

# JX Nippon Oil & Energy 2013 CSR Report



The Future of Energy, Resources and Materials  
**JX Nippon Oil & Energy**

# Contents

---

● Message from the President .....	1
● Our Role as an Energy Conversion Company .....	4
● Management Report	
▶ JX Nippon Oil & Energy's CSR .....	10
▶ Corporate Governance and Internal Control .....	13
▶ Compliance .....	14
▶ Risk Management .....	16
▶ Crisis Management .....	17
▶ Safety Measures .....	19
▶ Information Security .....	24
● Corporate Citizenship Report	
▶ Customer Relations .....	25
▶ Providing Products and Services Beneficial to Our Customers .....	26
▶ Quality Assurance .....	28
▶ Pursuing Safety and Compliance for Quality Reassurance .....	33
▶ Social Engagement .....	36
▶ Advancement of Sports and Culture .....	37
▶ Next Generation Development and Support .....	39
▶ Environmental Protection .....	42
▶ Community Engagement and Disaster Relief .....	47
▶ Volunteer Activities .....	48
▶ Employee Engagement .....	50
▶ Providing Workplaces where Employees can Thrive .....	51
▶ Providing Employee-friendly Workplaces .....	54
▶ Human Rights Initiatives .....	57
● Environmental Report	
▶ Environmental Management .....	58
▶ Overview of Environmental Impacts .....	62
▶ Global Warming Prevention Measures .....	64
▶ Biodiversity Preservation Measures .....	69
▶ Activities for Reducing Our Environmental Impacts .....	71
▶ Developing and Supplying Environmentally-Friendly Products and Services .....	84
▶ Environmental Measures at Our Refineries and Plants .....	85
● Editorial Policy for the 2013 CSR Report .....	86

---

## Message from the President



*Message from the President*

### Satisfying a Diverse Mix of Society's Energy Needs as an Energy Conversion Company

**Seiichi Isshiki**

*President and Representative Director*

### Our Single Greatest Mission is to Safely and Efficiently Supply a Wide Range of Energy Solutions including Petroleum Products

JX Nippon Oil & Energy faces a variety of challenges unique to an integrated energy company, which include an overhaul of Japan's energy supply system marked by the de-nuclear power generation movement following the Great East Japan Earthquake, declining demand for petroleum products, and global environmental problems.

In March 2013, as the core operating company for the JX Group's Energy Business, we announced the following four basic strategies under the Second Medium-Term Management Plan.

First is strengthening profitability of our core petroleum refining and marketing business. We will reinforce the global competitiveness of our refineries and build a solid domestic sales network.

Second is expanding business as an Energy Conversion Company. We will pursue businesses that efficiently convert oil, coal, LNG, sunlight and other resources into gasoline, gas oil, gas, electricity and a host of other energy solutions.

Third is establishing a presence in overseas markets. We will seek to grow our presence in overseas markets by expanding our manufacturing and sales systems for basic chemicals and lubricants, which will include partnerships with overseas companies, primarily in Asia where robust growth is expected.

Finally, fourth is capturing demand for high-value-added products based on original technologies. With demand growing in emerging countries for high-value added products, we will work to capture demand for high-performance, high-value added products, such as specialty chemicals and culture media for pharmaceutical manufacturing, which leverage our original technologies.

Through these initiatives, we stand committed to fulfilling our mission to society of supplying a host of petroleum products and energy solutions in a stable and efficient manner.

At the same time, the basis for the execution of these strategies will be establishing a proper governance and CSR system based on a thorough commitment to compliance. Yet, fiscal 2012 was marred by a series of troubles at our refineries across Japan. The most serious of which was deficiencies found at our Mizushima Refinery under Japan's High Pressure Gas Safety Act, causing damage to the trust we had built up with society. These incidents have made us once again aware of the fact that safety and compliance form the very heart of our business activities. Going forward, I will take the lead in promoting better awareness and practice this fact.

### Valuing the Frontlines of Our Network

Given the approach I discussed above, during my first year as president I made it a point to visit as many of our refineries, branch offices, distributors, and service stations across Japan as possible. After talking with a variety of people, I became keenly aware once again that our service network is being supported by people in various workplaces.

Accurate and quick decision making is essential for maintaining a structure that can stably deliver the products and services that our customers really need and that can quickly detect changes in social issues and the environment.

Therefore, I believe in the importance of *Sangen Shugi*, or the Three Actuals, which means go and see for yourself to understand a situation. This is why I decided to visit the frontlines of our network. Going forward, I will continue to visit the frontlines as much as possible to convey the importance they play in our business.

