

# JX Nippon Oil & Energy 2015 CSR Report



The Future of Energy, Resources and Materials

**JX Nippon Oil & Energy**

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## Message from the President

*Message from the President*

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

**Tsutomu Sugimori**  
Representative Director,  
President



### Fulfilling Our Mission of Providing Access to Stable Supplies of Energy

**Q:** What role does JX Nippon Oil & Energy's play in society?

**A:** Over the slightly more than one-year period since becoming President of JX Nippon Oil & Energy in June 2014 I visited our refineries, plants, branch offices, and local associations of dealerships operating ENEOS service stations in each region of Japan. I also visited our customers and business partners in each region of Japan as part of my approach to greater dialogue and engagement. By checking our value chain first hand with my own eyes, I once again discovered just how large this network is and I am more keenly aware of the important responsibility and role our businesses play in society.

The circumstances of oil and other energies continues to change constantly, but the fact that oil is essential to people's lives and industry and it plays an important role in the development of society remains unchanged. Energy security is a now an important social issue and so our most fundamental mission as an energy company that supplies oil products that account for 40% of the Japan's primary energy needs is to deliver these oil products to the people who need them whenever and no matter the situation. Therefore, we are working to build a more robust operating foundation and resilient value chain as we move forward.

The best energy mix published by Japan's Ministry of Economy, Trade and Industry (METI) in July 2015 indicates that the weight placed on oil will fall as we approach 2030, but the role of oil, which is the last line of energy in case of a disaster, will remain extremely important. I believe it will be important to lobby governments and affiliated organizations about the importance of oil within the best energy mix in order to maintain critical infrastructure during a disaster.



We have established business continuity plans (BCPs) taking into account the lessons learned from the Great East Japan Earthquake. The purpose of these BCPs are to minimize damages and ensure the prompt restoration of production and shipments in the event of a major earthquake striking the Nankai Trough or directly under the Tokyo Metropolitan Area. In fiscal 2014, we established the Crisis Management Department for the purpose of strengthening the functions, authorities and scale of the Crisis Management Group in the General Administration Department. BCPs must always be kept up to date, so the Crisis Management Department works with other departments to carry out regular training exercises and update the BCPs on an annual basis.

During times of normalcy, oil products such as gasoline and kerosene, are essential to people's lives. In recent years, Japan has seen depopulation in its rural regions and the overall the number of service stations is on a downward trend. We recognize the fact that some people in isolated communities now have to drive 20 or 30 kilometers to reach the nearest service station. This issue cannot be solved by a single private sector company. This is why we are working with oil industry groups and governments to ensure that our products can be delivered to those who need them.

## Responding to Diversifying Needs for Energy

**Q:** Changes in society have brought greater diversity in energy demands. How are you addressing such demands as a comprehensive energy company?

**A:** The diversification in energy demand among consumers is one reason behind the decline in oil demand in Japan. As a comprehensive energy company, we must respond to this diversification of energy demand accurately. With demand growing for more environmentally friendly natural gas, we commenced operations at two new LNG terminals in Hachinohe, Aomori Prefecture and Kushiro, Hokkaido in April 2015. These terminals will also contribute to the economic development of the Tohoku and Eastern Hokkaido regions where they are located.

Within the New & Renewable Energy Business, we are working on enhancing the hydrogen supply chain for the popularization of fuel cell vehicles. Hydrogen is a clean form of energy that does not produce CO<sub>2</sub> during use. In December 2014, the first fuel cell vehicles were released in Japan and we successfully opened 12 commercial hydrogen stations during fiscal 2014. As a company that has long experience supplying vehicles with fuel, our next great challenge will be to develop Japan's hydrogen supply infrastructure.

The realization of a hydrogen-based society is not only a national goal in Japan, but also a theme many local governments are working on. In particular, Tokyo Metropolitan Government is dedicating a great deal of efforts in its preparation for the Tokyo 2020 Olympic and Paralympic Games. To promote urban planning that utilizes hydrogen energy, Tokyo Metropolitan Government is implementing various measures, including the introduction of more than 100 fuel cell buses. In this manner, the Tokyo 2020 Games are expected to become a venue to showcase advancements toward the realization of a hydrogen-based society. We have already opened two hydrogen stations in the Tokyo area located in Hachioji City and Suginami Ward. As a Gold Partner of the Tokyo 2020 Games (Oil, Gas & Electricity supply services), we will dedicate ourselves to making the Tokyo 2020 Olympic and Paralympic Games a success and to popularizing hydrogen as an energy source.

I still fondly remember the Tokyo 1964 Olympic Games that I watched on television when I was a child. For the upcoming Tokyo 2020 Games, I will encourage employees to actively get involved as volunteers and encourage the entire company to support Tokyo 2020 with solidarity.



## Initiatives to Effectively Utilize Limited Resources and Launch New Businesses Using Technology

**Q:** Can you share with us the future potential and possibilities of businesses including petrochemical products, in which you have been focusing in recent years?



**A:** Pursuing the possibilities of oil as a material and increasing its added value will result in the more effective use of resources. Our petrochemicals business mainly produces paraxylene, a raw material for polyester, and propylene, a raw material for synthetic resins, but among our many petrochemical products we are also working on developing and marketing specialty chemicals with greater added value that utilize our proprietary technologies. For example, we are increasing sales of NS Clean, which is an industrial detergent essential for cleaning parts of precision equipment, both inside and outside of Japan, while leveraging the large potential of Ecojoule, a paraffin latent heat thermal storage material, in increasing the efficiency of heat energy as a temperature and heat insulation material for not only automobiles and transport applications, but housing materials as well.

In the field of life sciences, we have manufactured and marketed biopharmaceuticals and culture media used in infertility treatments. We have also used our fermentation production technology gained from ongoing biotechnology research to successfully develop astaxanthin derived from natural sources. As a result, we now have plans to enter the health foods business. We will continue to actively research various themes and cultivate new businesses with high added value.

It is also very important that we actively expand our overseas businesses, including in Southeast Asia where demand for oil is growing. I firmly believe that our highly developed eco-friendly manufacturing practices and efficient distribution systems can contribute to the development of the energy industry in the countries where we operate. In addition to delivering high quality products, we will also promote businesses that help to resolve local energy issues.

## Relationships of Trust Born from Stakeholder Dialogue

**Q:** What are your thoughts about the company's relationship with employees and other stakeholders inside and outside the company?

**A:** A diverse pool of human resources is absolutely essential to development new businesses to become the future pillars of our operations in responding to changing market needs. This involves not only the more active role of women in the workplace which we have worked on in earnest since fiscal 2014, but also providing employee-friendly workplaces regardless of gender, age, nationality, or time with the company. We must ensure workplaces offer our people with opportunities to utilize and showcase their individual skills. It will also be important to transition to new more productive work formats and styles in order to get more out of limited time.

Dialogue both inside and outside the company is indispensable in our approach to fulfilling our mission as a comprehensive energy company and meeting the expectations society places in us. Dialogue fosters relationships of trust and using these as a foundation I believe we can create a culture that embraces change. Going forward, we will continue to further deepen dialogue with customers, business partners, local communities, employees, and all other stakeholders. At the same time, I invite stakeholders to also share their honest opinions and views with us.

Interviewer: Ayako Sonoda, President, Cre-en Incorporated

# Special Feature Section – The Future of Energy

## Special Feature 1 Building a Resilient Value Chain



Energy stands at the core of people's lives and economic activities. The mission placed in us by society is to procure and deliver stable supplies of oil products and various other forms of energy.

## Special Feature 2 Responding to the Diverse Energy Needs



JX Nippon Oil & Energy, as a comprehensive energy company and energy conversion company, converts primary energy such as crude oil, coal, natural gas, sunlight, and other natural forms of energy that exist in nature into optimal forms of energy required by consumers, such as gasoline, heating oil, gas and electricity.

## Special Feature 3 Products that Contribute to Develop the Sustainable Society



Various oil products are essential to comfortable lifestyles and economic development. We stand committed to using resources effectively and maximizing the value created from crude oil.

## Special Feature 1 Building a Resilient Value Chain

### Crisis and Emergency Response Initiatives

Even today when changes are taking place in the supply-demand structure of energy, oil still accounts for a majority of Japan's primary energy needs.

Oil will continue to be an important energy source far into the future and providing access to stable supplies of this energy source will be extremely important from the standpoint of Japan's energy security.

The strength of oil in terms of excellent convenience, storability and transportability was once again reaffirmed in the wake of the Great East Japan Earthquake as an independent and distributed energy source highly resilient in the face of disasters. Oil is considered the last line of energy defence during a disaster and for this reason further reinforced supply system is required.

As Japan's leading oil company with a nearly 35% share of the domestic fuel market and a network of some 10,800 service stations nationwide, we recognize that our mission in society is to provide a stable supply of oil and other energy sources even during crises or emergencies, and we are constantly making efforts to fulfill this mission.

### Response Measures to Needed for Large-scale Natural Disasters

The Great East Japan Earthquake brought with it unprecedented damages, but the Nankai Trough Giant Earthquake and Inland Earthquake in Tokyo that may occur in the future could result in even greater devastation. In addition, Japan is also expected to see an increase in natural disasters due to the affects of global warming.

Thus, Japan faces the urgent task of building a society that is resilient in the face of such disasters and efforts are now being made collectively by the public and private sector. One of the worst-case scenarios that could occur during these disasters is an interruption in the oil and gas supply chain (as cited in The Fundamental Plan for National Resilience). This has placed added emphasis on advanced initiatives aimed at securing a stable network during a disaster and quick restoration of services post disaster.

### Estimated Damages During a Large-scale Natural Disaster

	Great East Japan Earthquake (March 2011)	Nankai Trough Giant Earthquake	Inland Earthquake in Tokyo
Deaths	Approx. 16,000	Worst-case scenario: 323,000	Worst-case scenario: 23,000
Economic losses	Approx. 17 trillion yen	Approx. 170 trillion yen	Approx. 47 trillion yen

Source: Documents prepared by National Resilience Promotion Office, Cabinet Secretariat

### Disaster Management Operation Plan

In 1961, Japan passed the Disaster Countermeasures Basic Act in order to protect its people from injuries and property damage and to ensure public order and public welfare is maintained before, during and after a disaster. In April 2015, JX Nippon Oil & Energy became a designated public corporation based on the Act, which required us to formulate a disaster management operation plan covering disaster prevention measures at our business sites, the early restoration of services post disaster, as well as steps to eliminate the causes of disasters and establishment of disaster resilient infrastructure. Also, after becoming a designated public corporation, we are now able to use CAO's Disaster Prevention Radio Communication System for sharing information with public agencies when social infrastructure is down and we have put a system in place to use our tank trucks and other oil transport vehicles as emergency response vehicles post disaster.

As a business that supplies oil as the last line of energy defence during a disaster, these measures will enable us to work closely with government organizations and other designated public corporations to respond collectively whenever a disaster strikes.

## Business Continuity Plan with the Scenario of a Huge Earthquake

JX Nippon Oil & Energy was forced to shut down three of its refineries in the Tohoku and Kanto regions following the Great East Japan Earthquake, as well as close about 40% of its service stations in the same regions. Our efforts together with employees and business partners to quickly restore energy supplies to Japan, particularly the disaster-hit areas, despite the dire circumstances serves as an important experience that must never be forgotten. With this experience also in mind, we have established business continuity plans (BCPs) based on a scenario of the Nankai Trough Giant Earthquake and Inland Earthquake in Tokyo, and in January 2015 we revised them.

To prepare for damages predicted in the future, the BCP defines in advance measures and response plans for quickly restoring operations post disaster, based on a certain level of anticipated damages, in order to minimize damages and shorten the time it takes to restore operations. It visualizes what to do, what order to do it in, and how to do it using a clear time-line to enable immediate responses to crisis or emergency situations.

The lessons of the 2011 earthquake and tsunami will be utilized in the future to further evolve the format and contents of our BCPs.

## Training Exercises based on the Scenario of the Nankai Trough Giant Earthquake

Ongoing training is important for the validation and continual improvement of our BCP's effectiveness. In November 2014, based on the scenario of the Nankai Trough Giant Earthquake, we conducted training with three goals in mind: namely, (1) Confirm the flow of actions and information sharing during a disaster; (2) Check the ability of the head office to coordinate with sites that have been damaged; and (3) Create a policy and plan for the quick restoration of oil product supplies.

Our earthquake BCP training involves a combination of: (1) Information coordination and confirmation training for maintaining the supply of oil products across the entire supply chain during a disaster; (2) Examination and implementation of response policies involving multiple departments concerning specific disaster responses, including coordinating supply-demand; and (3) Confirmation of procedures for disaster response involving individual departments (Table 1). Going forward, we will continue to carry out this training and improve the effectiveness of our BCP through constant updating so that we can ensure stable supplies of oil products and be better prepared for disasters and reduce possible damages.



At the outset of an emergency situation, a disaster response headquarters will be set up to gather and share information and to make decisions immediately..



## ● Types of Earthquake BCP Training (Table 1)

Our earthquake BCP training is based on the scenario of the Nankai Trough Giant Earthquake and Inland Earthquake in Tokyo and combines the following three training exercises.

Name	Details	Participating departments	Fiscal 2014
Comprehensive Training	Information coordination and confirmation training for maintaining the supply of oil products across the entire supply chain during a disaster, including head office, refineries and branch offices, etc. <b>Primary theme of training</b> Reporting of damages and inventories from affected sites, etc.	Head office / Branch offices Refineries and oil depots, etc. Affiliated service stations Affiliates and partner companies, etc.	Scenario of the Nankai Trough Giant Earthquake Conducted on November 28
Joint Training	Multiple departments take part in this training for the examination and implementation of policies involving multiple departments concerning specific disaster responses, including coordinating supply-demand. 1. Examination of supply-demand coordination (planning for supply restoration, etc.) 2. Examination of restoration policy for damaged refineries 3. In-house response concerning the plan for cooperation in oil supply during a disaster, etc..	Participating departments selected based on the type of training	Theme 1 Conducted on November 10
Individual Training	Confirmation of procedures for disaster response involving individual departments <b>Primary themes of training</b> Telecommunications training, emergency shipment facility setting training, sales policy setting training, back-up office setting training, safety confirmation training, email communication training for disasters, Michinoku ALERT2014 (discharge training sponsored by the Japan Self Defense Forces), etc.	Departments, branch offices, refineries and plants	- Telecommunication training conducted on September 4 - Michinoku ALERT2014 conducted on November 6 and 7 - Training for sales policy setting conducted on November 27 and as needed





**Activities of the safety confirmation team**  
(confirm and tally results of safety confirmation)



**Activities of the infrastructure response team**  
(confirmation of damages incurred by JX Nippon Oil & Energy sites and infrastructure)



**Activities of the IT response team**  
(confirmation of damages to systems)



**Activities of the emergency supply-demand response team**  
(confirmation of inventory and response to the plan for cooperation in oil supply during a disaster)



**Activities of the external response team**  
(confirmation of damages to social infrastructure)



**Activities of the secretariat**  
(operation of the disaster response headquarters central command center)

● **Public-Private Partnerships for Disaster Preparedness—Michinoku ALERT 2014, Nankai Rescue 27 and Northern Rescue 2015**

JX Nippon Oil & Energy participated in Michinoku ALERT 2014, a disaster response training exercise based on the scenario of a large-scale earthquake and tsunami held in November 2014 to facilitate the supply of oil to the Japan Self-Defense Forces conducting search and rescue missions and to reinforce systems for transporting oil for use by evacuation shelters and other civilian locations.

This is a joint training exercise in which the Ground Self-Defense Forces North Eastern Army and Tohoku Bureau of Economy, Trade and Industry utilize private-sector refineries and oil depots. During the exercise, Self-Defense Forces fuel tank trucks were filled with diesel fuel at the ground shipment terminal of the Sendai Refinery. This marked the first time that Self-Defense Forces fuel tank trucks were operated at a private-sector refinery. At the same time, a practice disaster response headquarters was set up at the head office and Sendai Refinery to confirm damages from the envisioned disaster, respond to shipment requests, and carry out shipment procedures.

In July 2015, the Chita Plant took part in Nankai Rescue 27, a joint training exercise involving the Ground Self-Defense Forces Middle Army and Chubu Bureau of Economy, Trade and Industry while in August 2015 the Rumoi Oil Depot participated in Northern Rescue 2015, a joint training exercise involving the Ground Self-Defense Forces Northern Army, Hokkaido Prefectural Government and Hokkaido Bureau of Economy, Trade and Industry.

Leveraging the knowledge gained from these training exercises, we plan on established a system where Japan Self-Defense Forces fuel tank trucks will be able to load fuel at all of our refineries, plants, and oil depots across Japan.



Michinoku ALERT 2014



Nankai Rescue 27



Northern Rescue 2015

## Plan for Cooperation in Oil Supply during a Disaster

Following amendments to Japan's Oil Stockpiling Act in November 2012, the plan for cooperation in oil supply during a disaster was created jointly among oil refiner-distributors in each of 10 regions spread across Japan. Under this plan, which was submitted to the Ministry of Economy, Trade and Industry, participating companies will work together to ensure stable supplies by sharing information on disaster-affected areas, enabling joint use of storage facilities, and accommodating local government requests for emergency shipments of fuel. With our nationwide sales network, we are a participating member in all 10 of these regions. Training was conducted based on the scenario of the Nankai Trough Giant Earthquake in June 2013 and 2014 while similar training was carried out for the Inland Earthquake in Tokyo in June 2015. During these training exercises, we worked alongside participating companies, the Petroleum Association of Japan, and government authorities to prepare for these disasters.

## Measures Against Pandemic Influenza and New Infectious Diseases

Much like major earthquakes, pandemic influenza and new infectious diseases are a potential threat of the future. Advanced preparations for such pandemics is absolutely essential given the risks involved. Based on the Act on Special Measures for Pandemic Influenza and New Infectious Diseases Preparedness and Response established in April 2013 as well as the National Action Plan for Pandemic Influenza and New Infectious Diseases and Guidelines for Pandemic Influenza and New Infectious Diseases established in June 2013, we have created a BCP for the scenario of pandemic influenza and new infectious diseases in order to secure the safety of employees and their families and to contribute to the continuity of our business operations.

### ● Voice of a Stakeholder

Approximately 30% of the requests for supplies sent to the government from disaster-affected areas following the Great East Japan Earthquake of March 2011 were for the supply of oil products and fuel. Most of these requests were from oil distributors who supply fuel for transport and other entities that played a role in supporting those affected by this disaster, such as for fuel for emergency generators of hospitals and heaters in evacuation shelters and fuel to power emergency personnel including the police and fire department.

This experience taught us once again that oil products occupy an indispensable presence not only in our daily lives, but even more so during times of disaster. This also made us even more keenly aware of the important responsibilities to society maintained by the government and by companies that provide stable supplies of oil.

The efforts of the JX Group and other related companies to reinforce their ability to respond to disasters are extremely helpful for Japan to maintain a stable quality of life. Among these, BCP represent a sort of independent action plan involving business operators in the field of oil supply, which greatly contributes to society as a whole and are the object of countless people's high expectations.

I would like the JX Group to continue to serve as a driver and role model in the oil industry through these ongoing efforts and work toward maintaining a stable lifestyle through the supply of oil products in Japan together with related companies, the national government, and local governments.



Kentaro Oe  
Deputy Director,  
Oil Supply and Reserve Policy  
Ministry of Economy, Trade and Industry

## Expanding the Number of Disaster Resilient Service Stations

The ability to deliver stable supplies of oil products even following a large-scale disaster is essential for facilitating rescue activities and ensuring the safety and security of those affected. Service stations, which handle hazardous substances, are constructed to be earthquake and fire resistant even in the face of a major earthquake per rigorous building standards. We are also rolling out ENEOS service stations that are highly disaster resilient so that emergency vehicles operated by the police, Self-Defense Forces, fire department, or hospitals can receive priority access to gasoline and diesel fuel, even during blackouts caused by a major earthquake.

We launched this resiliency initiative back in fiscal 2006 by equipping service stations with emergency generators and portable emergency pumps to ensure fuel can be supplied even without power. As of June 30, 2015, 685 of our service stations nationwide are now considered to be disaster resilient

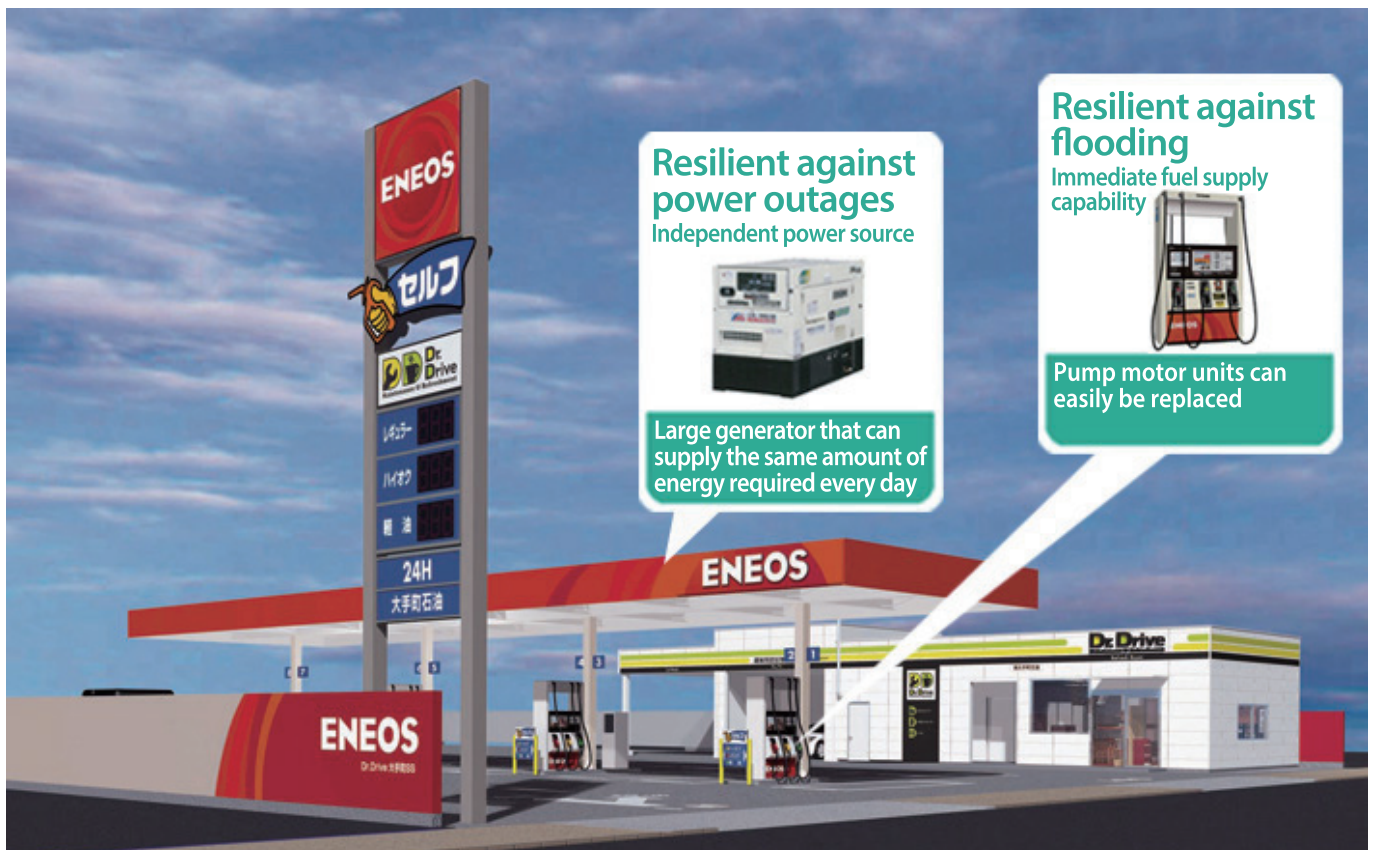


Emergency generator



Portable emergency pump

However, the Great East Japan Earthquake showed that service stations in certain areas may not be able to provide sufficient supplies of fuel to emergency vehicles and local residents because of longer than anticipated blackouts or flooding caused by tsunamis. Based on this lesson, since fiscal 2012 we have been working to rollout more disaster resilient service stations that have installed larger generators to ensure service stations can stay open 24 hours a day for extended periods of power outages, and that use flood-proof equipment in areas with the threat of flooding. As of June 30, 2015, we are operating 24 of these enhanced disaster resilient service stations nationwide, with plans to increase this number to 135 by the end of fiscal 2018.



Earthquake resilient service station with large generator and flood-proof equipment



## Special Feature 2 Responding to the Diverse Energy Needs

### Defining a Comprehensive Energy Company and Energy Conversion Company

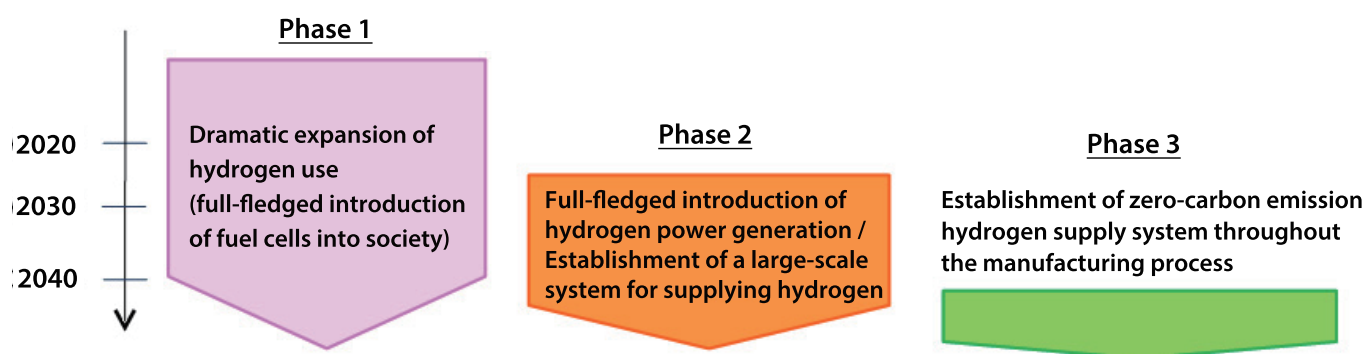
JX Nippon Oil & Energy, as a comprehensive energy company and energy conversion company, converts primary energy such as crude oil, coal, natural gas and other natural forms of energy that exists in nature into various forms of energy for consumers, such as gasoline or diesel for vehicles, kerosene, liquefied petroleum gas used in our homes, and further into electricity itself. Our mission is to effectively utilize limited resources while supporting the foundation of people’s daily lives and industrial activities, by responding to the various needs for energy.

Today, the supply-demand structure of energy is about to experience significant changes. One of our most important duties as a company that has delivered stable supplies of oil products over the years is to take action for the future of energy and pass this new approach to energy on to future generations. Our goal is to contribute to the realization of a sustainable economy and society by continually supplying environmentally-friendly, disaster-resilient, high quality energy safety and consistently.

### Hydrogen as the Future of Energy

Hydrogen is a clean energy that does not produce CO<sub>2</sub> when used; it can be manufactured in several ways from various energy sources, making it extremely important in terms of energy security. In particular, when used in stationary fuel cells, the heat from the generation process can be utilized, meaning energy can be used in a highly efficient manner. Hydrogen can also be used during emergencies as a distributed form of energy. For these reasons, hydrogen is garnering a great deal of attention as a new form of energy.

In fiscal 2014, government and industry efforts toward the realization of the energy society of tomorrow moved forward. The Basic Energy Plan was approved by the cabinet in April and the Ministry of Economy, Trade and Industry (METI)’s Strategic Road Map for Hydrogen and Fuel Cells was approved in June. These documents clarify timelines on targets and initiatives for each stage of hydrogen use, transport, storage, and manufacture, which paves the way for a new era in energy in which hydrogen plays an integral role.



Source: METI Strategic Road Map for Hydrogen and Fuel Cells

## Initiatives to Develop Infrastructure Needed for a Hydrogen Society

December 2014 saw the release of Japan’s first fuel cell vehicles, but the development of hydrogen stations is necessary to popularize this new form of transportation. The Strategic Road Map for Hydrogen and Fuel Cells has established a target to build 100 hydrogen services stations mainly in Japan’s four major metropolitan areas before the end of fiscal 2015.

