

# JX Report

## for a Sustainable Future 2015

Highlights

### The Future of Energy, Resources and Materials



JX Holdings, Inc.



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### Cautionary Statement regarding Forward-Looking Statements

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

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

## Editorial Policy

This report was prepared by JX Holdings, Inc. based on the JX Group CSR Basic Policy\* to introduce the JX Group's ideas and initiatives on corporate social responsibility (CSR). From this year onwards, the report will comprise two parts: a "Highlights" booklet which aims to deepen communications with our stakeholders—including shareholders, investors, customers, employees, business partners and local communities—and deepen their understanding about the JX Group, and a "Performance Report" (PDF) which aims to fulfill our accountability to all stakeholders.

The "Highlights" will introduce activities centered on solving the CSR issues faced by the JX Group. In the Performance Report, the JX Group Values section reports on several representative activities we are conducting in accordance with the Group's five EARTH values. (The Performance Report can be found on the website of JX Holdings, Inc.)

The JX Group companies, including JX Holdings and the three core operating subsidiaries, disclose information on various CSR activities on their company websites. Please take time to visit these websites. (See page 26)

\* We will steadily fulfill our responsibility to society through faithful implementation of the JX Group Mission Statement by every officer and employee in order to establish a corporate group worthy of the trust of our stakeholders

### Scope of Report

- JX Holdings, Inc. and its 11 main Group companies
- JX Nippon Oil & Energy Corporation and its 20 main Group companies
- JX Nippon Oil & Gas Exploration Corporation and its 32 main Group companies
- JX Nippon Mining & Metals Corporation and its 68 main Group companies

### Reporting Period

In principle, the report covers the period from April 2014 to March 2015. However, some information from April 2015 onwards is also included, as necessary.

### Publication Date

December 2015  
(Previous issue: December 2014; Next issue: December 2016)

### Guidelines Used as Reference

- The Sustainability Reporting Guidelines, Version 3.1, Global Reporting Initiative (GRI)
- The Environmental Reporting Guidelines (2012 Edition), Ministry of the Environment, Japan
- The GRI Mining and Metals Sector Supplement

### Inquiries

JX Holdings, Inc.  
6-3 Otemachi 2-chome, Chiyoda-ku, Tokyo 100-8161, Japan

From January 1, 2016, it will shift to this new address.  
1-2 Otemachi 1-chome, Chiyoda-ku, Tokyo 100-8161, Japan  
<http://www.hd.jx-group.co.jp/english/>

General Administration Department  
Email: [csr@hd.jx-group.co.jp](mailto:csr@hd.jx-group.co.jp)

# JX Group Mission Statement

## JX Group Slogan

# The Future of Energy, Resources and Materials

## JX Group Mission Statement

The JX Group will contribute to the development of a sustainable economy and society through innovation in the areas of energy, resources and materials.

## JX Group Values

Our actions will respect the **EARTH**.

### **Ethics**

**Advanced** ideas

**Relationship** with society

**Trustworthy** products/services

**Harmony** with the environment

### About JX

The name “JX” is the brand that symbolizes the JX Group’s existence and presence. The letter “J” represents our position as one of the world’s largest integrated energy, resources and materials business groups from Japan, while the letter “X” represents our willingness to pioneer new frontiers, our future growth and development potential, and our pursuit of creativity and innovation.

### About the JX Corporate Brand Mark

The JX corporate brand mark symbolizes the continuity of the global environment and the JX Group based on the JX Group’s mission statement. The design, in which the “JX” logo overlaps with a sphere, represents the JX Group’s commitment to a green earth—i.e., our contribution to the development of a sustainable economy and society, through innovation in the areas of energy, resources and materials.

\* The JX corporate brand mark is common to JX Holdings, Inc., JX Nippon Oil & Energy Corporation, JX Nippon Oil & Gas Exploration Corporation and JX Nippon Mining & Metals Corporation





# Management Message



**Yasushi Kimura**  
Representative Director,  
Chairman

**Yukio Uchida**  
Representative Director,  
President

## Fulfilling Our Social Responsibilities through Our Business Activities

Five years have passed since the establishment of the JX Group. During this time, we have moved steadily forward under the slogan “The Future of Energy, Resources and Materials.”

In recent times, the marketing environment in which we operate our Group businesses has experienced significant fluctuations, including price drops for oil and copper and the changing supply structure for domestic energy. However, we believe it is our mission to play a role in supporting people’s lives and the foundation of our industry while considering the global environment, and to “contribute to the development of a sustainable economy and society” in whatever situation.

## Continuing Our CSR Activities with an Awareness of Priority Issues for the Whole JX Group

The JX Group conducts its CSR activities under the JX Group’s Basic Approach to CSR, and we prioritize compliance, environment and safety, and social contribution in particular as we conduct these activities through each committee.

From the legal compliance inspections conducted by the whole Group every year, to the various types of training we conduct, we are working to achieve

penetration of compliance-awareness. We are also focusing on environmental conservation and ensuring safety, including safe and efficient operation of each supply chain and the development of environmentally friendly products. Additionally, we are conducting volunteer activities and ongoing community-based social contribution activities in many places under the theme, “providing support for children who are our future.”

In parallel with these activities, the JX Group also implemented the 3rd CSR Survey in July 2015 for the purpose of surveying the awareness of executives, employees and others concerning CSR. We will analyze the results of the survey this year and utilize them to further enhance and invigorate CSR activities for the whole Group.

## Hand-in-Hand with Our Stakeholders

Going forward, the JX Group will execute its business operations while continuing to earnestly listen to the opinions and requests of various stakeholders.

We ask you for your continual understanding and support for the JX Group as we move forward.



# Message from Senior Management of the JX Group's Core Operating Subsidiaries

## JX Nippon Oil & Energy Corporation



**Tsutomu Sugimori**

Representative Director,  
President  
JX Nippon Oil & Energy Corporation

### Responding to Diversifying Energy Needs as a Comprehensive Energy Company

The JX Nippon Oil & Energy Group, as a comprehensive energy company, delivers petroleum products, gas, electricity and other energy requirements of our customers, converted from various energy resources, while ensuring consideration of the environment and safety.

To this end, in addition to building optimal value chains to respond to diverse needs, we also are working to further enhance our supply structure to ensure stable delivery even during times of disaster. Our leading product is precious fossil

energy. We are actively promoting energy-saving and technological advancement at our refineries, and offering eco-friendly products. Moreover, we hope to contribute to the realization of a low-carbon society through measures such as the supply of hydrogen using our service station network.

We will continue to implement measures for the future of energy giving priority to compliance and safety, while further solidifying our relationship of trust with all stakeholders through dialogue.

## JX Nippon Oil & Gas Exploration Corporation



**Shunsaku Miyake**

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

### Conducting Exploration and Production Business of Oil and Gas While Always Taking Account of the Environment, Safety and Society

The JX Nippon Oil & Gas Exploration Group conducts exploration and production business of oil and gas in 14 countries around the world. In particular, we have the operatorships of projects in Vietnam, Malaysia, and Qatar.

Under globally expanding intense competition to acquire resources, companies cannot maximize their corporate value without establishing technical advantages. In light of this recognition, we work on advanced efforts, such as a project that

enhances oil recovery by injecting CO<sub>2</sub>, a greenhouse gas emitted into the atmosphere, into oil fields, and exploration and development of deep-water oil and gas fields, which require sophisticated technologies.

We will engage ourselves in contribution to the development of a sustainable economy and society through these daily business activities by development of good relationships with society, putting environment, safety and compliance above anything else.

## JX Nippon Mining & Metals Corporation



**Shigeru Oi**

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

### Contributing to the Sustainable Development of the 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 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 pay all due care to minimize any negative impact on society. We endeavor to deepen communication with relevant stakeholders in order to ensure especially that we protect the environment, maintain occupational health and safety, enhance compliance, coexist and prosper along with local communities, and respect human rights.

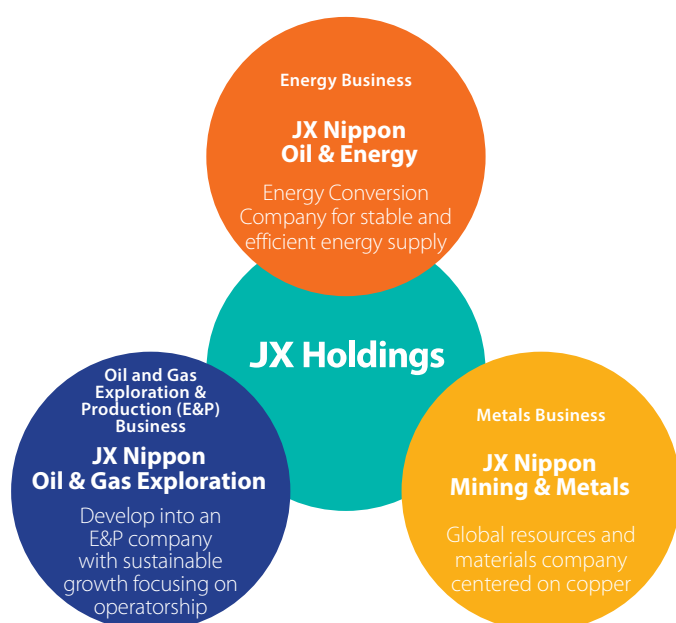
# For the Future of Society

The JX Group as a whole will undertake initiatives to contribute to the development of a sustainable economy and society.

## 2020 Vision

Become a world leading “integrated energy, resources and materials business group”

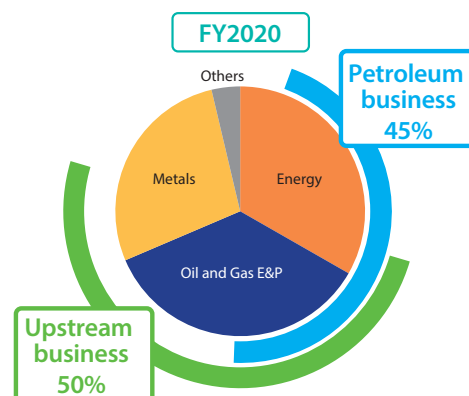
Corporate group that possesses competitive business as evaluated by global standards



Business portfolio with a balance between petroleum and non-petroleum businesses and between upstream and midstream/downstream businesses

Balance of Ordinary Income Excluding Inventory Valuation Factors

Energy Metals Upstream business  
Oil and Gas E&P Others Petroleum business



### Upstream Business

Energy	Coal
E&P	All
Metals	Resources development

### Non-Petroleum Business

Energy	Electric power generation, gas, coal, solar power generation, fuel cells, specialty chemicals & materials
E&P	LNG projects (Malaysia, Indonesia, Papua New Guinea)
Metals	All

## Basic Policy of the 2nd Medium-Term Management Plan

On the premise of establishing both proper governance backed by thorough compliance and CSR implementation structure

### Profitability

- Securing stable profitability in existing business by realizing overwhelming competitiveness through continuous restructuring and stable operation
- Realizing return from invested projects

### Growth

- Allocating management resources to highly profitable and developing operations on a priority basis

### Flexibility

- Structuring a stronger balance sheet in line with business environment change

Realizing high profit and high ROE continuously

Strengthening risk tolerance

## JX Group Overview

### Holding Company Overview

#### JX Holdings, Inc.

Representatives: Yasushi Kimura, Representative Director, Chairman  
Yukio Uchida, Representative Director, President

Head Office Location: 6-3 Otemachi 2-chome, Chiyoda-ku, Tokyo  
100-8162, Japan

Established: April 1, 2010

Capital: ¥100 billion

Principal Group Businesses: Energy Business, Oil and Natural Gas E&P Business,  
and Metals Business



### Overview of Core Operating Subsidiaries

#### JX Nippon Oil & Energy Corporation

Representative: Tsutomu Sugimori, Representative Director, President

Head Office Location: 6-3 Otemachi 2-chome, Chiyoda-ku, Tokyo  
100-8162, Japan

Capital: ¥139.4 billion (100% investment of JX Holdings, Inc.)

Principal Business: Manufacture and marketing of petroleum products (gasoline, kerosene,  
lubricants, etc.)

Manufacture and marketing of petrochemical products

Import and marketing of gas (LPG and LNG) and coal

Electric power sales



#### JX Nippon Oil & Gas Exploration Corporation

Representative: Shunsaku Miyake, Representative Director, President and CEO

Head Office Location: 6-3 Otemachi 2-chome, Chiyoda-ku, Tokyo  
100-8163, Japan

Capital: ¥9.8 billion (100% investment of JX Holdings, Inc.)

Principal Business: Exploration for and development of petroleum, natural gas, and other mineral resources  
Extraction, processing, storage, sale, and shipment of petroleum, natural gas,  
and other mineral resources and their secondary products



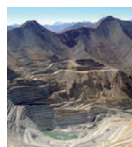
#### JX Nippon Mining & Metals Corporation

Representative: Shigeru Oi, Representative Director, President and CEO

Head Office Location: 6-3 Otemachi 2-chome, Chiyoda-ku, Tokyo 100-8164,  
Japan

Capital: ¥40 billion (100% investment of JX Holdings, Inc.)

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



From January 1, 2016, all of the four companies will shift to this new address.  
1-2 Otemachi 1-chome, Chiyoda-ku, Tokyo

### Overview of Listed Subsidiaries

#### Consolidated Subsidiaries: 2

##### NIPPO CORPORATION

Representative: Hiromi Iwata, Representative Director, President

Head Office Location: 2-16 Yaesu 1-chome, Chuo-ku, Tokyo 103-0028, Japan

Capital: ¥15.3 billion (57% investment of JX Holdings, Inc.)

Principal Business: Civil engineering works such as construction of roads and paving  
work; building work; manufacturing and sale of asphalt mixture

##### Toho Titanium Co., Ltd.

Representative: Kazuo Kagami, Representative Director, President

Head Office Location: 3-5 Chigasaki 3-chome, Chigasaki City, Kanagawa Prefecture 253-  
8510, Japan

Capital: ¥12 billion (50.4% investment of JX Holdings, Inc.)

Principal Business: Refining, melting and sale of titanium metals

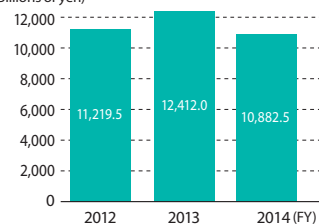
#### Equity-Method Affiliates: 5

## Financial Highlights

(JX Holdings and Consolidated Subsidiaries)

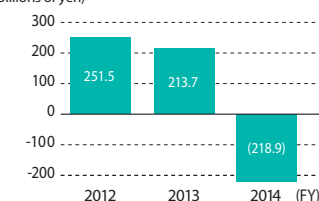
### Net Sales

(Billions of yen)



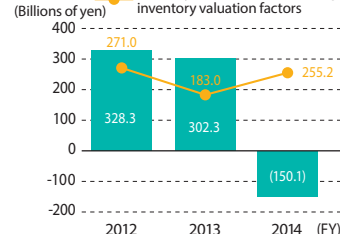
### Operating Income

(Billions of yen)



### Ordinary Income

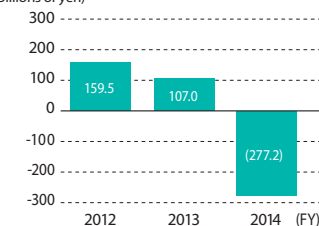
(Billions of yen)



Note: Inventory Valuation: For refining and marketing of petroleum products, inventory assets (crude oil and petroleum products) are high due to stockpile requirements, and inventory valuation is affected by the fluctuations in petroleum prices at the time of accounting. While a loss is reflected in the accounts, this is a loss in valuation and does not represent an actual loss.

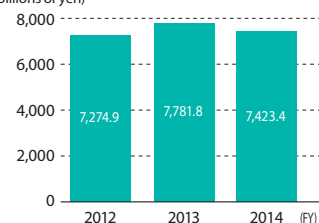
### Net Income

(Billions of yen)



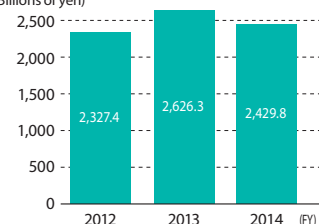
### Total Assets

(Billions of yen)



### Net Assets

(Billions of yen)





# JX Group's Business Activities and CSR Issues

The JX Group engages in a broad range of business domains, from upstream to downstream operations, primarily in the areas of petroleum and copper. Our major responsibility is ensuring a stable supply of energy, resources, and materials. As a corporate group that supports people's lives, the JX Group is determined to contribute to society, with consideration to CSR when carrying out its business activities.

## JX Holdings

### JX Nippon Oil & Energy

#### Energy Business

### JX Nippon Oil & Gas Exploration

#### Oil and Gas Exploration and Production (E&P) Business

### JX Nippon Mining & Metals

#### Metals Business

## Resources Development

### Oil and Gas E&P



We have businesses producing oil and gas at 110 thousand barrels of oil equivalent per day (BOE/D) in 14 countries around the world. We are working on increase of reserves and production mainly through exploration, in order to maintain and increase our production in the medium to long term.

#### Main CSR Issues

- Reducing environmental impact
- Occupational safety and health
- Anti-bribery, etc.

### Copper Resources Development



Given the rising global demand for copper, we are expanding our mining rights to secure long-term and stable sources of copper ore. The Caserones Copper Mine (Chile) which underwent development, commenced production of copper concentrate starting May 2014.

#### Main CSR Issues

- Relationship with local communities
- Reducing environmental impact
- Occupational safety and health, etc.

## Production, Processing,

### Procurement, Transportation, and Storage



For a stable supply of energy, there needs to be uninterrupted transportation between Japan and oil-producing countries. The JX Group currently operates 23 crude oil tankers (all double hull tankers) owned or long-term chartered by ourselves for the purpose of supplying crude oil. Meanwhile, JX Nippon Oil & Energy Staging Terminal Corporation's Kiire Terminal has a crude oil storage capacity equivalent to the amount of crude oil consumed in Japan in approximately two weeks.

#### Main CSR Issues

- Safe and stable transportation
- Reducing environmental impact
- Business Continuity Plan (BCP) during disasters, etc.

### Smelting & Refining



Pan Pacific Copper Co., Ltd. and LS-Nikko Copper Inc. combined boast a total refined copper production capacity of 1.33 million tons a year, making the entire group a global leader. We are stably supplying high quality refined copper from smelting and refining facilities with advanced technologies and cost competitiveness.

#### Main CSR Issues

- Effective resource utilization
- Reducing environmental impact
- Occupational safety and health, etc.

## Group Governance



JX Holdings is determined to conduct all business activities based on the JX Group Mission Statement, which encapsulates the Group's purpose and values shared by all employees.

### Main CSR Issues

- Thoroughness of compliance
- Enhancing risk management
- Respect for human rights, etc.

## Marketing

### Refining and Production



In Japan, we have seven refineries and four plants. We have put in place a system for ensuring efficient and stable supply of products. We strive to secure safe operations to ensure the prevention of accidents and disasters, and to be fully prepared to deal with such an event should it occur.

### Main CSR Issues

- Accident and disaster prevention
- Reducing environmental impact
- Occupational safety and health, etc.

### Distribution and Sales



The ENEOS brand has a domestic network of around 10.8 thousand service stations. In Japan, we sell around 64 million kiloliters of fuel annually, giving us a high market share of around 35%.

### Main CSR Issues

- Safe and stable supply
- Business Continuity Plan (BCP) during disasters
- Eco-friendly and safe products and services, etc.

### Electronic Materials



The JX Group has a high share of the global market in this product group, which leverages technologies such as high-purity refining, high-density sintering, and surface treatment. Highly functional, high value-added "functional materials" and "thin film materials," are the two pillars in this segment.

