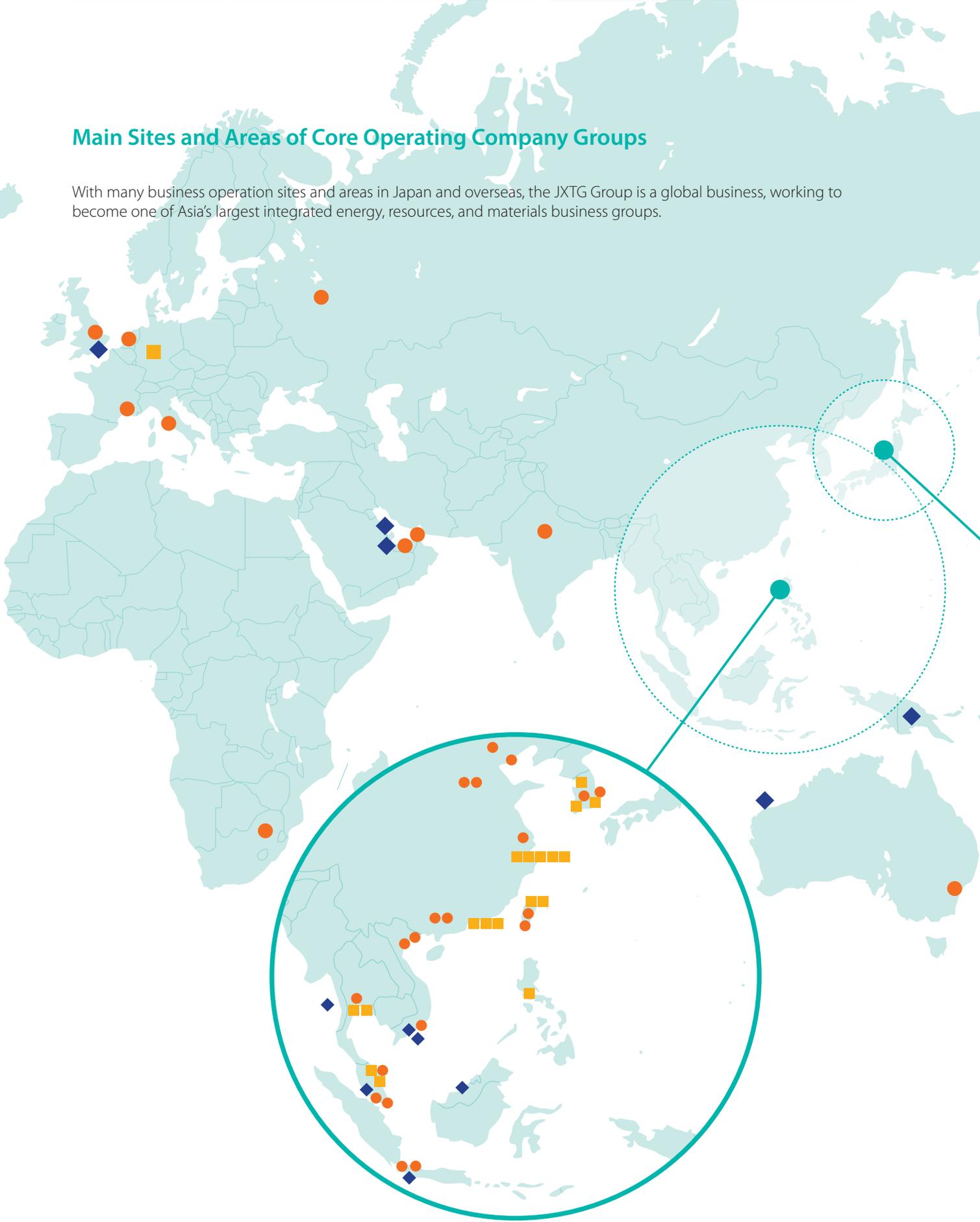
	Total training hours	Training hours per employee
JXTG Nippon Oil & Energy	72,853	7.93
JX Nippon Oil & Gas Exploration	8,458	18.35
JX Nippon Mining & Metals	33,655	12.80
Total	114,966	9.36

Notes: 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.