## Reducing Environmental Impacts Across the Entire Value Chain

We established the Second Medium-Term Environmental Management Plan to define our response to environment problems. Until now our focus had been on how to reduce the carbon emissions of our refineries and plants, but moving forward we will look for ways to help reduce environmental impacts across the entire value chain, up to the final stage where energy is consumed, by developing and marketing new energies and environmentally-friendly products.

The Dr. Ouchi-no Energy<sup>\*1</sup> household energy consulting service is growing rapidly with plans to deploy some 1,000 energy consultants nationwide. Residential fuel cells have been popularized mainly through partnerships involving energy companies and equipment manufacturers, but homebuilders have been added to the mix as part of our effort to build a collaborative framework mindful of our customers' homes and lifestyles. We are also working to quickly establish a business model and develop a hydrogen supply infrastructure that capitalizes on our ENEOS service station network with the goal of launching refueling services for general consumer-use fuel cell vehicles in 2015. Toward that end, we are currently moving forward with demonstration trials jointly with related organizations that include combined hydrogen and gasoline service stations set up in Kanagawa Prefecture in April 2013 and Aichi Prefecture in May 2013.

## Constantly Aware of Our Connections with Society through the JX Group Values of EARTH

The JX Group Values, or "EARTH<sup>\*2</sup>," serve as a beacon for us to achieve the JX Group Mission Statement defined by contributions to the development of a sustainable economy and society. I believe that the EARTH principles will fully take root only when all levels of management and employee think from the perspective of EARTH and incorporate these principles into their actions. Starting this year, all material decisions related to the company are checked in accordance with the EARTH principles. I myself, too, make it a point to check my daily actions to see if they align with these principles as well.

I encourage all of our employees to get involved in social contribution activities as a specific way to build our connections with society. I have taken part in the Environmental Volunteer Leadership Training held at ENEOS Forests and I found that I learned a great deal from it.

Utilizing a wide range of human resources is absolutely essential to creating an organization that is unafraid of taking on the challenges presented by new fields. I feel that promoting career opportunities for women is of particular importance. The oil industry is generally a world dominated by men, but women make up half of its customers. In order to flexibly respond to the many needs of customers, we are working on building frameworks to fully capitalize on the skills of our female workers and fostering a corporate culture where they can thrive.



## Striving to be a Company that Delivers Happiness to People Around the World through Energy Conversion

In recent years, demand for energy has become increasingly more diverse, as people want safer, easier-to-use, and environmentally-friendly energy.

As an energy company that retains a one-third share of Japan's petroleum product market, our mission to society can be found in delivering limited resources in a stable manner by converting them efficiently into the right energy solution to meet the varying needs of customers, whether it be gasoline, gas oil, electricity, gas or hydrogen, and in building a network that can still deliver energy even during emergencies or disasters. At the same time, however, we need to think about solutions for service stations in depopulated areas where you might have to drive a dozens or more kilometers to get gasoline or where senior citizens are unable to buy heating oil.

We want to be a company that can deliver happiness to its stakeholders. This commitment remains unchanged since I became president in June 2012. The ENEOS Customer Service Center receives about 200 calls every month on average. After looking over the monthly reports, I noticed that while there were complaints, the number of commendations has increased. By building on this, I believe our network can become a strength that enables us to continually play an important role in society.

Each person's yardstick for happiness is different based on where they live, their situation and the environment. However, energy is the one constant required in everyone's life. Our goal is to not only ensure that energy can be used securely and readily when needed, but to also generate greater added value by converting energy into people's happiness.

(Summary of in-house interview held in August 2013)

\*1 The ENEOS energy consulting service that proposes ways to optimize energy use for the home started in June 2012.

\*2 See below.



■ **JX Group Values**

---

Our actions will respect the EARTH.