### Main CSR Issues

- Improving customer satisfaction
- CSR procurement
- Occupational safety and health, etc.

## Customers

## Recycling

### Recycling and Environmental Services



This business utilizes the technologies and achievements we cultivated at mines and smelting and refining facilities over many years. It consists of two fields: the "recycling business," which recovers copper, precious metals, and other valuable metals from recycled materials; and the "environmental services business," which detoxify industrial waste and recovers valuable metals.

### Main CSR Issues

- Effective resource utilization
- Reducing environmental impact
- Occupational safety and health, etc.



# Securing Resources and Ensuring a Stable Supply

The JX Group is focused on building stable supply systems, from development and production through to sales of energy, resources and materials, which are indispensable to industries, economies and people's everyday lives.

### Initiatives

Increase reserves and production mainly through exploration

Establish superiority by focusing core business area and technology

Strengthen response capabilities for emergency oil supply

Expand copper mining rights and interests

Maintain and increase world-leading share of the electronic materials market

### Key Initiatives and Achievements in FY2014

Discovered oil and gas (Vietnam, UK and Australia)  
Filed Development Plan Approved for an oil and gas field (Malaysia)  
Commenced production at oil and gas fields (Papua New Guinea and UK)

Exploration at a deep water project (Malaysia)  
Launched an enhanced oil recovery (EOR) project by injecting CO<sub>2</sub> into an oil field (US)

Implemented Business Continuity Plan (BCP) training

Started production of copper concentrate at the Caserones copper mine

Overseas expansion and continued development of cutting edge materials





# Oil and Gas Development in Malaysia

## Akira Tanaka

Executive Officer, General Manager of Corporate Planning Department (Former Managing Director of Miri Office)  
JX Nippon Oil & Gas Exploration Corporation



## In Business for Over a Quarter of a Century

In Block SK10 offshore Sarawak in Malaysia, since our acquisition of the block in 1987, we have been conducting one of our key projects where we have the operatorship for exploration, development and production.

Natural gas has been produced at Helang Gas Field in SK10 since 2003. It is transported through pipeline together with natural gas produced at the neighboring Block SK8 of which operator is Royal Dutch Shell; we also obtained working interest in SK8 in 1991. The transported gas reached the liquefaction plant operated by Malaysia LNG Tiga Sdn. Bhd., which is partly owned by JX Nippon Oil & Energy and exported after liquefaction as Liquefied Natural Gas (LNG) to Japan and other countries.

## Miri Office

Miri Office, which is responsible for this project, has approximately 300 staff, most of whom are Malaysian nationals. Having worked at this office



Installing offshore platform and topsides (2003)

from July 2010 through June 2015, I have done my daily business assignment, giving safety first priority, while engaged in maintaining and developing

the relationships of trust that have been forged with PETRONAS, Malaysia's state oil company, other project partners, contractors and local communities over the 28 years since the acquisition of SK10.

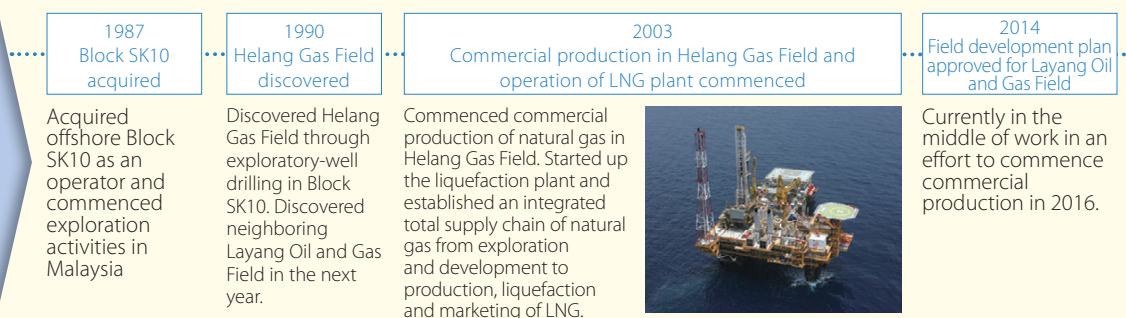
## Further Challenges

In 2014, JX Nippon Oil & Gas Exploration made the final investment decision to develop Layang Oil and Gas Field, located eight kilometers to the east of Helang Gas Field in SK10, for which we received approval of our field development plan from PETRONAS.

For the development of the field, a new dedicated platform and the Floating Production, Storage and Offloading system (FPSO) are planned to be installed, and we are currently in the middle of work in an effort to commence commercial production in 2016. The condensate and oil is planned to be shipped from the FPSO.

We consider Malaysia to be one of the core countries for our business operations, and intend to improve and strengthen our natural-gas supply chain by development and production of Layang Oil and Gas Field in addition to the Helang Gas Field. We are also conducting exploration at other locations including the Deep Water Block R, offshore Sabah in Malaysia, administered by our Kuala Lumpur Office, and will continue working actively on our oil and gas development in Malaysia.

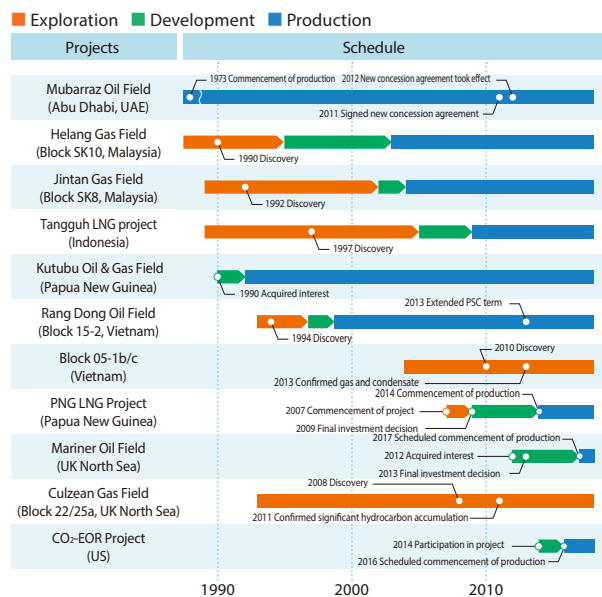
## PROJECT HISTORY



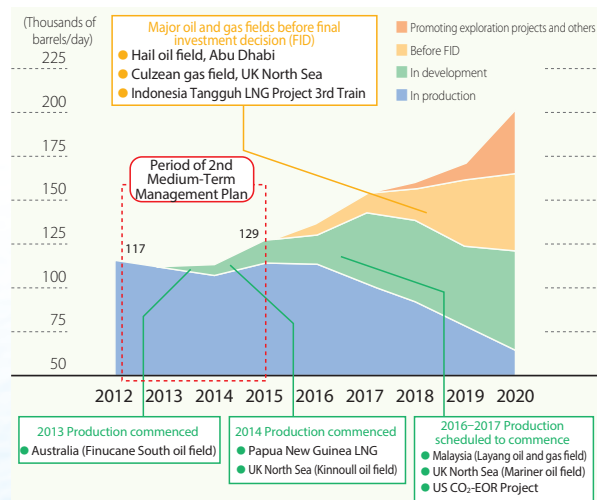
## Feature 1

# Securing Resources and Ensuring a Stable Supply

### Exploration and Development Schedule for Principal Projects



### Production Schedule (Oil Equivalent)



## Enhance Oil and Gas Development

Intense competition for natural resources has been continuing due to the firm growth in oil and gas demand for medium-to-long term despite some temporary sluggishness. Moreover, in recent years, with the increasing percentage of oil and gas discoveries in severe conditions of natural environment, such as remote area or deep water, sophisticated technologies and considerable financial strength are imperative. Under this tough business climate, JX Nippon Oil & Gas Exploration is working to increase reserves and production, mainly through exploration activities. We will capitalize on the knowledge we have obtained thus far and on our favorable relationships with state-owned oil companies as well as oil-producing countries and regions, while prioritizing the allocation of management resources by focusing on core regions and technologies, and establish our advantage by accumulating technologies, primarily through our activities as an operator.

E&P activities progress in four stages: exploration, development, production and abandonment. Each stage involves risks of injuries and illness, accidents, and impacts on the environment. Giving top priority to managing risks related to health, safety and environment (HSE) in carrying out our business activities, JX Nippon Oil & Gas Exploration has established and is implementing systematic approaches to manage those risks (HSE management system or HSE-MS). As part of the HSE-MS, we have established a corporate emergency response plan and a structure based on site specific emergency status, and an oil spill response plan. We also continually confirm the effectiveness of the system by conducting emergency response drills on a regular basis and discussing any necessary improvements.

We are promoting the following projects towards an increase of reserves and production.

### Advancing projects under development to production stage as well as projects before FID to development

Production commenced	● Papua New Guinea LNG ● Kinnoull oil field in the UK North Sea
Under development	● Mariner oil field in the UK North Sea ● CO2-EOR project in the US
Before final investment decision	● Culzean gas field in the UK North Sea ● 3rd train of the Tangguh LNG Project in Indonesia

### Promoting Large Exploration Operator Projects

- Deep Water Block R offshore Sabah in Malaysia
- Block A in Qatar

## Commencement of Production at Caserones Copper Mine

The Caserones Copper Mine in Chile commenced production of copper concentrate starting May 2014.

Going forward, this will contribute to ensuring stability of copper resources for Japan.

## Establishing Business Continuity Plan (BCP) and Training towards Stable Supply of Petroleum Products

The Great East Japan Earthquake of March 2011 reconfirmed in Japan the importance of oil and its strength as independent, distributed energy. National and local governments have therefore been working to

develop laws and strengthen systems to ensure energy supplies in the event of disasters. To fulfill our role as an energy supplier supporting our social infrastructure under these circumstances, JX Nippon Oil & Energy established its Crisis Management Department in October 2014 for the purpose of strengthening the functions, authorities and scale of the Crisis Management Group in the General Administration Department. It also established a BCP Group tasked with the office procedures of establishing and reviewing business continuity plans for use in the event of a huge earthquake or other disaster.

At the time of the Great East Japan Earthquake, JX Nippon Oil & Energy's three refineries in Tohoku and Kanto stopped operations and approximately 40% of service stations in the Tohoku and Kanto areas were forced to suspend trade. This was a valuable experience that we must never forget. In this dire circumstance,



employees and other people concerned worked together to recover and return the energy supply to normal as quickly as possible in disaster-affected and other areas.

With this experience also in mind, we established BCPs, which we revised in January 2015 to enhance its effectiveness, for use in the event of a huge earthquake. For BCPs, it is important to continually work on improving the plan's effectiveness and strengthening related systems to cope in the event of a huge earthquake or other actual disaster. That is why we are working to establish systems for continuity and prompt recovery of key operations by defining supply recovery targets for petroleum products in the event of specific huge earthquake scenarios—the Nankai Trough Giant Earthquake and Inland Earthquake in Tokyo.

In addition, we are also continually conducting training to improve the effectiveness of the plan by identifying issues and promoting solutions.

In 2014, we conducted training based on the scenario of the Nankai Trough Giant Earthquake, establishing a Disaster Response Headquarters with the president as the head, for the purpose of (1) confirming the flow of actions and information sharing during a disaster; (2) confirming cooperation between head office and disaster-affected sites; and (3) establishing policies and plans towards recover of supply of petroleum products. At the same time, we were able to confirm a plan for cooperation in oil supply during a disaster, which was established to maintain supply through mutual cooperation between petroleum refiners and others in the case of a large-scale earthquake causing oil supply shortages in specified regions. As an energy supplier that supports our social infrastructure, we will continue to conduct ongoing training and review our BCPs in order to increase their effectiveness, achieve stable supply of petroleum products and achieve disaster prevention and natural disaster reduction.

### ■ Participation in “Michinoku Alert” Oil Supply and Transportation Training

JX Nippon Oil & Energy participated in the “Michinoku Alert 2014” disaster preparedness training conducted for the purpose of enabling smooth supply of oil to Self-Defense Forces employed in lifesaving operations, and enhancing systems for oil transportation for civilian use in locations such as emergency shelters, in the event of a large-scale earthquake or tsunami.

During these joint training exercises conducted with private sector oil refineries and oil depots by the Japan Ground Self-Defense Forces North Eastern Army and the Tohoku Bureau of Economy, Trade and Industry, our role was to load diesel fuel into Self-Defense Forces oil tank trucks at the on-shore loading facility within our Sendai Refinery. Concurrently with this training, we simulated the establishment of disaster response headquarters at our head office and Sendai Refinery, and conducted various training exercises including confirming disaster status, handling shipping demands and implementing shipping procedures.

This was the first time Self-Defense Forces oil tank trucks had entered the premises of a private sector oil refinery, so we plan to use the knowledge acquired through this training to create systems that enable fuel loading of Self-Defense Forces oil tank trucks at any oil refinery, plant or oil depot.











Loading diesel fuel

## Development and Supply of Cutting-Edge Electronic Materials That Support Our Society

High quality and high functionality are essential for electronic materials in order to realize a more fruitful society and improve the performance of familiar products that support the lifestyles of modern society, such as smartphones, tablets, personal computers, digital consumer electronics and automobiles.

The electronic materials business of JX Nippon Mining & Metals has been utilizing its non-ferrous metal processing technologies and know-how, built up over many years, for the timely development of cutting-edge electronic materials that meet the needs of society, and for the stable supply of those materials. With the popularity of these products, we currently boast the top global market share for many of them.

### ■ Main Products of the Electronic Materials Business

Main electronic materials	Global market share (As of 2014)	Primary applications	Personal computers	Mobile phones and smartphones	End use Digital appliances and audio-visual	Communications infrastructure and datacenters	Automobiles
 Treated rolled copper foil	70% No. 1	Flexible printed circuit boards	○	◎	◎	—	○
 Sputtering targets for semiconductors	60% No. 1	CPUs, memory chips, etc.	◎	◎	◎	○	○
 ITO targets for LCDs	30% No. 1	Transparent conductive films	◎	◎	◎	—	○
 Sputtering targets for magnetic materials	55% No. 1	Hard disks, etc.	◎	—	○	○	—
 Phosphor bronze	20% No. 1	Connectors, springs for electronic parts	○	◎	○	—	○
 Corson alloy (C7025)	45% No. 1	Lead frames, connectors	◎	○	○	○	○
 Titanium copper	65% No. 1	High grade connectors, etc.	○	◎	○	—	○
 In-P compound semiconductors	50% No. 1	Optical communication devices, ultrafast ICs	—	—	○	◎	○

With 60% of global market share, our sputtering targets for semiconductors are used for such things as forming the fine elements and wiring in integrated circuits (ICs). As smartphones and other end-use products become smaller and more functional, there is also a need for the conflicting specifications of miniaturization and high functionality (to form even more elements and wiring) in development of next-generation integrated circuits used as parts for these products. JX Nippon Mining & Metals' semiconductor targets enable formation of even finer elements and wiring through the pursuit of such characteristics as high purity, high density, uniformity and surface smoothness. We maintain close communications with our IC manufacturer customers to ascertain their needs as quickly as possible, and continue to develop and supply new materials in a timely manner.

Going forward, we will continue to contribute to the development of society through similar initiatives for all our products.



# Responding to Diverse Energy Demands

As a comprehensive energy business group underpinning Japan, the JX Group not only supplies efficient and stable energy in various facets of our lives and society, but also drives further expansion in the new and renewable energy business to reduce environmental impact.

### Initiatives

Enhance business  
as an “Energy Conversion Company”

### Key Initiatives and Achievements in FY2014

Expanded mega solar power generation  
(commenced operation from mega solar power  
plants in seven new locations)

Completed construction of Hachinohe and  
Kushiro LNG terminals and expanded the  
natural gas supply system

Opened commercial hydrogen stations in 12  
new locations

Resolved to enter household-use electric power  
retail business





# Changing Future Energy through the Hydrogen Business

## Katsuyuki Sasaki

General Manager  
Hydrogen Business Promotion Department  
New & Renewable Energy Company  
JX Nippon Oil & Energy Corporation

### Responsible for Entire Supply Chain for Hydrogen Business

In addition to hydrogen being a clean energy that does not emit CO<sub>2</sub> during use, it is also a highly significant energy from the perspective of energy security because it can be manufactured by a number of methods from a diverse range of primary energy sources. When used in fuel cells in particular, the energy can be utilized with high efficiency due to there being no heat loss during combustion.

In the commercialization of hydrogen, which has the potential to play an important role in the future, I am engaged in building, developing and operating the entire supply chain from manufacture to transportation and sales, in addition to investigating and establishing medium- to long-term commercialization plans.

### Rewarding Work to Create the Future

Fuel cell vehicles were launched on the market in December 2014 but the development of a hydrogen station network is essential for widespread use. At JX Nippon Oil & Energy, we are developing hydrogen stations in an integrated manner with normal service stations. Because this is a new business, we are experiencing difficulties including unexpected steps required for its development. However, with the advice of related persons inside and outside the company, we could open hydrogen stations in 12 locations during fiscal 2014, which exceeded our target.



I find the work rewarding despite these and others challenges, and I am grateful for the valuable experience of being able to start up a new business from scratch.

### Working on Future Energy, Because We Can

As a company that has long been a supplier of energy for cars, our first role now is to work mainly on developing hydrogen supply systems for fuel cell cars. There are still unresolved issues in the hydrogen business, but nevertheless I believe that our work is playing a part in change for the future.

As both a comprehensive energy and an “energy conversion company,” JX Nippon Oil & Energy converts naturally occurring primary energy to deliver the energy requirements of our customers. Our top management policy is that a company such as ours, whose main products are precious fossil energies, must work to reduce environmental impact through its businesses. In response to this, we plan to work toward the future with a focus on such issues as utilizing hydrogen in areas other than fuel cell vehicles, carbon dioxide capture and storage (CCS)\* and manufacturing hydrogen from renewable energies.



At a hydrogen station with ENEOS mascot Enegori-kun

\* Technologies for separation and recovery of carbon dioxide, and storage underground

## PROJECT HISTORY

2011  
Resolved to commence initiatives to develop hydrogen supply infrastructure

The Basic Energy Plan of June 2010 included plans to build social systems that utilize hydrogen energy. In response, 13 private sector companies jointly announced targets to adopt fuel cell vehicles in 2015 and to develop a hydrogen supply infrastructure.

2013  
Commenced demonstration trials for hydrogen stations combined with service stations

Demonstration trials for Japan's first combined hydrogen station and service station were commenced at the Ebina Chuo Branch in Kanagawa Prefecture. Technology verifications conducted included shipping and transportation of hydrogen, which enabled the accumulation of operational expertise for hydrogen stations.

2014  
Opened commercial hydrogen station

The first commercial hydrogen station was opened at Ebina Chuo Branch in December 2014. Hydrogen retail prices were made public at the same time. Also in December 2014, Toyota Motor Corporation launched its fuel cell vehicles.  
Note: A total of 12 hydrogen stations were opened during fiscal 2014

2015  
Building network of 40 hydrogen stations

Including mobile hydrogen stations and the development of a further 16 stationary hydrogen stations, the development of a network of around 40 hydrogen stations in total is being planned for four major metropolitan cities during fiscal 2015.



## Feature 2

# Responding to Diverse Energy Demands

### Initiatives as an “Energy Conversion Company”

JX Nippon Oil & Energy Corporation is taking initiatives as an “energy conversion company” to efficiently convert naturally occurring primary energy, such as crude oil, natural gas, coal and solar, into the best energy source for customers, and to deliver stable supplies of this energy. We are taking steps to enhance our core business of petroleum refining and marketing as well

as to expand our electricity and gas businesses, and increase sales of coal in Japan. We are also promoting the ENEOS New & Renewable Energy Business and focusing on other areas such as the mega solar power generation business.