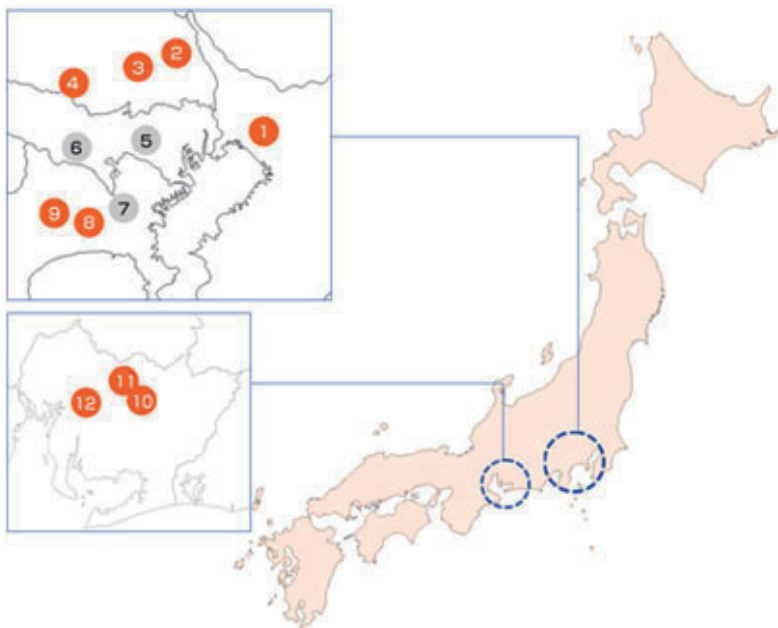
JX Nippon Oil & Energy is currently working on developing a hydrogen supply system for fuel cell vehicles based on its role as a company that has supplied energy powering vehicles for many decades. Since 2003 we have participated in various frameworks, including national projects, in an effort to test and demonstrate hydrogen station technologies. By conducting demonstration trials of technologies in almost real world conditions we have worked to establish the technologies and know how needed for popularizing fuel cell vehicles in Japan. Starting in 2013, we began carrying out demonstration trials involving an integrated service station with both gasoline and hydrogen filling capabilities. These efforts resulted in the first-ever commercial hydrogen station in Ebina City in December 2014. All told, we opened 12 hydrogen stations before the end of fiscal 2014. Since then, we have mainly worked on building these integrated service stations and plans call for some 40 of these locations to be opened in Japan’s four major metropolitan areas.



Hydrogen station combined with service station in Ebina City

### Hydrogen Stations Already in Operation (as of September 30, 2015)

1. Hanamigawa Ward, Chiba City
2. Kasukabe City
3. Minuma Ward, Saitama City
4. Sayama City
5. Suginami Ward, Tokyo
6. Hachioji City
7. Asahi Ward, Yokohama City
8. Izumi Ward, Yokohama City
9. Ebina City
10. Okazaki City
11. Miyoshi City
12. Nagoya City



**● : Integrated**



Gasoline pumps and hydrogen dispenser located at the same location

**● : Standalone**



Only hydrogen dispenser

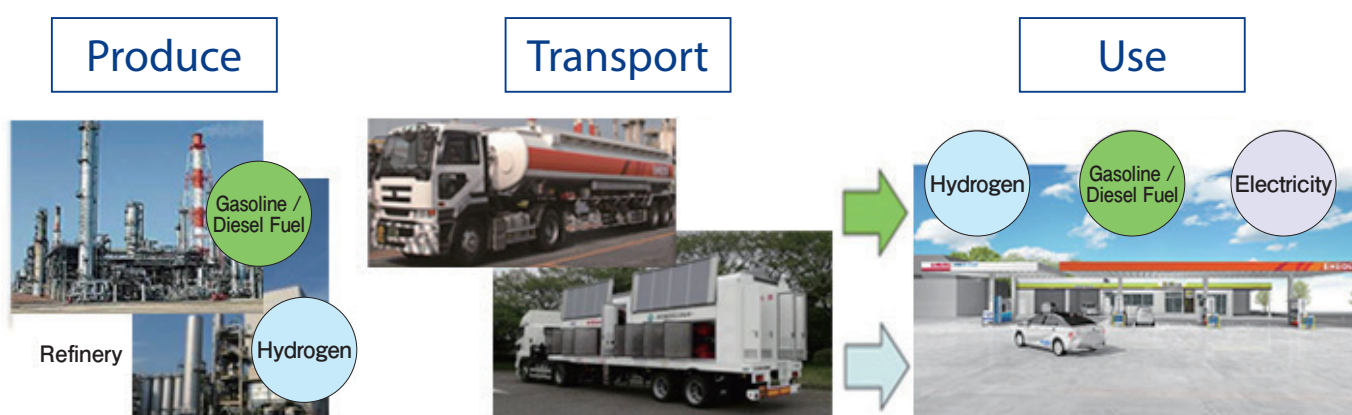
## Contributing to the Realization of a Hydrogen Society Throughout the Supply Chain

In addition to hydrogen stations, an integrated supply chain spanning from manufacture, transport, storage and use is essential for the realization of a hydrogen society.

JX Nippon Oil & Energy is working to create a safe and efficient supply chain by using its existing infrastructure and the know-how it has accumulated in the oil business. Our refineries have hydrogen manufacturing equipment onsite that possess a capacity to produce and supply large amounts of hydrogen. We will also be able to utilize our transport infrastructure and operational know-how for supplying vehicle fuel via a nationwide network of service stations to establish a hydrogen supply system for fuel cell vehicles.

In October 2014 we established ENEOS Hydrogen Supply & Service Corporation to carry out all aspects of the business, from the operation of hydrogen manufacturing and shipment facilities to order taking, delivery and hydrogen station operations. Together we will make the growing hydrogen supply station network of tomorrow a reality.

### Hydrogen Supply Chain



## Sharing the potential of the hydrogen society of tomorrow at the Tokyo 2020 Olympic and Paralympic Games

The Tokyo 2020 Olympic and Paralympic Games (Tokyo 2020) will serve as an excellent opportunity to showcase Japan's leading technologies to the rest of the world. Japan has already earned a strong reputation for its environmental technologies and one of the concepts that it would like to highlight in the year 2020 is the potential of a hydrogen society.

The specific strategic target of Tokyo Metropolitan Government's long-term vision is to introduce 6,000 fuel cell vehicles and open hydrogen stations at 35 locations in Tokyo by the year 2020.

JX Nippon Oil & Energy, as a corporate sponsor of Tokyo 2020, and as a comprehensive energy company paving the way for the hydrogen society of tomorrow, is committed to creating a new energy society by developing a hydrogen supply infrastructure while working closely with related organizations and companies.



JX Nippon Oil & Energy Corporation is a Gold Partner of Tokyo 2020 Olympic and Paralympic Games (Oil, Gas & Electricity Supply Services).

## ● Voice of a Stakeholder

Why is hydrogen energy garnering attention now?

The popularization of gasoline-powered vehicles has enabled us to create a comfortable society where we can go just about anywhere we want to freely. Energy industries have developed by benefiting from this fact. However, will we be able to access our current wealth of petroleum and other energy sources eternally? Energy issues such as global warming are now creeping closely into our daily lives.

Fuel cell vehicles that can travel long distances without emitting CO<sub>2</sub> were commercially released for the first time in December 2014. Hydrogen, which can be created from various renewable energies and fossil fuels, is now a fuel that powers vehicles. Therefore, the potential has now emerged that the issues of securing resources and environmental impacts can be solved simultaneously in the future.

Compared to gasoline vehicles that have a history and track record that spans over 100 years or electric vehicles, vehicles that run on fuel cells are still in their infancy. However, when this technology comes of age through the collective efforts of all Japan it carries the potential to solve Japan's energy issues. Hydrogen will contribute in many ways, such as making it easier to use renewable energy found in regions, significantly reduce CO<sub>2</sub> emissions, and reduce energy waste.

I anticipate that hydrogen will become an energy source useful in various fields as a key technology of a comprehensive energy company.



Kazunari Sasaki, Dr., Distinguished Prof.  
Director  
International Research Center for  
Hydrogen Energy,  
Kyushu University



## Expanding the Natural Gas Business – Operations Commenced at LNG Terminals in Hachinohe and Kushiro

Natural gas is garnering attention as one form of clean energy with less environmental impacts because compared to petroleum there are a wealth of natural gas reserves around the world, it can be supplied in a stable manner, and it produces less CO<sub>2</sub> and SO<sub>x</sub> emissions. To respond to rising demand for natural gas from power generation, utility gas, and industrial applications, JX Nippon Oil & Energy has worked on expanding its network of liquefied natural gas (LNG) terminals.

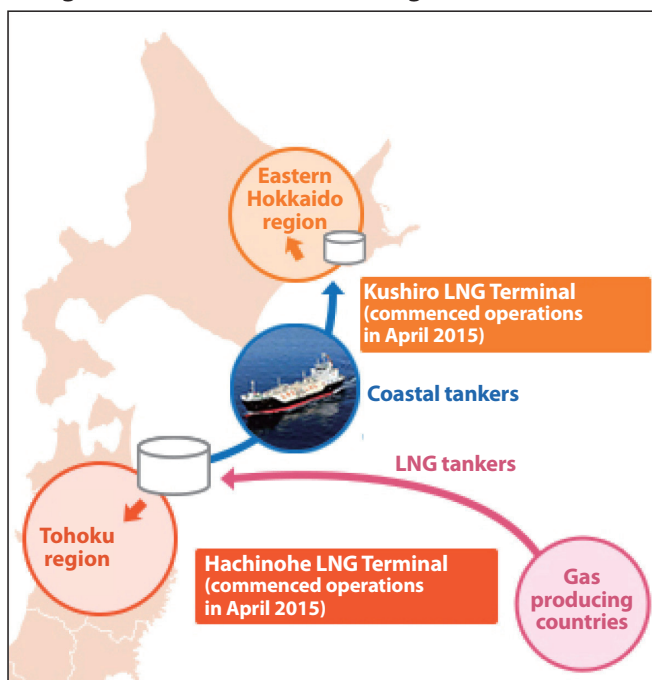
Following the opening of the Mizushima LNG Terminal (joint investment with The Chugoku Electric Power Co., Inc.) in Kurashiki City, Okayama Prefecture in 2006, we opened the Hachinohe LNG Satellite Terminal in Hachinohe City, Aomori Prefecture in 2007, and commenced to supply to the Tohoku region.

In expectation of further demand for natural gas, later we constructed the expanded Hachinohe LNG Terminal as an import base, and the Kushiro LNG Terminal in Kushiro City, Hokkaido as a receiving base for coastal LNG tankers, with both commencing commercial operations in April 2015. The Hachinohe LNG Satellite Terminal was closed following the opening of the Hachinohe LNG Terminal.

Since they have become operational, these terminals have expanded LNG supplies to the Tohoku region, and opened up a new supply channel to the Eastern Hokkaido region.

JX Group will continue to expand its business presence to contribute to regional economic development through the expanded use of environmentally-friendly natural gas and LNG while also carrying out safe operations at LNG terminals and implementing various environmental protection measures.

### Natural Gas and LNG Supply System for the Tohoku Region and Eastern Hokkaido Region



Hachinohe LNG Terminal

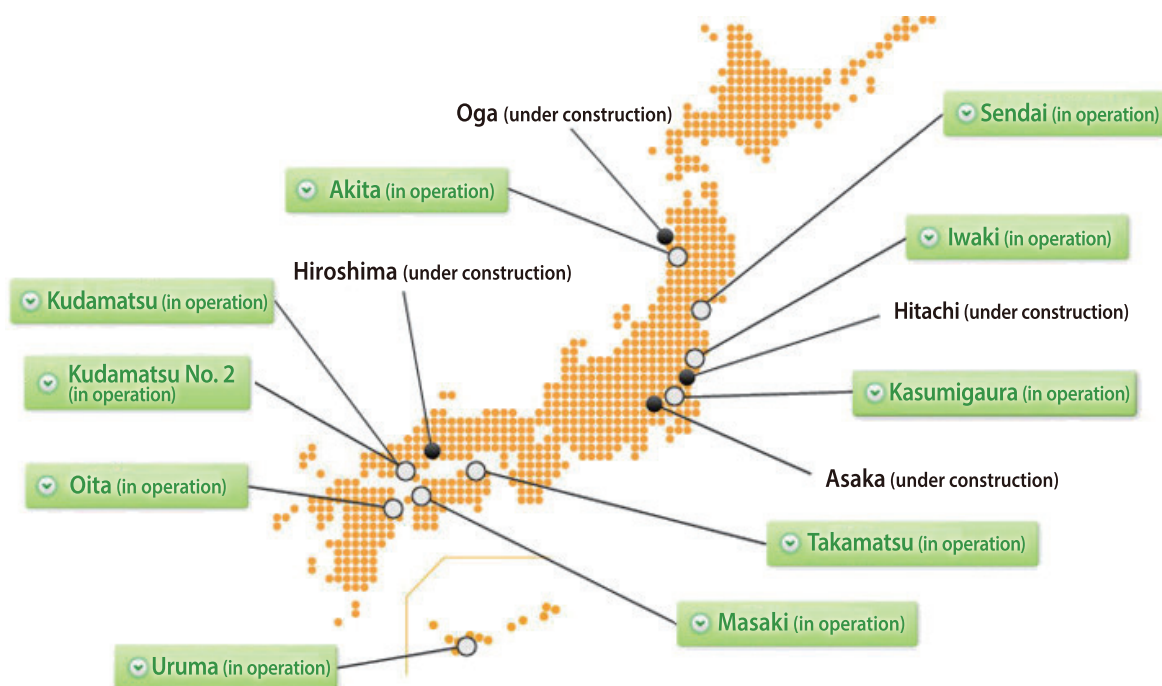
## Initiatives in the New & Renewable Energy Business

### Expanding the Mega Solar Power Plant Business

In an effort to expand its renewable energy business, JX Nippon Oil & Energy has constructed mega solar power plants utilizing idle lands of the JX Group since launching the business in February 2013.

In fiscal 2014, we opened new mega solar power plants at the former site of the Onahama Oil Depot in Fukushima Prefecture, the former site of the Kudamatsu Refinery in Yamaguchi Prefecture, the former site of the Akita Refinery in Akita Prefecture, the former site of the Matsuyama Oil Depot in Ehime Prefecture, the former site of the Takamatsu Oil Depot in Kagawa Prefecture, the former site of the Pan Pacific Copper's Saganoseki Smelter employee housing in Oita Prefecture, and onsite at the Okinawa CTS Corporation in Okinawa Prefecture. This brings the total number of mega solar power plants to 10 providing approximately 28 mega watts of generating capacity. In fiscal 2015 and beyond we plan on opening four additional mega solar power plants, which will have the capacity to generate approximately 35 mega watts of power.

We will continue to expand our presence in the renewal energy business going forward as an “energy conversion company” that efficiently converts energy into the format required by customers to deliver stable supplies of energy.



☑ Initiatives in the Mega Solar Power Plant Business (<http://www.noe.jx-group.co.jp/megasolar/index.html>)  
(available only in Japanese)

## ENEOS SOENE House Reopens

ENEOS SOENE House opened in March 2009 as a model home equipped with cutting edge energy equipment including an ENE-FARM residential-use fuel cell, photovoltaic power system, storage battery system. Given the Great East Japan Earthquake and rising energy prices, people's interest in energy has grown and as a result we have welcomed more than 10,000 visitors to the house. In October 2014, we reopened the house after a remodeling project that involved adding energy creation and energy conservation equipment, energy information systems to visualize energy usage, as well as an improved design so that the house can serve as a venue for disseminating various forms of information. The ENEOS SOENE House will be used to provide various forms of information on the future of housing and proposing ideal lifestyles as an energy company.

## 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. (a joint venture with Tokyo Gas 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.

☑ Electricity retailing business (PPS) ([http://www.noe.jx-group.co.jp/business/industrial/power/e71\\_buinpo\\_jigyo.html](http://www.noe.jx-group.co.jp/business/industrial/power/e71_buinpo_jigyo.html))  
(available only in Japanese)

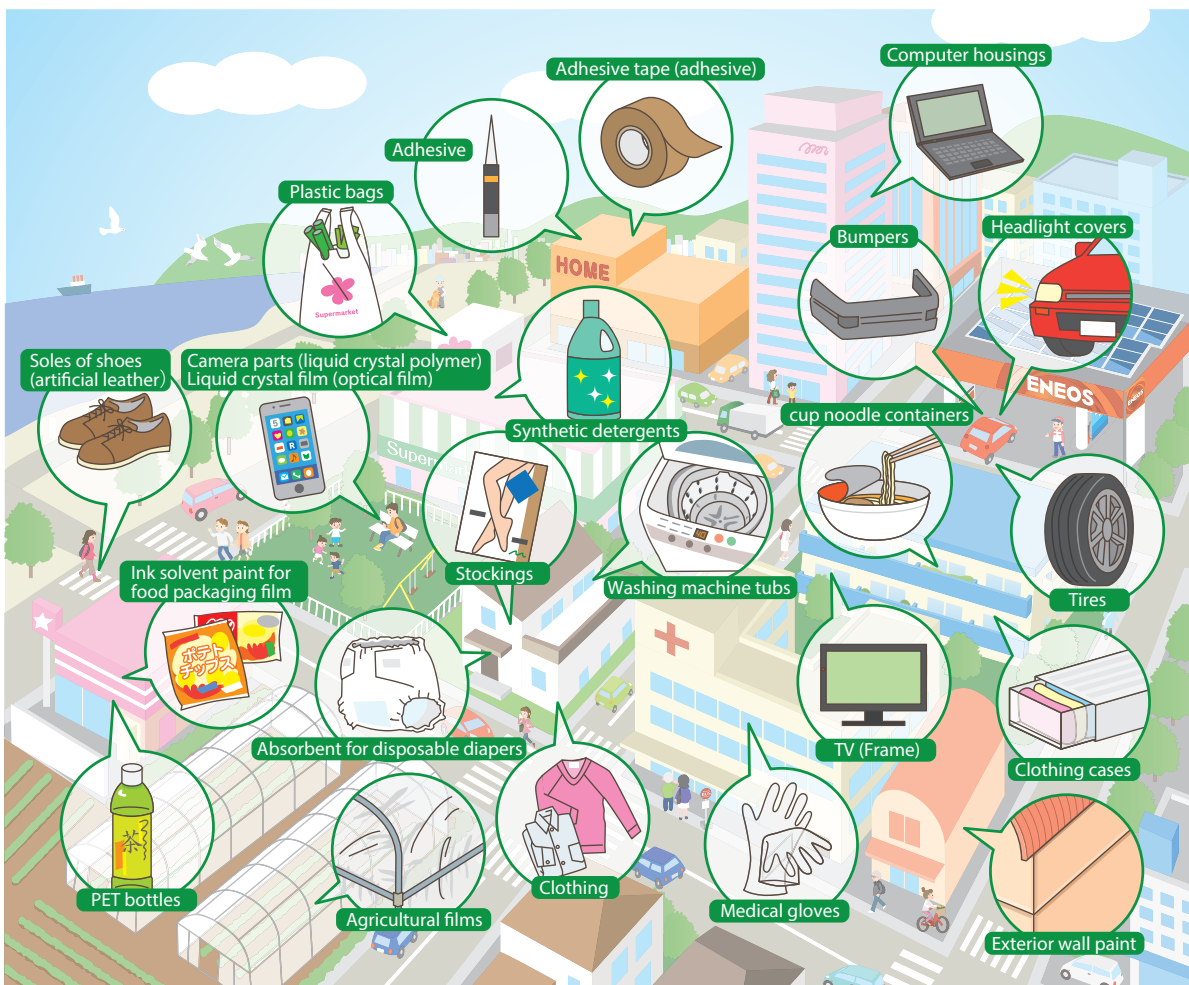
# Special Feature 3 Products that Contribute to Develop the Sustainable Society

## Products that Support People's Lives

To maximize the value of the limited resource of crude oil, JX Nippon Oil & Energy manufactures not only oil products, but also a wide range of petrochemical products as well.

The petrochemical products we produce are ultimately transformed into myriad products with added value, from apparel and daily essentials to automotive components and construction materials, just to name a few. Petrochemical products play a key role in supporting convenience and comfort in our daily lives.

We also supply a huge range of products that contribute to society, including value-added specialty chemicals & materials made with our proprietary technologies, and other products used in the industrial materials and life sciences sectors, among others.



### [Our main petrochemical products and their use]

<b>Ethylene</b> Polyethylene: Plastic bags and miscellaneous bottles PVC: Agricultural films and pipes	<b>Paraxylene</b> Polyester: Dress shirts PET: PET bottles	<b>Cyclohexane</b> Nylon: Stockings	<b>Isopropyl alcohol</b> Ink solvent paint for food packaging film Extracting solvent for active pharmaceutical/pesticide ingredients
<b>Propylene</b> Polypropylene: Bumpers, washing machine tubs, clothing cases Acrylic fibers: Sweaters Super absorbent polymer: Absorbent for disposable diapers	<b>Benzene</b> Polystyrene: TV (frame) and cup noodle containers ABS resin: Computer housings	<b>Polybutene</b> Adhesive Lubricant oil additive	<b>Linear alkylbenzene</b> Synthetic detergents
<b>Butadiene</b> Synthetic rubber: Tires, medical gloves, sole of shoes	<b>Cumene</b> Polycarbonate: Headlight covers	<b>Polyisobutylene</b> Chewing gum base Gel patch material	<b>C9 petroleum resin</b> Adhesive, ink, road paving materials

## Contributing to the Field of Medicine through Culture Media Made from Specialty Chemicals & Materials

Culture media may still be an unfamiliar term to many. Essentially, culture media refer to nutrient rich liquid or gel mixtures that include the necessary substances to grow cells outside the body.

Culture media are indispensable to biopharmaceuticals and infertility treatments. JX Nippon Oil & Energy supplies culture media for pharmaceutical manufacturing, products for in-vitro fertilization, and culture media for regenerative medicine. At first glance, it may seem that an energy company and the healthcare sector have little in common; however, healthcare has actually been one of our business lines for many years now. We continue to expand this business so that we can contribute even more to the fields of healthcare and pharmaceuticals through many years of our experience in R&D.

Below, we will take a closer look at the work of employees with the ICC & CT Group, located in the Specialty Chemicals & Materials Company's Cell Culture Material Unit, who are responsible for developing and marketing culture media.

### Supplying Culture Media Suitable for Needs of Customers and Society through Close Ties between R&D and Marketing Teams

**SUZUKI:** I'm in charge of developing culture media for vaccine production (a type of culture media for pharmaceutical manufacturing). The conventional manufacturing method requires high-quality chicken eggs for vaccine production. Disadvantages with this method are that such eggs have to be procured stably, and it takes a long period of time for making vaccines. In cases where large amounts of vaccine need to be produced in a short period of time, such as for new strains of influenza, there are certain limitations when using the conventional method. Vaccines made from cell culture using culture media can produce vaccines in a short time and in a stable and efficient manner. Therefore, there is rising demand in society for the development of these products.

**DOI:** I'm in charge of sales and marketing. I identify what the customer is having trouble with and what they need and then convey this to R&D staffs to ensure that customer needs are reflected in the development of prototype culture media. Additionally, when we receive a large quantity order, I work closely to coordinate with those in charge of manufacturing, quality control and logistics to monitor the overall flow of the order, from request to final delivery, in order to meet customer's request delivery date without any troubles and delays.

In most cases, culture media for pharmaceuticals manufacturing requires customization where each customer provides their unique specifications for the pharmaceutical to be manufactured. There are many technical requirements, so I often visit customers together with staff in charge of R&D. In the workplace, the desks of sales and marketing staff are located next to R&D staff. This makes it possible to get work done quicker as we can consult with one another along the way.

**SUZUKI:** I feel that engineers pursue what they think to be correct so much so that the end result sometimes deviates from customer needs. In order to overcome this issue, in our workplace engineers have many chances to speak directly with customers and they work in close proximity to sales staff. I believe it's a great environment for us to directly see the needs of customers and society firsthand. All of us strive to be aware of today's needs in our work.

**DOI:** The key to sales job is close coordination with other departments. As the contact window for customers, I strive to thoroughly understand and properly explain customer needs and the background whenever working together with people from development, manufacturing, quality assurance or logistics.



Yushi Suzuki  
Senior Staff  
R&D



## Feeling a Sense of Pride to Save People's Lives and Contribute to Their Health and Wellbeing by Culture Media

**SUZUKI:** Once the culture media for influenza vaccines that I'm in charge of developing is more widely used, it will deliver a great bit of value to millions of people around the world. Whenever I think about this, I feel a great sense of pride in my work, because my work can help save people's lives.

My group handles roughly three types of culture media—for pharmaceuticals manufacturing, infertility treatments and regenerative medicine. I believe my work contributes to people's health and wellbeing because we can cure illnesses and injuries that we couldn't before and help give birth to new life.

**DOI:** I'm handling culture media for manufacturing antibody pharmaceuticals (one type of culture media for pharmaceuticals manufacturing). Antibody pharmaceuticals are effective at treating cancer and articular rheumatism. Compared to conventional anti-cancer drugs with strong side effects, antibody pharmaceuticals attack only cancer cells, reducing the severity of side effects greatly. Culture media play an important role in the production of these antibody pharmaceuticals. I feel a great sense of pride and responsibility in my work.

**SUZUKI:** Our core oil products are considered a vital piece of infrastructure supporting our society. Similarly, culture media play an important role in supporting the manufacturing of pharmaceuticals that directly impact people's lives.



Hana Doi  
Senior Staff  
Sales & Marketing

## Our Role is to Provide and Scale-up True Value to Customers and Society

**SUZUKI:** At my current workplace, we focus on setting short-term milestones, but on occasion we are also able to openly tackle challenges over long-term time horizons. We are creating products for the needs of customers and society and not just our bottom line. The fundamental aspect of the specialty chemicals & materials sector is providing products tailored to customer needs. To achieve this, it is important to be constantly aware of the needs of customers and society as a whole.

**DOI:** I'm still a junior employee here at the company. Still, at the same time, I'm entrusted with great responsibility at work, and I'm building up a lot of experience. Going forward, I hope to increase my technical knowledge and directly engage in close and fruitful discussions with R&D staff so that we can propose appropriate solutions to customers in a timelier manner. With customers likely to increase overseas, and especially in Asia, I'm willing to contribute even more to societies around the world through culture media.

**SUZUKI:** In future, I hope to plan, propose and even develop my own solutions that will have an impact on society. To accomplish this, I will continue to be very mindful of correctly capturing the needs of society.



# Management Report

## ▶ JX Nippon Oil & Energy's CSR

- JX Group Mission Statement and JX Group Values
- Basic Policy and Promotion System
- United Nations Global Compact

## ▶ Corporate Governance and Internal Control

- ▣ JX Holdings, Inc.'s page on corporate governance

## ▶ Compliance

- Fundamental Approach
- Message from the President
- Understanding Applicable Laws and Risks
- Developing and Implementing Regulations based on Risks
- Legal Compliance Status Checks
- Training and Development
- Discipline for Compliance Violations
- Whistle-blower System (Compliance Hotline)
- Advice and Support concerning the Establishment of Compliance Systems at Subsidiaries

## ▶ Safety Measures

- Safety Policy and Examples of Safety Activities
- Occurrences of Industrial Injuries
- Earthquake Measures for Refineries and Plants
- Measures to Cope with Accidents and Problems
- Safety Initiatives at Refineries and Plants

## ▶ Risk Management

- ▶ Crisis Management
- ▶ Information Security

# JX Nippon Oil & Energy's CSR

## JX Group Mission Statement and JX Group Values

### JX Nippon Oil & Energy's Initiatives under "EARTH"

JX Nippon Oil & Energy engages in its corporate activities based on EARTH, the five values of "Ethics", "Advanced ideas", "Relationship with society", Trustworthy products/services" and "Harmony with the environment", as well as in accordance with the JX Group Mission Statement of "contributing to the development of a sustainable economy and society through innovation in the areas of energy, resources and materials".

- ▶ JX Group Mission Statement (<http://www.hd.jx-group.co.jp/english/company/philosophy.html>)



## Basic Policy on CSR and Promotion System

We have established CSR rules for fostering society's trust in the JX Nippon Oil & Energy Group and have created the following basic policy on CSR, priority fields and a promotion system in accordance with the JX Group Mission Statement.