**E**thics

**A**dvanced ideas

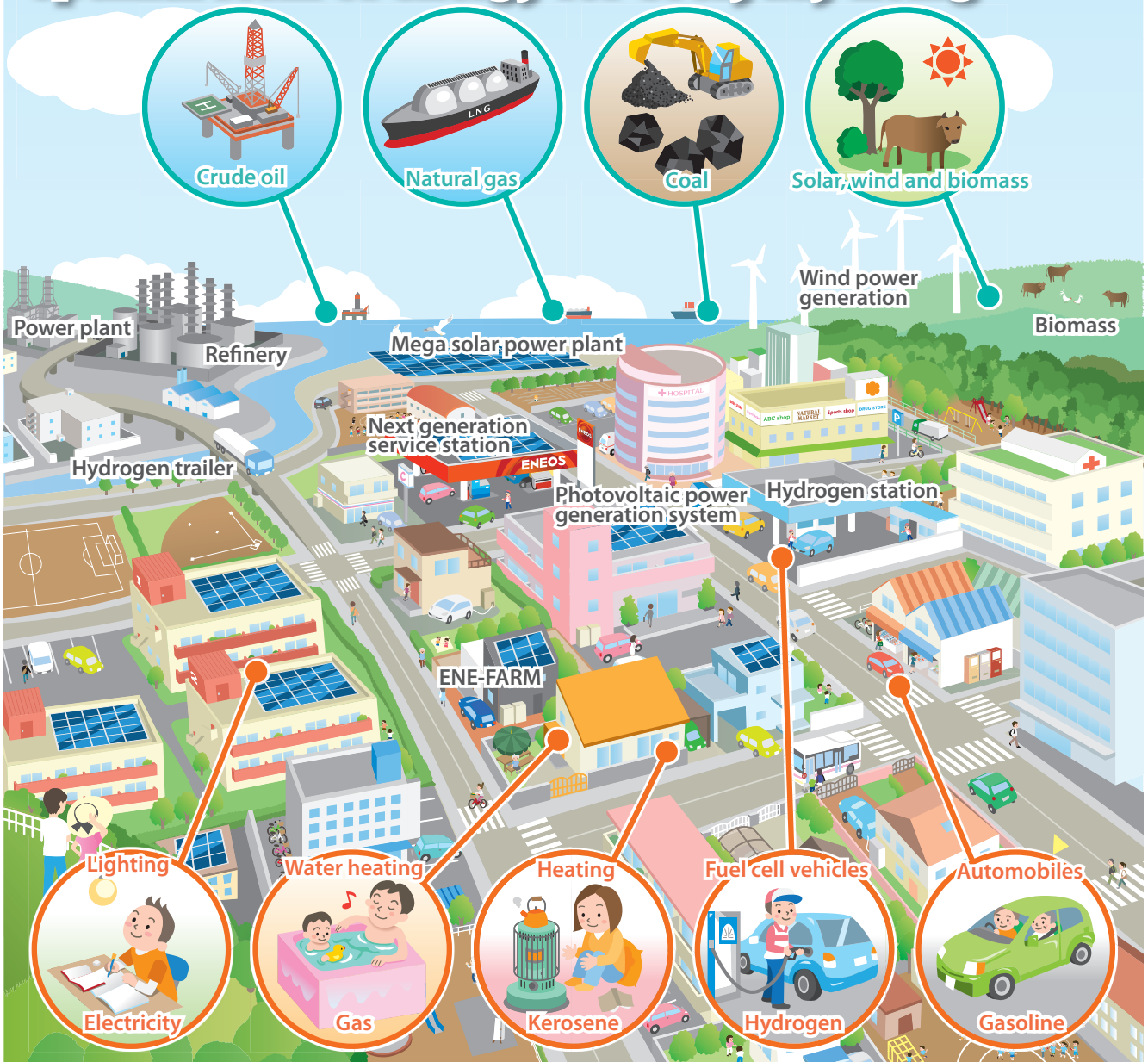
**R**elationship with society

**T**rustworthy products/services

**H**armony with the environment

# Our Role as an Energy Conversion Company

We convert a wide range of resources into the optimal form of energy for everyday living



## The Role of an Integrated Energy Company

### Prerequisites for Delivering a Stable Supply of Energy

Our daily life requires many forms of energy and this is why JX Nippon Oil & Energy’s mission can be found in delivering the right types of energy that best suit the needs of resource-poor Japan in an efficient and stable manner. We research a host of different resources, including solar, wind and biomass, in addition to traditional forms such as crude oil, natural gas and coal, to find ways to convert these resources efficiently into gasoline, electricity or other energy solutions to best fit our every day needs. We continually provide environmentally friendly, disaster resilient and high quality energy as an Energy Conversion Company supporting the energy needs of Japan and contributing to the sustainable development of society.