### Expanding Our Natural Gas Business

There is a wealth of natural gas reserves located around the world in comparison with crude oil. It is gaining attention as a form of clean energy that enables stable supply and emits little carbon dioxide or sulfur oxides. To respond to this rising demand of gas, in addition to engaging in the exploration of gas fields overseas, the JX Group is working to secure LNG through long-term contracts with US and European majors as well as Malaysian LNG suppliers, and is in talks with several potential suppliers, including companies producing LNG from shale gas.

Meanwhile, we are building and reinforcing our supply system in Japan via coastal tankers, tank trucks and pipeline at our own LNG terminals at Mizushima in Okayama Prefecture and Hachinohe in Aomori Prefecture.\*

At Hachinohe, we commenced operations of the Hachinohe LNG Satellite Terminal for coastal tankers in March 2007, but in order to meet further increases in demand, we also commenced operations of the Hachinohe LNG Import Terminal in April 2015 to enhance our gas and LNG supply systems at Tohoku. We also began coastal tanker shipments to the Kushiro LNG Satellite Terminal, which was opened in April 2015, and developed our supply systems in the eastern Hokkaido region.

\* The Mizushima LNG Terminal is a joint investment with The Chugoku Electric Power Co., Inc.



Hachinohe LNG Import Terminal

#### The JX Group's Natural Gas/LNG Supply Chain



### New & Renewable Energy Business

JX Nippon Oil & Energy is promoting the ENEOS New & Renewable Energy Business to realize a low-carbon society. We are aiming to realize an independent and distributed energy society by promoting new & renewable energy products such as ENE-FARM, a

residential-use fuel cell, and photovoltaic (PV) power systems. Moreover, we are promoting our mega solar power generation business, which takes advantage of idle land, to promote the use of renewable energy.



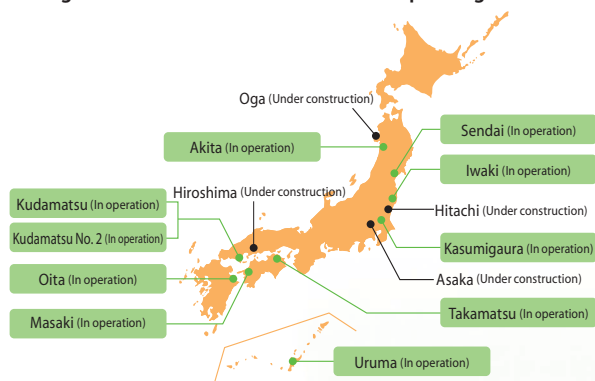
## Expansion of the Mega Solar Power Generation Business

Since February 2013, JX Nippon Oil & Energy has been promoting our mega solar power generation business, which uses the JX Group's idle land, with the aim of expanding renewable energy application.

Mega solar facilities installed at former Group sites including Onahama Depot (Fukushima Prefecture), Kudamatsu Refinery (Yamaguchi Prefecture), Akita Refinery (Akita Prefecture), Matsuyama Depot (Ehime Prefecture), Takamatsu Depot (Kagawa Prefecture), Saganoseki Smelter & Refinery of Pan Pacific Copper Co., Ltd.'s company housing (Oita Prefecture), and our facility at Okinawa CTS Corporation (Okinawa Prefecture) came on line in fiscal 2014. All combined, we will have a total of ten mega solar power generation facilities that output around 28 megawatts. From fiscal 2015, we are planning construction at a further four locations with plans to achieve output of around 35 megawatts.

As an "energy conversion company" that provides a stable supply of energy by efficiently converting power into optimal energy to suit customer needs, we aim to expand the supply of renewable energy.

### ■ Mega Solar Power Generation Business Expanding Nationwide



### Further Reduction of Household Environmental Impact

As we aim to realize a low-carbon society, the reduction of energy consumption in the home is a major challenge. "Dr. Ouchino Energy," a household energy consulting service for reducing household energy consumption, is free of charge. An ENEOS-certificated household energy consultant visits and proposes optimal plan for energy usage to those residences wanting an inspection to diagnose the way energy is being used by their household. Energy conservation performance of energy equipment, household appliances, and the home is assessed using around 60 diagnostic categories and interviews. Tips on daily actions and home appliance use are provided for energy conservation. JX Nippon Oil & Energy had 922 household energy consultants throughout the Group carrying out this service nationwide as of the end of fiscal 2014. In fiscal 2014, JX Nippon Oil & Energy was once again recognized for this activity and certified by the Ministry of the Environment as a home eco assessment operator for the Uchi-Eco Shindan Project, making this the third year running since receiving this certification in fiscal 2012 and 2013. Going forward, we will continue to propose energy conservation solutions to households through our household energy consultants.

### ■ Dr. Ouchino Energy—ENEOS Household Energy Consulting Service

#### Step 1

#### Assessment

Self-assessment of current actions and awareness related to energy conservation

Fill out Ouchino Energy Self-Assessment Sheet with details on the household's energy usage and energy conservation awareness.

#### Step 2

#### Consultation

Household energy consultation conducted by household energy consultant

A household energy consultant visits the home for comprehensive energy-related checks including the household's electricity and gas usage, energy conservation performance of electrical goods, hot water systems and other products, and thermal insulation performance of the home. Questions and requests related to energy conservation are also discussed.

#### Step 3

#### Report

Advice on necessary energy conservation solutions given to household

From the results of the household energy consultation, advice is provided for effective energy conservation and electricity saving solutions.

Also, the Government's policy is to aim for the spread of residential-use fuel cells to 1.4 million homes by 2020 and JX Nippon Oil & Energy is working to realize this by promoting the residential-use fuel cell ENE-FARM. Fuel cells form a part of the high-efficiency gas cogeneration system that not only generates power but also uses the heat generated from a chemical reaction between hydrogen from LP gas (or town gas) and oxygen in the air to heat water. Energy waste is minimized, and household energy efficiency can be greatly improved, resulting in the ability to greatly reduce CO<sub>2</sub> emission.

## Towards Full Deregulation of Electricity Retail Business

The Amended Electricity Business Act in Japan is currently planned as part of a review of the country's energy policies, with full deregulation of the electricity retail business for households and other users planned for April 2016. Based on this background, JX Nippon Oil & Energy decided in October 2014 to enter the household-use electric power retail business and take on the challenge of a new electricity supply business as an "energy conversion company." We aim to further expand this business together with the commercial electricity retail business we have been operating since July 2003. We already have power plants in five locations around Japan that serve as power producer and suppliers (PPS) fueled by natural gas, biomass and other fuels, but we have also commenced full-scale investigations into enlarging facilities at Kawasaki Natural Gas Power Generation Co., Ltd.,\* which will be central to the business expansion.

Also, in addition to being a participant in the Organization for Cross-Regional Coordination of Transmission Operators, Japan, which was established in April 2015, we are also promoting such initiatives as building a sales scheme that includes alliances, and in-house development of a customer information management system, for the development of our household electricity retail business. Ahead of the April 2016 commencement of our household electricity retail business, we will establish a system able to provide detailed support for the diverse needs of our customers.

\* Jointly owned with Tokyo Gas Co., Ltd.



# Efficient Utilization of Resources

The JX Group is working to build a recycling-oriented society and reduce environmental impact through its businesses, by utilizing the technological strengths cultivated over many years, in order to realize effective use of precious resources.

### Initiatives

Develop a zero emission, eco-friendly global resource recycling business

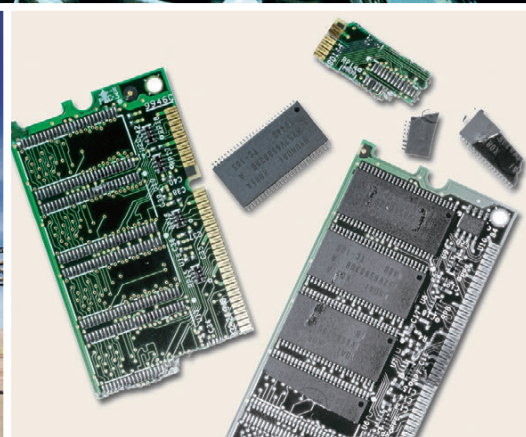
Create added value based on proprietary technologies

### Key Initiatives and Achievements in FY2014

Expanded overseas collection in recycling and environmental services business

Commenced commercial application of biomining technologies

Practical application of next-generation FCC: high severity fluid catalytic cracking (HS-FCC)



# Towards Overseas Expansion of Recycling Business

## Sadaharu Koshitani

Recycle Business Manager  
JX Nippon Mining and Metals USA, Inc.

### Proud to Contribute to Recycling-Oriented Society

The JX Nippon Mining & Metals Group has been recycling non-ferrous metals since the 1970s, using smelting and refining, processing and analytical technologies cultivated over many years in the smelting and refining business. With the uneven distribution of mineral resources around the world and growing resource nationalism, supplies and prices are in a state of instability. For this reason, recycling of non-ferrous metals is expected to become more and more important for resource-poor Japan.

As a member of the JX Nippon Mining & Metals Group, I am proud of my involvement in the socially significant business of securing resources and building a recycling-oriented society.

### Targeting Further Business Opportunities in North America

JX Nippon Mining & Metals set up an operating site in Arizona, in 2014 to target the North American market, where the volume of recycled non-ferrous metals is expected to grow in the future given the development of recycling laws and an increase in environmental awareness.

As one of the founding members of our US site targeting this huge market, I am currently working hard every day on collecting activities for these recycled materials.

Going forward, we aim to further expand this business by deepening the level of communication with customers and building strong and long-term relationships.



At the same time, our policy is not only to focus on the recycled materials from used electronic components that we are currently collecting, but to also discover new recycling opportunities.

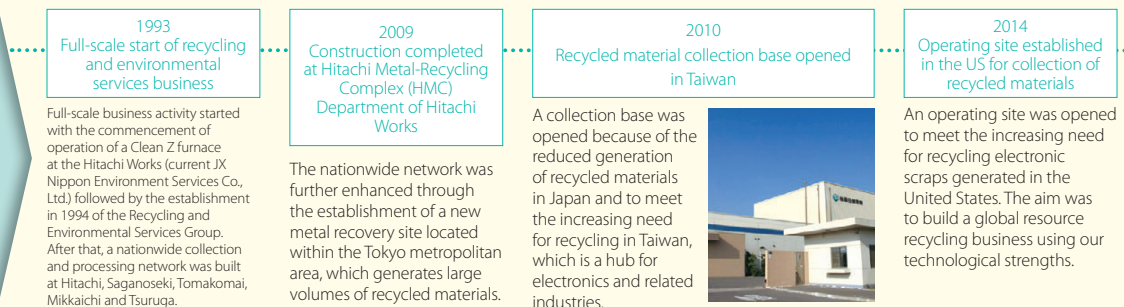
### Medium- to Long-Term Businesses Contribute to Society

With stricter global environmental regulations and greater environmental awareness, even emerging economies, that are forecast to experience high economic growth in the future, are expected to see a growing need for recycling. For this reason, in addition to North America, we are conducting market research in Mexico and Eastern Europe in parallel. By researching and understanding changing conditions in real time, and then proposing and delivering solutions that meet the market needs, we hope to build medium- to long-term business relationships in these frontiers. In this way, we hope to fulfill our mission in the hope that this will lead to solving social issues, including environmental issues and building a global recycling-oriented society.



Recycled materials collected at Saganoseki Smelter & Refinery, Pan Pacific Copper Co., Ltd.

## PROJECT HISTORY





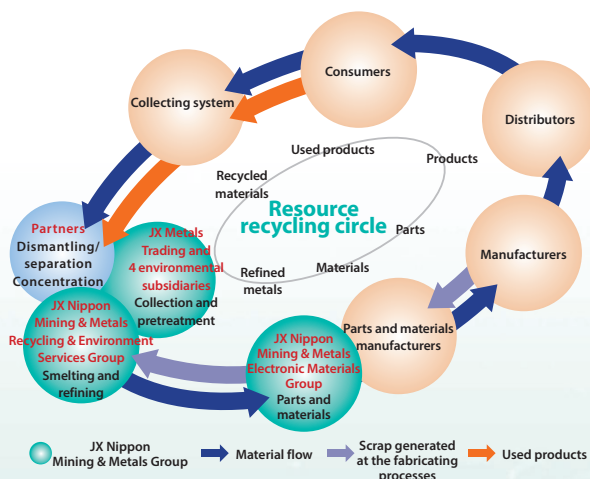
## Feature 3

# Efficient Utilization of Resources



Hitachi Metal-Recycling Complex (HMC) Department of Hitachi Works

### Resource Recycling Initiatives to Pursue Zero Emissions



Biomining Test Heaps at Radomiro Tomic Mine

## Achieving a Recycling-Oriented Society through Our Recycling and Environmental Services Business

The JX Nippon Mining & Metals Group engages in an integrated range of businesses related to non-ferrous metals, centering on copper, which encompass resource development, metals 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 recycled 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.

## 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 which would require landfill disposal is produced. All iron, excluding non-ferrous metals, are recovered as slag and used for such purposes as cement material. By preventing the generation of secondary waste, we are reducing the environmental impact for our next generation.

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

The recycling of non-ferrous metals in the business is carried out using uniquely developed efficient and reliable treatment processes which are based on the technologies we have fostered over many years through operations at mines, smelters and refineries. In particular, at the Saganoseki Smelter & Refinery of Pan Pacific Copper Co., Ltd.—owned by JX Nippon Mining & Metals and boasting Asia’s largest treatment capacity for recycled materials—energy conservation is achieved by using the excess heat generated from copper concentrate smelting for melting recycled materials.

### (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 reduced generation of scrap in Japan, we are enhancing our collection operations overseas and have established a collection and pre-treatment site in Taichung (Taiwan) and an operating site in Arizona (US).

## Effective Use of Resources through Biomining Technologies

Copper plays an essential role in people’s lives, with demand expected to grow, in particular in emerging economies that are continuing to develop. However, as copper mines continue to be developed around the world, the number of mines that produce high-grade ore is decreasing. In response, biomining technologies have been developed



as a method for effectively using low-grade ore.

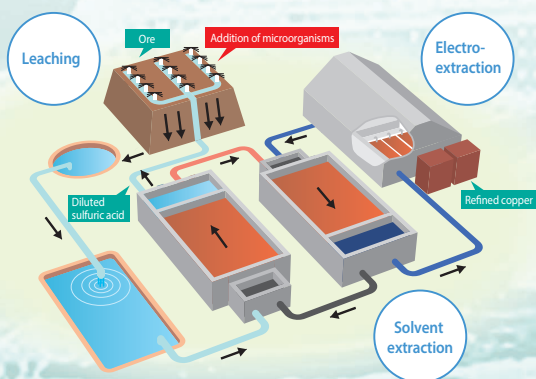
JX Nippon Mining & Metals established BioSigma S.A. in Santiago, Chile in 2002, a company jointly owned with Corporación Nacional del Cobre de Chile (Codelco), where it is conducting research into biomining. BioSigma has developed a technology to effectively recover copper from low-grade ore, which was difficult with conventional hydrometallurgical technologies (a method where sulfuric acid or other solution is sprayed over the ore and then electrolysis is used to recover the dissolved copper) by adding specific microorganisms into the process. The results of one year of demonstration trials, conducted at the Codelco-operated Radomiro Tomic mine in Chile's Antofagasta region, show 30 to 50% more leached copper than can be achieved by conventional methods. This has enabled recovery of copper from the low-grade primary copper sulfide ores that were left untouched at this mine, and commercial application commenced from 2015.

Applying biomining technologies at other mines as well, and recovering copper from currently wasted low-grade ores, will increase efficient and sustainable use of resources. JX Nippon Mining & Metals aims to continue contributing to the future of resource development through new technology research.



Bioreactor (microorganism culture equipment) established at Radomiro Tomic mine

#### ■ Copper Recovery Process (Hydrometallurgical Process) Using Biomining Technologies



## Efficient Production of Petrochemical Products from Limited Resources

As essential elements of people's lives, petrochemical products are used in many settings from familiar items such as clothes and daily necessities to cars, buildings and other structures. JX Nippon Oil & Energy is supplying petrochemical products that maximize the value added from oil through effective use of limited resources and by employing the extensive technologies and expertise acquired through all processes from crude oil procurement to petroleum refining and petrochemical product manufacturing.

What we have focused on throughout this is the development and practical application of next-generation high severity fluid catalytic cracking (HS-FCC), which is used to crack the low value-added residue produced during the oil refining process, and efficiently produce high value-added propylene and other petrochemical raw materials. The conventional fluid catalytic cracking (FCC) process is mainly used for producing gasoline raw materials by cracking residue and other oils in a high-temperature reaction with catalysts. HS-FCC on the other hand is a technology that enables high yield production of propylene and other products through the world's first practical application of a reactor vessel to efficiently crack residue in a higher-temperature, quicker reaction with catalysts.

We started developing the HS-FCC technology in the 1990s, and then through joint global research works conducted with Saudi Arabia in the 2000s, we built and operated a 30 barrel-per-day pilot plant in Saudi Arabia. After investigating the scaling up of the reactor, we built a 3,000 barrel-per-day semi-commercial plant at the Mizushima refinery. After three years of operation from fiscal 2011 through fiscal 2013, and achieving results that met our targets, we established it as a commercial technology. We are making great inroads towards practical application of this next-generation "Bottom to Chemical" technology that efficiently produces petrochemical raw materials from residue.



HS-FCC semi-commercial plant (approximately 70 meters high)

## Feature 4



Provision of relief supplies by the Caserones Copper Mine to victims of torrential rains in Chile



Presentation of inventory of relief supplies to Miguel Vargas, Intendant of the Atacama Region (center right) by Keiichi Goto, Deputy Chief Executive Officer of JX Nippon Mining & Metals and General Manager of its Chile Office (center left)

# Communication with Stakeholders

The JX Group actively creates opportunities for social contribution activities and conversations with shareholders and experts so as to enhance communications with our stakeholders.

## Community Contribution Activities at the Caserones Copper Mine in Chile

The Caserones Copper Mine (Chile), owned and operated by JX Nippon Mining & Metals, commenced production of copper concentrate starting May 2014. With the expected global increase in copper demand, it will continue to contribute in the long term to ensuring a stable supply of copper resources for Japan and economic development of Chile.

In operating large scale businesses such as mining, besides working on ensuring safety and preserving the environment, building deep trusting relationships with the local communities is a crucial corporate responsibility. To date, at the Caserones Copper Mine, we have put effort into improving the lives of neighboring residents, such as putting in place various types of infrastructure, and youth education targeted at improving employment of local residents.

The record torrential rains that hit Northern Chile at the end of March 2015, last seen 80 years ago, was a major disaster that caused floods in Atacama Region where the Caserones Copper Mine is located, resulting

in 31 dead, 23 missing, and about 7,000 residential homes damaged or destroyed. At the Mine, besides ensuring the safety of employees at the onset of the torrential rains, together with the local government, we supported in many forms to help the neighboring residents recover as early as possible, such as repairing of roads, supplies of food and water, removal of debris, and recovery of electricity, water supply and sewage facilities. In addition, JX Nippon Mining & Metals presented the Atacama Regional Government with about 500 thousand US dollars in household goods and other emergency supplies.

We aim to continue to be a good neighbor in our local communities, and contribute to the development of regions where our businesses are located through various activities.