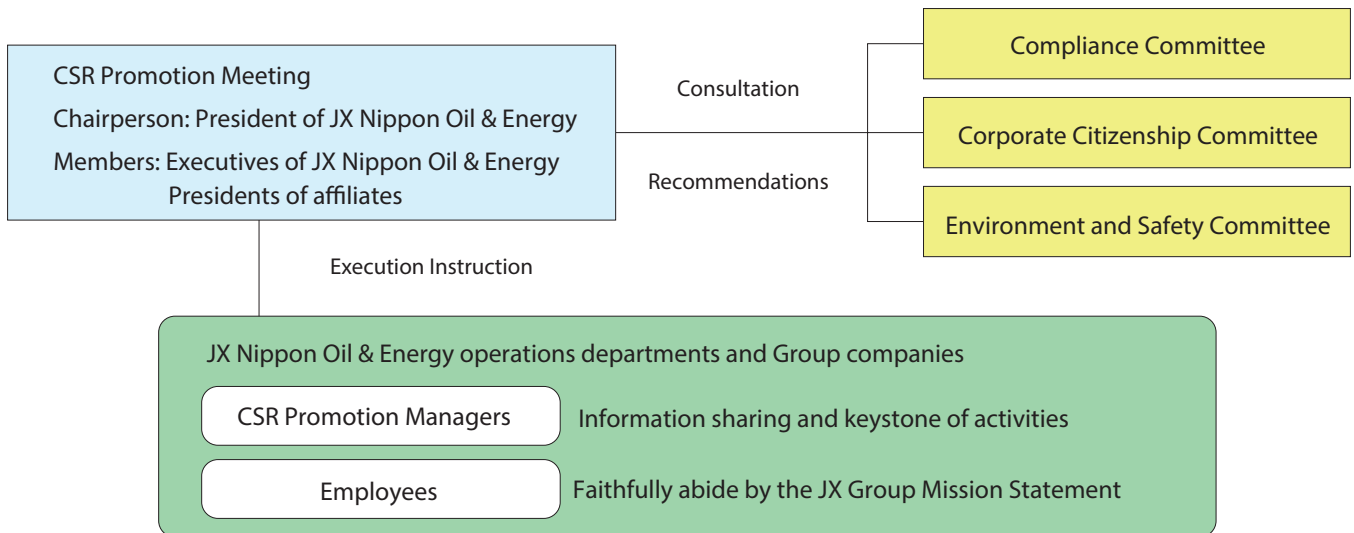
### Basic Policy

The JX Nippon Oil & Energy Group will steadily fulfill its responsibilities to society by ensuring that each and every employee abides by the JX Group Mission Statement as part of its aim to become a corporate group of companies trusted by its stakeholders.

### CSR Activity Priority Fields and Promotion System

The JX Nippon Oil & Energy Group has established "compliance (including information security and human rights)", "corporate citizenship" and "environment and safety" as the priority fields for its CSR activities.

We have established a CSR Promotion Meeting to oversee our CSR activities. This meeting includes the following three CSR committees that have been placed in a charge of each priority field respectively.



## United Nations Global Compact

JX Nippon Oil & Energy supports the 10 principles on human rights, labor, the environment and anticorruption advocated by the United Nations Global Compact. As a member of the Global Compact Network Japan, we are working to resolve international issues through our own business activities as well as to share the results of activities with other member companies and organizations.



Global Compact Network Japan

## The 10 Principles of the United Nations Global Compact

### Human Rights

- Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and
- Principle 2: make sure that they are not complicit in human rights abuses.

### Labour

- Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
- Principle 4: the elimination of all forms of forced and compulsory labour;
- Principle 5: the effective abolition of child labour; and
- Principle 6: the elimination of discrimination in respect of employment and occupation.

### Environment

- Principle 7: Businesses should support a precautionary approach to environmental challenges;
- Principle 8: undertake initiatives to promote greater environmental responsibility; and
- Principle 9: encourage the development and diffusion of environmentally friendly technologies.

### Anti-corruption

- Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

## The 10 Principles and JX Nippon Oil & Energy's Initiatives

### 4 Fields and 10 Principles

#### Human Rights

- Principle 1 :Support human rights advocacy and respect human rights; and
- Principle 2 : never be complicit in human rights abuses.

#### Labour Standards

- Principle 3 : Uphold freedom of association and effectively recognize collective bargaining;
- Principle 4 : eliminate all forms of forced labour;
- Principle 5 : effectively abolish child labour; and
- Principle 6 : eliminate discrimination in employment and occupation.

#### The Environment

- Principle 7 : Take precautionary approach to environmental challenges;
- Principle 8 : take initiatives to promote greater environmental responsibility; and
- Principle 9 : develop and diffuse environmentally friendly technologies.

#### Anti-corruption

- Principle 10 : Work against corruption including extortion and bribery.

### Main Measures

- ▶ Respect for Human Rights (page xx)
- ▶ Encouragement of Human Rights Awareness (page xx)
- ▶ Providing Workplaces where Employees can Thrive (page xx)
- ▶ Business Ethics Training (page xx)
- ▶ Legal Compliance Status Checks (page xx)
- ▶ Providing Employee-friendly Workplaces (page xx)
- ▶ Providing Workplaces where Employees can Thrive (page xx)
- ▶ Environmental Management (page xx)
- ▶ Global Warming Prevention Measures (page xx)
- ▶ Biodiversity Preservation Measures (page xx)
- ▶ Activities for Reducing Our Environmental Impacts (page xx)
- ▶ Developing and Supply Environmentally-Friendly Products and Services (page xx)
- ▶ Business Ethics Training (page xx)
- ▶ Legal Compliance Status Checks (page xx)
- ▶ Whistle-blower System (Compliance Hotline)

## Corporate Governance and Internal Control

Please see the Investor Relations page on JX Holdings, Inc.'s website for information about our corporate governance and internal control systems.

[JX Holdings, Inc.'s page on corporate governance \(http://www.hd.jx-group.co.jp/english/ir/system/governance.html\)](http://www.hd.jx-group.co.jp/english/ir/system/governance.html)

# Compliance

## Fundamental Approach

The JX Nippon Oil & Energy Group pursues fair business activities and has established various rules to govern the compliance of each group company in order to foster greater trust with society. Employees are also required to comply with all relevant laws, articles of incorporation and rules in every aspect of their work duties.

### Deficiencies related to the High Pressure Gas Safety Act

JX Nippon Oil & Energy's Mizushima Refinery (B Plant) had its "Accredited Completion Inspection Executor" and "Accredited Safety Inspection Executor" certifications in accordance with the provisions of the High Press Gas Safety Act revoked by the Ministry of Economy, Trade and Industry on December 25, 2012 for certain deficiencies found under the High Pressure Gas Safety Act.

As a certified business under the High Pressure Gas Safety Act, we have a duty to perform rigorous voluntary safety inspections and as such, we take this situation very seriously and once again offer our deepest regrets to everyone affected.

The JX Nippon Oil & Energy Group will take company-wide measures to rebuild its compliance system as well as to maintain and continually improve this system so that it can regain the trust of its stakeholders as soon as possible.

- ▶ Measures to Address Deficiencies related to the High Pressure Gas Safety Act  
(<http://www.no.ejx-group.co.jp/company/about/gaiyou/jigyousho/mizushima/observance/index.html>)  
(available only in Japanese)

## Message from the President

The President shares a message with employees of the JX Nippon Oil & Energy Group stating that legal compliance is mandatory for all business activities and violations will not be tolerated. The message also emphasizes that the President assumes responsibility for ensuring the company thoroughly practices compliance.

## Understanding Applicable Laws and Risks

The Company regularly checks for changes to laws and regulations and takes steps to address the risk arising.

## Developing and Implementing Regulations based on Risks

Executive officers and employees of the JX Nippon Oil & Energy Group identify risks related to legal violations in order to ensure effective compliance. Company rules are also in place to prevent such risks from emerging, and these rules are implemented effectively.

In fiscal 2014, we established an "Anti-Bribery Policy" and a system to prevent bribery has been established throughout the Group with a particular focus on divisions with a high risk of exposure to potential bribery. Additionally, we worked on establishing "Antitrust Compliance Guidelines" to ensure that executive officers and employees do not engage in cartel conduct or other violations of antitrust laws.

## Legal Compliance Status Checks

Legal compliance status checks are performed annually at JX Nippon Oil & Energy Group companies and include interviews conducted by supervisors in each business division. This approach enables us to check whether company operations or employee actions are in line with laws and regulations. If any problems are found during the course of these inspections, we immediately take action to remedy the situation.

In fiscal 2014, legal compliance status checks were held at all JX Nippon Oil & Energy Group sites as well as 22 designated affiliates between July and September.

At each site and affiliate, business operations were checked on a group basis. Problems found during the course of these checks will be resolved by creating and executing a response plan.

## Training and Development

We organize training and development sessions on compliance and legal matters in order to foster greater awareness in each and every one of the executive officers and employees of JX Nippon Oil & Energy Group companies to take responsibility in practicing good business ethics and compliance activities in their daily work duties.

### Legal Affairs Training

We regularly hold compliance training sessions for the executive officers and employees of JX Nippon Oil & Energy Group companies as well as other training sessions on a wide range of subject matter, including various laws such as Japan's Antitrust Law, the Act Against Delay in Payment of Subcontract Proceeds, etc., to Subcontractors, Anti-Bribery Law, the Financial Instruments and Exchange Act (insider trading portion), the Personal Information Protection Act, the Trademark Act as well as response anti-social forces, company rules and how to draft contracts, among others.

### Intranet-based Training

1. Providing updates on revisions to laws  
Information on revisions made to various laws is made available to all through the company's intranet system in list form.
2. Sharing the Results of Legal Compliance Status Checks  
The results of legal compliance status checks related to each site and important subsidiary of JX Nippon Oil & Energy are published on the company's intranet to share this information, which helps to raise awareness at subsidiaries and provide different vantage points.
3. Promoting Basic Legal Knowledge in the Workplace  
Documents used for legal training are published on the company's intranet so that all employees in the workplace can gain basic legal knowledge.
4. "The Fundamentals of Contracts" – Compilation of Sample Contracts and Commentary  
We have created a wide range of contract templates required for business purposes and commentary for each in order to improve knowledge of business agreements and streamline operations. This collection of templates and commentary is made available to all employees through our intranet system.



## Business Ethics Training

“Ethics” forms part of the JX Group Values because we believe that employees with highly esteemed ethics are essential to fulfilling our corporate social responsibilities.

To enhance our ethics, we need to identify what is correct and pursue the essence of things. This begins from the basic stance of questioning everything we do. That is, we question right and wrong in our daily work and ensure our employees take a resolute stance against problems, which enables us to fulfill the needs of society.

### ● Case Method Training

The JX Nippon Oil & Energy Group has created a business ethics training program with the cooperation of experts in business ethics that teaches using the case method. During this program, both executive officers and employees alike learn how to question their actions and their surroundings as well as strengthen their ability to make ethical decisions.

The program aims to foster correct ethical decision making in participants by identifying in advance the impact their actions during their daily work duties can have on our stakeholders. A group discussion format is used to encourage participants to share their true feelings and provide a platform for communication with their peers.

### ● Training Results and Future Initiatives

In fiscal 2014, we held a number of business ethics training sessions, including as part as rank-based training programs for promotions and also business ethics training using case studies and examples of where corporate scandals were prevented for every workplace. All told, 11 sessions were held with a total of around 320 participants. We will continue to organize and plan effective training sessions moving forward.

## Discipline for Compliance Violations

Accountability is made clear and strict discipline is enforced in accordance with the Companies Act or other laws for compliance violations to an executive officer or in accordance with employment regulations and company regulations for compliance violations to an employee.

## Whistle-blower System (Compliance Hotline)

A whistle-blowing hotline has been established both inside and outside the company to enable the executive officers and employees of JX Nippon Oil & Energy (including contract, part-time and temporary workers) as well as the executive officers and employees of its outsourcing and subcontracting partners to report legal violations. This is in addition to our system for employees to report such violations to managers for remedial action. We immediately investigate the facts behind all whistle-blower reports and if legal violations were found to have occurred, we take prompt steps to resolve the situation. Information related to whistle-blower reports is managed strictly as confidential information, while the names of the whistle-blower and employees involved in the response are only disclosed or provided to those protecting these individuals. Whistle-blowers are never subject to disadvantageous treatment for filing a report.

To improve the usability of our whistleblower system, starting from January 2013 we made anonymous reporting possible and we have set up individual hotlines at the Central Technical Research Laboratory and all of our branch office, refineries and plants, with efforts devoted to improving access and the appropriate implementation of these hotlines.

## Advice and Support concerning the Establishment of Compliance Systems at Subsidiaries

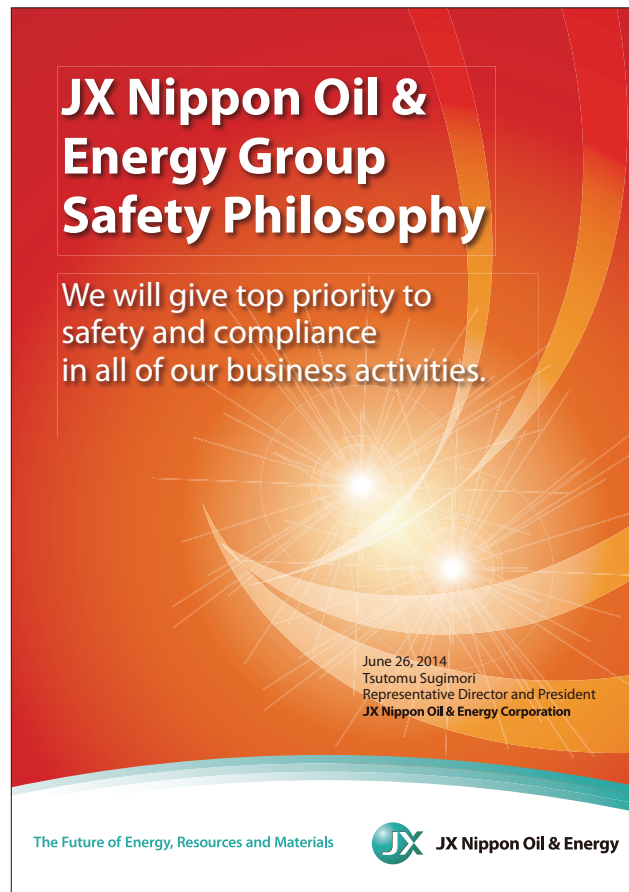
We provide advice and support to subsidiaries with regard to the establishment of compliance systems tailored to the unique nature and characteristics of their business operations.

In fiscal 2014, we assisted subsidiaries to establish company regulations, supported efforts to make revisions to such regulations, and conducted various training opportunities.

## Safety Measures

Our safety philosophy states “We will give top priority to safety and compliance in all of our business activities”. Under this commitment, we are working to achieve zero industrial injuries by initiating various safety measures and offering safety training for all of our employees, including those of our partner companies.

We have also implemented measures at our refineries, plants and stockpiling terminals to prevent accidents as well as launched an operational reform initiative at our refineries and plants to reduce potential equipment problems.



## Safety Policy and Examples of Safety Activities

Every fiscal year each of our divisions formulate key targets based on the JX Nippon Oil & Energy Group Safety Policy in order to implement safety activities to prevent accidents and injuries before they happen.

### ■ JX Nippon Oil & Energy Group Safety Policy

We of the JX Group will follow the basic policy outlined below as part of its efforts to eliminate accidents and industrial injuries:

1. Thoroughly abide by all rules
2. Consistently implement all safety activities; and
3. Enhance crisis management capabilities.

## Enhancing Safety Management

We operate our refineries and plants each and every day with a particular emphasis on our Group Safety Philosophy that states safety and compliance are the top priorities in all of our business activities.

Under our Group Safety Policy that emphasizes “consistently implement all safety activities,” we take various preventive approaches to occupational safety that include safety meetings, activities to detect possible dangers, and activities to prevent human errors, all in order to achieve zero industrial injuries.

These measures are being promoted not only by our employees, but the employees of our partner companies as well.

Every year we organize the Environmental and Safety Forum to promote higher quality environmental and safety management by reporting on common company-wide themes related to the environment and safety.



A workplace discussion on safety  
(safety meeting)



Safety check before work



Environmental and Safety Forum

## Occurrences of Industrial Injuries

The following chart shows occurrences of industrial injuries at our refineries and plants over the previous fiscal years.

### Number of Industrial Injuries per Fiscal Year

	Lost Worktime	No Lost Worktime
Fiscal 2009	2	13
Fiscal 2010	1	20
Fiscal 2011	4	11
Fiscal 2012	3	10
Fiscal 2013	2	8
Fiscal 2014	4	6

## Earthquake Measures for Refineries and Plants

We are implementing the following initiatives as earthquake measures for our refineries and plants.

### Measures to Protect Lives

We are implementing the following measures with priority given to protecting lives in case of an earthquake or tsunami.

We have taken voluntary steps to seismically reinforce administrative offices where employees work and machinery rooms that control equipment. These works will be complete by the end of 2016. We have also designed locations and methods for an evacuation in case of an earthquake or tsunami and carry out disaster preparedness training every year.



Seismic reinforcement of buildings Example

## Measures to Seismically Reinforce Facilities

We are implementing the following measures to seismically reinforce equipment and facilities.

For tanks that store hazardous materials, we are moving forward with the legally required seismic reinforcement work. So far we have completed work on 132 of our 218 floating-roof tanks subject to this requirement. We plan on completing work on the remaining tanks prior to the statutory deadline of the end of fiscal 2016. In addition, we plan on completing seismic reinforcement work on 119 of our internal floating-roof type tanks subject to legislation enacted in fiscal 2011 by the statutory deadline of the end of fiscal 2023.

As for high pressure gas facilities, we have carried out seismic performance evaluations based on administrative directives and following the Great East Japan Earthquake we are now retrofitting spherical tanks with braces and carrying out seismic measures on critical facilities.



Example of brace retrofitting for a spherical tank

## Measures to Mitigate Damages from a Disaster

We have installed a system at all of our refineries and plants that automatically shuts down equipment during an earthquake depending on the intensity. This system uses seismographs to ensure equipment is shutdown in speedy and safe manner should a major earthquake strike.

## Measures to Cope with Accidents and Problems

### Disaster Prevention Facilities

We have installed a wide range of disaster prevention facilities and developed measures at our refineries, plants and stockpiling terminals in order to prepare ourselves for potential accidents or disasters.

#### ● Oil Spill Countermeasures

We are able to quickly respond to any oil leak, either on land or at sea. This is because we have multiple oil dikes surrounding our storage tanks and if a tank were to spring an oil leak, we have a system in place to stop the leak from spreading offsite. We also have oil fences and oil recovery vessels in place to respond to oil leaks at sea.



Extending an oil fence as part of a drill to stop marine pollution

#### ● Fire Countermeasures

Refineries that handle dangerous substances or high pressure gas also have large ladder trucks with hazardous material response capabilities, compressed air foam system (CAFS) tankers, high capacity water cannons, foam extinguishing systems, sprinkler systems, and large extinguishers onsite. In addition, these facilities also have disaster response vessels with firefighting capabilities to respond to accidents or disasters at sea.



Various fire trucks

#### ● Mutual Assistance System for Refineries

We have established a system with emergency response measures to enable organized support within the JX Nippon Oil & Energy Group during situations where single or multiple refineries are damaged in a major earthquake. This system ensures that we can execute a fast and agile response.



## Disaster Drills

### Comprehensive Disaster Drill

We hold comprehensive disaster drills regularly that involve our own disaster response organization to ensure that we can respond in a quick and agile manner should an actual accident or disaster strike. We also hold several other drills, including joint disaster preparedness drills involving joint disaster response organizations that include local fire departments and companies.



Firefighting during a comprehensive disaster drill

### We are working to enhance or crisis management capabilities and collaboration with local communities to prepare for potential disasters



Disaster training involving local community members

#### Initiatives at JX Nippon Oil & Energy Staging Terminal Corporation

The Kiire Terminal receives and ships crude oil as the JX Nippon Oil & Energy Group's front line storage terminal in Japan. It serves as a hub at the terminus of an "oil road" that connects oil producing countries to our refineries, with some 500 oil tankers entering and departing its port every year. We focus a great deal of our energy on ensuring safety both at sea and on land to maintain the smooth flow of traffic on this oil road.

We hold more than 300 disaster drills each year in order to prepare for potential disasters and guarantee safety, under the slogan "Safety is not complete or possible in the real world without a score of 120". These drills are held on a standalone basis at the Kiire Terminal and jointly with local governments, agencies and community members. Going forward, we will continue to strengthen collaboration with local community members and establish a system that ensures we can immediately respond in the event of a disaster.

### Firefighting Skills Competitions

Our employees proactively take part in firefighting skills competitions organized by fire departments to maintain and enhance their abilities as part of their commitment to be prepared in the event of an accident or disaster.



A skills competition held at the Negishi Refinery

### Site Visits to Firefighting Drills

Employees in charge of the initial response to a disaster visit the Maritime Disaster Prevention Center to observe firefighting training drills for industrial complexes. During their visit, they learn about the correct initial response and firefighting strategies.

## ● Communications Training

JX Nippon Oil & Energy Group refineries, plants and stockpiling terminals regularly hold drills conducted using real time simulations in order to prepare them to disclose information on changing conditions following an accident or disaster to the media and stakeholders in an appropriate manner.

During communications training, employees act as reporters or local community members to prepare our response team to handle telephone enquiries and press conferences in the event of a disaster. This training helps us to identify challenges and take steps to make improvements prior to an actual accident or disaster occurring.



Response headquarters during the communications training drill

## ● Safety Initiatives at Refineries and Plants

Visit the following link about safety initiatives at each refinery and plant (available only in Japanese).

- ▶ Sendai Refinery (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/sendai/safe/index.html>)
- ▶ Negishi Refinery (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/negishi/safe/index.html>)
- ▶ Mizushima Refinery (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/mizushima/safe/index.html>)
- ▶ Marifu Refinery (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/marifu/safe/index.html>)
- ▶ Oita Refinery (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/oita/safe/index.html>)
- ▶ Muroran Plant (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/muroran/safe/index.html>)
- ▶ Kawasaki Plant (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/kawasaki/safe/index.html>)
- ▶ Yokohama Plant (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/yokohama/safe/index.html>)
- ▶ Chita Plant (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/chita/safe/index.html>)
- ▶ Kashima Refinery (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/kashima/safe/index.html>)
- ▶ Osaka Refinery (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/osaka/safe/index.html>)



# Risk Management

JX Nippon Oil & Energy has developed a robust risk management system that is capable of foreseeing crisis management needs and potential risks in order to ensure that the company can provide society with stable supplies of the energy that is essential to our everyday lives.

## ▶ Crisis Management

- Crisis and Emergency Response
- Comprehensive Disaster Preparedness Measures

## ▶ Information Security

- Information Security

# Crisis Management

JX Nippon Oil & Energy has established a basic policy to continue to supply its products during a large-scale disaster and fulfill its corporate social responsibilities as a supplier of petroleum products essential to Japan's economy and consumer lifestyles and as business that makes wide-reaching contributions to society. To fulfill these critical responsibilities, we have formulated a disaster management operation plan, as designated public corporation based on the Disaster Countermeasures Basic Act. We have established a comprehensive disaster management system that includes business continuity plans for the occurrence of the Inland Earthquake in Tokyo or Nankai Trough Giant Earthquake, or the occurrence of pandemic influenza and new infectious diseases.

## Crisis and Emergency Response

Daily preventive activities are fundamental to crisis management, and JX Nippon Oil & Energy strives to prevent accidents and problems before they occur by using operations manuals and training programs with an emphasis on compliance. We have also established a system that enables us to respond to a crisis or emergency in a timely and appropriate manner.

Our crisis management rules stipulate that a response headquarters led by the president whenever an incident occurs that significantly impacts the management of the company, such as disaster, accident or misconduct. Under these rules, the five points listed below will be followed as a basic response.

1. Priority must be given to protecting human life and/or the environment
2. Information must be conveyed in timely manner and centrally managed
3. Decide, implement and monitor the best solution as quickly as possible
4. Communicate smoothly and transparently
5. Prevent all reoccurrences

If an accident or problem does occur, we are ready to quickly announce details to the public through a news release or via our corporate website and to initiate all means necessary to prevent any and all reoccurrences.


## Crisis Management Rules

1. Either of the following situations that require a company-wide response or a coordinated response involving relevant departments shall be considered a crisis or emergency situation.
  - (1) Serious situations in which people suffer or might suffer injuries/damages
  - (2) Situations in which significant damage is caused or may be caused to a third party's property
  - (3) Situations in which a serious legal violation occurs or may occur
  - (4) Situations where our company name or brand name is reported or may be reported in mass media, including TV, newspapers and the Internet
  - (5) Situations in which the management of the company is significantly impacted or might be significantly impacted due to the nature, scale, urgency or societal interest of the situation
2. If a crisis or emergency situation occurs, the person in charge of the location where the situation occurred will immediately report to the President through the General Manager of the Crisis Management Department.
3. After receiving this report, the President will establish a response headquarters led by him/herself when determined to be necessary. This organization will lead the company's emergency response.
4. The response headquarters will centrally manage all information related to the crisis or emergency situation as well as determine and order measures be executed. It will also investigate the cause(s) and take steps to prevent any and all reoccurrences.

## Comprehensive Disaster Management Measures

### Disaster Management Operation Plan

Effective April 1, 2015, JX Nippon Oil & Energy was authorized as a designated public corporation in accordance with the Disaster Countermeasures Basic Act. Designated public corporations maintain an obligation to cooperate in facilitating the formulation and implementation of Japan's national disaster management plans. Such corporations must formulate a disaster management operation plan, establish a disaster management system and take steps to prevent damages from a disaster, including those in accordance with related laws and regulations. Designated public corporations also carry out emergency measures and disaster recovery measures to prepare for future disasters.

 Disaster Management Operation Plan (PDF: 838KB/15 pages) (<http://www.no.e.jx-group.co.jp/csr/management/risk/pdf/crisis.pdf>) (available only in Japanese)

### Earthquake Measures

In April 2014, the Government of Japan enacted the Strategic Energy Plan in order to implement long-term, comprehensive and systematic measures for the supply and demand of energy. In this plan, oil companies, along with LP gas providers, must establish a BCP/BCM for their supply network including affiliated service stations and distribution processes from refineries and oil depots as well as increase their capacity to respond so that necessary volumes of supply can be secured even in the aftermath of a major earthquake because of their role as the last line of energy defense.

JX Nippon Oil & Energy has established an in-house system for a major earthquake and BCPs based on the scenario of the Nankai Trough Giant Earthquake and Inland Earthquake in Tokyo that ensure it can maintain the supply of fuel oil during such an emergency. Additionally, together with related departments and partner companies, we repeatedly carry out training drills based on this scenario for each phase of the disaster, from immediately after a quake to the recovery period. This ensures that we are constantly improving the effectiveness of our BCPs.

#### 1. Preliminary Preparation

We have a safety confirmation service covering all of our employees, stockpile emergency supplies, and conduct disaster response drills at our refineries. We have created a mutual support system linking our refineries and established an emergency transport and sales system for our petroleum products. At the same time, we have taken measures to mitigate damages from a disaster at our refineries and oil depots that serve as important shipment points.

#### 2. Post-quake Response

In the event a major earthquake with a seismic intensity of 6-weak or larger strikes, a disaster response headquarters led by the president will be set up immediately at the head office of JX Nippon Oil & Energy. This organization is in charge of (1) confirming the safety of employees and their families, (2) checking for damages at JX Nippon Oil & Energy facilities, and (3) accommodating emergency demand for products from rescue activities implemented by the national government and local governments, and (4) releasing information to stakeholders.

#### 3. Response during the Recovery Effort

During this stage, we will (1) implement measures to restore damaged business infrastructure, (2) quickly establish a product supply system, (3) provide support for employees affected by the disaster and to the community, and (4) release information to stakeholders.

### Measures Against Pandemic Influenza and New Infectious Diseases

The Act on Special Measures for Pandemic Influenza and New Infectious Diseases Preparedness and Response was enacted in April 2013 in order to protect the health and lives of the people of Japan and minimize impacts on people's lives and the economy in the event of a highly pathogenic pandemic influenza or new infectious diseases with a similar threat level. In June 2013, the National Action Plan for Pandemic Influenza and New Infectious Diseases and Guidelines for Pandemic Influenza and New Infectious Diseases were revised.

JX Nippon Oil & Energy has established a BCP following this action plan and these guidelines to ensure the safety of employees and their family as well as the continuity of its business operations.

## Information Security

In accordance with the company's Basic Rules on Information Security, information security at JX Nippon Oil & Energy involves the prevention of improper access, disclosure or divulcation of corporate information, which is an important corporate asset, and the protection of corporate information against illegal access both from within and outside the company. This enables us to maintain corporate information in a complete and secure manner as well as provide approved users access to this corporate information whenever it may be needed.