### Increasing the Supply of Natural Gas

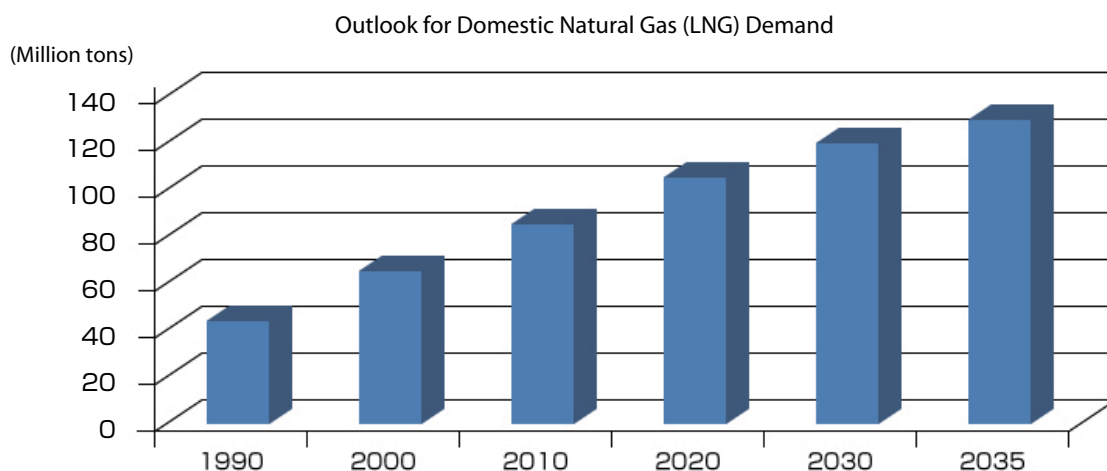


Natural gas emits less CO<sub>2</sub> than oil or coal and can be supplied in a very stable manner because it is found in almost every region of the globe. As a result, demand for natural gas is increasing since it represents one form of clean energy that is a key to realizing the low-carbon society of tomorrow.

JX Nippon Oil & Energy commenced operations at its Mizushima LNG Satellite Terminal (joint venture import terminal with The Chugoku Electric Power Co., Inc.) in 2006 and its Hachinohe LNG Satellite Terminal (secondary terminal) in 2007 to supply natural gas and LNG to power plants, city gas companies, and industrial users. We are also currently in the process of constructing the Hachinohe LNG Terminal as a dedicated import terminal and a new LNG terminal in Kushiro (secondary terminal), with both slated to commence operations in April 2015.

Once both new terminals come on line we will be able to increase the amount of LNG we supply to Hachinohe, one of Northern Tohoku’s largest industrial areas, and supply to new customers in the Eastern Hokkaido area where demand is expected to rise.

We also believe these operations will enable us to make further contributions to the earthquake reconstruction effort and the development of local communities.



Source: The Institute of Energy Economics, Japan

## Providing Comfortable Living while Utilizing Energy more Effectively

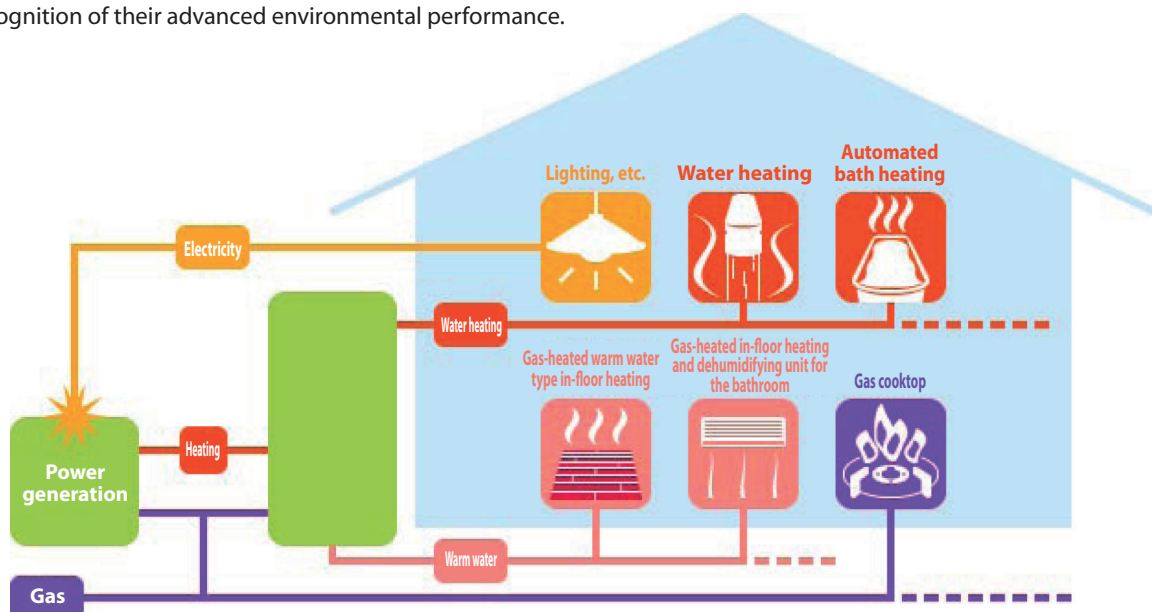
### Promoting the Spread of the ENE-FARM Residential-use Fuel Cell

One of the most important roles of an Energy Conversion Company is not only to provide a stable supply of energy, but also think up more efficient ways of using this energy.