## Organizing the “Symposium on Energy in the 21st Century”

JX Nippon Oil & Energy organized the 19th “Symposium on Energy in the 21st Century” in November 2014 to confer with various stakeholders on energy sources in the future. Using the theme “Unveiling Hydrogen Energy—Supply Infrastructure and the New Energy Society,” opinions were sought from government officials, academic scholars, private enterprises, and consumers, and discussions were carried out.

During the symposium, issues and solutions for the stages of hydrogen production, transportation, storage and utilization needed to realize a full-scale hydrogen society were discussed, and a common understanding of the future of hydrogen energy was achieved. We will continue to contribute to building a new energy society

by driving the development of infrastructure to supply hydrogen.



The 19th “Symposium on Energy in the 21st Century”





Completion Ceremony of Building at Nguyen Truong To Elementary School



School Building at Nguyen Truong To Elementary School

## Contributing to the Local Society in Vietnam

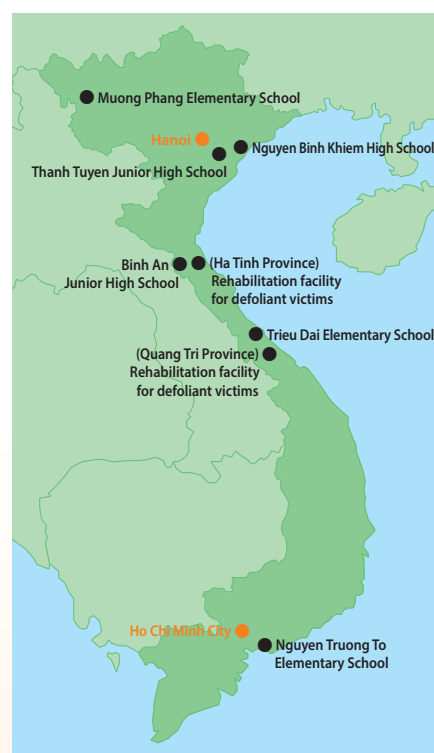
JX Nippon Oil & Gas Exploration contributes to the local communities in the various countries where we conduct our business. In Vietnam, one of our core business countries, with a view to providing education support for children for the future, we have been offering scholarships as well as donations for school building projects jointly with JX Nippon Oil & Energy. In addition, to assist youths suffering from disabilities due to defoliants spread during the Vietnam War to participate in society, we made donations covering the construction costs of rehabilitation facilities, and in 2014 received a commendation from the Vietnam Association for Victims of Agent Orange.



PC training at the rehabilitation facility

### Schools and Rehabilitation Facilities Established (construction costs fully covered by our donations)

2002	Muong Phang Elementary School in Dien Bien Province
2005	Rehabilitation facility for children in Gio Linh, Quang Tri Province
2007	Thanh Tuyen Junior High School in Ha Nam Province
2008	Binh An Junior High School in Ha Tinh Province
2009	Trieu Dai Elementary School in Quang Tri Province
2011	Rehabilitation facility providing vocational training to youths in Cam Xuyen, Ha Tinh Province
2012	Nguyen Binh Khiem High School in Hai Phong City
2013	Nguyen Truong To Elementary School in Ba Ria Vung Tau Province
2014	Trieu Dai Elementary School in Quang Tri Province (expansion of a school building)



## Communication with Shareholders and Investors

JX Holdings aims to strengthen its communication with its shareholders and investors, which are important stakeholders. We conduct a comprehensive set of investor relations (IR) activities to deepen understanding of our Group, such as facility tours of refineries and smelters for institutional investors and analysts, and meetings for individual investors.

As recognition of our attitude towards IR activities, JX Holdings was awarded the "2014 Awards for Excellence in Corporate Disclosure" in the categories of "Petroleum/Mining" and "Disclosure to Individual Investors" by the Corporate Disclosure Study Group of The Securities Analysts Association of Japan, making it the second year running that we received awards in the two categories. We also received the Award for Excellence in the main

category of the "Nikkei Annual Report Awards 2014" for our Annual Report 2014.

We conducted a securities analyst seminar for our employees to hear opinions on expectations and issues on the JX Group from the viewpoints of analysts.

We will continue to actively pursue IR activities to disseminate useful and meaningful information so as to enhance our corporate value through various events and IR tools.

# JX Group's CSR Management

## CSR Management

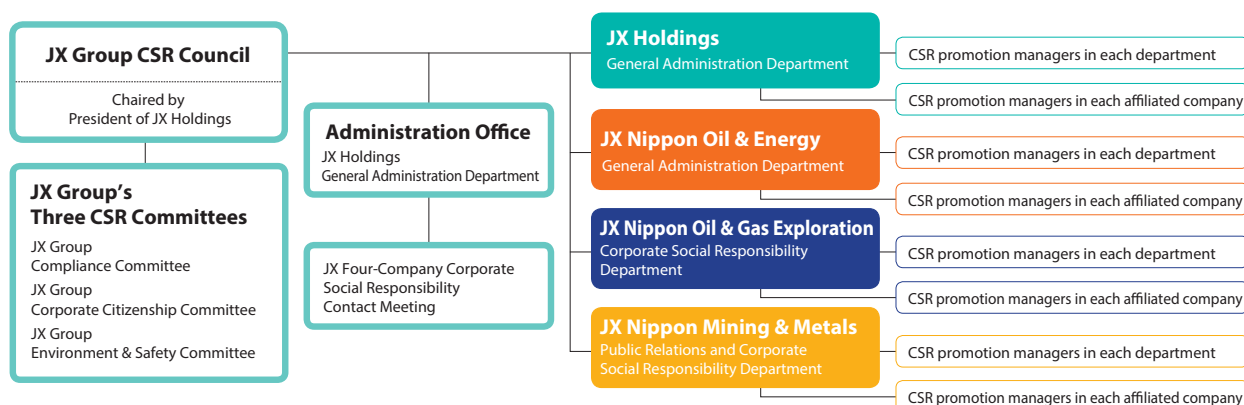
### Basic Approach

As a group of companies involved in the energy, resources and materials fields, which are vital for people's lives and economic activity, we believe that the embodiment of CSR is to ensure a stable and efficient supply of energy, resources and materials, as well as the implementation of the Mission Statement by every employee throughout the course of executing business operations. This is the JX Group's social responsibility. Based on this belief, we aim to establish a corporate group worthy of the trust of stakeholders, including shareholders and other investors, customers and employees.

## Implementation Structure

The JX Group established the JX Group CSR Council, chaired by the president of JX Holdings, to formulate and carry out the basic policy on CSR and oversee and coordinate CSR measures throughout the Group. We designated three priority fields for CSR: (1) compliance (including information security and human rights), (2) social contribution, and (3) environment and safety. Group CSR committees have been established for each field, and the committees act as advisory bodies to the chairman of the JX Group CSR Council. Each committee deliberates and makes reports on working-level business operations and shares information. Furthermore, group CSR promotion managers are assigned to each workplace and cooperate with the department responsible for CSR in each company, working on the front lines of CSR implementation organizations to manage CSR in the workplace.

### JX Group CSR Implementation Structure



## Implementing Employee CSR Surveys

In regard to CSR, the JX Group periodically conducts an awareness survey that touches upon areas such as the JX Group Mission Statement. This is based on our belief that each of our employees is responsible for supporting our activities to contribute to the development of a sustainable economy and society.

In fiscal 2014, shared issues across the entire Group were extracted from the second CSR survey conducted in September 2013, and efforts were placed to raise awareness through measures such as the message by the management, and training based on e-learning methods, with importance placed on "improving risk awareness," "exerting independence," and "integrating the Mission Statement into business operations."

In July 2015, we conducted the third CSR survey, and the achievements of our activities to publicize our CSR activities and educate on CSR will be continually monitored through analysis such as comparisons with past years and with other companies.

## Organizing the JX Group CSR Promotion Managers Workshop

In November 2014, about 130 CSR promotion managers of the JX Group got together and organized the "JX Group CSR Promotion Managers Workshop" to make employees and officers understand more about CSR and share information. Using specific measures adopted by JX Holdings to handle shared issues faced across the Group based on the results of the second CSR survey, the workshop focused on items such as formulating a code of conduct specifying the detailed actions of the Group Values in an easy-to-understand manner, and sharing e-learning content. In addition, Associate Professor Masaatsu Doi from Hosei University Graduate School gave a lecture on "Stakeholder Relations Expected from Enterprises" that not only built relationships of mutual trust with stakeholders, but also provided a good opportunity to deepen expertise.



Lecture by Associate Professor Doi

## Priority Fields and Results of Activities

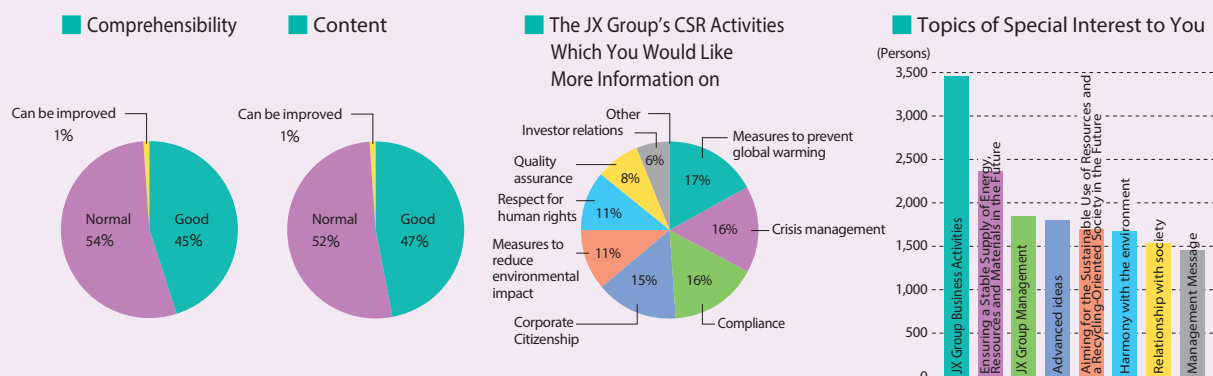
Group companies worked on the steady implementation of the priority fields designated by the JX Group's three CSR committees for fiscal 2014. Activities undertaken for priority fields for each fiscal year are reported to the

JX Group CSR Council, while the content of reports on priority fields for the following fiscal year are determined by individual committees, and the entire JX Group employs the PDCA cycle to carry out these CSR measures.

### Priority Fields and Results of Activities

	FY2014		FY2015
	Priority Fields	Results of Main Activities	Priority Fields
<b>JX Group Compliance Committee</b>	<ul style="list-style-type: none"> <li>Enhance the quality of compliance status checks</li> <li>Reinforce systems to prevent corruption and ensure compliance with competition law</li> <li>Establish internal whistle-blowing systems at overseas offices and plants</li> </ul>	<ul style="list-style-type: none"> <li>Enhanced checklists used for compliance status checks; improved precision of discovering issues through organizing workshops on past cases, etc.</li> <li>Strengthened regulations and organized workshops and training sessions related to anti-corruption and compliance with competition law</li> <li>Established central reporting window for the JX Group's overseas offices and plants</li> </ul>	<ul style="list-style-type: none"> <li>Implement compliance status checks steadily (focusing on: internal regulations; information security; systems to prevent corruption and ensure compliance with competition law)</li> <li>Enhance compliance training</li> <li>Establish the internal whistle-blowing system at domestic and overseas offices and plants, and make the system known to all.</li> </ul>
<b>JX Group Corporate Citizenship Committee</b>	<ul style="list-style-type: none"> <li>Provide support for children who are our future</li> </ul>	<ul style="list-style-type: none"> <li>Implemented JX Group volunteer activities for "Connect to the Future" targeted at children</li> <li>Donated copies of the collection of children's stories <i>The Bouquet of Children's Stories</i> published by the JX Group to institutions nationwide such as welfare facilities (extending distribution across the Group)</li> <li>Organized activities targeted at school children, such as environmental classes (18 schools) and basketball clinics (74 times), at various locations nationwide (JX Nippon Oil &amp; Energy)</li> <li>Implemented educational support in Vietnam, such as donations to rebuild kindergarten buildings (JX Nippon Oil &amp; Gas Exploration)</li> <li>Provided tours of facilities and plants, and school visits targeted at elementary, junior high and high school students; taking in of internship students (JX Nippon Mining &amp; Metals)</li> </ul>	<ul style="list-style-type: none"> <li>Provide support for children who are our future</li> </ul>
<b>JX Group Environment &amp; Safety Committee</b>	<ul style="list-style-type: none"> <li>Operate JX Group EMS</li> <li>Follow-up on the FY2013–2015 JX Group Medium-Term Environmental Management Plan</li> <li>Promote safety-related activities</li> </ul>	<ul style="list-style-type: none"> <li>Continuously monitored EMS operation status</li> <li>Followed up on attainments of the FY2013–2015 JX Group Medium-Term Environmental Management Plan</li> <li>Conducted information sharing and exchange of opinions within the Group</li> </ul>	<ul style="list-style-type: none"> <li>Operate JX Group EMS</li> <li>Follow-up on the FY2013–2015 JX Group Medium-Term Environmental Management Plan</li> <li>Promote safety-related activities</li> <li>Formulate the FY2016–2018 JX Group Medium-Term Environmental Management Plan</li> </ul>

### "JX Report for a Sustainable Future 2014" Survey Results



The JX Group conducts annual surveys on its "JX Report for a Sustainable Future," and received 5,430 responses for "JX Report for a Sustainable Future 2014." The overall evaluation for the report largely ranged from normal to good in terms of ease of understanding, volume, content, and design. For content, the "JX Group Business Activities"

that was included from 2014's report was evaluated as the topic of special interest to most. The 2015 report aims to use such opinions and requests to enhance the content of communications with our stakeholders.

### Selected for "Nadeshiko Brand" as an Enterprise that Encourages Empowerment of Women

JX Holdings was selected in March 2015 for the "Nadeshiko Brand" (jointly selected by the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange to publicize enterprises that are exceptional in encouraging women's success in the workplace). The designation as a "Nadeshiko Brand" is recognition of our stance to encourage empowerment of women as being important to changing the organization into one with diverse and flexible thinking. One example is the "Goodbye Overtime—Action 8" initiative by JX Nippon Oil & Energy which optimized working hours so as to achieve work-life balance.

The JX Group works to create a working environment where all employees, regardless of sex or age, can exhibit their full capabilities.



"Diversity Management Selection 100" award ceremony and announcement of "Nadeshiko Brand"



# Third-Party Opinion



## Masaatsu Doi

Associate Professor  
Social Services, Graduate School of Social Well-Being Studies  
Hosei University

Associate Professor Doi earned his undergraduate degree from the Hitotsubashi University Faculty of Economics and completed his doctoral degree at the Hitotsubashi University Graduate School of Commerce and Management. He became an associate professor in the Faculty of Regional Policy of Takasaki City University of Economics in 2009 and began his current position at Hosei University in 2014. He holds a Doctorate of Commercial Science. He is the co-author of *CSR Management: Corporate Social Responsibility and Stakeholders*, and *The Creation and Diffusion of Social Innovation*, published by CHUOKEIZAI-SHA, Inc. and NTT Publishing Co., Ltd., respectively.

The petroleum industry suffered huge inventory valuation losses due to the sudden drop in crude oil prices, and the JX Group was also heavily affected, but even under such circumstances, it continued to steadily build its CSR implementation structure. Below, I will provide an evaluation of this year's report and some proposals for areas of study, as JX Holdings enters its sixth year since integration and moves into the next stage of being an integrated energy, resources and materials business.

There are two characteristics to this year's report. First is the separation into the "Highlights" and "Performance Report" to make the report easier for readers to understand. This is especially so for the "Highlights," which was designed for easy browsing by external stakeholders such as individual investors and business partners. Second is the sorting of CSR issues across the entire JX Group. In pages 7–8 of the "Highlights," the Group's business activities and CSR issues have been arranged from upstream to downstream, making it easy to see the big picture. By looking at business activities from this new perspective, it is possible to reexamine the activities for each CSR issue, rethink the CSR approaches expected at the global and local levels, and find out which are the areas that are lagging behind. I look forward to this "sketch" being slowly evolved in subsequent years.

Initiatives such as the "Goodbye Overtime—Action 8" promoting work-life balance were also recognized, with the Group being selected for the "Nadeshiko Brand" in 2014 as being one of the listed companies on the First Section of the Tokyo Stock Exchange that is exceptional in supporting and disclosing information on women's success in the workplace. I hope that the Group will continue not only to support women but also promote diversity in its working environment, regardless of sex, age and race, to further improve its competitiveness.

On the other hand, I would like to propose three areas of study for the future promotion of the Group's CSR management.

## (1) Enhancing and Expanding the "Performance Report"

Compared to the previous year's report, while the annual data has been rearranged and expanded, such as the trend for frequency of industrial accidents and the accident severity rate, I hope it can state how the Group perceives the society-related data and what its goals are, similar to the environmental management plan. In addition, besides explaining an organization chart, I hope the Group can provide details of its performance in corporate governance—including the use of governance code—to cater to various stakeholders including professionals.

## (2) Stating the Relationship Between CSR Issues and the Stakeholders

While the relationship between the Group's overall business activities and CSR issues can be clearly seen in this year's report, I hope it can go one step further and explore the relationship between each business stage and the stakeholders. For example, how the relationship between the energy business and the 10,800 service stations across the nation is built, what are the issues that arise from this, and how the Group as a whole perceives the issues. Furthermore, how it builds relationships with oil-producing countries, and what is the Group's basic approach in dealing with governments (such as responding to renewable energy laws). As it may be difficult to disclose all these in one report, I hope it can use the sketch provided this time as a base and include it as part of the "Communications with Stakeholders" (pages 21–22 of the "Highlights") in future annual reports.

## (3) Undertaking and Promoting CSR Procurement

This is related to (2) above. While CSR procurement was listed as a CSR issue for the electronic materials process in the metals business (page 8 of the "Highlights"), I hope the Group can further develop its current green procurement to formulate CSR procurement policies and guidelines for its entire supply chain and set an example for the industry to follow. Although monitoring of formulated policies and responding to individual issues that may arise will not be easy, such issues pertaining to individual department needs to be understood by the entire Group, and is also part of risk management.

The Group's aim for 2020 is to be one of the world's largest integrated energy, resources and materials business groups. Facing the above issues may be a challenging task, but as the Group moves from the integration phase into the evolutionary phase, I hope the Group is able to use this to further enhance its total corporate value and competitiveness.

## Response to Third-Party Opinion

We are very grateful for Associate Professor Doi's valuable opinions concerning the JX Group's CSR initiatives and proposals on how we can be improved.

The JX Group promotes diversity to enhance its corporate value, with the ultimate goal to create an environment where everyone can demonstrate his or her fullest abilities regardless of sex, age, nationality, and a personal history. We are very honored to receive Associate Professor Doi's evaluation on this matter.

Regarding the proposals to enhance information disclosure and the promotion of CSR procurement along our entire supply chain, we will sort out the relevant issues and work to meet the wide-ranging expectations of our stakeholders.

Fiscal 2015 is the year where we formulate our Third Medium-Term Management Plan which will commence in fiscal 2016, and our long-term vision working towards 2030. We will continue to resolve various social issues and earnestly promote CSR activities as a premise for our business development.

## Ichiro Yamamoto

Executive Officer and General Manager  
General Administration Department  
JX Holdings, Inc.



# Guide to JX Group Websites

JX Group companies, including JX Holdings, Inc. and the three core operating subsidiaries, disclose a variety of CSR-related information on our websites. Please feel free to have a look at the information on these websites.