We have also enacted the JX Nippon Oil & Energy Privacy Policy as a basic policy governing our protection of personal information. Going forward, we will continue to engage in educational activities including holding briefings on company rules pertaining to information security as well as conducting a survey on information security covering all business sites and using the results to provide feedback on the company's efforts, in order to foster greater awareness and improve employee knowledge of information security practices.

# Corporate Citizenship Report

## ▶ Customer Relations

- ▶ Fundamental Approach
- ▶ Providing Products and Services Beneficial to Our Customers
- ▶ Quality Assurance
- ▶ Pursuing Safety and Compliance for Quality Reassurance

## ▶ Employee Engagement

- ▶ Fundamental Approach
- ▶ Providing Workplaces where Employees can Thrive
- ▶ Providing Employee-Friendly Workplaces
- ▶ Human Rights Initiatives

# Customer Relations

## Fundamental Approach

JX Nippon Oil & Energy constantly infuses its business activities with new ideas and stands committed to pioneering the future of energy for the benefit of its customers.

To act as a trusted as well as indispensable partner for our customers, we continually strive to improve the quality of our products and services and to fulfill society's expectations toward us.

### ▶ Providing Products and Services Beneficial to Our Customers

- ENEOS New & Renewable Energy Business
- Efforts to Establish Infrastructure for the Hydrogen Society of Tomorrow
- Petrochemical Products
- Customer-centric R&D

### ▶ Quality Assurance

- JX Nippon Oil & Energy Group Quality Policy
- Quality Assurance System
- Quality Control
- Customer Satisfaction and Quality Month
- ISO9001 Certification
- Customer Service Center (Call ENEOS) Initiatives

### ▶ Pursuing Safety and Compliance for Quality Reassurance

- Quality Reassurance at JX Nippon Oil & Energy
- EU REACH Compliance
- GHS Compliance



## Providing Products and Services Beneficial to Our Customers

We constantly infuse our business activities with new ideas and are committed to pioneering the future of energy and natural resources for the benefit of our customers.

### ENEOS New & Renewable Energy Business

Based on the three pillars of “energy efficiency”, “renewable energy” and “independence”, JX Nippon Oil & Energy is advancing the ENEOS New & Renewable Energy Business to accommodate its customers’ energy efficiency and renewable energy goals in line with the changing energy landscape.

We are working to realize a society with independent and distributed energy systems and one that uses more renewable energy through the popularization of the ENE-FARM residential-use fuel cell and photovoltaic power generation systems as well as through mega solar power plant projects built on idle land owned by the JX Group.

- ▶ ENE-FARM (<http://www.no.e.jx-group.co.jp/lande/product/fuelcell/index.html>) (available only in Japanese)
- ▶ Photovoltaic power generation systems (<http://www.no.e.jx-group.co.jp/lande/product/solar/index.html>) (available only in Japanese)
- ☑ Mega solar power plant business (<http://www.no.e.jx-group.co.jp/megasolar/>) (available only in Japanese)

### Dr. Ouchino Energy

Dr. Ouchino Energy is a household energy consulting service, which proposes ways to optimize energy usage for the home, started in June 2012. This service uses an assessment to encourage the use of new energy devices best suited to each particular home, to promote energy efficient habits and to help improve overall energy performance. Today, the service has more than 900 energy consultants spread across every prefecture in Japan.

- ▶ Dr. Ouchino Energy (<http://www.no.e.jx-group.co.jp/lande/product/doctor/index.html>) (available only in Japanese)
- ☑ Dr. Ouchino Energy Dedicated Website (<http://www.no.e.jx-group.co.jp/uchiene/index.html>) (available only in Japanese)

### Efforts to Establish Infrastructure for the Hydrogen Society of Tomorrow

The first fuel cell vehicles were released in Japan in December 2014. JX Nippon Oil & Energy has plans to construct a total of 40 hydrogen stations at locations in Japan’s four largest metropolitan areas\*.

As part of its efforts to build a hydrogen supply system, we established ENEOS Hydrogen Supply & Service Corporation in October 2014.

- ▶ Establishment of ENEOS Hydrogen Supply & Service Corporation ([http://www.no.e.jx-group.co.jp/newsrelease/2014/20140716\\_01\\_0794529.html](http://www.no.e.jx-group.co.jp/newsrelease/2014/20140716_01_0794529.html)) (available only in Japanese)

Hydrogen is expected to become a prominent energy source that contributes to energy security and the realization of a low carbon society. Therefore, we are striving to establish a foundation for a new hydrogen supply business and to popularize independent and distributed energy systems rooted in local communities.

\* Selected for the Ministry of Economy, Trade and Industry’s Fuel Cell Vehicle Hydrogen Supply Facility Installation Grant Program.

## Petrochemical Products

Many of the things that support our way of life and economy, from plastics and textiles to rubber, paint and detergents are made from petrochemical products.

JX Nippon Oil & Energy manufactures chemical products for both basic chemicals, such as ethylene which forms the foundation for highly versatile products and specialty chemicals, which are processed to have their own unique qualities and functions required by customers.

In recent years demand for basic chemicals has skyrocketed, especially in the high growth markets of Asia. As a result, JX Nippon Oil & Energy completed construction on a paraxylene plant in South Korea in early 2014 and began commercial production in June 2014. Paraxylene is used to make polyester, with end uses including apparel and PET bottle.

JX Nippon Oil & Energy is working to build a global supply system while pursuing new possibilities for oil to meet the broad range of needs facing society and leveraging our long-standing technological expertise developed through the manufacturing of petrochemicals.



Ethylene manufacturing equipment at the Kawasaki Plant

This equipment is used to create petrochemical products by breaking down naphtha, kerosene or gas oil fractions together with steam at high temperature. Equipment used to make each derivative from basic chemicals produce here such as ethylene and propylene is connected with pipelines as part of a broader petrochemical manufacturing complex.

## Customer-centric R&D

As a comprehensive energy company, JX Nippon Oil & Energy is working to create new sources of energy as well as research and develop products and fuels that contribute to energy conservation in order to fulfill the needs of both customers and society alike.

- ▶ R&D ([http://www.noie.jx-group.co.jp/english/company/research\\_and\\_development/index.html](http://www.noie.jx-group.co.jp/english/company/research_and_development/index.html))

# Quality Assurance

Today more than ever companies must have an unwavering commitment toward quality. JX Nippon Oil & Energy’s fundamental approach and philosophy on quality assurance in the provision of products and services to its customers is outlined below.

## JX Nippon Oil & Energy Group Quality Policy

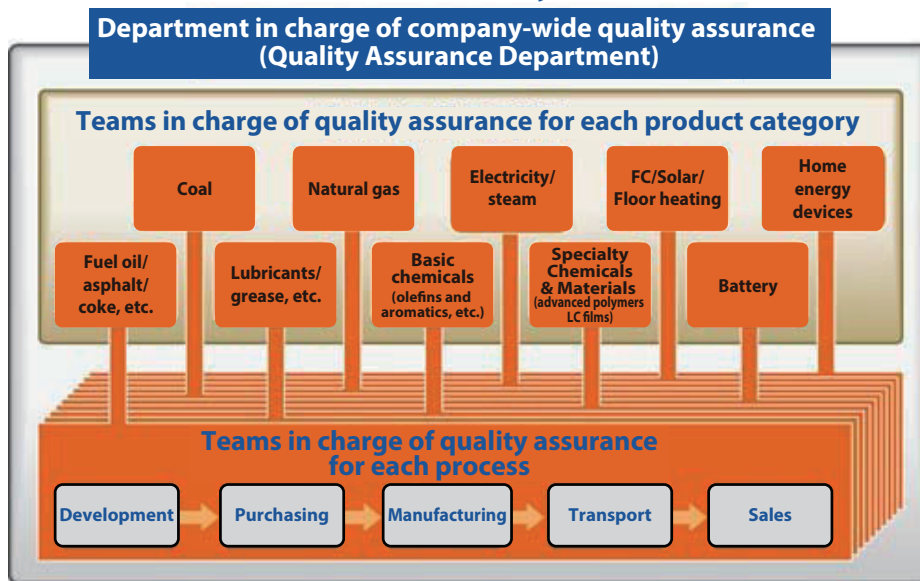
We of the JX Group will practice the following in order to ensure our products and services are reliable and satisfy customers.

1. Always act from the standpoint of the customer;
2. Continually strive to enhance and maintain quality; and
3. Strive to ensure products and services are safe and reliable.

## Quality Assurance System

Under our policy on quality, the Quality Assurance Department monitors the entire company’s quality assurance practices, while separate quality assurance teams have been set up to monitor quality control processes for each product category.

### JX Nippon Oil & Energy Quality Assurance System



## Quality Control

### Activities on the Production Floor

Our refineries and plants have initiated comprehensive activities aimed at eliminating quality complaints and troubles before they happen.

#### 1. Activities to share information on quality complaints or troubles across all departments

We have created a database on quality complaints and troubles that have occurred at our refineries and plants to share this information across all of these sites in order to prevent these issues from happening again.

#### 2. Activities to standardize work processes and technical standards

We encourage the sharing of best work practices from each of our business sites at our refineries and plants, and we are promoting standardization and visualization in the workplace to prevent quality troubles before they occur.

In addition, we have established technical certification standards to maintain and enhance the technical prowess of examiners as well as visualize their skill levels.

#### 3. Activities to inspect the quality control system

We inspect the quality control systems in place at our refineries and plants to identify and share their strengths and weaknesses, which in turn helps us improve quality control practices at each site.

We conduct special inspections on new processes whenever new unit is installed to mitigate risks associated with the occurrence of quality troubles.

### Measures on the Frontlines of Logistics

We work together with our transportation partners to control quality, maintain safety as well as prevent mistakes throughout the entire logistics value chain, from product loading to final delivery.

One of our main activities is the use of tank trucks equipped with high-tech\* contamination prevention equipment to carry gasoline, kerosene and diesel fuel. We are also stepping up comprehensive onsite checks involving both customer and tank truck driver at the delivery site. This shows that we are taking both hard and soft measures to prevent accidents. During the ground transport of lubricant products we ensure that our customer and the driver double check the destination, product name, mode of packing, number of units and appearance at the time of delivery to prevent potential issues from arising.

Additionally, we have created detailed training manuals and informative textbooks for tank truck drivers to promote full compliance with work procedures and safe operations.

\* High tech contamination prevention equipment forms part of a comprehensive system for preventing accidental mixing in which product information is centrally managed from when it is loaded at the shipment terminal to when it is offloaded at a service station or customer's site. At the time of delivery, the product type is identified with the petroleum product key on the receiving tank and offloading only begins after a sensor on the tank trunk matches the product type with the connected tank.

## Measures on the Frontlines of Sales

At service stations, where our products are delivered to end customers, we work together with service station operators to closely manage product quality and enhance customer satisfaction.

As part of our quality control practices, we utilize our service station facility safety inspection record sheets to perform daily, weekly and monthly inspections on service station facilities, including measuring devices and underground tanks, to ensure quality. We also utilize an educational DVD for service stations called “Preventing Water Contamination” and the “Service Station Quality Training Manual” to improve the knowledge and skills of attendants in order to respond quickly and appropriately in the event of trouble.

To enhance customer satisfaction, we implement customer satisfaction training programs and perform customer-centric checks using mystery shoppers. Our latest mystery shopper survey conducted in fiscal 2014 targeted 4,641 service stations across Japan, with 3,249, or 70%, receiving the highest possible score of S/A.

## Customer Satisfaction and Quality Month

JX Nippon Oil & Energy Group has set each November as “Customer Satisfaction and Quality Month” as part of our commitment to maintain heightened company-wide awareness towards customer satisfaction and quality.

## Theme for Fiscal 2014

# Moving on the Next Stage of Reform – Global Growth Buoyed by Quality

## Fiscal 2014 Slogan

# Quality is a Passport to the World; Working Daily to Improve Quality

(Created by: Hiroto Konno, Kuribayashi & Co., Ltd.)

In fiscal 2014, we solicited slogans for Customer Satisfaction and Quality Month from employees of the JX Nippon Oil & Energy Group and its partner companies. The slogan above was selected from a total of 12,200 entries that were submitted.

## Fiscal 2014 Poster



This year's poster design was created based on proposals solicited from employees.

## Message from the President to Employees of the JX Nippon Oil & Energy Group and its Partner Companies

On November 4, the President of JX Nippon Oil & Energy shared a message with employees of group companies and partner companies to call for solid initiatives to be undertaken during this month.

### President's Message (quick summary)

JX Nippon Oil & Energy carries out various initiatives for customer satisfaction and quality improvement as part of the Customer Satisfaction and Quality Month recognized every November.

We must supply high quality products and services as well as establish the ENEOS brand as the brand of choice for customers around the world in order to fulfill our duties as a comprehensive energy company and to further expand our presence in global markets.

Beginning with this year's Customer Satisfaction and Quality Month, I would like us to take this opportunity to change our way of thought and move on to the next stage of growth through daily efforts at work that transcend the status quo.

## Independent Activities Planned for Each Workplace

Each JX Nippon Oil & Energy Group workplace carried out their own innovative and independent initiatives.

### Examples of activities:

- Training drills for initial response to quality issues and patrols covering tank truck deliveries
- Training session and discussion on quality assurance
- Visits to affiliates and information sharing sessions as well as participation in lectures by external organizations

In addition to the above, we host lectures at the head office building led by guest speakers and disseminate information on customer satisfaction and quality.



## ISO9001 Certification

JX Nippon Oil & Energy has acquired ISO9001 certification for its quality management system under which it continues to make improvements to quality control and quality assurance practices for its products.

As of March 2015

Business Sites Having Obtained Certification		Month of Certification
Specialty Chemicals & Materials Company	Advanced Polymers Business Unit	September 2001
Refineries / Plants	Sendai Refinery	December 1998
	Negishi Refinery	February 1995
	Mizushima Refinery	April 1996
	Marifu Refinery	April 1996
	Oita Refinery	May 1997
	Muroran Plant	May 1995
	Kawasaki Plant	May 1995
	Yokohama Plant	March 1995
Chita Plant	February 1994	
Terminals	Sodegaura Terminal	October 1996
Osaka Refinery, Osaka International Refining Company, Limited.		April 1996
Kashima Refinery, Kashima Oil Co., Ltd.		November 1995

## Customer Service Center (Call ENEOS) Initiatives

JX Nippon Oil & Energy receives feedback from its valued customers through the ENEOS Customer Service Center.

Our customer service center handles enquiries using easy-to-understand, considerate explanations and addresses complaints honestly and appropriately.

In fiscal 2014, we received a total of about 24,660 enquiries and customer service center representatives answered a wide range of questions that included everything from ENEOS credit card program benefits to our products.

### ■ As for enquiries about our service stations

ENEOS service stations can be found in approximately 10,800 locations (as of March 31, 2015) across Japan, but each is operated by a separate corporate entity.

As a result, enquiries about the operations of individual service stations are handled by the company in charge of operations. However, this information is shared with JX Nippon Oil & Energy to ensure that we can monitor each company's commitment to enhancing customer satisfaction.

# Pursuing Safety and Compliance for Quality Reassurance

## Quality Reassurance at JX Nippon Oil & Energy

JX Nippon Oil & Energy considers safety\* and compliance in quality to be one of the most important factors for the peace of mind of its customers.

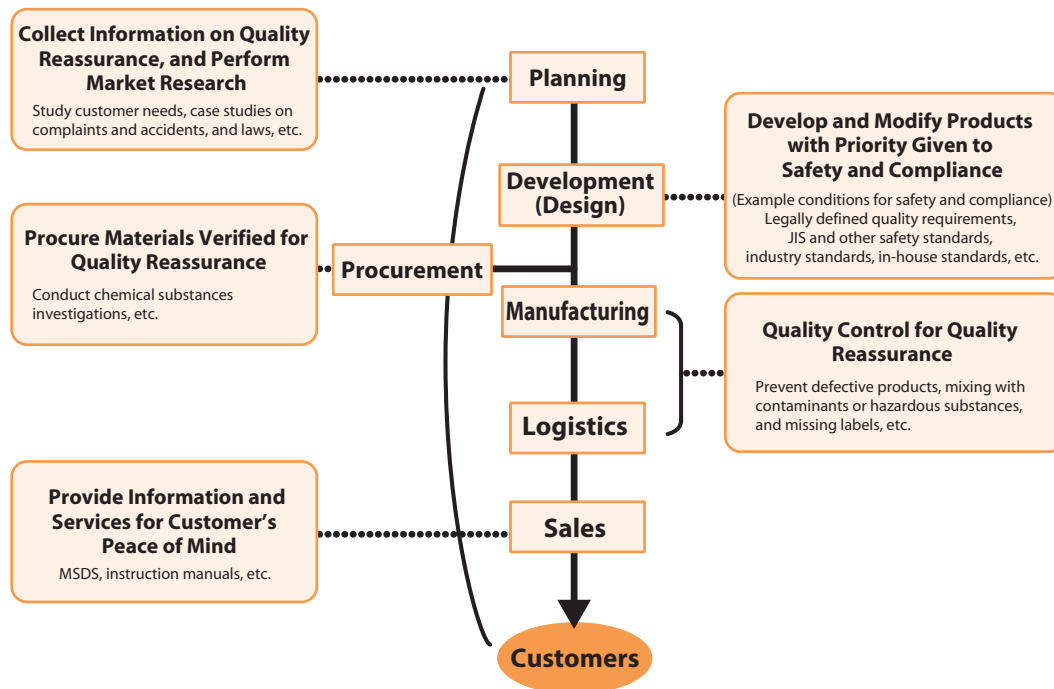
\* Safety at JX Nippon Oil & Energy means that a product is safe for people and the environment during its use, re-use and after disposal. The proper provision of safety measure information also serves to complement overall safety.

In order to reassure quality, we have established a basic policy, rules for each process and standards for the chemical substances used in our products. We are also working to strengthen our systems and initiatives in safety and compliance.

### Basic Policy on Quality Reassurance

- (1) Engage in new product development and/or modify existing products with a focus on quality reassurance
- (2) Select raw materials and components that fulfill guidelines on quality reassurance
- (3) Determine product specifications based on quality reassurance
- (4) Thoroughly monitor quality in manufacturing processes
- (5) Thoroughly monitor quality in logistics processes
- (6) Provide easy-to-understand and appropriate safety measure information
- (7) Quickly respond to troubles with the utmost priority given to customer safety
- (8) Pursue safety through proactive communication with customers and society

#### Activities in Each Process



## Guidelines on Chemical Substances in Our Products

JX Nippon Oil & Energy has established its own proprietary standards for managing the chemical substances used in its products. We have defined prohibited or phased out substances (PCBs, asbestos, lead compounds, etc.) and substances that require monitoring (metallic compounds and VOCs such as xylene) to better manage their use in hazardous products that could negatively affect the environment or people's health. Through these efforts we are working to mitigate any harmful effects attributed to chemical substances.

## EU REACH Compliance

In June 2007, the European Union enacted a new regulation on chemical substances called REACH\*.

\* Registration, Evaluation, Authorization and Restriction of Chemicals

This regulation requires that companies register safety performance data for nearly every chemical substance that was either produced in or imported to the European Union with a volume of more than one ton per year.

JX Nippon Oil & Energy has completed the registration of all chemical substances that it will likely export to the European Union as follows.

Export Volume (tons/year)	Registration Timeframe
More than 1,000	November 2010
More than 100 and less than 1,000	May 2013

Currently, we are preparing to register those chemical substances exports that do not exceed 100 tons per year by the year 2018.

## GHS Compliance

GHS\* is a worldwide system that standardizes the categorization and labeling of the threat level associated with specific chemical products.

\* The Globally Harmonized System of Classification and Labeling of Chemicals

This system identifies the inherent danger posed by chemical substances and compounds and conveys this information to people (consumers and workers) who handle chemicals. This safeguards people's health and safety as well as helps protect the environment

In conjunction with revisions made to Japan's Industrial Safety and Health Act in 2006, JX Nippon Oil & Energy now ensures that container labels and the Safety Data Sheet (SDS) for products stipulated in this law are fully compliant with GHS. Additionally, we will commence the use of container labels that have two-colored pictorial symbols from January 2016 in conjunction with modifications made to the Act's rules and regulations.

00001

内燃機関用

# ENEOSレギュラーガソリン

<p>成分:ガソリン (ベンゼン、トルエン、キシレン、ノルマルヘキサンを含む) 有機溶剤中毒予防規則 第2種有機溶剤</p> <p style="text-align: center;"><b>危険</b></p> <div style="display: flex; justify-content: space-around; align-items: center;"> </div> <ul style="list-style-type: none"> <li>•極めて引火性の高い液体及び蒸気</li> <li>•発刺激</li> <li>•肺、腎臓の障害</li> <li>•脱気やめまいのおそれ</li> <li>•水生生物に有害</li> <li>•長期的影響により水生生物に有害</li> <li>•皮膚刺激</li> <li>•発がんのおそれの疑い</li> <li>•長期又は反復暴露による神経の障害</li> <li>•長期又は反復暴露による血管の障害のおそれ</li> <li>•飲み込み、気道に侵入すると生命に危険のおそれ</li> </ul>	<p style="font-size: 1.2em; font-weight: bold;">火気厳禁</p> <p style="font-size: 1.2em; font-weight: bold;">危険等級Ⅱ</p> <p style="font-size: 1.2em; font-weight: bold;">第4類第1石油類</p> <p style="font-size: 1.2em; font-weight: bold;">200L</p>
<p><b>【予防策】</b></p> <ul style="list-style-type: none"> <li>•ガソリンエンジンにのみ使用すること。</li> <li>•他の石油製品と混合使用しないこと(事故及びエンジン故障の原因となるため)。</li> <li>•燃焼時はエンジンを停止させること。</li> <li>•すべての安全注意(MSD等)を読み理解するまで取り扱わないこと。</li> <li>•容器を密閉しておくこと。</li> <li>•熱、火花、高温体等の着火源から遠ざけること。禁煙。</li> <li>•可燃性の電気機器、換気装置、照明機器、火花の出ない工具を使用すること。</li> <li>•静電気放電に対する予防措置を講ずること。他の容器に移し替える場合には、必ずアースをすること。</li> <li>•ホース等を使用して自分で吸い上げないこと。</li> <li>•保護手袋、保護眼鏡、保護衣を着用すること。</li> <li>•容器または換気の良い場所でのみ使用し、マスク、蒸気の吸入を避けること。</li> <li>•この製品を使用する時に飲食をしないこと。</li> <li>•可燃性液体はよく平を扱うこと。</li> <li>•空容器に注ぎかけないこと(漏れの恐れがあるため)</li> <li>•容器を清掃、加熱、穴あけまたは切削しない(残留物が爆発、発火する恐れがあるため)。又は、転倒や落下させたり、衝撃を加えたり、引きずる等の危険な扱いをしないこと。</li> </ul>	<p><b>【対応】</b></p> <ul style="list-style-type: none"> <li>•火災の発生: 消火には粉末消火器を使用すること。</li> <li>•こぼれた場合: 直ちに拭き取る。</li> <li>•皮膚(または目)に付着した場合: 直ちに汚染された衣服を脱ぎ、皮膚を大量の水と石鹸で洗うこと。汚染された衣服を再使用する場合には洗濯すること。</li> <li>•皮膚刺激が立った場合: 医師の診断・手当てを受けること。</li> <li>•吸入した場合: 水で喉が潤せ深く吸うこと。高圧・コンタクトレンズを着用している容室に内着する場合は必ず、その後も洗浄を続けること。医師の診断・手当てを受けること。</li> <li>•暴露あるいは暴露の懸念がある、又は気分が悪い場合: 医師の診断・手当てを受けること。</li> <li>•吸入した場合: 空気の新鮮な場所に移し、呼吸しやすい姿勢で休息させること。</li> <li>•飲み込みの場合: 直ちに医師に連絡すること。無理に吐かせないこと。</li> <li>•漏れや放散が大量な場合: 製品容器またはドラムを平元に倒置すること。</li> </ul>
<p><b>【保管】</b></p> <ul style="list-style-type: none"> <li>•直射日光を避け、涼しく換気の良い場所に保管すること。</li> <li>•容器を密閉し、保管場所に設置すること。</li> <li>•子供の手の届かない場所に保管すること。</li> </ul>	<p><b>【連絡先】</b></p> <p>JX日鉱日石エネルギー株式会社 東京都千代田区大町二丁目6番3号 TEL:0120-36-8704 (ENEOSお客様センター)</p>

## JX日鉱日石エネルギー株式会社

東京/千代田区

成分:ガソリン (ベンゼン、トルエン、キシレン、ノルマルヘキサンを含む)  
有機溶剤中毒予防規則 第2種有機溶剤

**危険**

- 極めて引火性の高い液体及び蒸気
- 発刺激
- 肺、腎臓の障害
- 脱気やめまいのおそれ
- 水生生物に有害
- 長期的影響により水生生物に有害
- 皮膚刺激
- 発がんのおそれの疑い
- 長期又は反復暴露による神経の障害
- 長期又は反復暴露による血管の障害のおそれ
- 飲み込み、気道に侵入すると生命に危険のおそれ

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2015 CSR Report

# Employee Engagement

## Fundamental Approach

Our employees are key driver behind our CSR activities and also stand as our most important stakeholder. JX Nippon Oil & Energy recognizes that it must provide workplace environments where each and every employee can fully utilize as well as further develop their skills. To that end, we have created a wide range of programs to support our people.

### ▶ Providing Workplaces where Employees can Thrive

- Personnel System and Hiring Activities
- Employee Composition
- Discretionary Labor System
- Advent of Professional Track Designation
- Developing Locally Hired Employees Overseas
- Promoting Career Opportunities for Women
- Personnel System and Hiring Activities
- Promoting Career Opportunities for the Disabled
- Health Management

### ▶ Providing Employee-Friendly Workplaces

- Developing the Next Generation
- Flextime Program
- Shortened Working Hours Program
- Childcare Assistance Programs
- Care Giver Assistance Programs
- Re-employment Program
- Proper Management of Working Hours
- Encouraging Employees to take Annual Paid Leave
- Reducing Total Annual Working Hours
- Dialog with Labor Union

### ▶ Human Rights Initiatives

- Respect for Human Rights
- Encouragement of Human Rights Awareness

## Providing Workplaces where Employees can Thrive

### Personnel System and Hiring Activities

Employees are the key driver behind any company's actions and as such they need to be able to develop and fully utilize their skills in the workplace.

JX Nippon Oil & Energy has developed remuneration and personnel evaluation systems in order to help develop and energize its human resources.

### Reflecting the Latest Performance (Current Value) in Remuneration

We recognize that it is important to properly evaluate each individual employee's results and reflect these in remuneration in a timely manner in order to drive their motivation and energize their efforts further.

### Improving the Transparency, Fairness and Acceptance of Our Personnel Evaluation System

To ensure remuneration and personnel evaluation systems function effectively, we understand that we need to maintain transparency, fairness and acceptance. To that end, we provide regular training for managerial staff, which play a key role within our personnel evaluation system, and strive to provide appropriate feedback on evaluation results to each and every employee.



## Providing Opportunities for Employees to Shine

We provide opportunities for each and every employee to utilize their skills and have developed the following programs to help our human resources thrive.

### Open Entry Program

Our open entry program reflects the strong desires and conviction employees have in their current work in transfers.

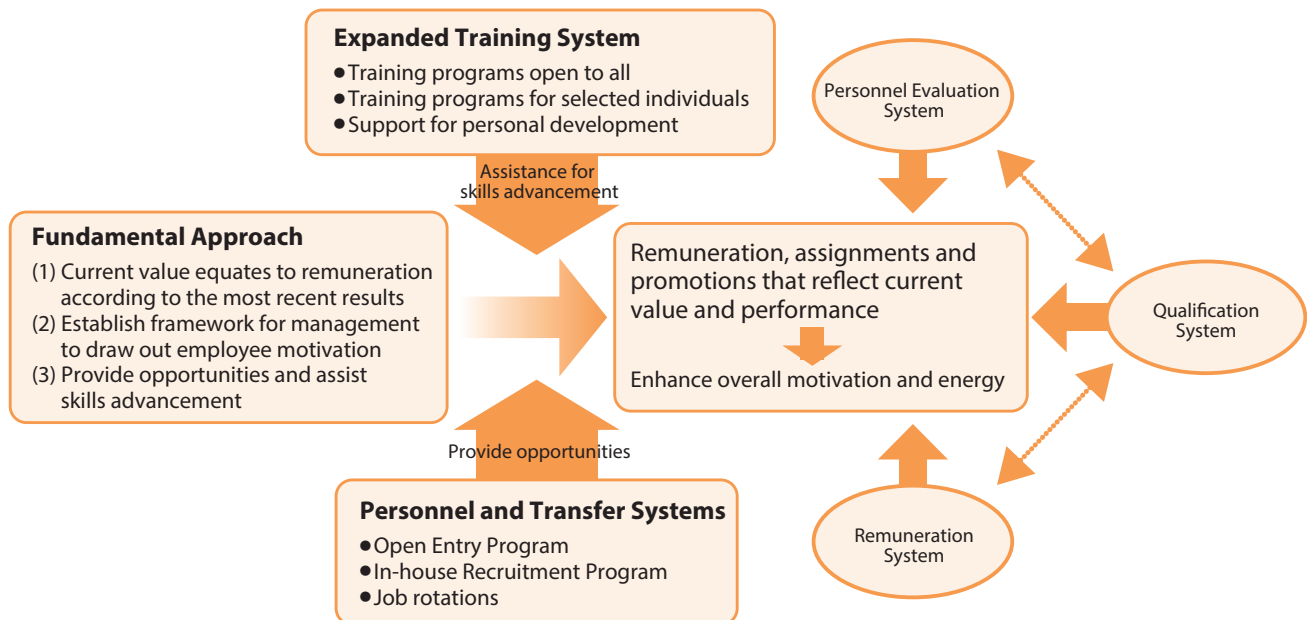
### In-house Recruitment Program

Our in-house recruitment program enables employees to apply for positions that open up for new business fields and projects.