Figures for JXTG Nippon Oil & Energy represent the sum of the former JX Nippon Oil & Energy and the former TonenGeneral Group.

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.



Independent Practitioner's Assurance Report

Deloitte.

デロイト トーマツ

(TRANSLATION)

Independent Practitioner's Assurance Report

November 28, 2017

Mr. Yukio Uchida,
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 quantitative environmental information (the "quantitative environmental information") indicated with for the year ended March 31, 2017 included in the "JXTG REPORT for a Sustainable Future 2017" (the "Report") of JXTG Holdings, Inc. (the "Company").

The Company's Responsibility

The Company is responsible for the preparation of the quantitative environmental information in accordance with the calculation and reporting standard adopted by the Company (as described on pages 1, 78 and indicated with the quantitative environmental 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 quantitative environmental 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 Company's quantitative environmental 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

Comparative Table with GRI Guidelines

* A dash (-) indicates that this information was not disclosed.

Item	Indicators	Where to find	Page(s)
GENERAL STANDARD DISCLOSURES			
Strategy and Analysis			
G4-1	Statement from the most senior decision-maker of the organization (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and the organization's strategy for addressing sustainability	<ul style="list-style-type: none"> Management Message Messages from Senior Management of the JXTG Group's Core Operating Companies 	7–9
G4-2	Description of key impacts, risks, and opportunities	<ul style="list-style-type: none"> Management Message Messages from Senior Management of the JXTG Group's Core Operating Companies Risk Management 	7–9 19
Organizational Profile			
G4-3	Name of the organization	The JXTG Group's Businesses	2
G4-4	Primary brands, products, and services	The JXTG Group's Businesses	2
G4-5	Location of the organization's headquarters	Editorial Policy	1
G4-6	Number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report	<ul style="list-style-type: none"> The JXTG Group's Businesses Main Sites and Areas of Core Operating Company Groups 	2 83–84
G4-7	Nature of ownership and legal form	The JXTG Group's Businesses	2
G4-8	Markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries)	<ul style="list-style-type: none"> The JXTG Group's Businesses Main Sites and Areas of Core Operating Company Groups 	2 83–84
G4-9	Scale of the organization	The JXTG Group's Businesses	2
G4-10	<ul style="list-style-type: none"> Total number of employees by employment contract and gender Total number of permanent employees by employment type and gender Total workforce by employees and supervised workers and by gender Total workforce by region and gender Whether a substantial portion of the organization's work is performed by workers who are legally recognized as self-employed, or by individuals other than employees or supervised workers, including employees and supervised employees of contractors Any significant variations in employment numbers 	Data	80
G4-11	Percentage of total employees covered by collective bargaining agreements	Data	82
G4-12	Organization's supply chain	JXTG Integrated Report 2017 (Introduction)	
G4-13	Significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain	The JXTG Group — Created through a Business Integration	2
Commitments to External Initiatives			
G4-14	Reporting of whether and how the precautionary approach or principle is addressed by the organization	<ul style="list-style-type: none"> Risk Management Compliance 	19–20 20–21
G4-15	List of externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses	<ul style="list-style-type: none"> Principal Declarations and Initiatives the JXTG Group Participates in and Supports Communication with Industry Organizations 	15 16
G4-16	List memberships of associations (such as industry associations) and national or international advocacy organizations in which the organization: <ul style="list-style-type: none"> Holds a position on the governance body Participates in projects or committees Provides substantive funding beyond routine membership dues Views membership as strategic 	<ul style="list-style-type: none"> Principal Declarations and Initiatives the JXTG Group Participates in and Supports Communication with Industry Organizations 	15 16
Identified Material Aspects and Boundaries			
G4-17	<ul style="list-style-type: none"> List of all entities included in the organization's consolidated financial statements or equivalent documents Reporting of whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report 	Editorial Policy	1
G4-18	<ul style="list-style-type: none"> Process for defining the report content and the Aspect Boundaries How the organization has implemented the Reporting Principles for Defining Report Content 	CSR Management	11
G4-19	List of all material Aspects identified in the process for defining report content	CSR Management	11
G4-20	For each aspect Boundary within the organization	-	
G4-21	For each aspect Boundary outside the organization	-	
G4-22	Reporting of the effect of any restatements of information provided in previous reports, and the reasons for such restatements	Data	78
G4-23	Reporting of significant changes from previous reporting periods in the Scope and Aspect Boundaries	Data	78
Stakeholder Engagement			
G4-24	List of stakeholder groups engaged by the organization	Communication with Stakeholders	14
G4-25	Basis for identification and selection of stakeholders with whom to engage	Communication with Stakeholders	14
G4-26	Organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process	Communication with Stakeholders	14
G4-27	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting	CSR Management (TOPICS)	16
Report Profile			
G4-28	Reporting period for information provided	Editorial Policy	1