## JX Holdings

JX Holdings ▶ Corporate Social Responsibility  
<http://www.hd.jx-group.co.jp/english/csr/index.html>



- ▶ Top Message
- ▶ JX-ENEOS Children's Story Award
- ▶ JX Group Volunteer Activities for Passing on Hope for the Future
- ▶ JX Group CSR Reports
- ▶ CSR Activities at Core Operating Companies

### Other Related Information about JX Holdings

#### >Corporate Profile

- JX Group Mission Statement
- Management Message
- Management Strategy
- Corporate Data
- Executives
- Organization
- Corporate History
- Group Companies

#### >Investor Relations

- Management Policies
- Financial Highlights
- IR Library
- Shareholder & Stock Information

#### >About JX the Group

- JX Group Mission Statement
- Establishment of the JX Group
- Objectives and Basic Concept
- Business Integration Disclosure Materials

## JX Nippon Oil & Energy

<http://www.no.e.jx-group.co.jp/english/index.html>



- ▶ Corporate Profile
- ▶ CSR Report
- ▶ Products

## JX Nippon Oil & Gas Exploration

JX Nippon Oil & Gas Exploration

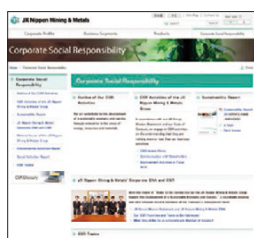
▶ CSR (Safety, Environment, Social Contribution and Compliance)  
<http://www.nex.jx-group.co.jp/english/environment/index.html>



- ▶ President's Message
- ▶ HSE Policy
- ▶ HSE Management System
- ▶ Operations Safety
- ▶ Environment
- ▶ Social Contribution
- ▶ Compliance and Human Rights Awareness
- ▶ Our Measures to Support Raising Children of The Next-Generation

## JX Nippon Mining & Metals

JX Nippon Mining & Metals ▶ Corporate Social Responsibility  
<http://www.nmm.jx-group.co.jp/english/sustainability/index.html>



- ▶ Outline of Our CSR Activities
- ▶ CSR Activities of the JX Nippon Mining & Metals Group
- ▶ Sustainability Report
- ▶ JX Nippon Mining & Metals' Corporate DNA and CSR
- ▶ Material Issues of the JX Nippon Mining & Metals Group
- ▶ Environmental Activities Report
- ▶ Social Activities Report
- ▶ CSR Topics

## NIPPO CORPORATION

NIPPO

▶ About NIPPO

<http://www.nippo-c.co.jp/english/aboutnippo/csr.html>

- ▶ Quality Policy
- ▶ Environmental Policy
- ▶ CSR

## TOHO TITANIUM CO., LTD.

TOHO TITANIUM CO., LTD. ▶ About Us

[http://www.toho-titanium.co.jp/en/about/local\\_en.html](http://www.toho-titanium.co.jp/en/about/local_en.html)

- ▶ Quality and Environmental Management System
- ▶ CSR

## The UN Global Compact's Ten Principles

Human Rights		
Principle 1	Businesses should support and respect the protection of internationally proclaimed human rights; and	Performance Report p. 4
Principle 2	make sure they are not complicit in human rights abuses.	Performance Report p. 4
Labour		
Principle 3	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	Performance Report p. 4
Principle 4	the elimination of all forms of forced and compulsory labour;	Performance Report p. 4
Principle 5	the effective abolition of child labour; and	Performance Report p. 4
Principle 6	the elimination of discrimination in respect of employment and occupation.	Performance Report p. 4, p. 8
Environment		
Principle 7	Business should support a precautionary approach to environmental challenges;	Performance Report pp. 5-6, 13-16
Principle 8	undertake initiatives to promote greater environmental responsibility; and	Performance Report pp. 5-6, 10, 13-16
Principle 9	encourage the development and diffusion of environmentally friendly technologies.	Performance Report pp. 5-6
Anti-corruption		
Principle 10	Businesses should work against corruption in all its forms, including extortion and bribery.	Performance Report pp. 3-4, 12





## JX Holdings, Inc.

6-3 Otemachi 2-chome, Chiyoda-ku, Tokyo 100-8161, Japan

From January 1, 2016, it will shift to this new address.

1-2 Otemachi 1-chome, Chiyoda-ku, Tokyo 100-8161, Japan

<http://www.hd.jx-group.co.jp/english/>

General Administration Department

Inquiries (e-mail): [csr@hd.jx-group.co.jp](mailto:csr@hd.jx-group.co.jp)

After you have read the JX Report for a Sustainable Future 2015, feel free to submit any opinions or comments you may have via email.



Network Japan  
WE SUPPORT



モーニングスター社会的責任投資株価指数  
Morningstar Socially Responsible Investment Index

The Morningstar Socially Responsible Investment Index, in which JX Holdings is included (as of the end of September 2015), comprises 150 noteworthy socially responsible companies selected from Morningstar Japan K.K. from among publicly-traded companies in Japan to create an index from their share prices. This is Japan's first socially responsible investment index.



The Nadeshiko Brand is a joint program of the Ministry of Economy, Trade and Industry (METI) and the Tokyo Stock Exchange (TSE) that selects and announces listed companies that excel in encouraging women's success in business (40 companies were selected in FY2014).



This report was printed using an environmentally friendly waterless printing process and vegetable oil ink. In support of the Kizukai Undo (Tree-Use Movement) promoted by Japan's Forestry Agency, JX Holdings has printed this report on "3.9 paper," made from wood produced through forest thinning in areas where the JX Group is engaged in forest maintenance. This contributes to increased absorption of CO<sub>2</sub> by Japanese forests.

# **JX Report**

## **for a Sustainable Future 2015**

Performance Report

**The Future of Energy,  
Resources and Materials**

**JX Holdings, Inc.**





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## Editorial Policy

This report was prepared by JX Holdings, Inc. to introduce the JX Group's ideas and initiatives on corporate social responsibility (CSR). From this year onwards, the report will comprise two parts: the booklet named "Highlights" which aims to deepen communications with our stakeholders—including shareholders, investors, customers, employees, business partners and local communities—and deepen their understanding about the JX Group, and the other named "Performance Report" (PDF) which aims to fulfill our accountability to all stakeholders.

### Scope of Report

JX Holdings, Inc. and its 11 main Group companies  
JX Nippon Oil & Energy Corporation and its 20 main Group companies  
JX Nippon Oil & Gas Exploration Corporation and its 32 main Group companies  
JX Nippon Mining & Metals Corporation and its 68 main Group companies  
The scope of quantitative information is defined in notes on each page.

### Reporting Period

In principle, the report covers the period from April 2014 to March 2015. However, some information from April 2015 onwards is also included, as necessary.

### Publication Date

December 2015 (Previous issue: December 2014; Next issue: December 2016)

### Guidelines Used as Reference

- The Sustainability Reporting Guidelines, Version 3.1, Global Reporting Initiative (GRI)
- The Environmental Reporting Guidelines (2012 Edition), Ministry of the Environment, Japan
- The GRI Mining and Metals Sector Supplement

In the Performance Report, the JX Group Values section reports on several representative activities we are conducting in accordance with the Group's five EARTH values.

The JX Group companies, including JX Holdings and the three core operating subsidiaries, disclose information on various CSR activities on their company websites. Please take time to visit them.

### Enhancing Reporting Reliability

The quantitative environmental information data on pages 13–16 has been assured by an independent body to ensure objective and reliable reporting.

### Inquiries

JX Holdings, Inc.  
6-3 Otemachi 2-chome, Chiyoda-ku, Tokyo 100-8161, Japan  
From January 1, 2016, it will shift to this new address.  
1-2 Otemachi 1-chome, Chiyoda-ku, Tokyo 100-8161, Japan  
<http://www.hd.jx-group.co.jp/english/>  
General Administration Department (e-mail) [csr@hd.jx-group.co.jp](mailto:csr@hd.jx-group.co.jp)

### Cautionary Statement regarding Forward-Looking Statements

This notice contains certain forward-looking statements, however, actual results may differ materially from those reflected in any forward-looking statement, due to various factors, including but not limited to the following: (1) macroeconomic conditions and changes in the competitive environment in the energy, resources, and materials industries; (2) changes in laws and regulations; and (3) risks related to litigation and other legal proceedings.

## JX Group Mission Statement

### JX Group Slogan

**The Future of Energy,  
Resources and Materials**

### JX Group Mission Statement

The JX Group will contribute to the development of a sustainable economy and society through innovation in the areas of energy, resources and materials.

### JX Group Values

Our actions will respect the **EARTH**

**Ethics**

**Advanced ideas**

**Relationship with society**

**Trustworthy products/services**

**Harmony with the environment**

### About JX

The name "JX" is the brand that symbolizes the JX Group's existence and presence. The letter "J" represents our position as one of the world's largest integrated energy, resources and materials business groups from Japan, while the letter "X" represents our willingness to pioneer new frontiers, our future growth and development potential, and our pursuit of creativity and innovation.

### About the JX Corporate Brand Mark

The JX corporate brand mark symbolizes the continuity of the

global environment and the JX Group based on the JX Group's mission statement. The design, in which the "JX" logo overlaps with a sphere, represents the JX Group's commitment to a green earth—i.e., our contribution to the development of a sustainable economy and society, through innovation in the areas of energy, resources and materials.

\* The JX corporate brand mark is common to JX Holdings, Inc., JX Nippon Oil & Energy Corporation, JX Nippon Oil & Gas Exploration Corporation and JX Nippon Mining & Metals Corporation



# JX Group Values Report

The JX Group continues to conduct activities based on the JX Group values the **EARTH**.

## What does the **EARTH** mean to me?



### Ethics

For the JX Group to conduct our business globally, compliance is the main premise of our business activities and cannot be lacking. In recent years, the JX Group is actively raising the awareness of compliance such as adopting a set of basic policies across the entire JX Group for legal compliance, focusing on the prevention of bribery and cartel, of which regulations and exposure are strengthened globally. As a member of the legal department, I would like to make contribution to such compliance activities, too.



**Masahide Tamura**

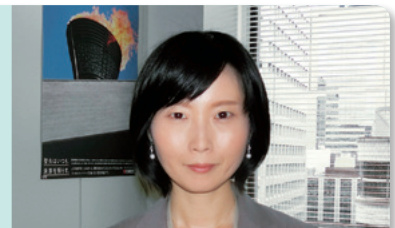
Legal & Corporate Affairs Group  
Legal & Corporate Affairs Dept.  
JX Holdings, Inc.



### Advanced ideas

The Tokyo 2020 Olympic and Paralympic Games is a major event, since it will be the first time in half a century that the Summer Olympics will take place in Japan. I hope everyone can be personally involved in the Tokyo 2020 Games through contributing innovative ideas, interacting with companies from other fields, promoting synergy between departments and launching activities only made possible because of this special event.

\* JX Nippon Oil & Energy is a Tokyo 2020 Olympic and Paralympic Games Gold Partner in the "Oil, Gas & Electricity Supply Services" category



**Noriyo Ishimaru**

Tokyo 2020 Olympic and Paralympic Games Promotion Group  
Corporate Planning & Management Department  
JX Nippon Oil & Energy Corporation



### Relationship with society

We place great importance on our links with local communities through participation in various social activities. When we visited an orphanage as part of these activities, the presentation by the children to show their appreciation for us left a deep impression on me. While these activities are not directly linked to our business, I was very touched and there is nothing that can replace the words of "thank you" from the children. I will continue to actively participate in such activities as a member of the local community.



**DE MESA, Gellen C.**

Sr. HR  
JX Nippon Mining & Metals Philippines, Inc.



### Trustworthy products/ services

I'm in charge of the accounting and taxation for the JX NOEX Group. Our company runs exploration and development of oil and gas projects. To provide information more accurate and faster, I share any small issues with the concerned parties in my daily work. I believe that the accumulation of steady efforts will lead to high quality.



**Sayumi Harada**

General Accounting Group, Contract Department 3  
JX Nippon Business Services Corporation



### Harmony with the environment

Having worked in the oil and gas industry for many years I firmly believe that we must respect the environment in which we operate. We create value for our shareholders whilst contributing to the ever increasing demand for energy, in a safe and environmentally responsible way. We work in a highly regulated industry where we cannot afford to be complacent; we learn lessons and continuously improve through the systematic application of our HSE management systems. Our goal is to act in harmony with the environment whilst creating a sustainable future for our company and the communities in which we operate.



**Arthur Spence**

Head of Production, Operations & HSE  
JX Nippon Exploration and Production (U.K.) Limited





To achieve thoroughness of compliance and strengthening of risk management in all business activities through respecting human rights, founded on decisions and actions based on ethics.

## Compliance

### Basic Approach

The JX Group has declared a policy to establish internal rules to ensure thorough compliance, and laws, the Articles of Incorporation and internal rules shall be observed in every aspect of work performance.

In accordance with this policy, the JX Group established the JX Group Compliance Committee to review the results of compliance measures throughout the Group, set the direction of future measures based on the review, and consider issues that need to be addressed by the Group as a whole.

The Group also has an internal whistle-blowing system in place for identification of a conduct that is or may be in violation of laws or regulations and remediation of such conduct at an early stage.

### Priority Compliance Action Items

In order to reduce the legal risks that may occur with the expansion of overseas business by the JX Group companies, in October 2013, the JX Group adopted the JX Group Compliance Activity Basic Policies, a systematic statement of compliance measures in accordance with global standards, and began implementing those regulations. In April 2014, the Group established internal rules setting forth a group-wide basic policy concerning the prevention of corruption and conduct on restraint of competition, areas in which regulation is becoming stricter around the world, and took measures to further strengthen its compliance systems.

In addition, the Group specified improvement in the quality of compliance status checks as a group-wide priority action item and took further measures for the appropriate identification of problems, early correction, and follow-up.

Individual Group companies also implemented a variety of measures including confirmation of compliance systems and the status of measures at overseas offices and plants.

### Implementation of Compliance Training

To raise awareness of compliance, the JX Group conducted compliance training for all JX Group executives and employees.

JX Nippon Oil & Energy conducts compliance training regularly to enhance employees' legal knowledge. In addition, anti-bribery training was conducted 16 times both within and outside Japan for departments where the risk of corruption is high; approximately 700 employees attended this training.

The JX Nippon Oil & Gas Exploration Group is working to thoroughly ensure compliance by holding training workshops explaining anti-bribery guidelines aimed at head office executives and managers, and by conducting training sessions to explain rules for documents and compliance overall to executives and employees, in addition to conducting seven training workshops to enhance overall knowledge on relevant agreements in upstream oil and gas business.

In fiscal 2014, the JX Nippon Mining & Metals Group conducted a total of 41 legal training sessions, separately done by hierarchy of positions and workplaces, attended by a total of 1,300 employees to enhance compliance knowledge and awareness. In addition, internal rules for anti-corruption were established, and a total of 16 training sessions were conducted domestically and overseas for 350 employees to help them understand these rules.

### Cooperation with and Support for the Extractive Industries Transparency Initiative

The Extractive Industries Transparency Initiative (EITI) is an international framework that seeks to prevent corruption and conflicts, provide the foundations for sustainable economic growth, and encourage resource development that leads to reductions in poverty by increasing the transparency of the flows of funds from extractive industries (industries involved in the development of resources such as oil, natural gas, and minerals) to the governments of resource possessing countries. JX Nippon Mining & Metals is in agreement with the principles of EITI and supports its activities.

## Internal Whistle-Blowing System

Considering that it may be difficult for individual worksites to independently resolve issues regarding conduct that is or may be in violation of laws and regulations, the JX Group established "Compliance Hotline," an internal whistle-blowing system. Use of the system is available to all personnel who work within the JX Group including temporary employees and employees of contractors, who are guaranteed that they will not be subject to any detrimental treatment as a result of making reports.

The JX Group Whistle-Blowing Systems Basic Policies were adopted in January 2013 to make it possible for whistleblowers to remain anonymous and to introduce Group Reporting that allows reports of legal violations by a Group company to be reported to any company, enhancing the system. In addition, we allowed overseas offices and plants to develop and implement internal whistle-blowing systems that take into account local and regional laws, customs and culture. We also established common reporting window that can be used the JX Group's overseas offices and plants.

## Human Rights

### Basic Approach

The JX Group recognizes that achieving corporate behavior firmly rooted in highly ethical values ultimately rests on the actions of its individual executives and employees. Accordingly, the JX Group strives for labor, personnel management, and human resource development underpinned by respect for human rights.

The JX Group strives to cultivate strong ethical values among its executives and employees by respecting international rules such as the Universal Declaration of Human Rights and the ILO Conventions, and providing them with supportive environments for performing meaningful work. The individual policies and specific measures are decided based on Group company business characteristics and scale.

Also, JX Holdings is fostering a management class with highly ethical standards through specific training for executives at each Group company and joint training for managers across the Group.

## Supporting the UN Global Compact

JX Holdings and its three core operating subsidiaries are participants in the United Nations Global Compact, implementing and promoting the Compact's Ten Principles in the four areas of human rights, labor, the environment and anti-corruption.

▶ Please refer to page 26 of the "Highlights" for the UN Global Compact's Ten Principles.

## Effective Abolition of Forced Labor and Child Labor

The JX Group complies with local laws and regulations at all domestic and overseas sites and strives to engage in proper human resource management including the prohibition of all forms of forced labor and the rigorous confirmation of the age of employees at the time of hiring so as to effectively abolish child labor.

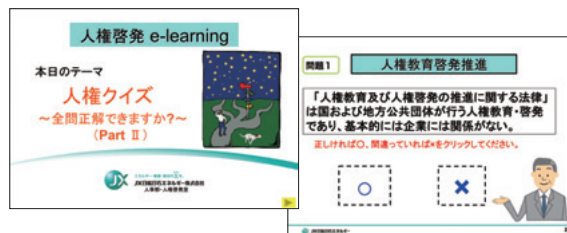
## Human Rights Training

The JX Group regularly conducts various types of training in order to raise the awareness of each employee concerning human rights issues.

JX Nippon Oil & Energy conducts regular e-learning sessions on human rights for all employees, including at affiliated companies. In addition, personnel rank-based training aimed at new employees and newly appointed personnel, and training for sites and affiliated companies are conducted about 40 times annually.

JX Nippon Oil & Gas Exploration gave a training workshop on human rights lectured by an outside expert in March 2015. The training workshop was conducted twice under the theme "The Workplace Can Change with Awareness and Behavior of Each and Everyone" and attended by a total of 136 persons.

JX Nippon Mining & Metals held a lecture attended by 29 persons in June 2015 on "Business Activities and Human Rights" targeted at those responsible for promoting CSR. In addition, based on the lecture material, some trainees conducted identical training at their worksites.



Human rights e-learning at JX Nippon Oil & Energy



Human rights workshop at  
JX Nippon Oil & Gas Exploration



# Advanced ideas

By using advanced ideas and continuing to undertake the challenges of cutting-edge research and development and technologies, we will create technologies, products, and services that support solutions to societal issues and make broad contributions to society.

## Technology and R&D

### Basic Approach

With advanced nations leading the move to structure low-carbon, recycling-oriented societies amid growing awareness of the urgent need to address global environmental problems, the role of the energy, resources and materials industry has become more important than ever before.

Guided by its Group mission statement to “contribute to the development of a sustainable economy and society through innovation in the areas of energy, resources and materials,” the JX Group is aggressively pursuing technology development in each of its business domains. At the same time, we are advancing joint research and demonstration tests in collaboration with public institutions, universities and other entities.

JX Holdings also creates synergies by developing and promoting technologies and development infrastructure across the entire Group and by integrating technologies within the Group.

annual capture capacity of 1.6 million tons of CO<sub>2</sub> emitted into the atmosphere from the power plant.