### Job Rotation System

We provide opportunities for inter-department or inter-division personnel transfers in order to develop junior employees and maximize our human resources.

## Personnel System Overview



We provide information to prospective employees through our website, which includes the type of people we are looking to hire and the fields in which they can work.

We use a fair selection process that focuses on the aspirations and motivation of prospective employees, and not gender or other personal qualities. Our interviews are held in a professional manner to ensure that both the company and the prospective employee fully understand one another.

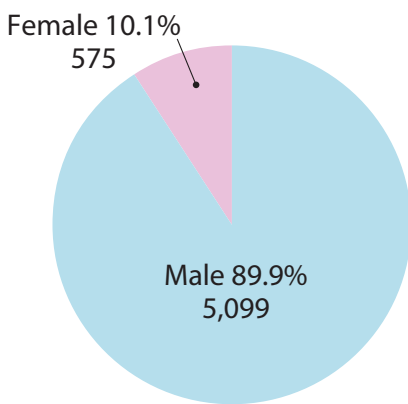
## Employee Composition

As of March 31, 2015, JX Nippon Oil & Energy had the following number of employees.

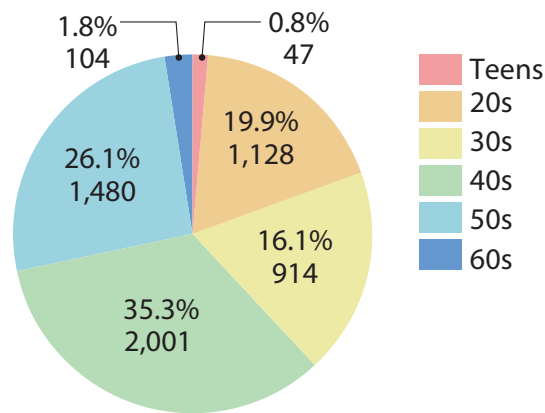
Regular employees	5,674
Employees forwarded from other companies	147
Part-time workers	14

Composition of regular employees

### By Gender



### By Age Group



## Discretionary Labor System

JX Nippon Oil & Energy uses a discretionary labor system for employees engaged in corporate planning and R&D at its head office and Central Technical Research Laboratory. This is because in searching for options that can be applied to the diverse individual needs of today's employee we found that employees engaged in these fields should be afforded the discretion to determine how they execute their work duties and allocate their time.

We also offer a flextime program, shortened working hours program and childcare as well as care giver assistance programs to accommodate the increasingly more diverse individual requirements of our employees.

## Advent of Professional Track Designation

We have established the professional track designation for employees that are capable of contributing to society or the company's business performance by leveraging an advanced skill or creativity.

## Developing Locally Hired Employees Overseas

We have established a common rank and evaluation system at our overseas sites to clearly identify key development tasks and the career path of employees hired locally overseas. We also organize group training sessions at the head office in Tokyo for local managers (one-week courses offered in English or Chinese). Through this rank and evaluation system and training program, our goal is to develop the next generation of senior leadership at our overseas sites.

## Promoting Career Opportunities for Women

JX Nippon Oil & Energy promotes diversity and supports the greater involvement of female employees in order to transform itself into an organization that incorporates more diverse and flexible thinking to meet the needs of customers.

We provide the necessary support to ensure our female employees are motivated, think about their future career, and can continually contribute as a member of our workforce. At the same time, changing the way our employees think and transforming our corporate culture are also pressing needs. The foundation of these efforts can be found in changing the way we think about males and females working together and establishing work styles where employees are able to maximize the limited time they spend at work.

Going forward, we will increase the ratio of females hired out of university, use training and other awareness-raising activities to change our mindsets, support the formation of a female employee network, and review our work styles and methods.



## Promoting Career Opportunities for the Disabled

JX Nippon Oil & Energy is working to achieve an employment rate of persons with disabilities that exceeds the statutory employment rate of 2.0%.

As of June 1, 2015, our employment rate of persons with disabilities stood at 2.17%.

We recognize that a disability is just a single trait of an employee and the importance of helping employees with a disability to thrive in the workplace by enabling them to be in charge of operations that fit their personality and skill set. This means that employees with a disability are placed in a host of different locations and not just a single workplace.

In addition, training programs for entry-level employees also feature a hands-on session with wheelchairs to foster greater awareness towards persons with disabilities, while several of our departments offer sign language classes.

## Health Management

We recognize that the physical and mental wellbeing of our employees is a key to their success.

To that end, JX Nippon Oil & Energy offers regular health check-ups as well as other unique health management initiatives such as a health hotline and help in preventing adult-onset diseases.

We have placed particular focus on our mental health care measures, which includes self care by employees, line care by managers, an organized support system and hotlines both inside and outside the company.

We also provide mental health care training to entry-level employees.

Going forward, we will continue to implement our mental health care measures under the following system.

### Mental Health Promotion System

		Self Care	Line Care
Prevention	Information provision	via intranet	
	Stress checks	Health counseling for employees working long hours	
	Training and education	General employee training (Self management)	Managerial training (Workplace management)
	Hotlines	In-house hotline (Human Resources Department) Regular exams (industrial physician) Counselors (external organization)	
Actual response	Return to work	-	Rework Assistance Program

## Providing Employee-Friendly Workplaces

### Developing the Next Generation

JX Nippon Oil & Energy has formulated its sixth action plan under Japan’s Act for Measures to Support the Development of the Next Generation and is implementing measures to support a work-life balance aimed at achieving its targets set out in this plan.

#### Details of the 6th Action Plan (April 1, 2015 to March 31, 2017)

Target 1	Develop and run a program that provides peace of mind to employees that will be having and raising a baby
Target 2	Provide a workplace environment that warmly looks after employees that are pregnant or raising a child/children

#### Next Generation Accreditation Mark “KURUMIN”

Japan’s Ministry of Health, Labour and Welfare recognized that we have achieved our 1st General Business Owner Action Plan (April 1, 2005 to March 31, 2007), 2nd General Business Owner Action Plan (April 1, 2007 to March 31, 2009), 3rd General Business Owner Action Plan (April 1, 2009 to March 31, 2011), 4th General Business Owner Action Plan (April 1, 2011 to March 31, 2013), and 5th General Business Owner Action Plan (April 1, 2013 to March 31, 2015). As a result, we have acquired the right to use the next generation accreditation mark “KURUMIN”.

Going forward, we will continue to proactively encourage a work-life balance as well as provide a variety of measures to ensure our employees can enjoy and get the most of their jobs.



#### ● Compilation of Childcare Assistance Guidebook

In October 2010, we compiled the Childcare Assistance Guidebook – Comprehensive Information for Employees Having a Baby or Raising Children and published it on our in-house intranet.

This guidebook provides an overview of our in-house programs as well as the applications for these programs that are available for employees having a baby or raising children. Our initiatives in support of the next generation and employees’ worklife balance are not limited to female employees, as male employees are also expected to play a role whether they are a spouse, father, supervisor or colleague. It is our hope that this guidebook will help broaden employee understanding of our work-life balance support measures and help us develop a workplace environment where all employees are motivated and can thrive.

### Flextime Program

We offer a flextime program where employees can choose what time they start and end work as long as they are present for core work hours.

### Shortened Working Hours Program

Employees that are pregnant, raising a child, acting as a care giver, or have a disability can freely select from 5.5 hour, 6.0 hour or 6.5 hour work days.

## Childcare Assistance Programs

We offer a parental leave program, childcare leave, nursing care leave, and a shortened working hours program to help employees achieve a work-life balance.

## Care Giver Assistance Programs

We provide a care giver leave program, care giver leave and a shortened working hours program to help employees balance their professional and private lives.

## Re-employment Program

We offer a re-employment program for retired workers that have the desire and motivation to continue working, excluding those with special circumstances that may make it difficult to work such as a health condition. This program provides these employees another opportunity to share their valuable knowledge, skills and experience with the company.

## Proper Management of Working Hours

JX Nippon Oil & Energy is committed to eliminating unpaid work. We strive to properly manage employee working hours and have established a system that correctly monitors these hours.

## Encouraging Employees to Take Annual Paid Leave

1. First consecutive leave: Employees are encouraged to take five consecutive days of annual paid leave
2. Second consecutive leave: Employees are encouraged to take three consecutive days of annual paid leave
3. Two days per year are set to encourage employees to take annual paid leave
4. Employees are given paid leave on a day they commemorate

## Reducing Total Annual Working Hours

### The “Goodbye Overtime – Action 8” Initiative

We have instituted the “Goodbye Overtime – Action 8” initiative in order to reduce the total working hours of our employees. The purpose of this initiative is to make it possible for employees to maximize their skill sets and work hard by achieving a high degree of work-life balance. In turn, this will improve the company’s productivity and enable a positive relationship between the company and its employees.

## Overview of “Goodbye Overtime – Action 8”

Name	Description
I. “8 O’ clock Rule” Campaign	Leave work by 8:00 p.m.
II. “No Sunday Work” Campaign	Prohibits work on Sundays
III. “No Overtime Day” Campaign	One day a week set separately for each department (group)
IV. “Minus 30 Minutes” Campaign	Leave work 30 minutes before the end of regular working hours at least once per month
V. “Compliance with Overtime Rules” Campaign	Leave at the end of regular working hours when there is no order to work overtime
VI. “Whenever Wherever” Campaign	(Supervisors) Issue work orders by clearly stipulating purpose, delivery and quality (whenever wherever) (Employees) Approve orders after conveying other work Responsibilities
VII. “Lead by Example” Campaign	Managers foster an environment where it is easy to take annual paid leave
VIII. “Do It Yourself” Campaign	To every extend possible managers are to create their own briefing materials, etc.

## Dialog with Labor Union

JX Nippon Oil & Energy holds discussions with its labor union that cover a wide range of topics that include revisions to labor conditions. We also co-organize review meetings on reducing working hours where a vigorous exchange of views takes place.



## Human Rights Initiatives

### Respect for Human Rights

JX Nippon Oil & Energy strives to elevate its employees' awareness of human rights issues and under the basic policy to "eliminate all types of discrimination through respect for human rights", we are working to raise awareness about human rights matters. Additionally, we are implementing a wide range of measures from the standpoint of respect for human rights.

During human rights week, which runs from December 4 to 10, we call on employees of JX Nippon Oil & Energy and affiliates and their families to propose a human rights slogan. We hold this contest every year as an opportunity to encourage employees and their families to think more about human rights issues. In fiscal 2014, there were a total of 3,681 submissions, including 187 from family members of employees. We selected a total of 12 winners and 84 honorable mentions in the employee category as well as 3 winners and 16 honorable mentions for the family category.

### Encouragement of Human Rights Awareness

Respect for human rights represents a core concept behind the JX Group's mission statement and JX Group Values. It is important that each and every employee make business decisions, act and speak based on a fair and equitable understanding of human rights. As a result, we provide training to various groups of employees, including entry-level employees, mid-career employees, managers and senior executives, to help raise awareness about human rights issues.

JX Nippon Oil & Energy together with 18 of its affiliates has established the Human Rights Awareness Promotion Contact Meeting to tackle issues related to raising awareness of human rights matters. For example, this contact meeting solicits slogan submissions from employees and their families each year in advance of human rights week in December. It also utilizes the company's intranet to implement e-learning training programs on human rights to foster greater understanding in a wide range of human rights issues.

### Sign Language Classes

Employees with a hearing disability teach sign language to employees at our head office and certain business sites. Although there are many ways to communicate with someone who has a hearing disability, such as a memo, verbal language, or email, sign language is a convenient option even if you can do a little.

Employees with a hearing disability teach sign language classes after work to a large number of employees. There are many ways that aid in the memorization of signs. For example, for the name Sasaki, a gesture is used that looks like the person is carrying sword on their back to mimic the image of famous Japanese swordsman Kojiro Sasaki. For the name Kato, a gesture is used where both hands appear to be holding a spear, based on the image for Japanese daimyo Kiyomasa Kato.

The photograph shows one of the sign language classes held at our head office in progress. These classes have been held continually at our head office for more than a decade. These classes have continued for this long because they are needed for communication during actual work situations, they offer easy to understand curriculum created by the employee instructors, and they are fun. Another reason that cannot be overlooked is that previous supervisors set an example that was worth following. That is, the proactive stance of our supervisors has played an important role in making these classes possible.



# Social Contribution Activities

## Social Contribution Activities Policy

JX Nippon Oil & Energy proactively engages in social contribution activities to realize the JX Group Values of “Relationship with society” and “Harmony with the environment” and to help build a sustainable society.

### Priority Fields

Advancement of  
Sports and Culture

Next Generation  
Development and  
Support

Environmental  
Protection

### Keyword Phrases

Support Activities Rooted  
in the Local Community

Support Activities Led Voluntarily  
by Employees

#### ▶ Advancement of Sports and Culture

- Basketball Promotion Activities
- ENEOS' Baseball Support Activities
- Inviting Children to Attend FC Tokyo Soccer Matches
- JX Nippon Oil & Energy is an Avid Supporter of Wheelchair Basketball in Japan
- JX-ENEOS Children's Story Award / The Bouquet of Children's Stories
- JX-ENEOS Children's Story Fund
- Book Report Painting Contest

#### ▶ Next Generation Development and Support

- ENEOS Environmental Classes
- ENEOS Children's Science Classes
- ENEOS Forests School
- ENEOS Living Creature School
- Summer Holiday Science Bus Tour

#### ▶ Environmental Protection

- Public Trust “ENEOS Hydrogen Trust Fund”
- ENEOS Forests
- Other Forestation Topics
- Tokyo Greenship Action
- Hibiya Wildlife Flowerbed Development Activities
- The Reintroduction of the Oriental White Stork Plan Support Activities
- ENEOS Credit Card Donation Program for the National Land Afforestation Promotion Organization

#### ▶ Community Engagement and Disaster Relief

- CSR Activity Topics
- Disaster Response Coordination Agreement with the City of Kawasaki

#### ▶ Overseas Activities

- Donated Funds for the Construction of New Elementary Schools in Vietnam
- Training for Engineers in Oil and Gas Producing Countries
- Community Contribution Activities in China
- Community Contribution Activities in Pakistan

#### ▶ Volunteer Activities

- Supporting Employees that Take Part in Volunteer Activities
- Volunteer Collection Drive Activities

## Advancement of Sports and Culture

### Basketball Promotion Activities

JX Nippon Oil & Energy sponsors the JX-ENEOS Sunflowers women's basketball team. We have also organized a select team consisting of current JX-ENEOS Sunflowers members and former members of Japan's Olympic women's basketball team for the purpose of traveling across Japan to hold basic basketball skills clinics. These clinics were held 74 times in fiscal 2014 with a total of 2,530 people taking part.

☞ JX-ENEOS Sunflowers (<http://www.jx-group.jp/sunflowers/>) (available only in Japanese)

☞ JX-ENEOS Basketball Clinic (<http://www.jx-group.jp/clinic/>) (available only in Japanese)

### ENEOS' Baseball Support Activities

JX Nippon Oil & Energy sponsors the JX-ENEOS Baseball Team and also takes part in a wide range of activities aimed at advancing and developing the next generation of players for Japan's national pastime of baseball. As part of these activities, we host little league baseball clinics together with the Tohoku Rakuten Golden Eagles of Nippon Professional Baseball as well as sponsor the Japan Rubber Baseball ENEOS Tournament of Emperor's Cup, the Japan Dream Baseball League, and the Women's Baseball Federation of Japan and other baseball related events.

### JX-ENEOS Baseball Team

The JX-ENEOS Baseball Team is an amateur team based in Yokohama that is part of the Japan Amateur Baseball Association. The team began as the Nippon Oil CALTEX Baseball Club back in 1950 and since then it has established a solid history of success, having won the Intercity Baseball Tournament 11 times.

☞ JX-ENEOS Baseball Team (<http://www.jx-group.jp/baseball/>) (available only in Japanese)

### Inviting Children to Attend FC Tokyo Soccer Matches

ENEOS is the official sponsor of FC Tokyo of Japan's professional soccer league, the J-League. Beginning in 2005 we set up special ENEOS Friend-Crew Seats at FC Tokyo home matches so that we can invite children and escorts from foster-care facilities, single-mother support facilities and the NPO Tokyo Yoikukatei-No-Kai to attend.

In fiscal 2014 we invited a total of 2,000 people (100 persons for each of the 20 matches) to attend FC Tokyo home matches, and in fiscal 2015 we plan on hosting another 2,000 people (100 persons for each of the 20 matches).




Sponsorship of Wheelchair Basketball Championships

## JX Nippon Oil & Energy is an Avid Supporter of Wheelchair Basketball in Japan

We sponsor the Japan Wheelchair Basketball Championship Tournament every May, the National Select Junior Wheelchair Basketball Tournament every July, the Japan Women's Wheelchair Basketball Tournament every November and wheelchair basketball clinics. Employee volunteers take part in the tournament in every May to provide operational support and assistance.

## JX-ENEOS Children's Story Award / The Bouquet of Children's Stories

The JX-ENEOS Children's Story Award organized by JX Holdings is a contest that recognizes the best works from among submissions of original children's literature on the theme of "heart-to-heart contact". Fiscal 2015 represented the 46th time these awards were handed out. The award has three categories, including "general", "junior high school" and "elementary school and under", providing an opportunity for persons of all ages, from adults to young children, to submit their original children's literature. The best works are also published in a collection called The Bouquet of Children's Stories for all to read. Copies of The Bouquet of Children's Stories are donated to educational institutions and child welfare facilities across Japan through the Tokyo Zen-i Bank and other social welfare organizations.

 The Bouquet of Children's Stories (<http://www.jx-group.co.jp/hanataba/>) (available only in Japanese)

## JX-ENEOS Children's Story Fund

JX Holdings transfers all proceeds from copies of The Bouquet of Children's Stories purchased by dealerships operating ENEOS service stations as well as executives and employees of the JX Group to the JX-ENEOS Children's Story Fund, which in turn makes donations to the Japan Council of Social Welfare. These donations are used to fund the JX-ENEOS Scholarship Program, which provides financial assistance to children from child welfare facilities and foster homes who graduate from high school and will pursue higher education.


## Book Report Painting Contest

The West Japan Book Report Painting Contest has been held for more than half a century since it started back in 1957. Every year some 400,000 students from schools on the island of Kyushu and in Yamaguchi Prefecture submit their works.

A book report painting involves creating a painting, woodcut or collage to depict a memorable scene from a book. This form of art has been incorporated into school education because it helps to spur children's interest in reading regularly.

The quality of submissions for the contest has often been noted by those in the arts and past award winners are now active in many fields, including education and the arts.

JX Nippon Oil & Energy has helped sponsor this book report painting contest since 1969.

 Book Report Painting Contest (<http://www.no.e.jx-group.co.jp/kansouga/>) (available only in Japanese)

## Next Generation Development and Support

JX Nippon Oil & Energy supports the development of future generations in a variety of ways.

### ENEOS Environmental Classes (School Visits)

JX Nippon Oil & Energy employees visit elementary schools and other sites to offer ENEOS environmental classes on topics such as the importance of oil to daily life, how petroleum products are created, the current state of global warming, and new environmentally-friendly energy sources. The employees use quizzes, experiments and observation of actual crude oil to present the material in an intuitive way to students. Classes were held at 23 schools across Japan in fiscal 2014, and were attended by roughly 1,450 children.

Experiments that compare hydrogen and carbon dioxide and experiments are always a favorite of participants, providing an enjoyable environment to learn about the environment and energy.



- ▶ Video of an ENEOS environmental class  
([https://www.youtube.com/watch?v=\\_uZSMYJZ8AM](https://www.youtube.com/watch?v=_uZSMYJZ8AM)) (available only in Japanese)
- ▶ Feedback from ENEOS environmental classes  
([http://www.no.e.jx-group.co.jp/csr/society/next\\_generation/information/index.html#voice](http://www.no.e.jx-group.co.jp/csr/society/next_generation/information/index.html#voice)) (available only in Japanese)

\* We have not taken any applications currently.

### ENEOS Children's Science Classes

Our Central Technical Research Laboratory has been holding the ENEOS Children's Science Class for local elementary schools since January 2005 in order to broaden understanding of energy and the environment among children. Thus far, these classes have been held a total of 70 times and have been attended by about 3,500 elementary school students.

Research topics from the Central Technical Research Laboratory are rearranged for participants in late elementary school grades and the curriculum of every session is tailored to the learning needs and levels of participating students. Some of the positive feedback from students included, "It was really fun because we did things that we don't normally do in class."



### ENEOS Forests School

We have been holding ENEOS Forests School classes since fiscal 2007 in order to provide elementary school students with an opportunity to learn about, enjoy and immerse themselves in forests. These classes serve to educate these students the importance of nature preservation and energy through fun and hands-on curriculum, such as forest expeditions and games.

- ▶ ENEOS Forests School  
(<http://www.no.e.jx-group.co.jp/csr/morikids/index.html>) (available only in Japanese)





## ENEOS Living Creature School

We hold ENEOS Living Creature School classes for elementary school students in Toyooka City, Hyogo Prefecture. These hands-on classes help to teach students about biodiversity conservation using the theme of oriental white stork protection activities.

- ▶ ENEOS Living Creature School  
(<http://www.noe.jx-group.co.jp/csr/society/environment/index.html#anc05>)  
(available only in Japanese)



## Summer Holiday Science Bus Tour

Each of our refineries works together with a newspaper company to hold the Summer Holiday Science Bus Tour for elementary school students and their guardians. Participants learn about how energy is related to their everyday life in a fun format, which helps children to broaden their awareness toward the environment.

The group is taken on a tour of a refinery on board a bus where they learn about the processes involved from the import of crude oil and refining to product shipment. They also get to see a water-discharge exercise performed by fire trucks and fireboats.

Participants always provide a great deal of feedback on the program, including “It served as a great opportunity for me to think about the environment and energy”. These bus tours were held at eight of our refineries in fiscal 2014, attracting about 640 participants, including children and their guardians.

- 📄 Summer Holiday Science Bus Tour  
(<http://www.noe.jx-group.co.jp/bustour/>) (available only in Japanese)





# Environmental Protection

“Harmony with the environment” is one component of the JX Group Values. As a result, we are proactively taking actions to protect the environment in order to fulfill this value.

## Public Trust “ENEOS Hydrogen Trust Fund”

### Reasons for Establishing the Fund

Today, a variety of environment issues such as global warming are in the spotlight and many have called for the development of a sustainable society that grows responsibly with new energy systems that do not produce CO<sub>2</sub> or hazardous substances.

Hydrogen, which is used in fuel cells and other new energy solutions, has garnered attention as a new energy source that can help create the sustainable society of tomorrow. However, major technological advancements are still needed in the fields of hydrogen production, transport, and storage as well as carbon capture in order for this potentially revolutionary technology to be used more widely in energy systems.

In this context, JX Nippon Oil & Energy established the ENEOS Hydrogen Trust Fund in March 2006 in order to help speed up the realization of a hydrogen energy society through grants to fund basic research that is both innovative and pioneering.

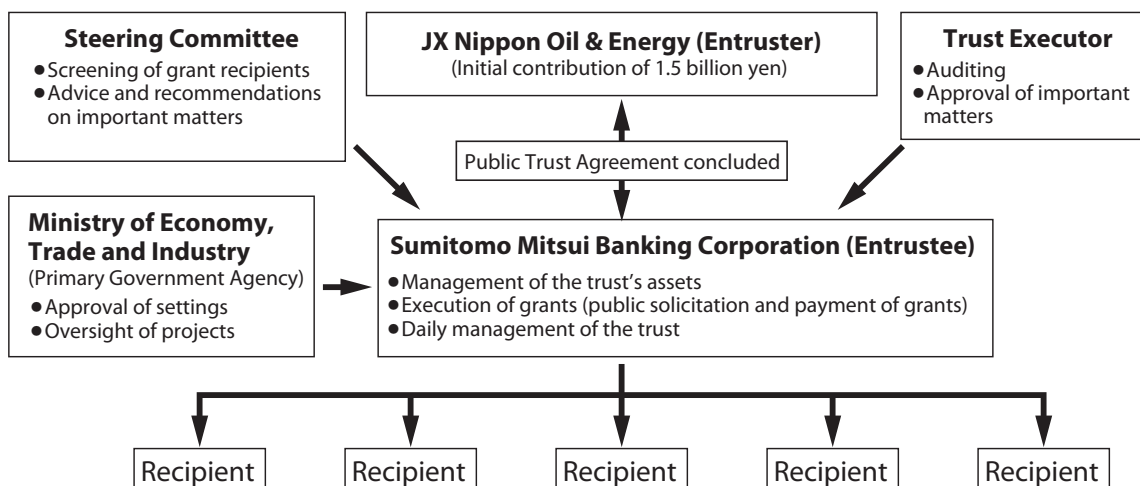
Each year this trust fund provides up to 50 million yen (up to 10 million yen per project) in grants to support basic research into hydrogen energy supply systems that is innovative and pioneering. Our initial contribution of 1.5 billion yen to this fund means that we will be able to fund research continually for the next 30 years.

This funding will encourage basic research for establishing and verifying new scientific principles that transcend existing ideas.

This will build the foundation for technological advancements and help to quickly realize the hydrogen society of tomorrow.

Of the 50 projects that applied in fiscal 2014, we provided grants to six researchers based on a careful screening performed by the fund’s steering committee.

### About Public Trusts



In Japan, a public trust is a program for the benefit of the public in which an entruster provides assets to a trust bank (trustee) for a defined purpose and the trust bank then manages the trust’s assets in accordance with the Public Trust Agreement concluded between the two parties. This scheme is used by a wide range of public interest projects to provide funding for scholarships, grants for research into the natural sciences, art and science, grants for environmental protection activities, and the promotion of international cooperation and international exchange. Public trusts can only be established with the approval of the primary government agency with jurisdiction.

## Overview of the ENEOS Hydrogen Trust Fund

Name:	ENEOS Hydrogen Trust Fund
Entrustee:	Sumitomo Mitsui Banking Corporation
Primary Government Agency:	Ministry of Economy, Trade and Industry
Purpose:	Provide grants for basic research into hydrogen energy supply solutions and contribute to the realization of the hydrogen-based society of tomorrow because hydrogen is an energy source that is in harmony with the environment
Total Trust Assets:	1.5 billion yen
Annual Grants Awarded:	Up to 50 million yen (maximum grant of 10 million yen per project)
Research Supported:	Basic research that is both innovative and pioneering in the fields of hydrogen energy production, transport and storage as well a carbon capture.
Grant Eligibility:	Persons belonging to non-profit national research institutions, such as universities or public research organizations, and that are researching eligible fields.
Solicitation and Selection Process:	Solicitation shall be open to the public, with screenings performed by the steering committee of the trust.