As part of our activities, we are promoting the greater use of our ENE-FARM residential-use fuel cell in order to make homes more energy efficient. ENE-FARM generates electricity using a chemical reaction between hydrogen extracted from gas and oxygen in the air and uses the heat from this process to create hot water, making it much more energy efficient than conventional energy systems for the home. Actual customers have been surprised at the amount of electricity ENE-FARM generates and have noted that it covers some 70% of their home's electricity usage, which helps to reduce their overall utility bill.

Furthermore, ENE-FARM helps consumers to visualize their energy and hot water usage with graphs and illustrations that can be displayed on a monitor installed in the kitchen or other rooms of the house. We have received a great deal of feedback from customers about this aspect of ENE-FARM. Some have noted they had become more aware of energy/electricity conservation after being able to check their current power usage, while others have said their children are also now interested in conserving energy or that their whole family is more conscious of its efforts because they can see which appliance increases electricity usage thanks to the in-home monitor. This demonstrates that ENE-FARM is also helping to raise people's awareness about energy conservation and efficiency.

In 2011, JX Nippon Oil & Energy became the first in the world to begin selling solid oxide fuel cells (SOFC), which were awarded with the Minister of the Environment's 2012 Commendation for Global Warming Prevention Activity (Technological Development/Commercialization Category) and the highest award at the 2012 Nikkei Global Environmental Technology Awards, in recognition of their advanced environmental performance.



ENE-FARM extracts hydrogen from gas to efficiently produce electricity and hot water, which offers convenience for consumers and is easy on the environment and the family budget.

### Dr. Ouchi-no Energy Household Energy Consulting Service

Under the Dr. Ouchi-no Energy program, ENEOS-certified energy consultants offer free in-home visits to gauge how energy is being used and to propose ways to optimize energy usage for the home. Energy consultants investigate about 60 different items and use interviews to evaluate the energy efficiency of the home's energy systems and home appliances. This information is then used to propose ways to make the home more energy efficient.

Started in June 2012, the Dr. Ouchi-no Energy program has 689 energy consultants in every corner of Japan as of September 30, 2013. The program was also selected as a trial implementation project as part of the Ministry of the Environment's 2013 Home Eco Consulting Promotion Platform Development Project, a distinction it also received in fiscal 2012.

Moving forward, JX Nippon Oil & Energy will seek to expand the scope of this service by working closely with other sectors, such as its partnership with housing equipment and building materials manufacturer LIXIL Corporation, to help consumers live more environmentally friendly and comfortable lives using less energy.



## ● Thoughts from an Energy Consultant

I always make it a point to highlight past examples of our work whenever I visit a customer's home in order to capture possible opportunities for repair, installation or maintenance work. I recommend specific ways to reduce energy usage to customers that showed an interest and actually received an energy consultation after hearing about the benefits of energy conservation, and I also talk about energy efficient equipment if requested. I've even been asked about remodeling a bathroom before.

Many of my customers already are passionate about energy conservation, since they make it a point to avoid unnecessary electricity usage on a daily basis, but they are always happy to learn that there is still more they can do after receiving an energy consultation.

This makes me feel that I am now able to offer even more precise energy saving plans that best suit the needs of the customer's lifestyle through my energy consultations.



Ryo Ogura  
Staff Manager/Energy Consultant  
Matsusaka Branch  
Meishin Shinnisseki Gas Co., Ltd.

## Converting to Clean and Easy-to-use Energy, from Mega Solar to Biomass

### Mega Solar Power Plants Commissioned

JX Nippon Oil & Energy has ventured into the mega solar power plant sector with the goal of expanding the amount of renewable energy it provides as part of its ENEOS SOENE Business.

At our Sendai Refinery, which was heavily damaged by the tsunami following the Great East Japan Earthquake, we relocated the tanker truck shipment terminal to higher ground less susceptible to tsunami damage. The idled land that was freed up was used to construct our first one megawatt mega solar power plant that came on line in February 2013 and supplies electricity to the local power company. The power plant will also be able to operate independently in the event of a widespread power outage to supply up to 50 kilowatts of power to surrounding communities.