We will start commercial operation of the CO<sub>2</sub> capture plant and begin the CO<sub>2</sub> injection into the West Ranch oil field. The oil production at the field is expected to boost from around 500 barrels per day to approximately 12 thousand barrels per day (the average output during the project) and the oil field is estimated to hold approximately 60 million barrels of cumulative production increase. Of the CO<sub>2</sub>-EOR (Enhanced Oil Recovery) initiatives that aim to increase oil production by injecting CO<sub>2</sub> into an oil field, the method to be used in this project is innovative because it will utilize CO<sub>2</sub> emitted from a coal-fired power plant. CO<sub>2</sub>-EOR stores CO<sub>2</sub>, a cause of global warming, in underground reservoirs. At the same time, it also facilitates an increase in oil recovery.

JX Nippon Oil & Gas Exploration Corporation has been focusing on enhanced oil recovery as a core technology. One such project was the CO<sub>2</sub>-EOR pilot test at the Rang Dong Oil Field offshore Vietnam in 2011, conducted together with Japan Oil, Gas and Metals National Corporation (JOGMEC) and PETROVIETNAM, the state oil company of Vietnam. We will continue to develop our business in harmony with the environment together with advanced ideas.

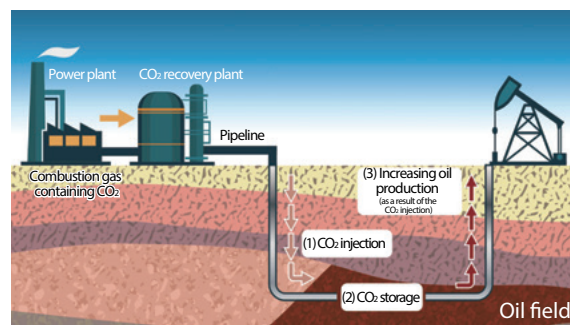
\* JX Nippon Oil & Gas Exploration holds a 25% interest in the West Ranch oil field through a 50:50 joint venture with NRG

## Implementation of Project to Increase Oil Production While Reducing CO<sub>2</sub>

JX Nippon Oil & Gas Exploration announced in July 2014 that it launched in the United States a project in which a plant would be constructed to capture carbon dioxide (CO<sub>2</sub>) in the processed flue gas from a coal-fired power generation plant and the captured CO<sub>2</sub> would be injected into an oil field to increase oil production. It is an epoch-making project that will increase oil production while concurrently reducing CO<sub>2</sub> emitted into the atmosphere from a coal-fired power generation plant.

The project is a joint venture with NRG Energy Inc. (NRG), a major independent power producer of the United States. The world’s largest plant to capture CO<sub>2</sub> from processed flue gas will be built at the W.A. Parish coal-fired power generation plant of NRG in Texas, and in order to increase oil production, captured CO<sub>2</sub> will be injected into the West Ranch oil field,\* also located in Texas, in which JX Nippon Oil & Gas Exploration holds an interest. Meanwhile, this scheme has an

### Project Concept





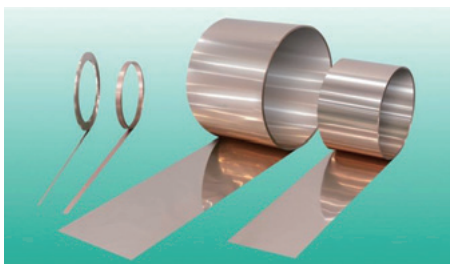
## Manufacturing and Development of Electronic Materials to Meet Market Needs

Electronic materials manufactured and sold by the electronic materials business of JX Nippon Mining & Metals are used in various electronic components for IT equipment and in-vehicle electric devices. As the demand for further miniaturization and better performance of electronic components increases with the advancement of society including popularization of the Internet of Things (IoT), the company is enhancing product development to meet to such requirements. The Functional Materials Division, in charge of the development of products such as copper foil used in circuit boards and copper alloy strips for connectors, established the Market Development Office (present Market Development Department) in 2013 to unify its marketing function which used to be carried out separately for each product. Through this reorganization, the division was able to bring its capabilities in pioneering new markets and new applications to a higher level, accelerating the development of products to meet market needs.

As a group of experts on functional materials, the Market Development Department accepts each and every request from customers so that they can be reflected in the development of products. Such activities produce a positive cycle that further enhances the ability to make proper proposals, expanding the scope of use for the JX Nippon Mining & Metals Group's electronic materials. Recently, there are increasing cases of direct requests for proposals regarding materials from the design departments of customers manufacturing IT equipment and in-vehicle electric devices. Besides utilizing the JX Nippon Mining & Metals Group's knowledge on electronic materials, it also provides precious opportunities for the Group to consider the direction of its future developments. In the future, focus will continue to be placed on developing products that widely leverage input from customers.



Treated rolled copper foil used in electronic devices



Titanium copper foil with high tensile strength

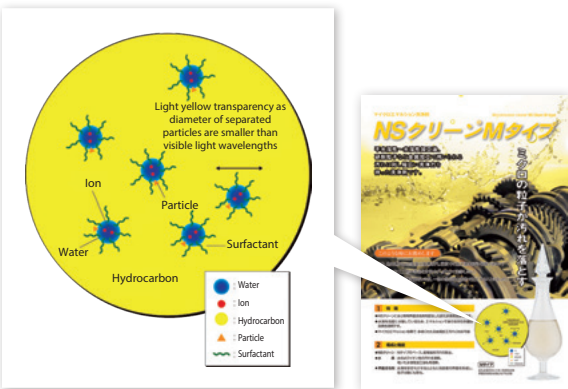
## Balancing Environmental Friendliness and Convenience in Cleaning Solvents

With rising environmental awareness and industries switching to products with less environmental impact, JX Nippon Oil & Energy developed an environmentally and workplace friendly cleaning solvent, NS Clean®, which is a highly functional hydrocarbon cleaner that does not contain ozone depleting substances (specific CFCs and trichloroethane). For over 20 years, NS Clean® has established a reputation for its high level of environmental friendliness and safety. Also, as part of the move to promote this series overseas, dedicated personnel were dispatched to Mexico in July 2015 so as to strengthen the product and service supply system.

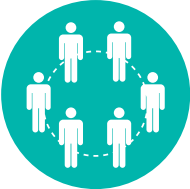
NS Clean® M Type won the Machinery Component Award at the “Cho’ Monodzukuri Innovative Parts and Components Award 2014” sponsored by the Conference for the Promotion of MONODZUKURI and Nikkan Kogyo Shimbun Ltd. The award aims to recognize the strengths of Japan’s manufacturing sector and contribute to the development of the industry and society, focusing the award system on the *en no shita no chikara-mochi* (this is a proverb in Japanese meaning “it is worthy to support others behind the scene”) existence of components and materials.

NS Clean® M Type is a micro-emulsion cleaner formulated with water and special surfactants in a hydrocarbon base. NS Clean® M Type can remove water- and oil-based contaminants, fine particle dirt and a variety of other substances at the same time. When cleaning metal components, it used to be that the user had to choose the right type of cleaner depending on the type of substance involved. Our M Type represents a breakthrough in that it can be used without having to determine the type of contaminant or sort the parts beforehand, which makes the cleaning process a lot easier. Being able to satisfy our customers’ needs such as “The working oil used in the previous stage cannot be identified or narrowed down.” “It would be good to be able to clean differently processed parts together.” with our technological capability led to winning the award.

In fiscal 2014, JX Nippon Oil & Energy adopted the in-house company system for its specialty chemicals and materials business. This change enables us to make even faster decisions so as to respond to changes in the business environment. JX Nippon Oil & Energy continues to develop products sought after by society.



Water droplets containing ions in hydrocarbons  
Water droplets and particles separated by surfactants



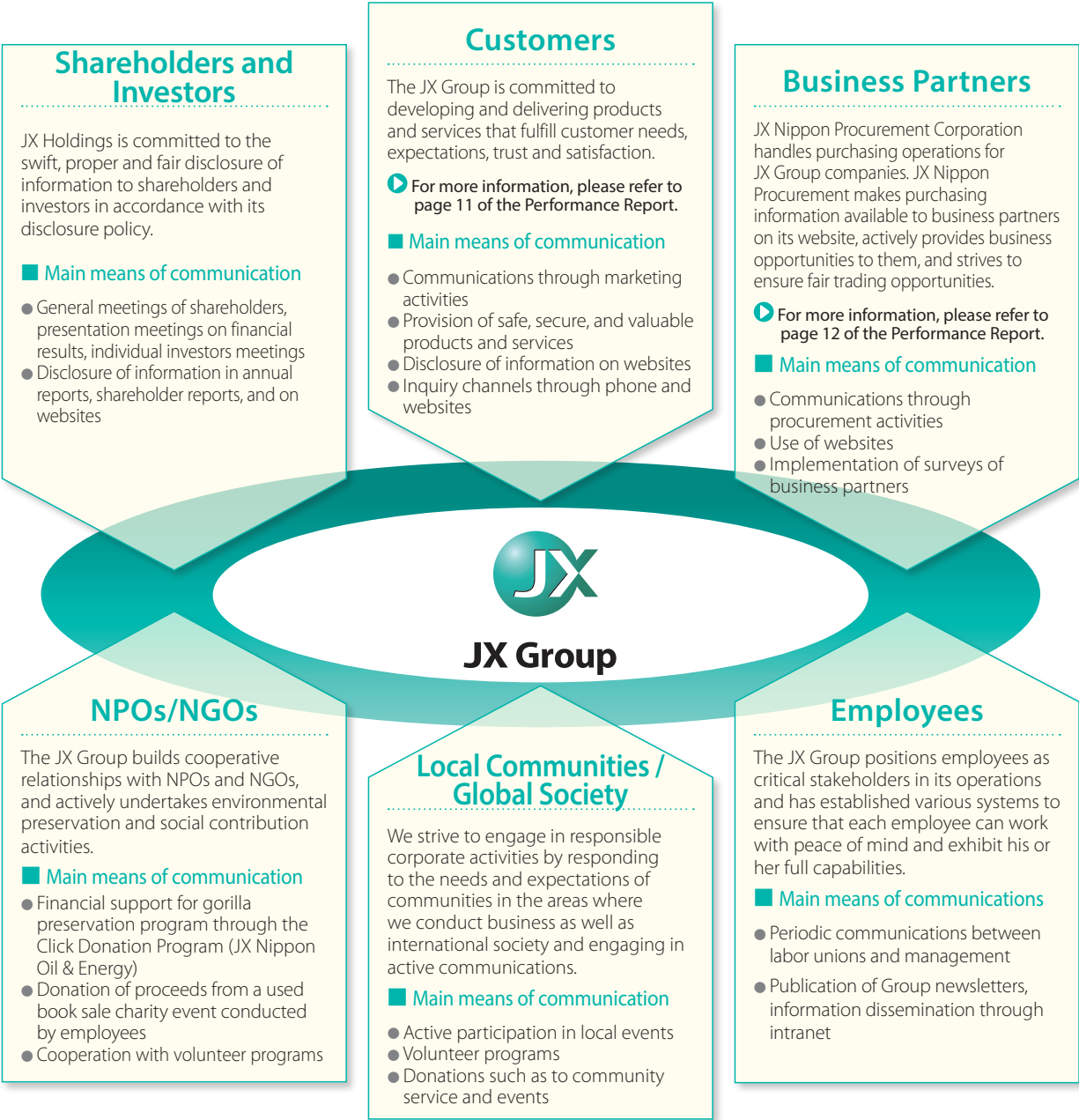
# Relationship with society

By sincerely responding to the demands of a variety of stakeholders, we seek to earn society’s trust. In addition, through activities such as advancement of sports and culture, next generation development and support, and environmental protection, we aim to deepen our interaction with the local community and live in unity with society as a corporate citizen.

## Relationship with Stakeholders

**Basic Approach**

The JX Group conducts business activities while maintaining relationships with a variety of stakeholders, among them shareholders, investors, customers, business partners and employees. By accurately assessing the demands of these many stakeholders, and sincerely responding to them, we seek to earn society’s trust.



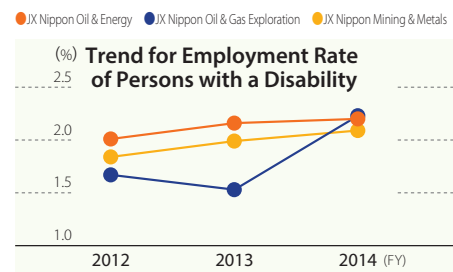
## Relationship with Employees

### Basic Approach

It is crucial for companies to incorporate the opinions of a diverse array of personnel in business activities in order to respond to societal changes and achieve sustainable development. The JX Group actively hires and deploys people in a fair manner regardless of sex, age, nationality, or disabilities in an effort to promote diversity in the workforce. Furthermore, in addition to a good workplace, employees need to lead fulfilling lives outside the workplace, including at home, and in leisure and other activities, if they are to demonstrate their respective abilities to the fullest and work energetically. Accordingly, JX Group companies have developed a range of employee support programs and also conduct awareness-raising activities designed to encourage employees to take advantage of these programs.

### Workforce Composition (non-consolidated) (as of March 31, 2015)

	JX Holdings	JX Nippon Oil & Energy	JX Nippon Oil & Gas Exploration	JX Nippon Mining & Metals
Total headcount	109	5,674	215	1,280
Domestic	109	5,653	178	1,278
Overseas	0	21	37	2
Male employees	83	5,099	188	1,173
Average age	45.5	42.1	42.1	41.6
Average years of service	21.2	20.3	15.4	18.0
Managerial staff	67	1,522	98	225
Female employees	26	575	27	107
Average age	39.5	41.7	39.8	37.8
Average years of service	16.3	19.6	8.6	13.0
Managerial staff	2	15	1	1



### Number of Recent Graduates Recruits (non-consolidated) (FY2014) and Separation Rate

	JX Holdings	JX Nippon Oil & Energy	JX Nippon Oil & Gas Exploration	JX Nippon Mining & Metals
Total headcount	—	178	7	63
Male university graduates	—	73	5	34
Female university graduates	—	19	0	6
Junior college/vocational school graduates	—	21	0	0
Senior high school and other graduates	—	65	2	23
Separation rate*1	—	2.3%	0.0%	5.7%

\*1 The separation rate is the percentage of recent graduates hired as new employees in fiscal 2012 who left the company within three years

### Employment Rate of Persons with a Disability, Number of Employees Re-Hired after Retirement, Usage Rate for Annual Paid Leave, and Number of Employees Taking Leave (non-consolidated) (FY2014)

	JX Holdings	JX Nippon Oil & Energy	JX Nippon Oil & Gas Exploration	JX Nippon Mining & Metals
Employment rate of persons with a disability	— *2	2.20%	2.23%	2.09%
Number of employees re-hired after retirement	— *2	320	10	16
Number of annual paid leave days granted	20.0	19.6	19.5	20.8
Number of annual paid leave days taken	12.0	15.0	12.2	14.2
Usage rate for annual paid leave	60.0%	76.7%	62.7%	68.0%
Number of employees taking nursing care leave	0	1	0	0
Number of employees taking childcare leave	4	35	7	3
(incl. male employees)	0	11	0	0

\*2 "Employees" refers to those seconded from operating companies, and is accounted for at their companies of origin

### Frequency of Industrial Accidents and Accident Severity Rate\*3 (FY2014)

	JX Holdings	JX Nippon Oil & Energy	JX Nippon Oil & Gas Exploration	JX Nippon Mining & Metals
Frequency of industrial accidents	—	0.47	0.00	0.32
Accident severity rate	—	0.01	0.00	0.02

For JX Nippon Oil & Energy and JX Nippon Mining & Metals, the figures are for employees from offices and plants in Japan (excluding head office)

For JX Nippon Oil & Gas Exploration, the figures are for employees from offices and plants in Japan and overseas (excluding head office)

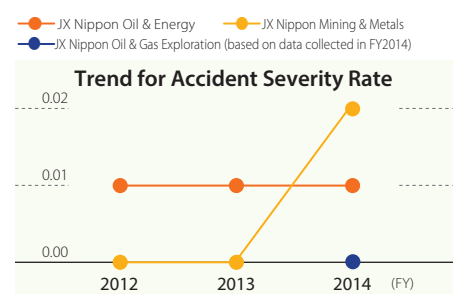
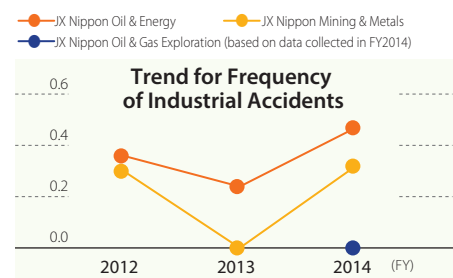
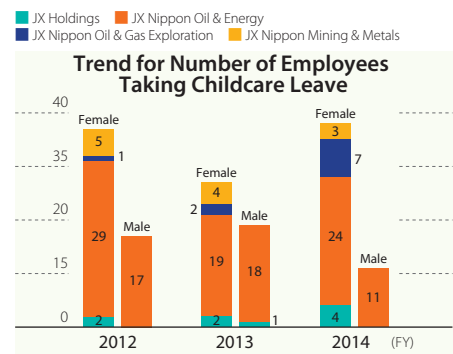
\*3 "Frequency of industrial accidents" is the number of deaths and injuries due to industrial accidents per 1 million working hours. "Accident severity rate" is the number of lost work days per 1,000 working hours.

### JX Safety Education Center\*4 Lecture Participants

	JX Holdings	JX Nippon Oil & Energy	JX Nippon Oil & Gas Exploration	JX Nippon Mining & Metals	Other*5	Total
From January 23, 2013 to March 31, 2014	4	103	4	1,537	11	1,659
FY2014 (as of March 31, 2015)	0	153	8	1,637	16	1,814
Total	4	256	12	3,174	27	3,473

\*4 Safety education center that simulates potential hazards at the workplace

\*5 Such as Group affiliated companies and cooperating companies







## Corporate Citizenship

### Basic Approach

The JX Group views CSR activities that contribute to society as an important issue and takes proactive steps in this area. The JX Group Corporate Citizenship Committee, with members drawn from across the JX Group, deliberates and reports on the Group's social contribution efforts, while sharing information on such contributions with Group companies. Under the Basic Policy for JX Group Social Contribution Activities, the JX Group collectively implements various types of initiatives, with emphasis on the three priority fields of (1) advancement of sports and culture, (2) next generation development and support, and (3) environmental protection.

## Advancement of Sports

The JX Group hosts a baseball and basketball team and conducts various sporting programs with a focus on these two sports.

The Group supports activities such as the Rakuten Eagles Youth Baseball program and the Japan Rubber Baseball Association Emperor's Cup, and the JX-ENEOS Baseball Team also conducts youth baseball classes.

For basketball, the Group sponsors the JX-ENEOS Winter Cup for high school students, and conducts 60 to 70 basketball training classes nationwide for elementary and junior high school students each year by members and alumni of the JX-ENEOS Sunflowers. The Group also supports the Japan women's national basketball team as its official sponsor.



Members of JX-ENEOS Sunflowers, with 18 wins, who won the W League (Japan) for the 7th consecutive year



Youth baseball classes around Japan



Basketball clinic (training class)

## Advancement of Culture/Next Generation Development and Support

The JX Group holds the JX-ENEOS Children's Story Award ceremony every year. We have been collecting works based on the theme "heart-to-heart contact" from the general public since 1970. JX-ENEOS Children's Story Award is presented to the authors of outstanding works from three categories: elementary school and younger, junior high school, and others. The awarded works are published as the booklet, *The Bouquet of Children's Stories*. We donate this booklet to educational institutions, child welfare and other facilities. In fiscal 2015, the 46th time that the program was conducted, 13,093 heart-warming short stories were received from the public in Japan and overseas.