Item	Indicators	Where to find	Page(s)
G4-29	Date of most recent previous report	Editorial Policy	1
G4-30	Reporting cycle	Editorial Policy	1
G4-31	Contact point for questions regarding the report or its contents	Editorial Policy	1
GRI Content Index			
G4-32	<ul style="list-style-type: none"> • 'In accordance' option the organization has chosen • GRI Content Index for the chosen option • Reference to the External Assurance Report, if the report has been externally assured 	Comparative Table with GRI Guidelines	86–90
Assurance			
G4-33	<ul style="list-style-type: none"> • Organization's policy and current practice with regard to seeking external assurance for the report • If not included in the assurance report accompanying the sustainability report, scope and basis of any external assurance provided • Relationship between the organization and the assurance providers • Whether the highest governance body or senior executives are involved in seeking assurance for the organization's sustainability report 	Independent Practitioner's Assurance Report	85
Governance			
Governance Structure and Composition			
G4-34	Governance structure of the organization, including committees of the highest governance body	Corporate Governance Framework	18
G4-35	Process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees	CSR Promotion Structure	12–14
G4-36	Whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental and social topics, and whether post holders report directly to the highest governance body	CSR Promotion Structure	12–14
G4-37	Processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics	-	
G4-38	Composition of the highest governance body and its committees	Corporate Governance Framework	18
G4-39	Whether the Chair of the highest governance body is also an executive officer	Corporate Governance Framework	18
G4-40	Nomination and selection processes for the highest governance body and its committees	<ul style="list-style-type: none"> • JXTG Integrated Report 2017 • Corporate Governance Report 	
G4-41	Processes for the highest governance body to ensure conflicts of interest are avoided and managed. Report whether conflicts of interest are disclosed to stakeholders	<ul style="list-style-type: none"> • JXTG Integrated Report 2017 • Corporate Governance Report 	
Highest Governance Body's Role in Setting Purpose, Values, and Strategy			
G4-42	Highest governance body's and senior executives' roles in the development, approval, and updating of the organization's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental and social impacts	CSR Promotion Structure	12–14
Highest Governance Body's Competencies and Performance Evaluation			
G4-43	Measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental and social topics	CSR Promotion Structure	12–14
G4-44	<ul style="list-style-type: none"> • Processes for evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics • Actions taken in response to evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics 	CSR Promotion Structure	12–14
Highest Governance Body's Role in Risk Management			
G4-45	<ul style="list-style-type: none"> • Report the highest governance body's role in the identification and management of economic, environmental and social impacts, risks, and opportunities. Include the highest governance body's role in the implementation of due diligence processes. • Report whether stakeholder consultation is used to support the highest governance body's identification and management of economic, environmental and social impacts, risks, and opportunities. 	Risk Management	19–20
G4-46	Highest governance body's role in reviewing the effectiveness of the organization's risk management processes for economic, environmental and social topics	Risk Management	19–20
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Highest Governance Body's Role in Sustainability Reporting			
G4-48	Highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material Aspects are covered	CSR Promotion Structure	12–14
Highest Governance Body's Role in Evaluating Economic, Environmental and Social Performance			
G4-49	Process for communicating critical concerns to the highest governance body	Compliance	20–21
G4-50	Nature and total number of critical concerns that were communicated to the highest governance body and the mechanism(s) used to address and resolve them	Compliance	20–21
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G4-51	Remuneration policies for the highest governance body and senior executives	<ul style="list-style-type: none"> • JXTG Integrated Report 2017 • Corporate Governance Report 	
G4-52	Process for determining remuneration	<ul style="list-style-type: none"> • JXTG Integrated Report 2017 • Corporate Governance Report 	
G4-53	How stakeholders' views are sought and taken into account regarding remuneration	-	
G4-54	Ratio of the annual total compensation for the organization's highest-paid individual in each country of significant operations to the median annual total compensation for all employees (excluding the highest-paid individual) in the same country	-	
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G4-56	Organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics	<ul style="list-style-type: none"> • JXTG Group Philosophy • JXTG Group Code of Conduct 	3–4
G4-57	Internal and external mechanisms for seeking advice on ethical and lawful behavior, and matters related to organizational integrity, such as helplines or advice lines	Compliance	20–21
G4-58	Internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organizational integrity, such as escalation through line management, whistleblowing mechanisms or hotlines	Compliance	20–21
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Aspect: Market Presence			
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Aspect: Indirect Economic Impacts			
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G4-EC9	Proportion of spending on local suppliers at significant locations of operation	-	
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Aspect: Biodiversity			
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Aspect: Employment			
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender, and region	Data	81
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Aspect: Labor/Management Relations			
G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	-	
Aspect: Occupational Health and Safety			
G4-LA5	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs	Data	82
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities by region and gender	<ul style="list-style-type: none"> • Results of Major Initiatives for Safety Activities • Data 	48 82
G4-LA7	Workers with high incidence or high risk of diseases related to their occupation	<ul style="list-style-type: none"> • Results of Major Initiatives for Safety Activities • Health Enhancement 	48 60
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G4-LA9	Average hours of training per year per employee by gender, and by employee category	<ul style="list-style-type: none"> • Human Resource Development • Data 	57 82
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G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	Data	78, 80–81
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G4-LA16	Number of grievances about Labor practices filed, addressed, and resolved through formal grievance mechanisms	Compliance	20–21
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G4-HR1	Total number and percentage of significant investment agreements and contracts that include human rights clauses or that have undergone human rights screening	-	
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G4-HR3	Total number of incidents of discrimination and corrective actions taken	Compliance	20–21
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G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	-	
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G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	Supply Chain Management	68–69