- ▶ Application Guidelines (Overview)  
(<http://www.noe.jx-group.co.jp/csr/society/environment/aid/index.html>)
- ▶ 9th Research Grant Awards and List of Research Awardees  
(<http://www.noe.jx-group.co.jp/csr/society/environment/aid/aid09.html>)
- ▶ 8th Research Grant Awards and List of Research Awardees  
(<http://www.noe.jx-group.co.jp/csr/society/environment/aid/aid08.html>)
- ▶ 7th Research Grant Awards and List of Research Awardees  
(<http://www.noe.jx-group.co.jp/csr/society/environment/aid/aid07.html>)
- ▶ 6th Research Grant Awards and List of Research Awardees  
(<http://www.noe.jx-group.co.jp/csr/society/environment/aid/aid06.html>)
- ▶ 5th Research Grant Awards and List of Research Awardees  
(<http://www.noe.jx-group.co.jp/csr/society/environment/aid/aid05.html>)
- ▶ 4th Research Grant Awards and List of Research Awardees  
(<http://www.noe.jx-group.co.jp/csr/society/environment/aid/aid04.html>)
- ▶ 3rd Research Grant Awards and List of Research Awardees  
(<http://www.noe.jx-group.co.jp/csr/society/environment/aid/aid03.html>)
- ▶ 2nd Research Grant Awards and List of Research Awardees  
(<http://www.noe.jx-group.co.jp/csr/society/environment/aid/aid02.html>)
- ▶ 1st Research Grant Awards and List of Research Awardees  
(<http://www.noe.jx-group.co.jp/csr/society/environment/aid/aid01.html>)  
(available only in Japanese)

## ENEOS Forests

Forests play a vital role in absorbing CO<sub>2</sub>, maintaining biodiversity, and conserving watersheds, but in order to do so they need to be continually maintained responsibly. As a result, the JX Nippon Oil & Energy Group is implementing forest stewardship activities led by its employees and their family on fields located near its refineries and plants across Japan. The platforms for these activities are referred to as ENEOS Forests.

In a partnership with local governments or the National Land Afforestation Promotion Organization, the JX Nippon Oil & Energy Group is involved in a field of activities supporting the stewardship of specified sections of unmaintained forests in Japan. These areas are located in the eight prefectures of Hokkaido, Miyagi, Kanagawa, Nagano, Osaka, Okayama, Yamaguchi and Oita.

At each of these ENEOS Forests, group employees and their family take part in activities led by local NPOs and other groups specializing in forest stewardship. In addition to conservation activities such as tree planting, thinning and brush clearing, participants get closer to nature by observing flora and fauna, building birdhouses, and lightly harvesting forest products.

In fiscal 2014, we conducted activities 20 times at eight locations, with a total of 1,667 participants that included employees and their family. Since 2005, we have held activities a total of 169 times at sites across Japan, with participants numbering 12,811. These activities have spanned from thinning to brush clearing, pruning and trail development.

▶ ENEOS Forests

(<http://www.no.ejx-group.co.jp/csr/society/environment/activity/index.html>)  
(available only in Japanese)

▶ View a video (51 seconds) on ENEOS Forests at:

([http://www.no.ejx-group.co.jp/csr/society/environment/movie/index\\_mv01.wmv](http://www.no.ejx-group.co.jp/csr/society/environment/movie/index_mv01.wmv))  
(available only in Japanese)



ENEOS Forests

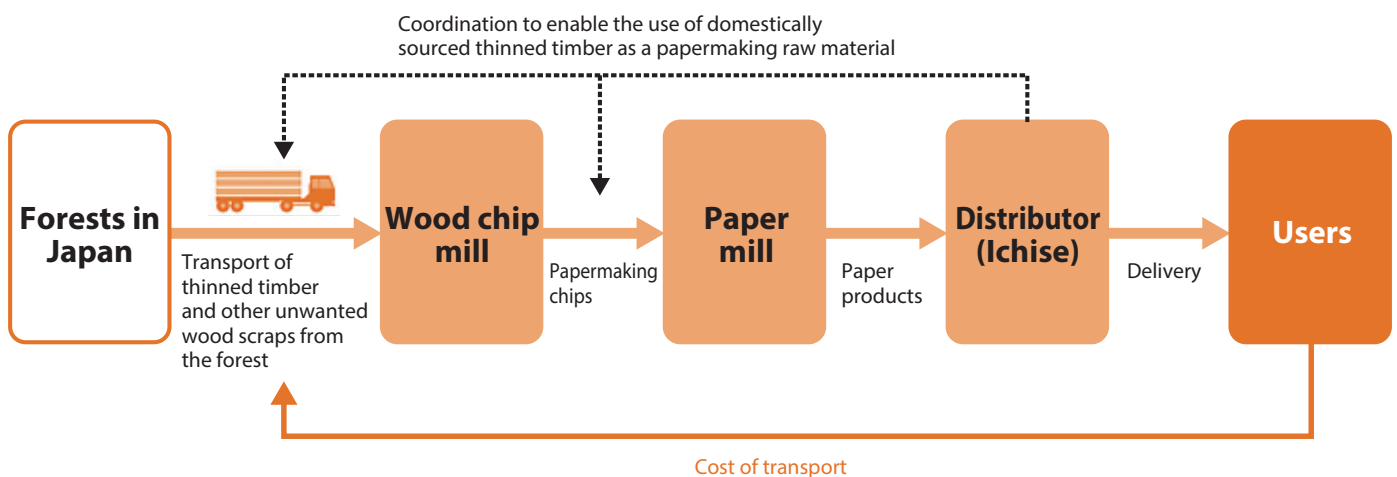
## Other Forestation Topics

### Turning Thinned Timber from Responsibly Managed Forests into “3.9 Paper”

Many of Japan’s forests are not being fully managed in a responsible manner due to a lack of funding or shortage of people. The proceeds from the sale of thinned timber can be used to help manage forests, but transportation makes it cost prohibitive to carry the timber down from mountainous areas. This either means that a lack of thinning makes it harder for trees to mature or thinned timber has to be left behind causing the forest itself to deteriorate. With this in mind, a product called “3.9 paper” was launched in an effort to help support local forestation activities and make use of thinned timber. This forestation initiative not only protects the local environment, but also helps trees mature, whereby increasing the rate of CO<sub>2</sub> absorption and mitigating global warming. We proactively use 3.9 paper for printed material distributed to our stakeholders, including The Bouquet of Children’s Stories and JX Group’s CSR report.

#### What is 3.9 paper?

3.9 paper is made from domestically sourced thinned timber. Making full use of thinned timber helps to promote proper forest maintenance. Yet, the price of thinned timber is low and the cost of transportation high, meaning that in many cases thinned timber is simply left behind in the forest, which can impact the growth of saplings. In order to resolve this situation, paper wholesaler Ichise Co., Ltd. and Oji Paper Co., Ltd. developed a business model known as “3.9 paper” to ensure thinned timber is being effectively utilized and to encourage proper forest maintenance practices. Paper users bear the cost of transportation for thinned timber, which makes it possible to use this as a raw material in papermaking.



## Tokyo Greenship Action

Tokyo Greenship Action is an environmental conservation initiative involving Tokyo Metropolitan Government, private-sector companies and NGOs that aims to protect the remaining natural woodland areas of Tokyo. JX Nippon Oil & Energy has been involved in this initiative since fiscal 2004. Under the lead of the Machida Historical Environment Management Union, JX Nippon Oil & Energy employees and their families are taking part in a Satoyama Initiative to restore arid fields using traditional agricultural methods in the Zushi Onoji Historical and Environmental Conservation Area of Machida City in Tokyo.

In fiscal 2014, activities were held on four occasions, with 168 participants taking part. Additionally, since 2004 we have held activities on a total of 73 occasions that have attracted 2,084 participants. In July 2009, we received the Fiscal 2009 Tokyo Metropolitan Government Environmental Award (Director-General's Award) in recognition of these activities, while in 2010 a panel of experts commended these activities for matching the goals of the Satoyama Initiative for biodiversity conservation being shared around the world by Japan.



Commemorative photo taken after rice planting

- ▶ What is Tokyo Greenship Action?  
(<http://www.no.ejx-group.co.jp/csr/society/environment/green/index.html>) (available only in Japanese)
- ▶ Activities in fiscal 2014  
(<http://www.no.ejx-group.co.jp/csr/society/environment/green/2014.html>) (available only in Japanese)
- ▶ Activities in fiscal 2013  
(<http://www.no.ejx-group.co.jp/csr/society/environment/green/2013.html>) (available only in Japanese)
- ▶ Activities in fiscal 2012  
(<http://www.no.ejx-group.co.jp/csr/society/environment/green/2012.html>) (available only in Japanese)
- ▶ Activities in fiscal 2011  
(<http://www.no.ejx-group.co.jp/csr/society/environment/green/2011.html>) (available only in Japanese)

## Hibiya Wildlife Flowerbed Development Activities

Starting in October 2005, we began building and maintaining a flowerbed in one corner of Hibiya Park, which is located in Tokyo's Chiyoda Ward near our head office. As part of this project, employees and their families volunteer to plant seasonal flowers, weed, cleanup and water in order to make the park even more appealing to visitors. In addition to our efforts to make the heart of Tokyo greener, starting in 2011 we created a small garden filled with plants that attract butterfly larva in the flowerbed to help enrich Tokyo's biodiversity.

Tokyo's biodiversity. These activities were held on four occasions in fiscal 2014, attracting a total of 99 volunteers.



Employees and their families pruning flowers

- ▶ Activities in fiscal 2014  
(<http://www.no.ejx-group.co.jp/csr/society/environment/hibiya/hibiya2014.html>) (available only in Japanese)
- ▶ Activities in fiscal 2013  
(<http://www.no.ejx-group.co.jp/csr/society/environment/hibiya/hibiya2013.html>) (available only in Japanese)
- ▶ Activities in fiscal 2012  
(<http://www.no.ejx-group.co.jp/csr/society/environment/hibiya/hibiya2012.html>) (available only in Japanese)
- ▶ Activities in fiscal 2011  
(<http://www.no.ejx-group.co.jp/csr/society/environment/hibiya/hibiya2011.html>) (available only in Japanese)
- ▶ Activities in fiscal 2010  
(<http://www.no.ejx-group.co.jp/csr/society/environment/hibiya/hibiya2010.html>) (available only in Japanese)

## The Reintroduction of the Oriental White Stork Plan Support Activities

We have been supporting the Reintroduction of the Oriental White Stork Plan since 2006. This project is based out of Toyooka City, Hyogo Prefecture and aims to help a variety of living creatures thrive once again.

Since fiscal 2009, we have been holding ENEOS Living Creatures School classes for children in the Kansai area that teach about the theme of wild oriental white stork protection using a variety of hands-on learning curriculum focused on biodiversity conservation.



## ENEOS Living Creatures School

We hold ENEOS Living Creatures School classes for elementary school students in Toyooka City, Hyogo Prefecture. This hands-on learning program focuses on biodiversity conservation using the topic of wild oriental white stork protection.

In fiscal 2015, we organized a two day and one night program for a total of 30 participants that included 15 pairs consisting of elementary school students and a guardian.



### ● Applications for 2015 were ended.

- ▶ Activities in June 2015 (newsrelease)  
([http://www.no.ejx-group.co.jp/newsrelease/2015/20150417\\_01\\_0980151.html](http://www.no.ejx-group.co.jp/newsrelease/2015/20150417_01_0980151.html))  
(available only in Japanese)
- ▶ ENEOS Living Creatures School activities (June 2015)  
(<http://www.no.ejx-group.co.jp/csr/society/environment/kounotori/201506.html>)  
(available only in Japanese)
- ▶ ENEOS Living Creatures School activities participant feedback  
(<http://www.no.ejx-group.co.jp/csr/society/environment/kounotori/201506voice.html>)  
(available only in Japanese)

List of past activities

(<http://www.no.ejx-group.co.jp/csr/society/environment/kounotori/index.html>)

(available only in Japanese)

📄 Oriental White Stork CSR

(<http://www.no.ejx-group.co.jp/kounotori/index.html>) (available only in Japanese)

## ENEOS Credit Card Donation Program for the National Land Afforestation Promotion Organization

Ever since we began offering ENEOS credit cards in October 2001, we have donated 0.01% of the amount charged on these cards by customers at ENEOS service stations to the National Land Afforestation Promotion Organization. These funds are being used to help support a host of programs both inside and outside of Japan, including youth forestation activities, the revitalization of tropical forests, and the prevention of desertification. Until now we have donated more than 350 million yen through this initiative.



- ▶ ENEOS credit card information  
(<http://www.no.ejx-group.co.jp/carlife/card/index.html>) (available only in Japanese)



## Community Engagement and Disaster Relief

The JX Nippon Oil & Energy Group takes part in a wide range of activities and actively broadens its engagement with local community members to live up to the expectations of the local communities in which it operates.

### CSR Activity Topics

The JX Nippon Oil & Energy Group implements a host of community contribution activities across Japan. These activities are introduced on the CSR Activity Topics page of our corporate website twice each month.



- ▶ CSR Activity Topics  
(<http://www.noie.jx-group.co.jp/csr/topics/index.html>)  
(available only in Japanese)

### Disaster Response Coordination Agreement with the City of Kawasaki



Large inflatable shelter for emergency assistance

JX Nippon Oil & Energy and JX Holdings have concluded an agreement with the City of Kawasaki to provide assistance to those affected by a disaster.

Under this agreement, facilities at the ENEOS Todoroki Ground located in Kawasaki's Nakahara Ward will be opened to local residents in need as a temporary site of refuge in the event of a disaster. We will supply a large inflatable shelter for emergency assistance free of charge, while required relief supplies will be provided by the City of Kawasaki. This will enable both parties to assist those in need immediately after a disaster through a unique partnership involving local government and a private sector company.

- ▶ Agreement signing ceremony  
([http://www.noie.jx-group.co.jp/csr/society/area\\_activity/sealkawasaki/index.html](http://www.noie.jx-group.co.jp/csr/society/area_activity/sealkawasaki/index.html))  
(available only in Japanese)
- ▶ Inflatable shelter  
([http://www.noie.jx-group.co.jp/csr/society/area\\_activity/shelter/index.html](http://www.noie.jx-group.co.jp/csr/society/area_activity/shelter/index.html))  
(available only in Japanese)
- ▶ Involvement in the City of Kawasaki's comprehensive disaster-preparedness drill  
([http://www.noie.jx-group.co.jp/csr/society/area\\_activity/protectkawasaki/index.html](http://www.noie.jx-group.co.jp/csr/society/area_activity/protectkawasaki/index.html))  
(available only in Japanese)



## Overseas Activities

### Donated Funds for the Construction of New Elementary Schools in Vietnam

JX Nippon Oil & Energy has conducted various community contribution activities in Vietnam together with JX Nippon Oil & Gas Exploration, including making donations to fund the construction of municipal schools and kindergartens. We stand firmly committed to continuing our community contribution activities in Vietnam to realize the JX Group Value of “Relationship with society”.



Commemorative photo taken with the students in front of the brand new school

### Training for Engineers in Oil and Gas Producing Countries

As part of technical cooperation with oil and gas producing countries, JX Nippon Oil & Energy provides training to engineers of state-owned oil companies with the support from the Japan Cooperation Center, Petroleum (JCCP). JX have been conducting training for several hundred trainees (engineers and operators) from Iraq, Kuwait, and Myanmar for several years. These training sessions covered various themes including safety operation & maintenance and inspections of refinery plant facilities / equipment, environmental-responsive and energy-saving technologies, and production and business management, among others.

In fiscal 2014, six training courses were offered. Our goal is to promote human resources exchange and to foster friendly relations with helping human resources development and improve production and operational management in these countries.



Training session in Myanmar



“Outpointing and Calling” together with trainees from Kuwait

## Community Contribution Activities in China

JX Nippon Oil & Energy supports exchange programs held in Japan for Chinese university students with the goal of broadening understanding about the country of Japan among Chinese youth. This program is run primarily by the Japanese Chamber of Commerce and Industry in China and receives support from Japanese companies in China and the Japan-China Economic Association. JX Nippon Oil & Energy provides support in the form of donations and also hosted a group of Chinese university students for a visit of its Negishi Refinery in June 2014 as part of the program.

In addition to this program, various business sites of the JX Energy Group in China give back to the community and society through donations to benefit schools, people with disabilities, and seniors.

## Community Contribution Activities in Pakistan

JX Nippon Oil & Energy Middle East & Africa FZE, which covers the Middle East, Africa and Pakistan, donated a total of 9,000 English and arithmetic notebooks to 27 supplementary schools run by a Pakistani NGO for children who cannot afford to attend school in Islamabad and Lahore. Additionally, a total of 25 copies of the English version of *The Bouquet of Children's Stories* (42) were donated to English language teachers of these same schools for use in the classroom.



Children receiving their notebooks

## Volunteer Activities

JX Nippon Oil & Energy proactively engages in social contribution activities as a member of society to help realize the JX Group Value of “Relationship with society”.

### Supporting Employees that Take Part in Volunteer Activities

We have implemented a program that enables employees to take time off from work to participate in volunteer activities. In fiscal 2014, 27 employees used this program to take a total of 44 days off for volunteer work.

### Volunteer Collection Drive Activities

We have been collecting and donating unusable postcards, unused prepaid cards and other items to NGOs since 1997 to provide an opportunity for anyone to easily take part in volunteer activities. All of our business sites across Japan and JX Group companies took part in the volunteer collection drive activities held in January 2015. Donations of items were provided to the following organizations.



Items collected by volunteers

### Unusable Postcards and Unused Stamps

These items were donated to the Darunee Scholarship Project being implemented by EDF-Japan where they will be used to fund scholarships for junior high school students in Thailand.



Records marking the progress of children receiving support from the Darunee Scholarship Project

## Unused Prepaid Cards and Gift Certificates



These items were donated to Hunger Free World, an NPO working to eliminate hunger around the world, to help fund its operations and activities.

Presenting gifts

## Picture Books

We made a donation to the picture book bus program run by the incorporated foundation Chikyu no Gakkou to benefit the areas affected by the Great East Japan Earthquake. Donated picture books were delivered to children in the disaster-affected areas.



Donation of picture books



Picture book bus

## Charity Book Drive

Books collected through our collection drive activities were made available for employees to purchase at a charity book drive held at the JX Building in February 2015. The proceeds of these sales were donated to Peace Winds Japan, a specified non-profit corporation.

The charity book drive's mission was twofold. First, we wanted to encourage employees to think more about reusing resources through an event where they donated their unwanted books to benefit a charity. Secondly, we wanted to donate all of the proceeds from these sales to help support environmental activities in East Timor and fund recovery efforts for the Great East Japan Earthquake.

For this book drive, employees from JX Nippon Oil & Energy and other JX Group companies donated a total of 3,689 books. Many employees, including senior executives, visited the charity book drive venue to purchase a book.

Charity organization Peace Winds Japan also held a meeting to report on its activities and organized sales of fair trade products, which provided an opportunity for all to broaden understanding about corporate citizenship activities.



The charity book drive in progress



Report on the activities of Peace Winds Japan



Sales of fair trade products organized by Peace Winds Japan

# Environmental Report

## ▶ Environmental Management

- Fundamental Approach
- JX Nippon Oil & Energy Group Environmental Policy
- JX Nippon Oil & Energy Group Second Medium-Term Environmental Management Plan (Fiscal 2013 to 2015)
- Environmental Management System(EMS)

## ▶ Overview of our Environmental Impacts

- Material Balance
- JX Nippon Oil & Energy's Supply Chain Emissions (Scope 3)
- Environmental Impacts of Our Refineries and Plants

## ▶ Global Warming Prevention Measures

- Fundamental Approach
- Efforts to Reduce CO<sub>2</sub> Emissions
- Promoting Environmental Contribution Activities
- Utilizing the Kyoto Mechanisms

## ▶ Biodiversity Preservation Measures

- Fundamental Approach
- JX Nippon Oil & Energy Group Guidelines on Biodiversity
- Measures to Preserve Biodiversity

## ▶ Activities for Reducing Our Environmental Impacts

- Fundamental Approach
- Soil Contamination Studies and Countermeasures
- VOC Reduction Measures
- Waste Reduction Measures
- Air Pollution Prevention Measures
- Water Contamination Prevention Measures
- Management of Chemical Substances
- Reducing the Environmental Impacts of Our Offices

## ▶ Developing and Supplying Environmentally-Friendly Products and Services

- Fundamental Approach
- Environmentally-friendly Products and Services

## ▶ Environmental Measures at Our Refineries and Plants

- Measures at Each Refinery and Plant



# Environmental Management

## Fundamental Approach

The JX Nippon Oil & Energy Group is committed to striking a harmonious balance between our business activities and the global environment by constantly being aware of the impacts these activities have or may have on the natural environment. To define this commitment, we have formulated a Medium-term Environmental Management Plan based on the JX Nippon Oil & Energy Group Environmental Policy, and in order to steadily execute its management plan, we have established the JX Energy Group Environmental Management System (EMS). These plans, policies and systems represent our integrated and consistent group-wide approach to environmental management.

## JX Nippon Oil & Energy Group Environmental Policy

We of the JX Group will follow the basic policy outlined below as part of its efforts to be in harmony with the natural environment:

1. Comply with environmental laws and ordinances;
2. Develop technologies, products and services that help create a better global environment;
3. Work diligently to prevent global warming and be mindful of preserving biodiversity; and
4. Constantly strive to reduce environmental impacts.

## JX Nippon Oil & Energy Group Second Medium-Term Environmental Management Plan (Fiscal 2013 to 2015)

JX Nippon Oil & Energy has drafted a Second Medium-Term Environmental Management Plan in accordance with the JX Group Values, or “EARTH,” which was created to help us realize the JX Group Mission Statement. The following four fundamental approaches were used to draft this plan, while more specific targets and initiatives were set for each key theme.

- Set long-range environmental target
- Achieve greater energy savings in business activities
- Help reduce CO<sub>2</sub> emissions through environmentally-friendly products
- Reinforce environmental management system, including at overseas sites and plants

Long-range Environmental Target (Fiscal 2020)	Aim to reduce CO <sub>2</sub> emissions from the company and customers by 4 million tons* compared to fiscal 2009 by the year 2020 through the promotion of energy saving measures at refineries and plants and increased sales and development of environmentally-friendly products.
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\* Equivalent to 20% of JX Nippon Oil & Energy Group CO<sub>2</sub> emissions in fiscal 2009 (20 million tons)

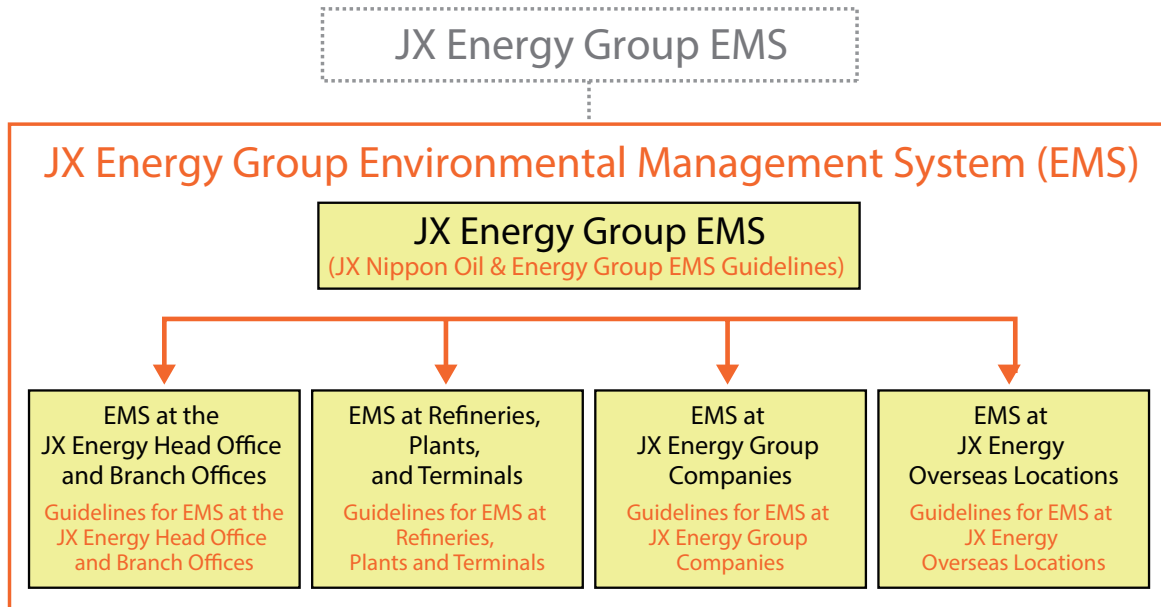


Key Themes	Specific Measures	Specific Initiatives Aimed at Fiscal 2015
I. Promote measures to prevent global warming and preserve biodiversity	(1) Promote energy saving measures at refineries and plants	<ul style="list-style-type: none"> <li>● Cut CO<sub>2</sub> emissions 800,000 tons compared to fiscal 2009 by promoting energy saving measures</li> </ul>
	(2) Encourage the development and popularization of environmentally-friendly products to help realize a low carbon society	<ul style="list-style-type: none"> <li>● Promote development of environmentally friendly products</li> <li>● Cut customer CO<sub>2</sub> emissions 1.3 million tons compare to fiscal 2009 through expanded sales of our environmentally-friendly products</li> </ul>
	(3) Activities that help preserve biodiversity	<ul style="list-style-type: none"> <li>● Utilize green spaces at refineries and plants and promote conservation activities to protect rare species</li> </ul>
II. Reduce environmental impacts	(1) Perform soil contamination studies and take relevant measures	<ul style="list-style-type: none"> <li>● Promote measures to prevent oil leaks from happening at service stations in operation</li> <li>● Continue with systematic studies and countermeasures at decommissioned facilities</li> <li>● Roll out low cost soil remediation technology</li> </ul>
	(2) Take steps to reduce VOCs	<ul style="list-style-type: none"> <li>● Maintain VOC emissions at 50% of fiscal 2000 levels</li> </ul>
	(3) Take steps to reduce waste	<ul style="list-style-type: none"> <li>● Maintain the Zero Emission Plus goals (waste-to landfill ratio of less than 0.5%)</li> </ul>
	(4) Strive to reduce the environmental impacts of offices	<ul style="list-style-type: none"> <li>● Improve efficiency of office lighting at company owned facilities by 50% in total</li> <li>● Reduce paper usage per employee per year to 5,000 sheets</li> <li>● Follow through on electricity conservation activities and waste sorting</li> </ul>
III. Enhance the environmental management system	(1) Strengthen environmental management system, including at overseas plants and sites	<ul style="list-style-type: none"> <li>● Expand scope of environmental management to major overseas plants and sites</li> <li>● Provide support for dealerships to establish EMS</li> </ul>
	(2) Activities to better the environment	<ul style="list-style-type: none"> <li>● Implement environmental protection activities</li> <li>● Develop the next generation and provide support as needed</li> </ul>

## Environmental Management System (EMS)

The JX Nippon Oil & Energy Group has established the following Environmental Management System (EMS) in order to steadily execute the Medium-term Environmental Management Plan created based upon the JX Nippon Oil & Energy Group Environmental Policy.