*The Bouquet of Children's Stories (volume 45)*

*The Bouquet of Children's Stories* is purchased widely by the general public and dealerships that operate ENEOS service stations and LPG dealerships as well as Group company executives and employees. All proceeds go to the JX-ENEOS Children's Story Fund. We donate to the Japan National Council of Social Welfare (JNCSW) every year to aid in children's welfare. The donations are used by the JX-ENEOS Scholarship Program established by the JNCSW as a part of the scholarship support funds when children living in child welfare facilities or foster homes across Japan enter university or other higher education institutions. In fiscal 2014, scholarships were granted to 489 students.

*The Bouquet of Children's Stories* also helps to increase the absorption of carbon dioxide by forests in Japan. The paper of this booklet is made from raw materials derived from wood produced as a by-product of forest thinning in areas where the JX Group is working on reforestation. Through *The Bouquet of Children's Stories* program, the JX Group supports Kizukai Undo (Tree-Use Movement), a domestic forest preservation program promoted by Japan's Forestry Agency.



The 45th JX-ENEOS Children's Story Award ceremony

# Environmental Conservation

JX Nippon Oil & Energy is involved in forest stewardship activities at eight ENEOS Forests across Japan in partnership with local governments and the National Land Afforestation Promotion Organization. Employees and their families volunteer to take part in tree planting, thinning and bush clearing that helps to ensure the forests are maintained. In fiscal 2014, approximately 1,670 persons participated in these programs.

In addition, our personal credit card service, the ENEOS Card, has a donation program. 0.01% of the amounts charged by customers to the card at ENEOS service stations is donated to the National Land Afforestation Promotion Organization. The actual amount donated in fiscal 2014 was 46.5 million yen. This is one of the privileges of the ENEOS Card.

The Click Donation Program donated about 3 million yen in fiscal 2014 to the Japan Wildlife Conservation Society. Through activities associated with ENEGORI-KUN, it also supports the conservation of African forests in which gorillas facing extinction live.

Since 1998, JX Nippon Oil & Gas Exploration has worked to preserve the pine forest located on and around the site of its Nakajo Field Office in Niigata Prefecture. In 2014, a total of 78 executives, employees and their family members, including 12 foreign-national employees from overseas and Tokyo offices, planted approximately two thousand black pine trees in "JX Nakajo Forest" for two days.

JX Nippon Mining & Metals participated in reforestation activities at four sites of closed mines in Japan to promote the conservation of the natural environment in fiscal 2014. The company also joined Mt. Kurakake Cherry Tree Development activities in Hitachi City, Ibaraki Prefecture.



Forest stewardship activities at the ENEOS Forest



Preservation activities for the pine forest in "JX Nakajo Forest"



Mt. Kurakake Cherry Tree Development activities in Hitachi City

## Volunteer Activities for Passing on Hope for the Future

The JX Group widely recruited participants from within the Group to take part in volunteer activities to support recovery efforts in areas affected by the Great East Japan Earthquake. In fiscal 2014, the name was changed to "JX Group Volunteer Activities for Passing on Hope for the Future" and the geographic scope has been broadened beyond the earthquake affected areas to bring hope and energy to more children.

Recent activities include collaborating with NPOs in Fukushima Prefecture in an Art Renovation Project to paint the walls of hospital pediatric wards in bright colors, and the organizing of cultural events for parents and children within Tokyo. From July 2011 to the end of March 2015, a total of 34 rounds of volunteer activities were conducted with the participation of more than 1,200 employees. The Group will continue to organize activities to pass on hope for the future.

Further details concerning volunteer activities can be found on the following website:  
<http://www.hd.jx-group.co.jp/english/csr/volunteer/>



Art renovation of pediatric ward



Cultural event for parents and children



# Trustworthy products/services

In order to achieve customer satisfaction, we work to enhance the quality of products and services from the customer's perspectives, and ensure the safety and environmental friendliness of products, so as to continue to provide more reliable products and services.

## Quality Assurance, Product Safety and Customer Satisfaction

### Basic Approach

Because the JX Group is involved in a broad range of operations, each Group company practices quality control, and each company and business site has obtained ISO 9001 certification, the internationally recognized standard for quality management systems, as part of efforts to ensure quality.

JX Holdings has extensive knowledge of the quality control and product safety policies and annual targets of each company. If a product-related accident does arise, JX Holdings works together with the Group company involved to minimize damages and formulate steps to prevent recurrence, in line with crisis management rules.

**Web** Please visit the following websites for information about the quality initiatives of JX Nippon Oil & Energy and JX Nippon Mining & Metals.

JX Nippon Oil & Energy

<http://www.noel.jx-group.co.jp/csr/social/customer/quality.html>  
(Available only in Japanese)

JX Nippon Mining & Metals

<http://www.nmm.jx-group.co.jp/company/guidelines/quality.html>  
(Available only in Japanese)

## Trustworthy Products/Services

### Basic Approach

With customer's demands toward products and services growing more diverse, the JX Group is striving to provide new products and services that are trustworthy and that fulfill the needs of customers.

## "Testing and Analysis Group at R&D Solution Center" Responsible for Quality Management

JX Nippon Oil & Energy's "Testing & Analysis Group at R&D Solution Center" belonging to the Central Technical Research Laboratory works on quality enhancement of petroleum products through defining testing methods to enhancing analysis technique for the quality management of fuels,

lubricants, chemical products, etc.

Not only does the group perform the testing and analysis of new products and materials developed in the laboratory, but it also handles a wide range of testing requirements from selling sites to refineries or plants. The measured data is checked carefully by the three persons to ensure the accuracy of tasting results. Furthermore, automation of testing and analysis are being promoted.

In recent years, demands from overseas plants for testing of petroleum products have also been rising, and the Testing & Analysis Group is also responsible for considering the installation of testing equipment meeting local needs, and providing guidance on testing and analysis methods. Using knowledge developed over the years, the group supports reliable product development as the center of JX Nippon Oil & Energy Group's quality management both in Japan and overseas.



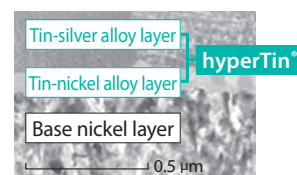
Testing and analysis

## Development of New Plating Technology "hyperTin®"

JX Nippon Mining & Metals has developed hyperTin®, a new post-plating\* technology that achieves lower friction than conventional tin plating, greatly reducing the force needed for connector insertion.

hyperTin® is one of the plating technologies applied to strips or foils after stamping and it eliminates the pure tin layer that was a cause of the increased insertion force found in connectors having growing number of pins, reducing insertion force to around 36% of that required previously. The lack of a pure tin surface layer eliminates the risk of shorting caused by formation of tin "whiskers" (whisker-shaped single crystals) that is an issue with conventional tin plating. Taking advantage of this feature makes it applicable to connectors with narrower pitch than are possible with conventional tin plating. Thanks to the excellent electrical characteristics and solderability of hyperTin®, which maintains its contact resistance in high-temperature environments, it can replace precious metal (gold and silver) plating that has conventionally been used for certain portions of connectors, leading to significant cost savings.

\* Plating applied to strips or foils after stamping



Cross-sectional structure of hyperTin®



## Purchasing

### Basic Approach

Procurement sources are growing increasingly diverse in step with economic globalization. The practice of compliance and consideration for the environment and human rights on the supplier side are required aspects of responsible supply chain management and are important aspects of establishing trust in our products and services.

JX Nippon Procurement Corporation plays a central role in procurement for the JX Group, strives to conduct in transparent and fair transactions, and conducts purchasing with consideration for the environment. We seek to achieve mutually beneficial development by enhancing communications with suppliers and building partnerships based on mutual trust.

## Basic Policy on Procurement

The JX Group implements procurement operations in accordance with the JX Group Values.

## Ethics

- We will abide by relevant laws and social norms as well as respect and operate in accordance to the spirit of both.
- The selection of suppliers will be performed based on a fair assessment of their compliance with laws and social norms, consideration for the environment, quality, price, delivery and performance.
- We will maintain an appropriate and highly ethical relationship with suppliers.

## Advanced ideas

- We will always create and innovate using new ideas and strive to employ new products and services

## Relationship with society

- We will pursue stronger communication with suppliers and strive to make contributions to society based on relationships of mutual trust.

## Trustworthy products/services

- Each JX Group company will provide trust and satisfaction based on activities that are highly accurate, prompt and transparent.

## Harmony with the environment

- We will strive to create a sustainable society by encouraging the procurement of materials, equipment and services that have lower environmental impacts

## Supplier Survey

JX Nippon Oil & Energy and JX Nippon Mining & Metals also conduct a supplier survey to complement their procurement of environmentally friendly products, materials and services in accordance with the Basic Policy on Procurement.

JX Nippon Oil & Energy conduct supplier surveys that include questions on green purchasing. As a result of vigorous efforts targeting suppliers since fiscal 2011, the percentage of suppliers adopting green practices (percentage of suppliers meeting the company's green standards) improved in fiscal 2014 to 32%, reaching 84% in four years.

JX Nippon Mining & Metals has drawn up the Green Purchasing Policy together with the Green Purchasing Guideline based on this policy. It also conducts green purchasing surveys targeted at its main suppliers. In fiscal 2014, 542 suppliers that accounted for 95% of the value of items purchased were targeted and responses were received from 490 suppliers for a response rate of 90.4%. The results may be reflected in the reconsideration of suppliers as necessary.

### ■ Third-Party Guarantee for Non-Conflict Minerals

JX Nippon Mining & Metals has defined in its Basic Purchasing Policy that it will not engage in raw materials procurement that contributes to illegal activities in conflict-affected regions or to human rights. The company and Group company Pan Pacific Copper Co., Ltd. (PPC) are establishing a management system for their raw material supply chain.

The implementation status is reported to the London Bullion Market Association (LBMA)\* after undergoing an external audit by a third party agency designated by the LBMA. Through this process, the gold bullion produced at PPC's Saganoseki Smelter & Refinery is maintained in the LBMA's Good Delivery List, guaranteeing its high quality and reliability.

\* An association composed of financial institutions that deal in gold bullion and other organizations



Accreditation certificate from the LBMA



JX Nippon Procurement Corporation is in charge of procurement operations for materials.  
<http://www.pr.jx-group.co.jp/> (Available only in Japanese)



# Harmony with the environment

As a group that is deeply involved in global resources, we work together to create technologies and services that will be useful for the development of a better global environment, and at the same time actively and continuously taking measures to effectively use energy, resources, and materials and to preserve the environment.

## Environment

### Basic Approach

“Harmony with the environment” is one component of the JX Group Values. Accordingly, environmental preservation is a vital theme in the Group’s CSR activities.

Through environmental preservation actions enabled by operation of an Environmental Management System (EMS), coupled with deliberation and reporting on the Group environmental safety by the JX Group Environment & Safety Committee, the JX Group manages progress on the Medium-Term Environmental Management Plan by the Group.

#### JX Group Environmental Policy

The JX Group will

1. Develop the technologies, products and services that help to create a better global environment.
2. Work diligently to prevent global warming and be mindful of preserving biodiversity.
3. Constantly strive to reduce environmental impact in all business activities.
4. Strive for strict compliance with environmental laws and ordinances, based on the highest ethical values.

## Compliance with Environmental Laws and Regulations

For the JX Group, compliance with environmental laws and regulations, being a major premise for our business activities, is taken as a very important issue, and we also strive for thoroughness in compliance checks and environmental education.

In fiscal 2014, JX Holdings and core subsidiary groups conducted compliance checks, and in cases where non-compliance was found, appropriate actions for reporting, responding and preventing of future occurrence were taken.

### ■ Environmental Conservation Activities at Mines and Closed Mines

The JX Nippon Mining & Metals Group actively promotes conservation activities for forests and wildlife at sites of mines and closed mines in Japan and overseas.

At Caserones Copper Mine in Chile, 0.87 km<sup>2</sup> affected by the development work has been designated as a protected area, to protect the animals and plants inhabiting the area. “If trees are cut in a certain area, planting must be done for an area 1.6 times larger than the reduced forest area,” and “If any protected plant is cut out of necessity, 10 times the number of the same type of plant must be planted” were also set as regulations within the protected area. Under expert guidance, plants in a wetland plant zone spanning 9,400 m<sup>2</sup> of the Caserones Valley were wholly transplanted to the La Ollita valley, the nearest place with an appropriate

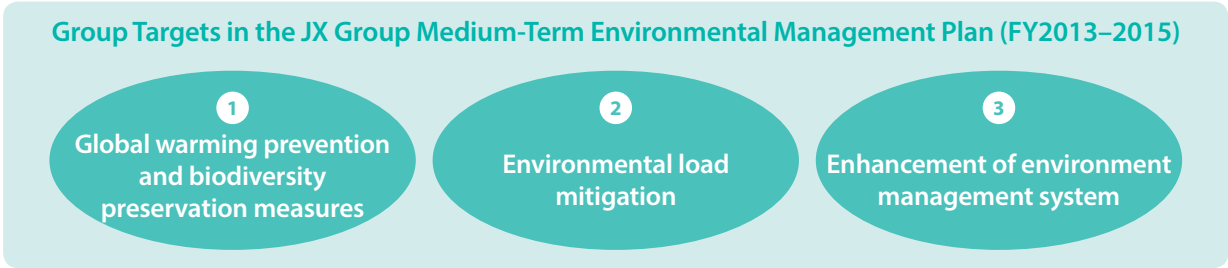
habitat. A subsequent survey confirmed that the vega plant, a protected plant, has rooted safely at the transplanted site.

In Japan, reforestation activities are regularly conducted centered on the sites of closed mines, striving to maintain biodiversity and enhance the natural environment. In fiscal 2014, following fiscal 2013, conservation activities such as planting and weeding were carried out at four closed mine sites, namely Takatama, Oe, Toyoha, and Kameda.



## JX Group Medium-Term Environmental Management Plan

The JX Group has set three Group targets based on its environmental policy, and continues to work together as a Group to achieve them.



Note: The exact content and targets differ according to each company’s characteristics

### Results and Evaluation of the JX Group Medium-Term Environmental Management Plan (FY2013–2015)

#### Energy Business (JX Nippon Oil & Energy Group)

Activities	Reduction of CO <sub>2</sub> emissions	Soil contamination countermeasures	Waste reduction
Targets	Reduce by 1.1 million tons in FY2013 compared with FY2009 Reduce by 1.25 million tons in FY2014 compared with FY2009 Reduce by 2.1 million tons in FY2015 compared with FY2009	Operating properties: Prevent external leakage Decommissioned properties: Conduct deliberate surveys and treatment measures	Waste-to-landfill ratio: Less than 0.5%
FY2013 results and evaluation	Reduced by 0.78 million tons compared with FY2009 (Target not achieved)	Soil surveys implemented: 145 sites Treatment measures: 85 sites (Target achieved)	0.29% (Target achieved)
FY2014 results and evaluation	Reduced by 0.80 million tons compared with FY2009 (Target not achieved)*	Soil surveys implemented: 153 sites Treatment measures: 80 sites (Target achieved)	0.21% (Target achieved)
Planned measures for FY2015	Reduce by 2.1 million tons compared with FY2009	Implementation of continuous improvements	Waste-to-landfill ratio: Maintain at less than 0.5%

\* Due to lower efficiency from reduced production, etc.

#### Oil and Gas Exploration and Production Business (JX Nippon Oil & Gas Exploration Group)

Activities	Reduction of energy consumption	Management of final waste disposal volume and oil content in produced water disposed to the sea	Maintenance and management of environmental management systems
Targets	Reduce by 1% in FY2013 compared with FY2012 Reduce by 2% in FY2014 compared with FY2012 Reduce by 3% in FY2015 compared with FY2012	Monitor volumes, including at overseas sites (Vietnam, Malaysia)	Appropriately manage the HSE Committee, and maintain the environmental management system throughout the JX Nippon Oil & Gas Exploration Group
FY2013 results and evaluation	Reduced by 1.4% compared with FY2012 (Target achieved)	Implemented (Target achieved)	Held 3 HSE Committee meetings, etc. (Target achieved)
FY2014 results and evaluation	Reduced by 3.9% compared with FY2012 (Target achieved)	Implemented (Target achieved)	Held 3 HSE Committee meetings, etc. (Target achieved)
Planned measures for FY2015	Reduce by 3% compared with FY2012	Continuous implementation	Continuous implementation

#### Metals Business (JX Nippon Mining & Metals Group)

Activities	Specific energy consumption reduction	Reduction of CO <sub>2</sub> emissions	Waste reduction
Targets	Reduce by 1% in FY2013 compared with FY2012 Reduce by 1% in FY2014 compared with FY2013 Reduce by 1% in FY2015 compared with FY2014 More than half the evaluated sites must achieve the target	FY2013: 1.08 million tons FY2013–2014: 2.14 million tons cumulative FY2013–2015: 3.17 million tons cumulative	Non-application waste ratio: Less than 0.7%
FY2013 results and evaluation	Of all subject sites, 43% achieved targets (Target not achieved)	0.84 million tons (Target achieved)	Non-application waste ratio: 0.6% (Target achieved)
FY2014 results and evaluation	Of all subject sites, 61% achieved targets (Target achieved)	1.67 million tons (Target achieved)	Non-application waste ratio: 0.6% (Target achieved)
Planned measures for FY2015	More than half the evaluated sites achieve the target	Continuous implementation	Continuous implementation





## Environmental Performance

### Basic Approaches

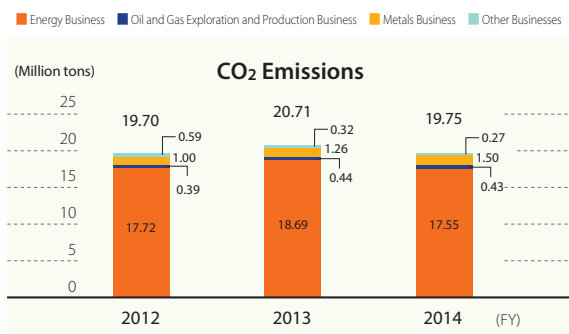
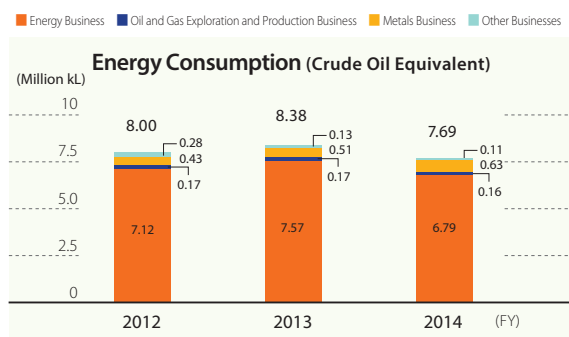
The environmental performance data on pages 15 to 16 covers a total of 55 business sites at 30 companies engaged in the Energy Business, the Oil and Gas Exploration and Production Business, the Metals Business, and Other Businesses.

- Energy Business: 20 sites at 11 companies
- Oil and Gas Exploration and Production Business: 3 sites at 1 company
- Metals Business: 28 sites at 16 companies
- Other Businesses: 4 sites at 2 companies

For the energy business, we recorded data only for business sites involved in petroleum product refining and production (data from fiscal 2013 onwards, including depots). Some sites included in the other business segment in fiscal 2012 were included in the metal business segment from fiscal 2013 onwards. Some figures from past fiscal years were revised.