In March 2013, we commenced operations at a mega solar power plant constructed at our Kudamatsu Terminal in Yamaguchi Prefecture and plan to complete construction on another facility at the former site of the Tsuchiura Depot in Ibaraki Prefecture in November 2013. Together these three mega solar power plants will produce a total of 4.8 megawatts of electricity. Going forward, we plan on constructing similar mega solar power plants at the former sites of the Akita Refinery in Akita Prefecture, the Onahama Depot in Fukushima Prefecture and the Kudamatsu Refinery in Yamaguchi Prefecture, as well as at the Okinawa CTS Corp. in Okinawa Prefecture. Once completed, we will have a total of seven mega solar power plants producing upwards of 24 megawatts of electricity, which is enough to power some 5,000 households.

As the next phase of this business, we plan on accumulating mega solar technologies and expertise not only to operate these facilities, but also to propose similar mega solar power plants and related systems to our customers.

☞ Mega Solar power generation business (<http://www.noe.jx-group.co.jp/megasolar/>) (available only in Japanese)



Sendai Mega Solar Power Plant



Kudamatsu Mega Solar Power Plant

## Installing Photovoltaic Power Generation Systems at Multi-family Residential Buildings

Japan has seen a steady increase in the number of single-family homes using photovoltaic power generation systems thanks to growing awareness about the environment and the launch of the country's feed-in tariff program. However, the same cannot be said for multi-family residential buildings, despite the fact they offer better exposure to sunlight, because of the difficult nature of designing large-scale linked systems. To help solve this challenge, JX Nippon Oil & Energy has developed the "ene SOLAR Koko Eco" single unit photovoltaic power generation system for multi-family residential buildings and is currently promoting its greater use.

The ene SOLAR Koko Eco system features a power conditioner jointly developed with Panasonic Corp. that enables photovoltaic modules installed on the rooftop to be allocated and linked for each residential

unit, making it possible for multi-family residential buildings to take advantage of Japan's 10-year feed-in tariff system for surplus electricity just like single-family homes. This also enables each household to enjoy the benefits of reduced electricity usage.

In addition, the use of monocrystalline hybrid HIT photovoltaic panels that generate electricity more efficiently per installation area means that more electricity can be generated even with limited rooftop space. Customers are able to check the amount of power being generated, CO<sub>2</sub> being reduced and power being consumed and sold back to the power company on a daily basis using the monitor installed in each unit, which helps to raise awareness of energy conservation.



Condominium building example  
 Condominium building in Tokyo  
 Operator: The Sankei Building Co., Ltd.  
 1.29kW per unit (215W x 6 modules) x 33 units  
 Total: 42.57kW

## Building a Hydrogen Supply System for a Cleaner Automobile Society

Fuel cell vehicles are garnering much attention as the ultimate clean energy vehicle. The first mass produced fuel cell vehicles are set to be released in 2015 according to media reports, but a hydrogen supply infrastructure is absolutely essential to popularize these vehicles once they become available for purchase. Hydrogen was not allowed for sale at existing service stations in Japan due to safety reasons, but legal changes made in 2012 now make it possible to construct a hydrogen station on the premises of existing service stations.



Ebina chuo Hydrogen Station

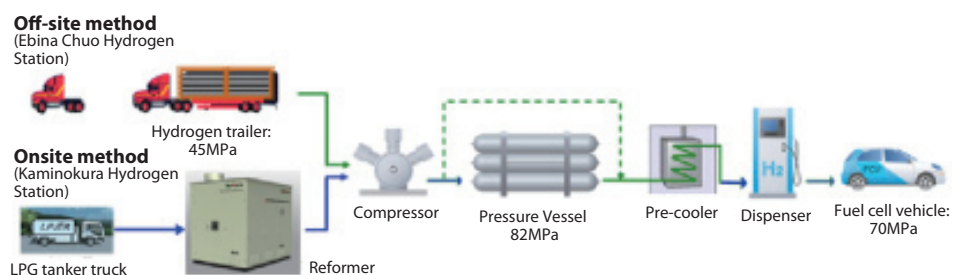


Kaminokura Hydrogen Station

Following this, JX Nippon Oil & Energy became the first in Japan to construct a hybrid hydrogen service station in April 2013 when it opened the Ebina Chuo Hydrogen Station in Ebina City, Kanagawa Prefecture. This service station will be used for hydrogen filling demonstration trials as part of a joint research project between the New Energy and Industrial Technology Development Organization (NEDO) and the Research Association of Hydrogen Supply/Utilization Technology (HySUT). It employs an off-site method where hydrogen is transported in by dedicated trailers and stored in a pressure vessel at the station. This method is ideal for the mass supply system needed after the full-scale roll out of fuel cell vehicles because like gasoline hydrogen will be produced efficiently in large quantities at a refinery or other plant and then distributed to service stations by trailer.