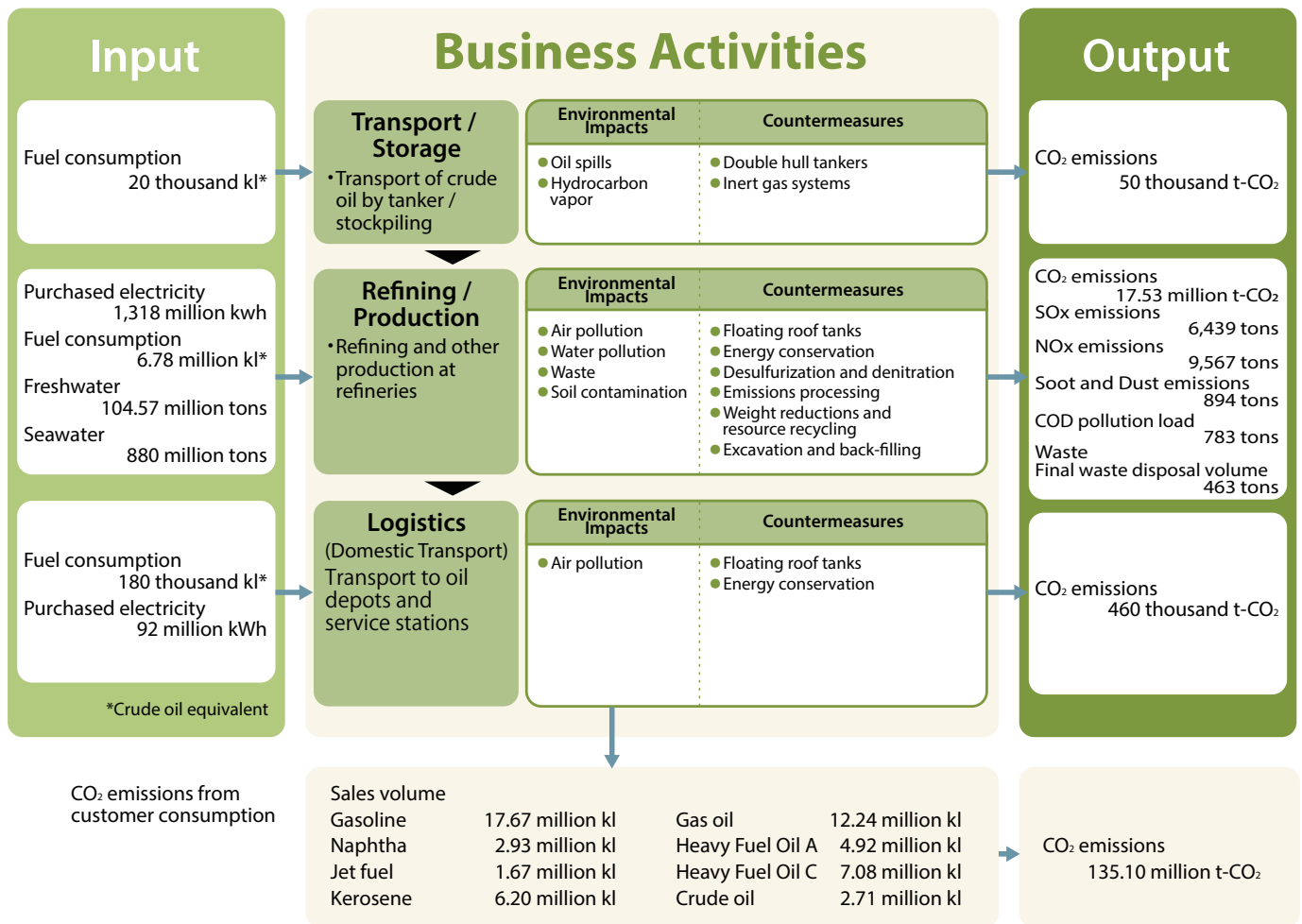
As part of our EMS operations, we have established environmental targets for each company and each department based on our Medium-term Environmental Management Plan. Actions are being taken to achieve these targets following the plan-do-check-action (PDCA) cycle.



# Overview of our Environmental Impacts

## Material Balance

The following figure illustrates our environmental impacts throughout the entire supply chain, spanning from transport and storage through to consumption, in fiscal 2014. As a comprehensive energy company, the JX Nippon Oil & Energy Group is proactively working to reduce its CO<sub>2</sub> emissions in light of the impacts energy consumption has on the Earth's environment. (The target scope includes JX Nippon Oil & Energy and its main affiliates)



## JX Nippon Oil & Energy's Supply Chain Emissions (Scope 3)

Supply chain emissions include not only a company's own emissions (Scope 1 + Scope 2), but also all greenhouse gas emissions across the entire supply chain, including other indirect emissions (Scope 3) from both a company's upstream and downstream operations. Starting in fiscal 2013, we began estimating and disclosing the target scope of JX Nippon Oil & Energy's petroleum division supply chain.

			Category	CO <sub>2</sub> emissions (10thousand tons)	Ratio (%)
Scope 3	Upstream	1	Purchased goods and services	1,337	7.9
		2	Capital goods	-	-
		3	Fuels not included in Scope 1 or Scope 2	-	-
		4	Upstream transportation and distribution	233	1.4
		5	Waste generated in operations	1	0.0
		6	Business travel	0	0.0
		7	Employee commuting	0	0.0
		8	Upstream leased assets	-	-
Scope 1 and Scope 2	Company emissions			1,854	10.9
Scope 3	Downstream	9	Downstream transportation and distribution	37	0.2
		10	Processing of sold products	-	-
		11	Use of sold products	13,510	79.4
		12	End-of-life treatment of sold products	-	-
		13	Downstream leased assets	-	-
		14	Franchises	33	0.2
		15	Investments	-	-
			Total	17,006	100.0

## Environmental Impacts of Our Refineries and Plants

The JX Nippon Oil & Energy Group operates a total of 11 refineries and plants. The following tables present their combined environmental impacts.

Please visit this website for the environmental load data of each refinery and plant.

(<http://www.no.ejx-group.co.jp/csr/environment/perspective/index.html>) (available only in Japanese)

### Air and Water

	Extent of Environmental Impacts (tons)	2011	2012	2013	2014
Air	SOx	9,469	8,392	7,053	6,326
	NOx	9,444	10,040	9,790	9,255
	Soot and Dust	770	799	806	880
Water	COD	694	839	886	775

### PRTR

Total Volume of Release and Transfer (tons)	2011	2012	2013	2014
Benzene	55	30	35	38
Toluene	97	98	80	81
Xylene	94	66	94	92

### Waste

	2011	2012	2013	2014
Volume of waste generated (tons)	225,858	235,308	253,551	252,808
Final waste disposal volume (tons)	941	293	603	420

# Global Warming Prevention Measures

## Fundamental Approach

The JX Nippon Oil & Energy Group is constantly aware of environmental impacts throughout its entire supply chain. In addition to improving energy efficiency in refining and production phases, which represent our core business activities, and reducing fuel consumption during the transport of products, we are striving to reduce greenhouse gas emissions and prevent global warming by supplying products such as biogasoline. We will also utilize the Kyoto Mechanisms to prevent global warming outside of Japan and actively work to preserve biodiversity through environmental contribution activities.

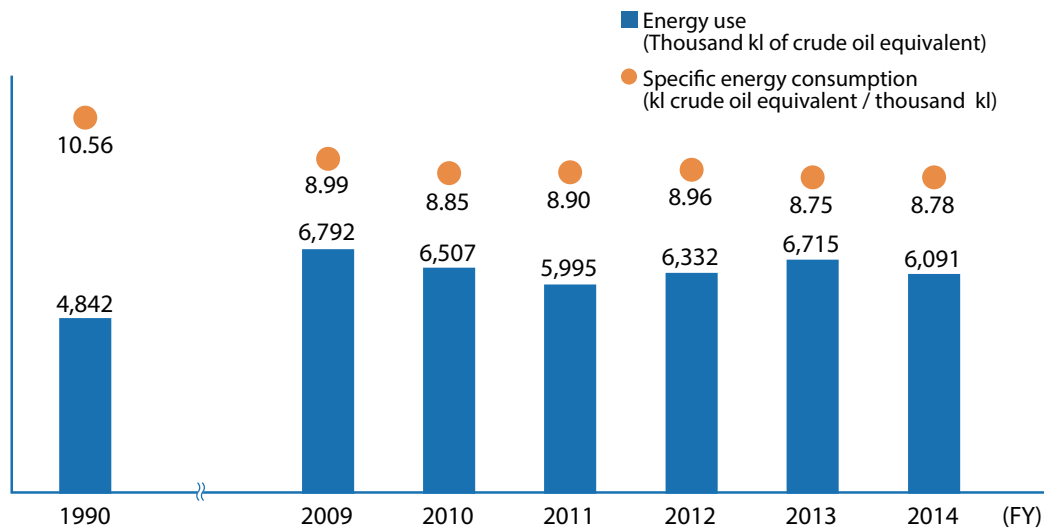
## Efforts to Reduce CO<sub>2</sub> Emissions

### Measures during Refining

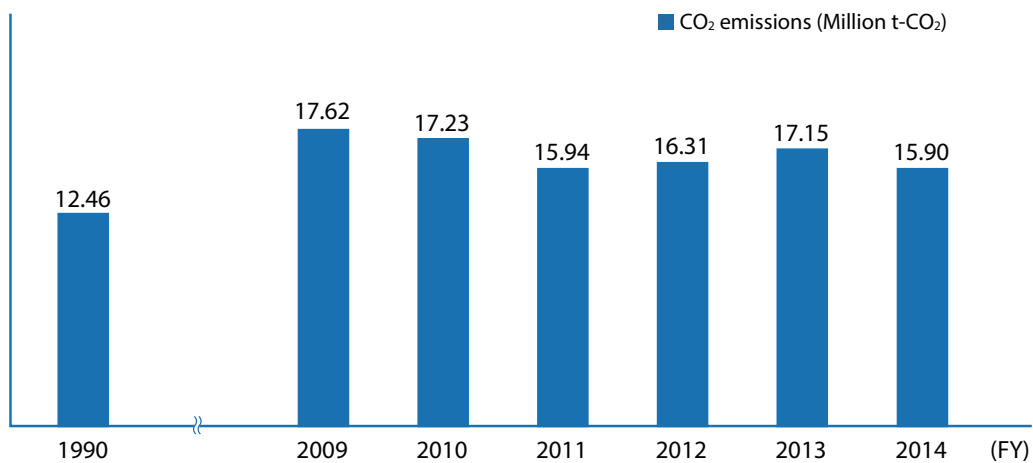
Nearly 80% of the JX Nippon Oil & Energy Group's CO<sub>2</sub> emissions originate from refining. As a result, we consider improving the energy consumption efficiency of refining to be one of our most important tasks going forward. To that end, our Medium-term Environmental Management Plan (2013 to 2015) contains the target to reduce fiscal 2015 CO<sub>2</sub> emissions by 800 thousand tons compared to fiscal 2009 by carrying out energy conservation measures at refineries and other facilities. We are conducting a wide range of energy conservation activities toward this goal.

In fiscal 2014, CO<sub>2</sub> emissions were at a level 420,000 tons below the fiscal 2009 mark because of adjustments in supply and demand and the impact of shutdowns due to operational issues. Going forward, further efforts will be made so that we can achieve the target set for fiscal 2015.

#### Energy Use and Specific Energy Consumption\*1



#### CO<sub>2</sub> Emissions\*1



\*1: Includes only the oil refining divisions of the JX Nippon Oil & Energy Group



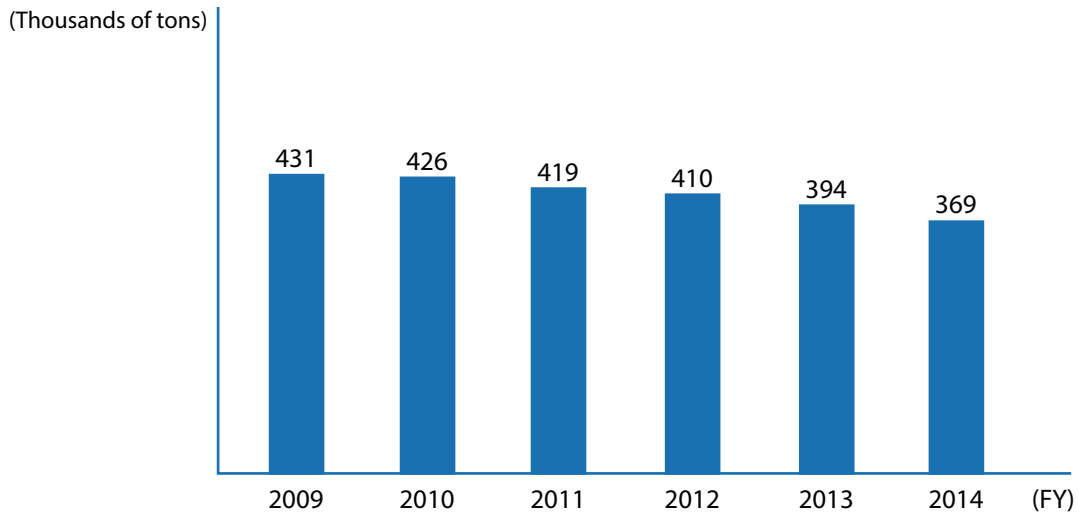
## Measures in Logistics

The JX Nippon Oil & Energy Group has compiled a mid- and long-term energy reduction plan (target reduction of 1% annually) for its logistics operations based on Japan’s revised Energy Saving Act. Specific measures under this plan focus on efficiencies in logistics, such as optimizing transport routes, consolidating oil depots, and increasing the size of tank trucks and oil tankers, as well as on reducing fuel consumption, such as with idling stops.

### ● CO<sub>2</sub> Emissions from Domestic Transport

In fiscal 2014, our CO<sub>2</sub> emissions associated with fuel consumption in domestic transport totaled 369 thousand tons, representing a 14.4% drop over fiscal 2009 levels.

#### ■ CO<sub>2</sub> Emissions from Domestic Transport



\*The above represents quantitative data reported as a specified consigner under Japan’s revised Energy Conservation Act.

## Promoting Environmental Contribution Activities

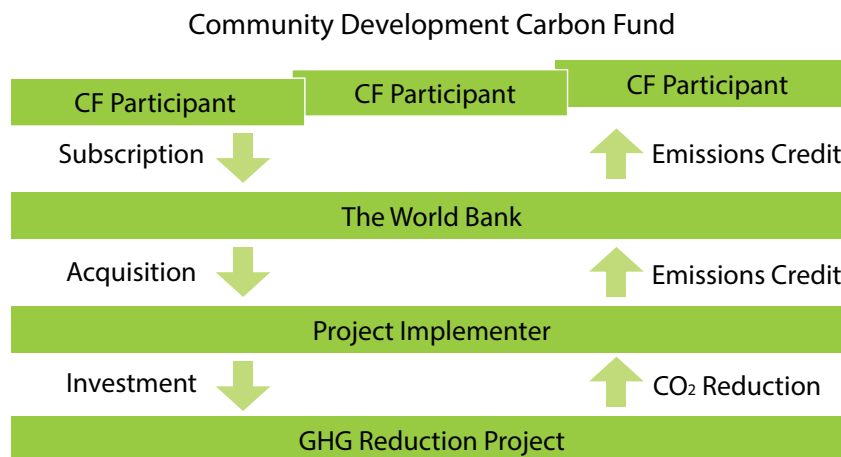
The JX Nippon Oil & Energy Group actively supports employees volunteering in activities for the betterment of the environment as well as provides environmental education opportunities for children and employees. We also introduce our environmental initiatives through booths hosted at exhibitions, trade fairs and other events.

▶ See Environmental Protection section on page P.65

## Utilizing the Kyoto Mechanisms

### Involvement in the World Bank's Community Development Carbon Fund

JX Nippon Oil & Energy participates in the World Bank's Community Development Carbon Fund (CDCF). Through this fund, monetary subscriptions collected by the World Bank from governments and corporations are used to support small-scale projects (renewable energy projects such as wind or solar power generation) initiated by developing countries to reduce their greenhouse gas emissions and improve the standard of living for their people. Participating parties are allocated emissions credits equivalent to the CO<sub>2</sub> reduction amount achieved by these projects.



### Investment in Japan CCS Co., Ltd.

The acronym CCS\* refers to technologies for separating and capturing large amounts of CO<sub>2</sub> produced from oil and gas fields, plants or thermal power plants, and then injecting this CO<sub>2</sub> at a depth of below 1,000 meters underground for storage.

These technologies help to reduce large amounts of CO<sub>2</sub> emissions before they enter the atmosphere, making them both highly practical and fast-acting. Nevertheless, research still is necessary on development of low cost separation and capturing technologies as well as the selection and assessment of geological strata that can safely and securely store the carbon. As a result, verification testing projects are now underway around the world.

In May 2008, under the initiative of Japan's Ministry of Economy, Trade and Industry, Japan CCS Co., Ltd. was established. This company performs preliminary studies in advance of verification testing in Japan. Based on four years of field studies, and in fiscal 2012 it began work at a site opened in Tomakomai, Hokkaido.

Currently, work is underway on the construction of facilities to separate and capture CO<sub>2</sub> and preparatory work is taking place on the wells that will be dug for the injection of CO<sub>2</sub>. Work is planned to be completed by the end of October 2015 and CO<sub>2</sub> injections should begin in April 2016.

JX Nippon Oil & Energy made an investment in Japan CCS as its founding corporate investor in order to support the commercialization of CCS technologies that help reduce CO<sub>2</sub> emissions in Japan. Today we continue to be involved in its business operations. Japan CCS now has a total of 35 corporate investors, which include companies from the power and petroleum development sectors.

\* CCS: Carbon Dioxide Capture and Storage

# Biodiversity Preservation Measures

## Fundamental Approach

The JX Nippon Oil & Energy Group established the “JX Nippon Oil & Energy Group Guidelines on Biodiversity” in 2010. Based on our fundamental policy that states, “We will take measures considerate of biodiversity in every aspect of our business activities under the recognition that our business activities are deeply related to the Earth’s biodiversity,” we will ascertain and analyze the impacts of our business activities on biodiversity, strive to make improvements, as well as take part in activities that contribute to biodiversity preservation, such as nature protection and environmental education.

## JX Nippon Oil & Energy Group Guidelines on Biodiversity

### ● JX Nippon Oil & Energy Group Guidelines on Biodiversity

#### ■ Basic Stance

We will take measures considerate of biodiversity in every aspect of our business activities under the recognition that our business activities are deeply related to the Earth’s biodiversity

#### ■ Action Policy

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

## Measures to Preserve Biodiversity

### Measures at Our Refineries and Plants

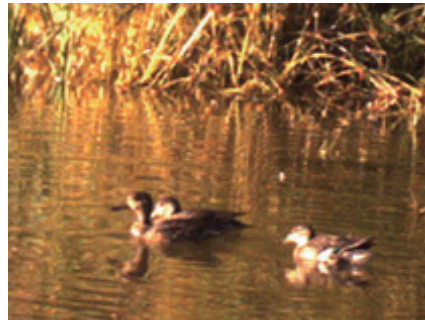
The Chita Plant is a member of the “Ecological Network Formation and Leadership Development Program for Corporate Green Spaces in the Coastal Area of Chita Peninsula” and the “Project Linking Life with One Another” as part of its efforts to protect biodiversity through green space management. This initiative seeks to utilize corporate greenbelts and other areas to provide a safe and secure habitat for local flora and fauna, and involves a partnership between Aichi Prefecture, Chita City, NPOs, students and companies located along the coastal area.

The Chita Plant has set up a biotope on unutilized land onsite (marshland) and provides a place and occasion for fieldwork. The plant also hosts nature observation tours organized by the City of Chita. Going forward, the Chita Plant will responsibly manage this greenbelt and its biotope in order to help improve local biodiversity.

The Project Linking Life with One Another received the Screening Committee Honorable Mention Award in the 2014 Good Life Awards (March 2014) and the Minister of the Environment’s Award for contributors to the natural environment on Greenery Day (April 2014), both organized by the Ministry of the Environment.



Chita Plant’s biotope



A spot-billed duck visiting the biotope



A Butterfly Skimmer, *rhythemis fuliginosa*, listed in red data, visiting the biotope

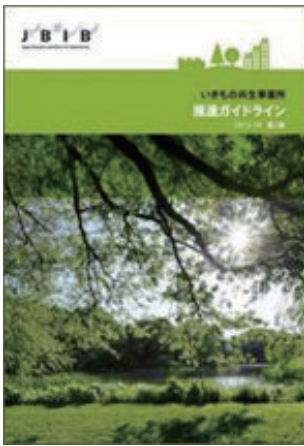
## Working Together with Other Companies (Involvement in the JBIB)

JX Nippon Oil & Energy is a member of the Japan Business Initiative for Biodiversity (JBIB), a leading business initiative for biodiversity in Japan. As part of our involvement, we are researching guidelines and tools that companies can effectively make use of to protect biodiversity together with a number of other companies from the energy sector.

\* Japan Business Initiative for Biodiversity (JBIB): Established in 2008 as an organization for companies to work together proactively toward common goal of biodiversity protection.

Currently, improvements are being made to greenery at the Chita Plant based on a biodiversity assessment carried out in compliance with the JBIB Guidelines for Sustainable Businesses Sites developed by the Japan Business Initiative for Biodiversity.

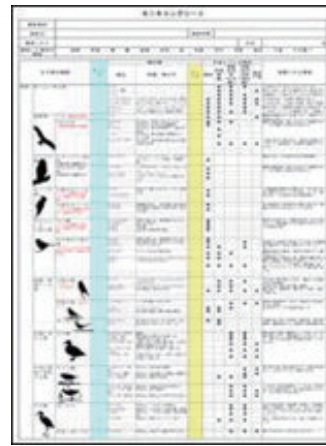
JBIB Guidelines for Sustainable Business Sites



JBIB Guidelines



JBIB Land Use Score Card (TM)

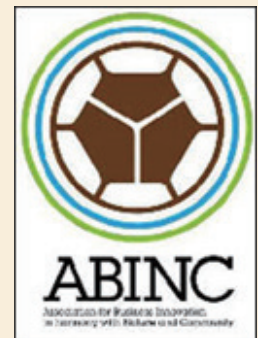


JBIB Monitoring Sheet

### ● About ABINC Certification

In February 2015, the initiatives of the Chita Plant were recognized with ABINC certification as a business in harmony with nature and community from the Association for Business Innovation in Harmony with Nature and Community

This certification program is a third-party certification based on the evaluation criteria from the JBIB Guidelines for Sustainable Business Sites developed by foundations and the JBIB.



ABINC certification mark

## Activities for Reducing Our Environmental Impacts

### Fundamental Approach

The JX Nippon Oil & Energy Group engages in business operations fully cognizant of the impacts they have on the Earth's environment and is proactively working to reduce waste and its burden on the natural environment, including the soil, the air and the water.

### Soil Contamination Studies and Countermeasures

The JX Nippon Oil & Energy Group performs systematic studies on all land that carries the potential for soil or groundwater contamination and initiates proper countermeasures when needed to address pollution. We are also working hard to prevent soil contamination before it occurs by enhancing daily and regular inspections of our equipment as well as upgrading facilities where applicable.

### Track Record of Studies and Countermeasures

#### Soil Surveys and Countermeasures in Fiscal 2014

(millions of yen)

Category	Surveys		Countermeasures	
	Number of Case	Expenditure	Number of Case	Expenditure
Service stations	138	304	80	1,670
Oil depots	10	93	0	0
Refineries / Terminals	5	97	0	0
Total	153	493	80	1,670

#### Soil Contamination Reporting and Published Properties in Fiscal 2014

Category	Location	Survey Results				Status
		Soil		Groundwater		
		Substance	Scale Factor	Substance	Scale Factor	
Idle Land	Aichi	–	–	Lead	1.5	Countermeasures completed

## Measures for the Future

As part of the JX Nippon Oil & Energy Medium-term Environmental Management Plan for fiscal 2013 to Fiscal 2015, we are continually working to reduce our environmental impacts by performing soil contamination studies and implementing countermeasures where needed. Two specific examples of our efforts are presented below.

1. At operating facilities, we continually ensure that service stations complete daily management surveys on their facilities to prevent spills offsite before they happen. We are also taking steps to raise awareness among operators and enhance the scope of daily inspection work. Gasoline storage tanks at service stations that have reached a certain age are reinforced under the guidelines of Japan's Fire Service Act to help prevent spills before they occur.



Tank replacement work in progress

2. We are structurally reinforcing storage tanks at service stations that have exceeded a certain period of use in accordance with the Fire Service Act in an effort to prevent external spills before they occur with infrastructure improvements.
3. We carry out systematic surveys and measures for facilities that are no longer operating. We are also moving forward with research and development of cleanup technologies that are low cost and have less impact on the environment. The phytoremediation (cleanup method using the actions of vegetation to remediate soil contamination) soil improvement technology we co-developed with Sumitomo Forestry Co., Ltd. was recognized with the Environment Minister Award for the model Initiative on Environment Measures at the 2012 organized by the Ministry of the Environment. Going forward, we will utilize this technology as well as other proprietary technologies to help spread a safe and sound environment for all.



Soil survey work in progress



Receiving the 2012 Environment Minister Award for Model Initiatives on Environment Measures from Japan's Ministry of the Environment.



## VOC Reduction Measures

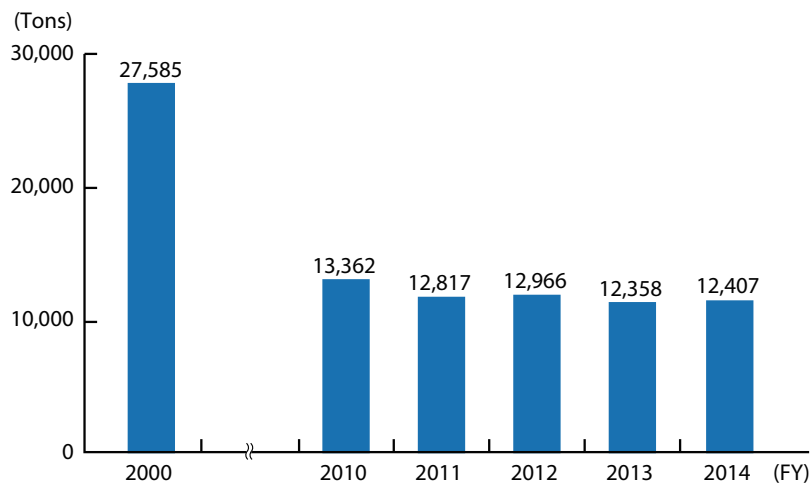
The JX Nippon Oil & Energy Group continually implements measures at its facilities and for its equipment to help prevent the release of volatile organic compounds (VOCs).

### Measures at Refineries

#### Measures to Reduce VOC Emissions

The Government of Japan established a target for fixed sources of VOC emissions, including factories, to reduce their emissions 30% compared to fiscal 2000 levels by fiscal 2010. To that end, each industrial sector set a voluntary action plan by which they implemented measures. As a result, each was able to reduce emissions by more than 30% (overall Japan was able to reduce emissions by 40%). Since fiscal 2011 we have pursued a goal to maintain the same levels as fiscal 2010 in accordance with government policy, and JX Nippon Oil & Energy's results for fiscal 2014 were a 55% reduction.

#### VOC Emissions from Our Refineries and Oil Depots



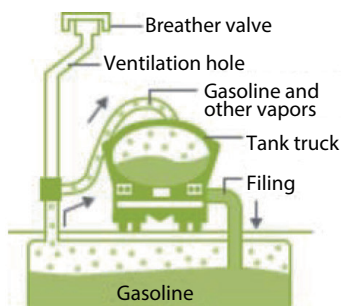
### Measures at Our Service Stations

#### Fuel Oil Vapor Capture

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

Therefore, we have installed recovery apparatuses on the ventilation ducts of service station storage tanks that enable tank trucks to collect these vapors.

Vapor recovery system at our service stations



Capturing hydrocarbon vapors

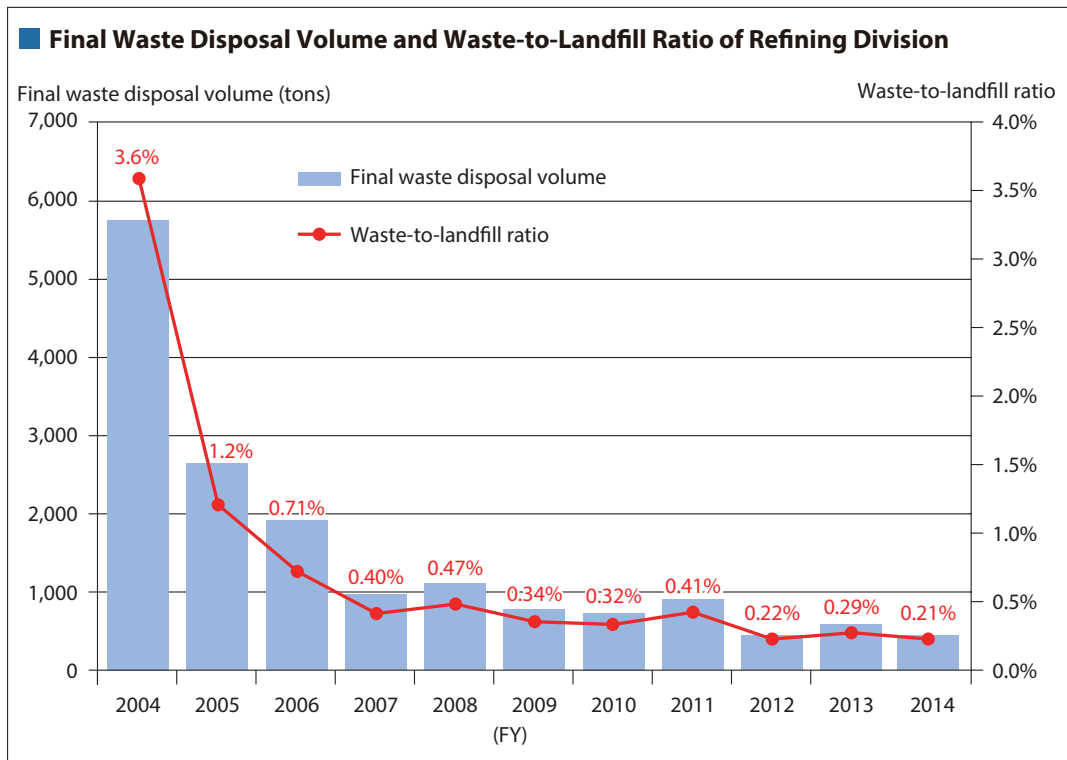
## Waste Reduction Measures

The JX Nippon Oil & Energy Group is working to reduce its waste-to-landfill ratio by properly managing waste and recycling in order to fulfill the vision of a sustainable recycling-oriented society.