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G4-HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor	Supply Chain Management	68–69
Aspect: Security Practices			
G4-HR7	Percentage of security personnel trained in the organization's human rights policies or procedures that are relevant to operations	-	
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G4-HR8	Total number of incidents of violations involving rights of indigenous people and actions taken	-	
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G4-HR9	Total number and percentage of operations that have been subject to human rights reviews or impact assessments	• Human Rights Due Diligence • Confronting the Issue of Conflict Minerals	53 55, 69
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G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	Compliance	20–21
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Aspect: Local Communities			
G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	Social Contribution	70–76
G4-SO2	Operations with significant actual and potential negative impacts on local communities	-	
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G4-SO3	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	Compliance	20–21
G4-SO4	Communication and training on anti-corruption policies and procedures	Compliance	20–21
G4-SO5	Confirmed incidents of corruption and actions taken	Compliance	20–21
Aspect: Public Policy			
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G4-SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	Compliance	20–21
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G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	Compliance	20–21
Aspect: Supplier Assessment for Impacts on Society			
G4-SO9	Percentage of new suppliers that were screened using criteria for impacts on society	Supply Chain Management	68–69
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G4-SO11	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms	Compliance	20–21
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G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	Quality (Major Initiatives)	66
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Aspect: Product and Service Labeling			
G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements	-	
G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	Compliance	20–21
G4-PR5	Results of surveys measuring customer satisfaction	-	
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G4-PR6	Sale of banned or disputed products	-	
G4-PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotions, and sponsorship, by type of outcomes	-	
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G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	Compliance	20–21
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G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	Compliance	20–21

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