In May 2013, we opened the Kaminokura Hydrogen Station in Nagoya, Aichi Prefecture. This particular service station employs an on-site method where hydrogen is manufactured onsite from LP gas using hydrogen production unit and then stored in a pressure vessel. These two demonstration trials will provide a great deal of operational insight for the commercialization of technologies and the know-how needed to build the hydrogen supply infrastructure.

To speed up the commercialization of hydrogen supply technologies and infrastructure development, we established the Hydrogen Station Project Group as a dedicated organization for investigating hydrogen manufacturing, safe distribution systems and medium- to long-term business strategies. Going forward, we will utilize the nationwide ENEOS service station network to help build a supply infrastructure for the hydrogen energy society of tomorrow.





## Developing Bio Jet Fuel from Euglena Microalgae

With global warming prevention initiatives progressing around the world, the aviation industry faces the major challenge of reducing CO<sub>2</sub> emissions with alternative fuel sources. It remains unfeasible to replace jet fuel with natural gas today and biomass stands as the only effective method for a fuel alternative.

JX Nippon Oil & Energy has been working with Hitachi Plant Technology, Ltd. (currently Hitachi, Ltd.) and Euglena Co., Ltd. at the request of the aviation industry since 2010 on the development of a bio jet fuel using euglena. This particular type of microalgae is able to absorb CO<sub>2</sub> at a greater rate than land-based plants and unlike corn and sugar cane it does not generate competition for food products. In addition, the euglena's oil and fat content has a carbon structure ideal for jet fuel, which has heightened expectations that it can be used as a feedstock for the next-generation bio jet fuel of tomorrow.

Basic elemental research has already confirmed that the euglena can be used as a fuel based on culturing as well as oil and fat extraction results in the laboratory. Currently, large-scale outdoor culturing is being researched with the ultimate goal of commercialization. Furthermore, a large site and integrated production system will need to be built in order to cultivate the amount needed to make euglena a viable energy source. In May 2012, JX Nippon Oil & Energy together with IHI Corporation and Denso Corporation founded the Japan Association for Microalgae Fuels in order to establish an exclusively Japanese consortium involving the public sector, private sector and academia for researching the field. This organization will work to promote initiatives aimed at the commercialization of this technology sometime in the 2020s.

### ● Thoughts from the Developer

Today the greatest challenge facing us is the development of a method to culture vast amounts of euglena. We have created a culture tank on Ishigaki Island and are currently researching ways to keep invasive pests and other microorganisms out and on the ideal weather conditions for culturing the microalgae. Euglena is a living organism, so unlike chemicals there are many things we cannot count on, which has made me keenly aware of both the potential and difficulty of this new energy source.

I believe that petroleum will continue to play an important role as a fuel for the transportation industry and therefore JX Nippon Oil & Energy has an important responsibility to help reduce CO<sub>2</sub> emissions and must play a leading role in this regard. Bio jet fuel represents one possible solution that can greatly reduce CO<sub>2</sub> emissions. Given its great potential, I look forward to finding ways to overcome the many challenges and quickly commercializing this important new energy source.



Iwao Ueda  
Fuel Technology & Ultraclean Fuel  
Development Group  
Research & Development  
Planning Department  
Research & Development Division  
JX Nippon Oil & Energy  
Corporation