### Reducing Our Waste-to-Landfill Ratio

The JX Nippon Oil & Energy Group engages in Zero Emission Plus\* activities that help reduce its waste-to-landfill ratio through proper waste management and recycling programs in order to fulfill the vision of a sustainable recycling-oriented society. Our refining division, which produces the largest volume of waste, is actively working to recycle sludge, waste acid, collected particulate matter, and waste catalysts. In fiscal 2014, our final disposal rate was 0.21%, indicating we have continued to achieve our goal of zero emissions plus.

\* Zero Emission Plus: Final waste disposal volume / Total waste produced < 0.5%



## ● Waste Recycling

We recycle the following waste using the most ideal method for each.

1. Sludge  
Sludge produced from water treatment processes is mainly recycled as a raw material for cement after it is dehydrated and dried.
2. Waste acid (waste vitriol)  
Vitriol used to make high-octane gasoline is recycled at special recycling service providers after use.
3. Collected particulate matter  
Particulate matter contained in flue gas is collected using an electrostatic precipitator and recycled as a raw material for cement. After undergoing thermal recycling\*, collected particulate matter can also be recycled for use in roadbed materials.  
\*The act of capturing energy emitted during the waste incineration process and utilizing it to generate electricity.
4. Waste catalysts  
Catalysts used during the desulfurization process for crude oil eventually lose activity and become waste catalysts. Useful metals such as vanadium and molybdenum contained in waste catalysts are collected and recycled to every extent possible by special metal collection and processing companies.
5. Waste asbestos  
Insulation containing asbestos collected during the maintenance and repair of equipment is melted down to render it harmless and then recycled in roadbed materials.

### Implementation of Electronic Manifests

JX Nippon Oil & Energy began encouraging the full-scale shift to electronic manifests in fiscal 2007. Since then, we have installed electronic manifest systems at each of our business sites and called on our waste transport as well as contract processing partners to cooperate with us in this regard. As a result, fiscal 2014 we were able to switchover 99.8% of all manifests, or about 13,000, to electronic manifest systems.

## Air Pollution Prevention Measures

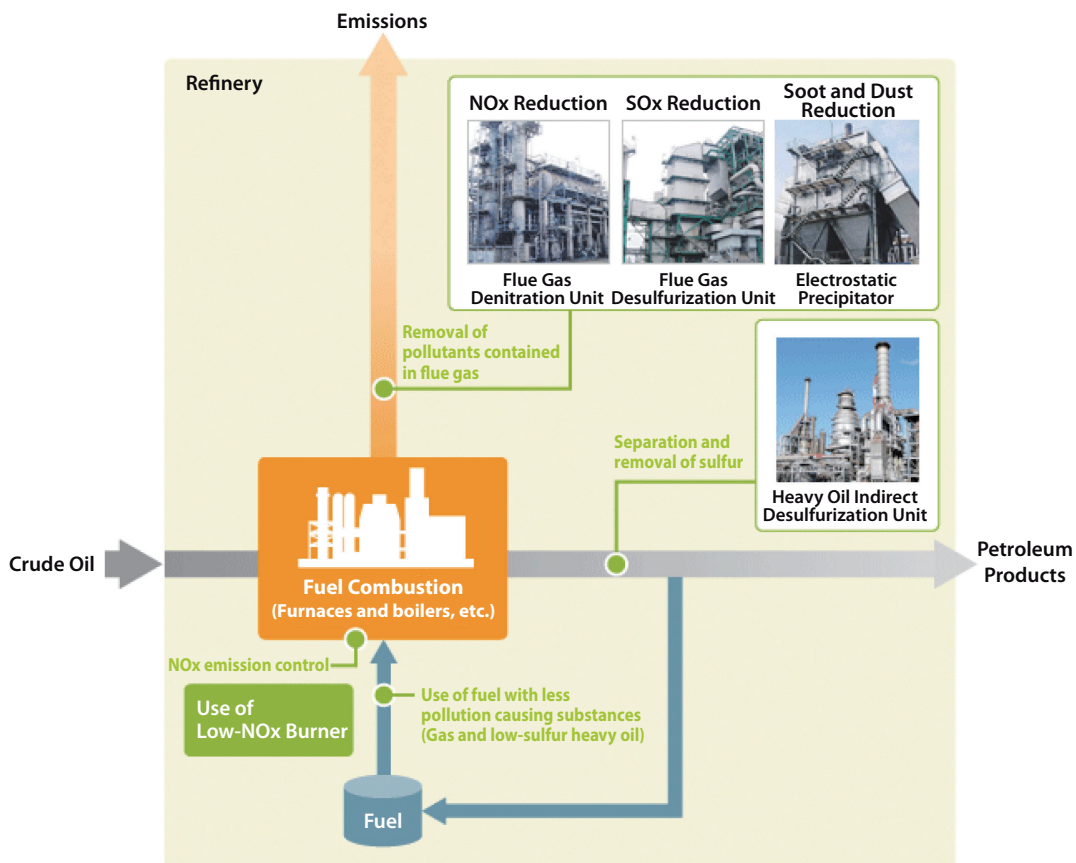
The JX Nippon Oil & Energy Group has initiated a wide range of measures to help control its release of air pollutants into the atmosphere, such as SO<sub>x</sub>, NO<sub>x</sub> and soot and dust.

### Controlling the Release of Air Pollutants

The petroleum product manufacturing process consumes fuel as the necessary energy for distillation and chemical reactions. As a result, sulfur oxides and other air pollutants are released when incinerating impurities found in this fuel. Refining, storage and shipment facilities for crude oil and petroleum products are essentially closed off to the environment, but transferring products to fixed roof tanks or filling tanker trucks causes VOCs, one of the causes of photochemical smog, to be released into the air.

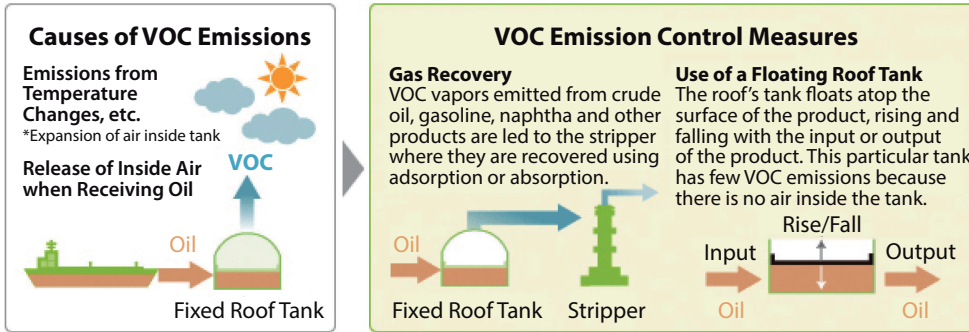
The JX Nippon Oil & Energy Group constantly monitors emissions of these air pollutants and takes the following steps to control their release into the atmosphere.

Controlling the Release of Air Pollutants from Flue Gas

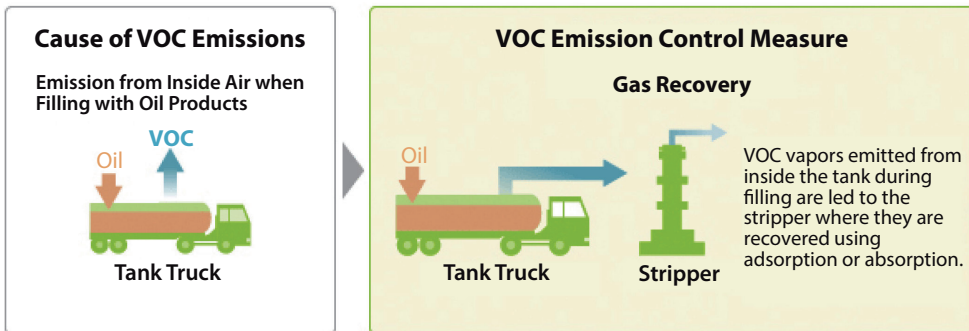


VOC Emissions at Refineries and Control Measures

**Storage Tank**



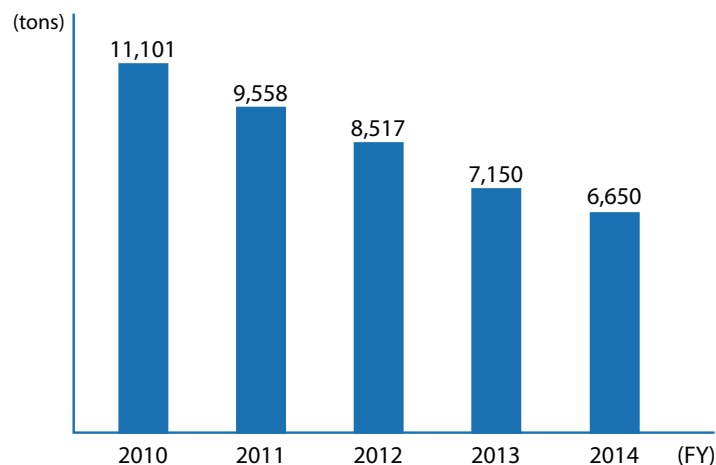
**Shipment Facilities**



**Reducing Sulfur Oxide (SOx) Emissions**

We use low-sulfur content gas in our furnaces. We also use desulfurization unit to cleanse sulfur oxide in flue gas produced from our furnaces and boilers, which has enabled us to reduce our emissions significantly below legal limits.

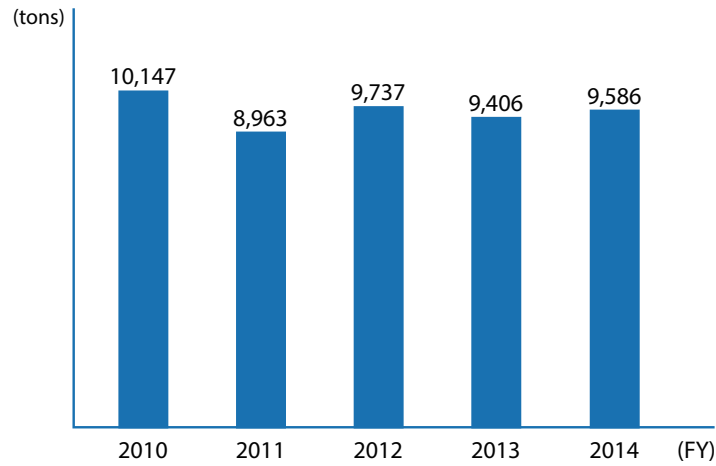
**SOx Emissions at Our Refineries**



## Reducing Nitrogen Oxide (NOx) Emissions

We use low-nitrogen content fuel in our furnaces and boilers as well as low-NOx banners that prevent the generation of NOx in incinerators. We also use desulfurization unit to cleanse flue gas, which has enabled us to reduce our emissions significantly below legal limits.

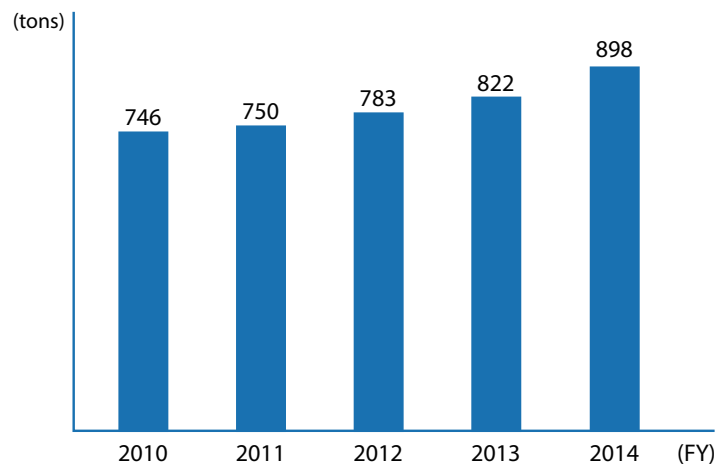
### ■ NOx Emissions at Our Refineries



## Reducing Soot and Dust Emissions

We have installed electrostatic precipitators on boilers that use large amounts of heavy oil in order to reduce soot and dust emissions.

### ■ Soot and Dust Emissions at Our Refineries



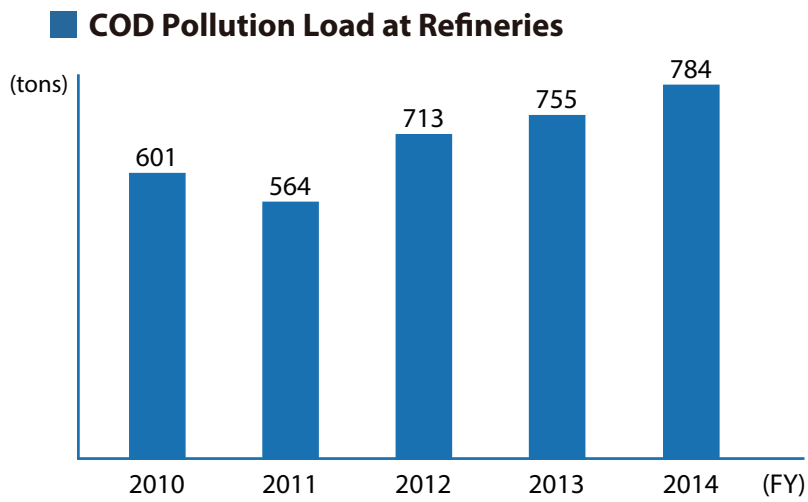
## Water Contamination Prevention Measures

The JX Nippon Oil & Energy Group has initiated a wide range of measures for preventing water contamination.

### Measures at Refineries

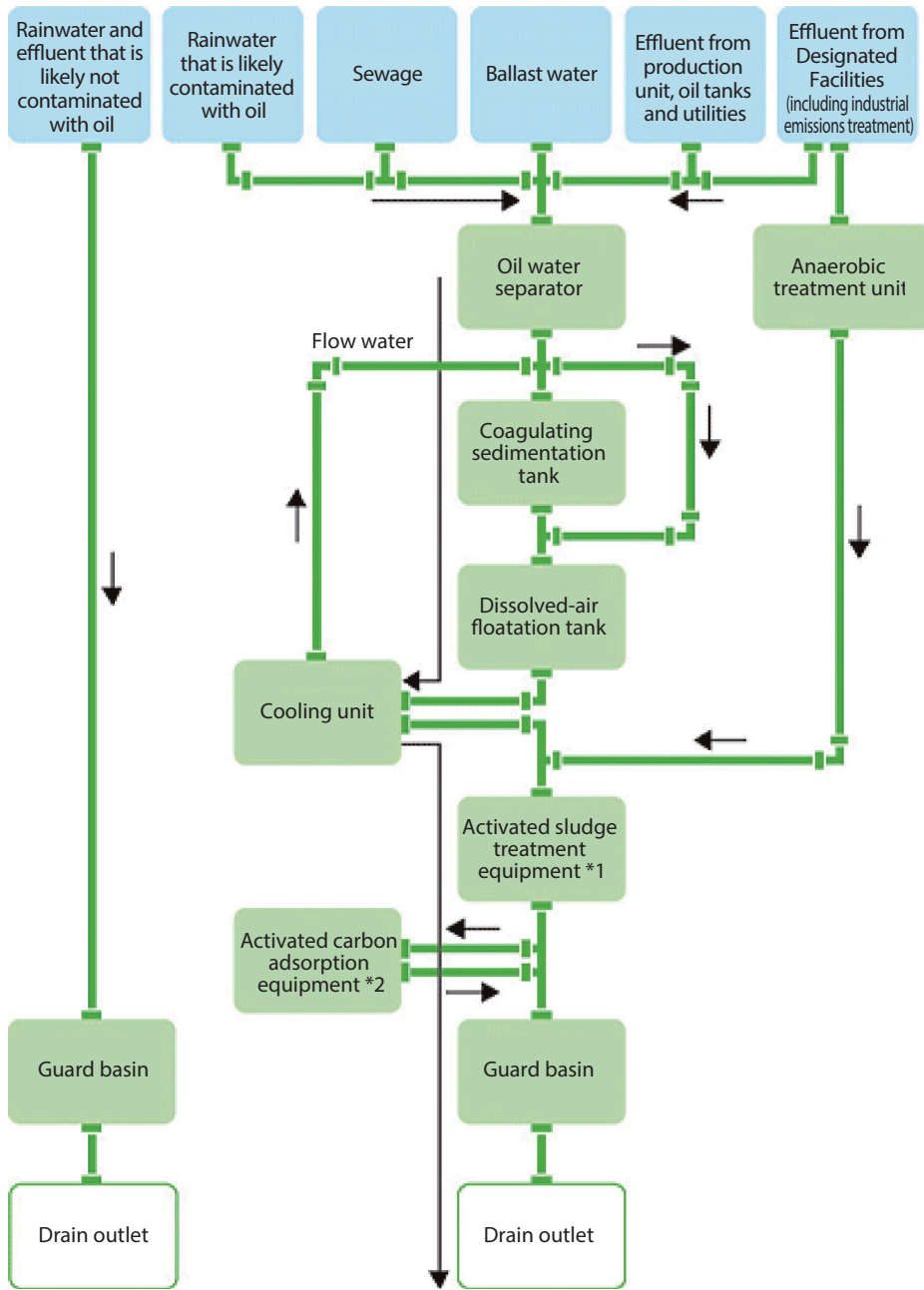
#### ● Effluent Control

Effluent from our refineries is treated according to the system illustrated in the figure below. We carefully monitor the status of effluent treatment using indicators that show pollution concentration such as chemical oxygen demand (COD).





Water Treatment System



\*1: Activated sludge treatment unit



2: Activated carbon adsorption unit



## Measures during Transport

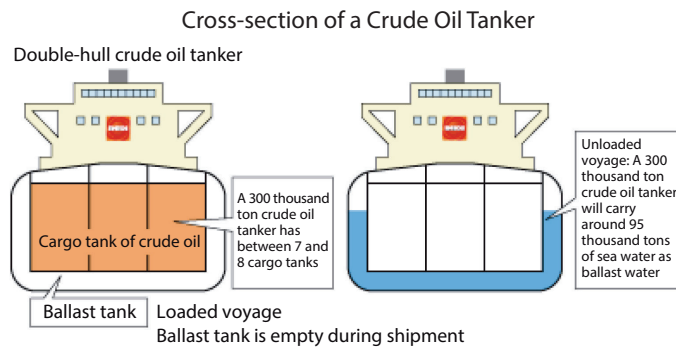
### Stepping up Our Fight to Prevent Marine Pollution

MARPOL73/78 adopted by the International Maritime Organization (IMO) prohibits the dumping of waste into the world's oceans and requires that signatories take steps to prevent environmental pollution caused by oil.

The JX Nippon Oil & Energy Group fully complies with this convention. In addition, we do not dump incinerator ash defined in the convention into the sea, and instead take it back to land for proper disposal. These actions form a part of our much broader commitment to reduce our environmental impacts.

### Preventing Ballast Water from Disturbing Local Ecosystems

Oil tankers from Japan bound for oil producing countries carry ballast water (sea water) as a safety measure for unloaded voyages. Yet, this ballast water contains microorganisms and plankton that are in turn carried to the faraway waters off oil producing countries. In compliance with the demand of crude oil shipping ports, the JX Nippon Oil & Energy Group replaces this ballast water while still on the open ocean to maintain the ecological balance that exists in the coastal waters off oil producing countries.



### Using Ship Bottom Paint that Does Not Contain Endocrine-disrupting Chemicals

We have switched to zinc-based paints after it was pointed out that tributyltin used in our ship bottom paint may be an endocrine-disrupting chemical. Although somewhat less effective against corrosion, we made the change because zinc-based paint has less of an impact on our marine ecosystems.

## Measures at Service Stations

### Recycling Car Wash Water

Our service stations consume large amounts of water for car washes. This is why we decided to install recycling equipment to reutilize between 80% and 90% of what was once disposed of as wastewater, ensuring an effective use of our limited water resources. Statistics show that each car wash uses about 150 liters of water, but when recycling 80% of this water, one car's worth of water can now be used to wash upwards of five cars.

Car washing machine with water recycling function



### Wastewater Treatment

All surface drainage at our service stations passes through an oil separator to remove oil and sludge prior to discharge.

## Management of Chemical Substances

The JX Nippon Oil & Energy Group is firmly committed to the proper management of chemical substances.

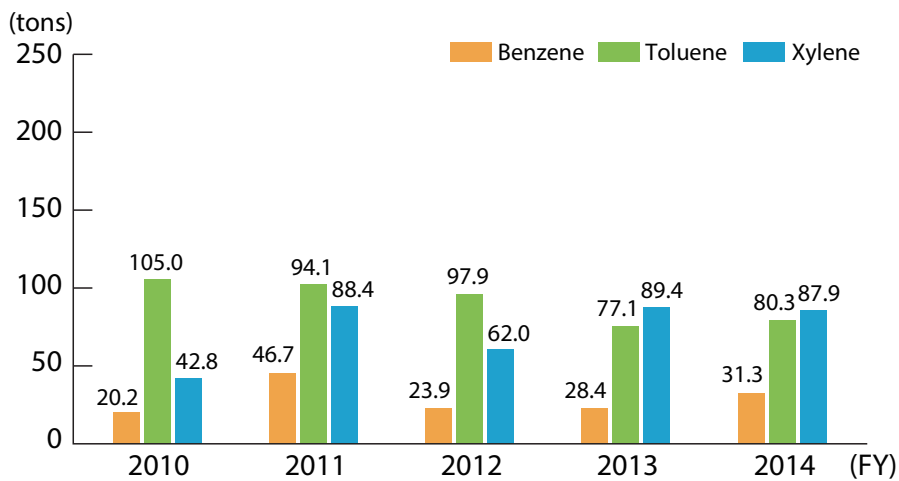
### Monitoring and Managing the Release and Transfer Amounts of Chemical Substances

#### Reporting under Japan's Pollutant Release and Transfer Register Act

We have been reporting the release and transfer amounts of designated chemical substances under Japan's Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (Pollutant Release and Transfer Register Act) since April 2001.

In fiscal 2014, our petroleum refining division released and transferred a total of 681.2 tons of these substances, which mainly included benzene, toluene, and xylene, each an additive in gasoline. These chemicals were released and transferred into the air or water.

#### Release Amounts of Benzene, Toluene and Xylene\*



\*Includes only the petroleum refining division of the JX Nippon Oil & Energy Group.

## Reducing the Environmental Impacts of Our Offices

The JX Nippon Oil & Energy Group is actively working to reduce the environmental impacts of its offices by promoting energy conservation, reducing waste and implementing green procurement.

### Measures in Our Offices

#### Energy Conservation in Our Offices



An employee turning off the lights during lunchtime

Our offices have initiated a variety of energy conservation measures, including turning off lights during lunchtime and in empty rooms, curbing electricity consumption of equipment not being used, changing room temperature settings and dressing down in the summer as part of our Cool Biz program.

## ● Reducing Waste from Our Offices

In addition to our refineries and plants, we are also actively working to reduce waste produced at our head office and branch offices, which includes following proper sorting and collection practices as well as reducing paper waste.

We strive to reduce paper waste by adopting short focus projectors and large-sized displays for conference.

We also collect waste oil and used oil filters at our service stations.



Waste sorting and collection box

## Promoting Green Procurement

The JX Nippon Oil & Energy Group promotes green procurement as part of its commitment to reducing environmental impacts across its entire supply chain.

### ● Green Purchasing

We give priority to purchases of environmental-friendly office equipment and office supplies as well as have actively purchased lower emission vehicles for company use.

### ● Sourcing Greener Materials

We are sourcing greener materials under our Green Materials Procurement Guidelines.

We have created a list of designated substances to prevent purchases of production materials that contain hazardous substances.

We have also established standards for construction materials that dictate the use of recycled materials and avoidance of materials that contain hazardous substances.

### ● Encouraging Our Business Partners to Go Green

We continue to work together with our business partners to reduce their impacts on the environment. Specifically, we ask that our business partners implement ISO14001 compliant or equivalent environmental management systems based on our ENEOS Green Procurement Guidelines.

## Developing and Supplying Environmentally-Friendly Products and Services

### Fundamental Approach

The JX Nippon Oil & Energy Group has established its own unique environmentally friendly standards in order to help contribute to environmental protection, and it is also working diligently to reduce impacts on the environment through the development and sale of environmentally-friendly products and services.

### Environmentally-friendly Products and Services

🔗 Visit the following link to learn more about JX Nippon Oil & Energy's environmentally-friendly products and services.  
(<http://www.no.e.jx-group.co.jp/ecoproducts/>) (available only in Japanese)

## Environmental Measures at Our Refineries and Plants

Each of our refineries and plants is working hard to prevent air and water pollution by formulating their own environmental policy, obtaining ISO certification for the environment, and working as a partner with local communities to protect the environment.

### Measures at Each Refinery and Plant

Visit the following link about environmental measures at each refinery and plant (available only in Japanese).

- ▶ Sendai Refinery (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/sendai/eco/index.html>)
- ▶ Negishi Refinery (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/negishi/eco/index.html>)
- ▶ Mizushima Refinery (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/mizushima/eco/index.html>)
- ▶ Marifu Refinery (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/marifu/eco/index.html>)
- ▶ Oita Refinery (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/oita/eco/index.html>)
- ▶ Muroran Plant (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/muroran/eco/index.html>)
- ▶ Kawasaki Plant (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/kawasaki/eco/index.html>)
- ▶ Yokohama Plant (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/yokohama/eco/index.html>)
- ▶ Chita Plant (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/chita/eco/index.html>)
- ▶ Kashima Refinery (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/kashima/eco/index.html>)
- ▶ Osaka Refinery (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/osaka/eco/index.html>)

# JX Nippon Oil & Energy CSR Report

## Editorial Policy for the 2015 Edition

CSR Report 2015 uses special feature sections to inform stakeholders about the most important CSR topics of the JX Nippon Oil & Energy Group, which include "Building a Resilient Value Chain", "Responding to the Diverse Energy Needs", and "Products that Contribute to Develop the Sustainable Society".

In addition, Specific details pertaining to the company's activities can be found in the Management Report, Corporate Citizenship Report, Social Contribution Activities and Environmental Report sections of this publication. Our goal is to always provide concise, easy-to-understand and honest disclosures. This is why information is also available on the JX Nippon Oil & Energy corporate website. Going forward, JX Nippon Oil & Energy will continue to proactively disclose information and address feedback provided by society and all of its stakeholders so that it can become a trusted company that contributes to the future of energy as well as the establishment of a sustainable society.

## Scope and Timeframe

### Scope

JX Nippon Oil & Energy and its 23 main affiliates (including refineries and plants of the company and its affiliates)

### Timeframe

April 2014 to March 2015


However, certain activities and plans that took place prior to March 2014 or after April 2015 have also been included.

## Published

November 2015

(The next edition is slated for publication in October 2016)

### Previous CSR Reports

-  CSR Report 2014 (PDF:16.2MB / 103 pages)  
 ([http://www.no.e.jx-group.co.jp/english/company/current\\_csr\\_report/pdf/report-2014-en.pdf](http://www.no.e.jx-group.co.jp/english/company/current_csr_report/pdf/report-2014-en.pdf))
-  CSR Report 2013 (PDF:12.7MB / 89 pages)  
 ([http://www.no.e.jx-group.co.jp/english/company/current\\_csr\\_report/pdf/report-2013-en.pdf](http://www.no.e.jx-group.co.jp/english/company/current_csr_report/pdf/report-2013-en.pdf))
-  CSR Report 2012 (PDF:13.2MB / 89 pages)  
 ([http://www.no.e.jx-group.co.jp/english/company/current\\_csr\\_report/pdf/report-2012-en.pdf](http://www.no.e.jx-group.co.jp/english/company/current_csr_report/pdf/report-2012-en.pdf))
-  CSR Report 2011 (PDF:0.7MB / 20 pages)  
 ([http://www.no.e.jx-group.co.jp/english/company/current\\_csr\\_report/pdf/report-2011-en.pdf](http://www.no.e.jx-group.co.jp/english/company/current_csr_report/pdf/report-2011-en.pdf))





Data appearing in this report is from the period spanning April 2014 to March 2015.  
(This also includes certain activities and plans that took place prior to March 2014 or after March 2015)