### Initiatives to Prevent Global Warming

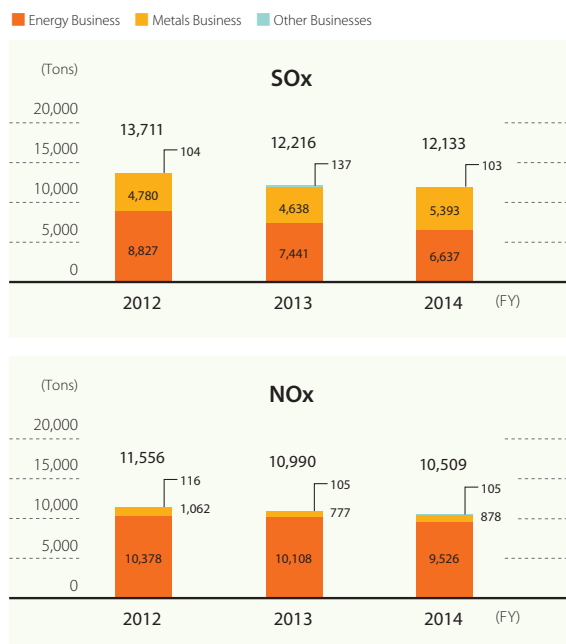
Energy consumption in fiscal 2014 (crude oil equivalent) for the entire JX Group was 7.69 million kL, marking a 0.69 million kL decrease. CO<sub>2</sub> emissions for the JX Group in fiscal 2014 totaled 19.75 million tons, a year-on-year decrease of 0.96 million tons.



Note: CO<sub>2</sub> emissions include emissions from energy consumption (electricity, fuel, etc.) as well as greenhouse gases emitted mainly in oil and gas production converted to CO<sub>2</sub>

### Initiatives to Prevent Air Pollution

In line with laws, ordinances, accords and voluntary standards to prevent air pollution, the JX Group closely monitors gases emitted into the atmosphere by its facilities. In fiscal 2014, the JX Group reduced emissions of sulfur oxides (SO<sub>x</sub>) by 83 tons and of nitrogen oxides (NO<sub>x</sub>) by 481 tons.



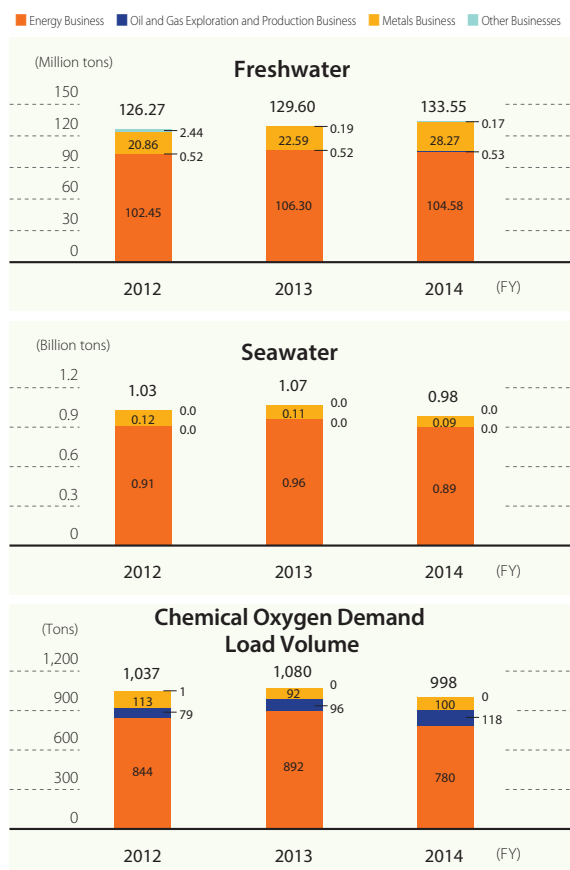
Note: Not applicable for the Oil and Gas Exploration and Production Business. Figures for NIPPO CORPORATION in Other Businesses were estimated by its 50 main plants.

### Initiatives for Protecting Water Resources

As one of its resource conservation measures, the JX Group firmly manages its use of water resources and monitors wastewater produced by its facilities in line with laws, ordinances, accords and voluntary standards, in an effort to reduce its environmental impact.

In fiscal 2014, the JX Group used a total of 133.55 million tons of water (freshwater resources), an increase of 3.95 million tons. The JX Group also used 980 million tons of seawater, a decrease of 90 million tons.

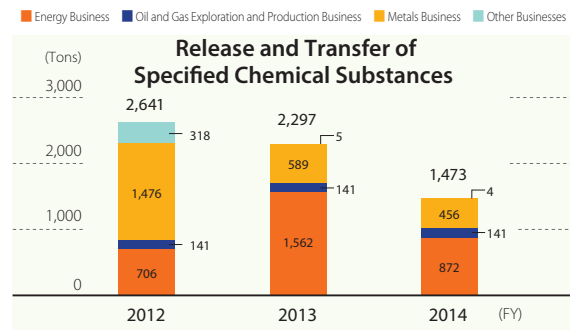
The JX Group's chemical oxygen demand (COD) load volume in fiscal 2014, an indicator of water pollution levels, decreased 82 tons year-on-year to 998 tons.



Note: Figures for overseas offices and plants (Malaysia and Vietnam) are not applicable in the figure for the Oil and Gas Exploration and Production Business

## Initiatives for Management of Chemical Substances

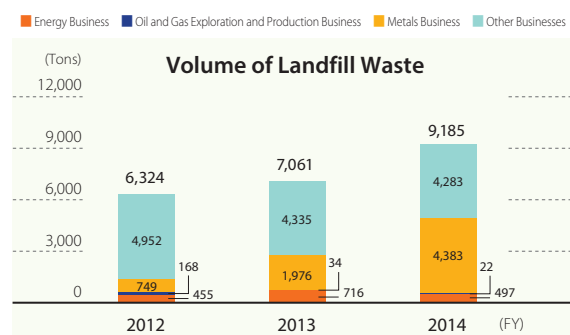
The JX Group conducts proper management of specified chemical substances stipulated under the Pollutant Release and Transfer Register (PRTR) Law and also strives to reduce chemical emission levels. In fiscal 2014, the JX Group's release and transfer of specified chemical substances totaled 1,473 tons, a decrease of 824 tons.



Note: Figures for overseas offices and plants (Malaysia and Vietnam) are not applicable in the figure for the Oil and Gas Exploration and Production Business

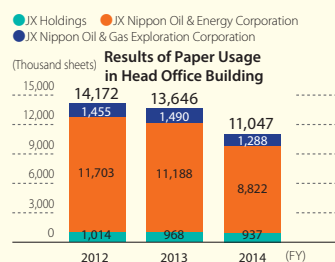
## Initiatives to Reduce Waste

In fiscal 2014, the JX Group's final waste disposal volume totaled 9,185 tons, an increase of 2,124 tons. The main reason for the increase was the inclusion of figures from Caserones Copper Mine for JX Nippon Mining & Metals from July onwards in fiscal 2014. (Caserones Copper Mine commenced production in fiscal 2014.)



### Reducing Environmental Impact in the Office

Beginning with switching off lights during lunchtime and in unoccupied areas, the JX Group actively strives towards energy saving in the immediate surroundings, such as switching off unused appliances, revision of air conditioning temperature settings, waste sorting, and the reduction of paper waste. Especially in head office building, as part of going paperless, efforts are made to contribute to reducing environmental impact such as raising awareness for paper usage reduction and promoting paperless meetings.



Note: JX Nippon Mining & Metals is not included in the calculations



Paperless meeting using personal computers and tablets

# JX Group Management

## Corporate Governance

The basic approach to corporate governance within the JX Group is to make decisions and execute operational activities quickly and flexibly to implement growth strategies for the JX Group as a whole and make appropriate responses to changes in the business environment. In addition, the JX Group endeavors to secure the soundness and transparency of its management to respond to the trust of all its stakeholders.

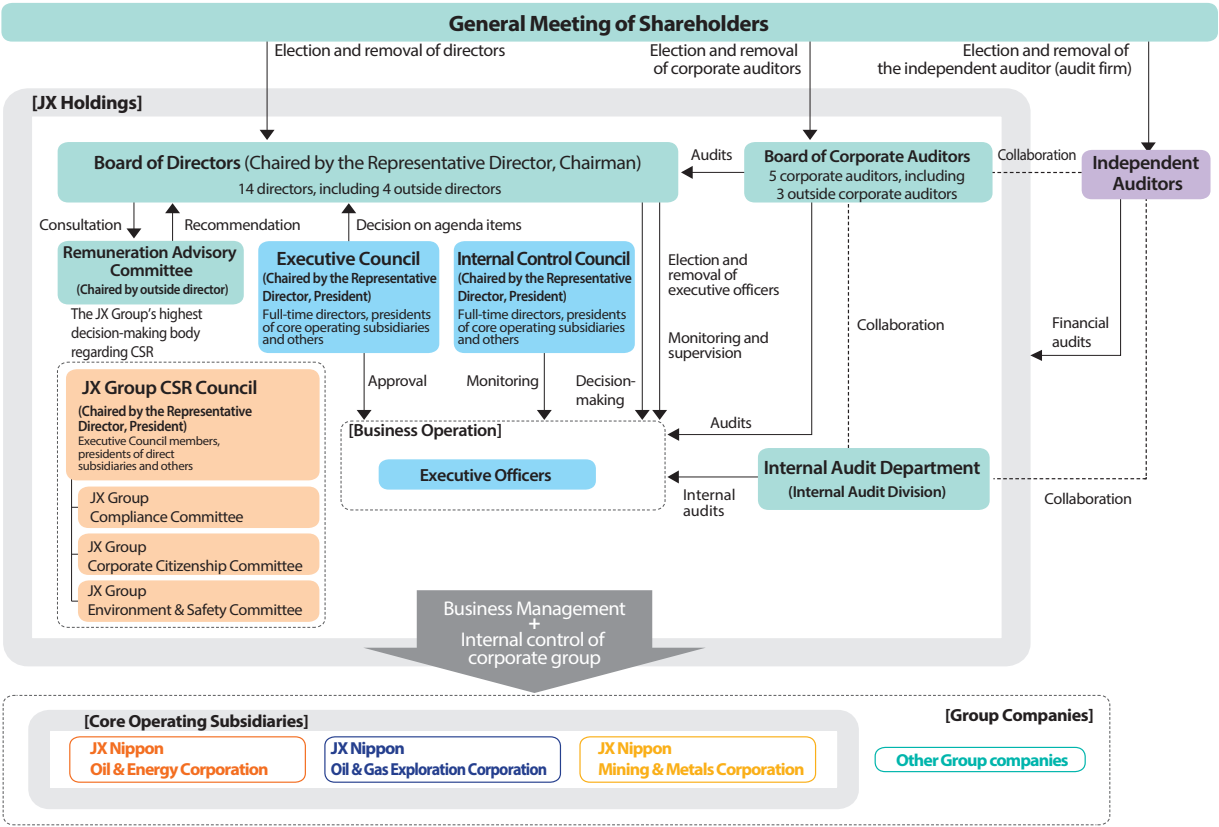
Guided by this basic policy, JX Holdings, as the ultimate holding company of the JX Group, focuses especially on formulating medium- to long-term strategies for the JX Group and strategically allocating management resources and conducting risk management to implement these strategies. Under JX Holdings, its three core operating subsidiaries wholly owned by it have been positioned to be responsible for each of the Group's three core businesses, namely the Energy Business, the Oil and Natural Gas Exploration and Production Business, and the Metals Business.

In addition, JX Holdings' corporate governance structure is characterized by the following features:

1. Directors are elected for a term of one year and must stand for election each year at the General Meeting of Shareholders.
2. Outside directors with management insight and extensive experience, are appointed to strengthen the supervisory function over the management from an objective perspective.
3. In addition to full-time directors and outside directors, the presidents and certain other senior management

- member(s) of the core operating subsidiaries are elected as directors of JX Holdings to deliberate and decide on cohesive group-wide business strategies at meetings of the Board of Directors of JX Holdings.
4. The majority of corporate auditors consist of outside corporate auditors appointed on the basis of management insight and extensive experience. This structure ensures the effectiveness of audits of directors' performance of management duties by the Board of Corporate Auditors.
5. The Remuneration Advisory Committee comprising two outside directors and two representative directors has been formed as an advisory body to the Board of Directors, in order to ensure the transparency and objectivity of the decision-making processes related to remuneration of directors and executive officers.
6. The Executive Council has been formed as a body to discuss matters that require the approval of the president and other important issues with respect to the execution of the president's duties based on authority handed down from the Board of Directors. This council is composed of full-time directors, the presidents and certain senior management member(s) of the core operating subsidiaries. The Executive Council helps to ensure appropriate and efficient decision making by the president.
7. The Internal Control Council has been established as an advisory body to the president to ensure appropriate execution of operation. This council, which consists of the same members as the Executive Council, monitors, confirms and reviews the appropriateness of business operation status as an autonomous self-control system.

## JX Group Corporate Governance Framework





## Development of Internal Control System

Based on the JX Group Mission Statement and the JX Group Values, JX Holdings has established and implements its internal control system to ensure appropriate execution of operation in line with the following Basic Policy.

### Basic Policy for the Establishment and Operation of Internal Control System

<b>1. System to ensure that execution of the duties by the directors and the employees complies with laws and regulations, and the Articles of Incorporation</b>
(1) Develop and implement various rules and ensure compliance with laws and regulations, the Articles of Incorporation, and various other rules. (2) Establish and operate the JX Group Compliance Committee, implement the compliance status checks, and address the results. (3) Develop and implement an internal whistle-blowing system. (4) Hold the Board of Directors' meetings on a monthly basis and conduct adequate discussion and reporting, based on Rules for the Board of Directors. (5) Ensure objectivity and improve appropriateness through the appointment of outside directors and outside corporate auditors. (6) Establish the Internal Audit Department independent of other divisions and conduct internal audits. (7) Develop and implement an internal control system for the Financial Instruments and Exchange Act. (8) Develop and implement rules to prevent relationships with anti-social forces and ensure thorough compliance with such rules.
<b>2. System for the storage and management of information related to execution of duties by the directors and the employees</b>
(1) Develop and implement rules concerning documents. (2) Prepare minutes of the Board of Directors' meetings, and develop rules for preparing other documents related to decision-making, and ensure their appropriate implementation. (3) Develop and implement rules regarding information security, and ensure thorough compliance with such rules through training and other programs. (4) Provide proper external disclosure of information, including timely disclosure.
<b>3. Rules and other systems for management of risk of loss</b>
(1) Analyze risks and clarify policy for handling them in the Board of Directors' meetings and the Executive Council. (2) Develop and implement a system and rules for handling large fluctuations in economic conditions, resource prices and foreign currency exchange rates, along with natural disasters and other risks. (3) Develop and implement a system and rules for handling crises and emergency situations.
<b>4. System to ensure efficient execution of duties by directors and the employees</b>
(1) Establish and implement Rules on Organization and Authority, and efficiently execute duties. (2) Ensure appropriate and efficient approval by the president through discussions in the Executive Council before making decisions in the Board of Directors' meetings. (3) Formulate the Medium-Term Management Plan, and develop and implement a management system.
<b>5. System to ensure appropriate business operation within the corporate group</b>
(1) Ensure penetration and thoroughness of the JX Group Mission Statement and the JX Group Values. (2) Ensure presidents of core operating subsidiaries and others attend meetings of the Board of Directors and the Executive Council. (3) Discuss important Group companies' business execution projects in the Board of Directors' meetings and the Executive Council of JX Holdings for decision-making, approval and reporting. (4) Formulate and implement JX Group Operation Regulation and ensure thorough compliance with the rules. (5) Establish and implement compliance systems and extend to Group companies. (6) Establish and implement an appropriate internal control system for Group companies.
<b>6. System to ensure effective auditing by the corporate auditors</b>
(1) Ensure respect for audit standards and audit plans, along with cooperation on the efficient execution of audits and the development of an audit environment. (2) Ensure the corporate auditors attend meetings of the Executive Council and other meetings, and establish and implement an appropriate system for the Company and Group companies to report to the corporate auditors. (3) Establish and implement a system for promptly reporting to corporate auditors regarding the discovery of material breaches of laws and regulations and the Articles of Incorporation, and any discovery of misconduct, within the Company or Group companies. (4) Establish and implement a system to prevent the detrimental treatment of whistleblowers. (5) Ensure the corporate auditors and management personnel exchange opinions regarding the Group's management issues and other matters. (6) Ensure close collaboration between the corporate auditors and the Internal Audit Department. (7) Establish the Auditors Affairs Office independent of divisions responsible for business execution, and ensure the effectiveness of corporate auditors' findings on employees. (8) Bearing of cost and liabilities incurred in the course of execution of duties by corporate auditors.

## Risk Management

In the JX Group, each company has prepared risk management systems appropriate for its respective lines of business and implements measures in accordance with such individual risk related to compliance and occupational safety, environment, and other.

### ● Crisis Management

When crises or emergency situations arise that may significantly affect the management of the JX Group, JX Holdings exercises overall control and has prepared its Rules for Responding to Crises and Emergency Situations, which specifies measures to be taken to minimize the damage that may occur.

The General Administration Department of JX Holdings functions as the standing organizational unit in charge of crisis and emergency response and management, and the general manager of this department acts as head of this crisis response unit, and, when such situations arise, operating procedures require that the situation and measures taken be reported immediately to the head of the crisis response unit.

Also, depending on the magnitude of the crisis or emergency, at its discretion, JX Holdings may form a crisis response headquarters or a joint crisis response headquarters with JX Group companies to respond quickly and appropriately to the crisis.

### ● Information Security Management

Based on its Basic Rules for Information Security, the JX Group works to prevent the improper usage or disclosure, and leakage, of company information, which is a corporate asset. The JX Group also makes it possible for authorized users of corporate information to have constant access to such information as necessary by making efforts to maintain the accuracy and reliability of its corporate information and to prevent falsification or erroneous handling.

## Information Disclosure

### ● Disclosure Policy

JX Holdings is fully aware that the timely and proper disclosure of corporate information is a core issue of healthy capital markets and, to promote transparency in management, works to provide prompt, appropriate, and fair disclosure of information to shareholders and investors.

Systems have been prepared to obtain, manage, and disclose information on JX Holdings as well as information on JX Group companies quickly and accurately. Information that is subject to Timely Disclosure Rules is made public through the timely disclosure information browsing service (TDnet) provided by the Tokyo Stock Exchange and others, and the same information is made available on JX Holdings' website.

# Independent Practitioner's Assurance Report



(TRANSLATION)



## Independent Practitioner's Assurance Report

September 25, 2015

Mr. Yukio Uchida,  
Representative Director, President,  
JX Holdings, Inc.

Hiroshi Inanaga  
Chief Executive Officer  
Deloitte Tohatsu Evaluation and Certification Organization 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") for the year ended March 31, 2015 included in P.13-16 of the "JX Report for a Sustainable Future 2015 Performance Report" (the "Report") of JX 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 (the Report P.1 and P.13-16). 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 *Proposed Environmental Report Review Standard*, issued by the Japanese Ministry of Environment.

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



This report was printed using an environmentally friendly waterless printing process and vegetable oil ink. In support of the Kizukai Undo (Tree-Use Movement) promoted by Japan's Forestry Agency, JX Holdings has printed this report on "3.9 paper," made from wood produced through forest thinning in areas where the JX Group is engaged in forest maintenance. This contributes to increased absorption of CO<sub>2</sub> by Japanese forests.