# 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.

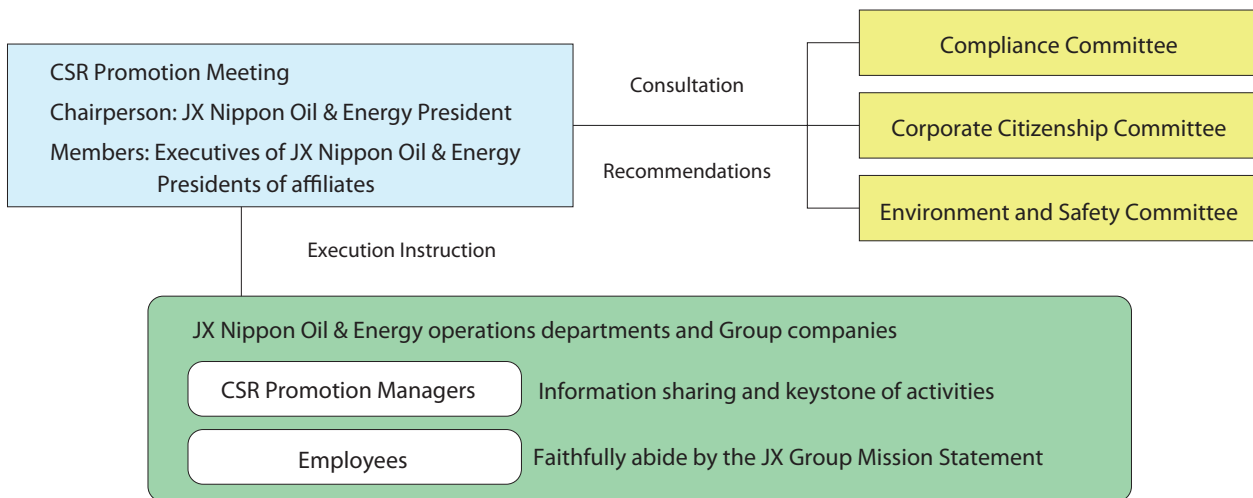
### Basic Policy

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 "the 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 anti-corruption advocated by the United Nations Global Compact. As a member of the Global Compact Japan Network, 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.



## 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 57)
- ▶ Encouragement of Human Rights Awareness (page 57)
- ▶ Providing Workplaces where Employees can Thrive (page 51)
  
- ▶ Business Ethics Training (page 15)
- ▶ Legal Compliance Status Checks (page 14)
- ▶ Providing Employee-friendly Workplaces (page 54)
- ▶ Providing Workplaces where Employees can Thrive (page 51)
  
- ▶ Environmental Management (page 58)
- ▶ Global Warming Prevention Measures (page 64)
- ▶ Biodiversity Preservation Measures (page 69)
- ▶ Activities for Reducing Our Environmental Impacts (page 71)
- ▶ Developing and Supplying Environmentally-Friendly Products and Services (page 84)
  
- ▶ Business Ethics Training (page 15)
- ▶ Legal Compliance Status Checks (page 14)
- ▶ Whistle-blower System (page 14)

## 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 so that it can regain the trust of its stakeholders as soon as possible.

## 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 2012, legal compliance status checks were held at all JX Nippon Oil & Energy Group sites as well as 23 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.

## Whistle-blower System (Compliance Hotline)

A whistle-blowing hotline has been established both inside and outside the company to enable the employees of JX Nippon Oil & Energy (including contract, part-time and temporary workers) as well as the 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 have made anonymous reporting possible and we have set up new hotlines at the Central Technical Research Laboratory and all of our branch office, refineries and plants.

## 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 our employees 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 employees and other training sessions on a wide range of subject matter, including various laws such as Japan's Anti-Monopoly Act, the Act Against Delay in Payment of Subcontract Proceeds, etc., to Subcontractors, the Securities 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) "Compliance Database" – A compilation of laws and operational guidelines

We have compiled a database that contains related laws for each operational genre as well as specific measures and points to consider when complying with these laws. This database is made available to all through the company's intranet system.

### (2) Improving knowledge of legal matters

We publish a single A4-sized file on our intranet that contains an easy-to-understand summary of basic legal knowledge, social norms and company rules.

### (3) "The Fountain of Compliance Knowledge" – Legal Communication

We regularly publish a single A4-sized page that contains an easy-to-understand summary of company rules, social manners, current events and basic legal knowledge on our intranet system.

### (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 help foster greater 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 2012, 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 at our refineries, plants, branch offices and group companies. All told, 34 sessions were held with a total of 1,152 participants.

In fiscal 2013, we plan on holding business ethics training at those branch offices where these sessions have yet to be held. Going forward, we are committed to continuing with these business ethics training sessions and creating more effective curriculum.

## Initiatives Targeting Our Overseas Subsidiaries

Personnel from the head office visited our overseas subsidiaries in Europe and the Middle East in fiscal 2012 to check the status of compliance and provide guidance where necessary. In fiscal 2013, we plan on organizing the same compliance inspection program for our overseas subsidiaries in China and South Korea.

# 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 (page 17)

- Crisis and Emergency Response
- Comprehensive Disaster Preparedness Measures

## ▶ Safety Measures (page 19)

- Safety Policy and Examples of Safety Activities
- Industrial Injuries
- Measures Against Accidents and Problems

## ▶ Information Security (page 24)

- Five Basic Policies on 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 established a comprehensive disaster preparedness system that includes a business continuity plan for the occurrence of a major earthquake directly below the Greater Tokyo Metropolitan Area or a Nankai Trough Mega thrust earthquake, or the occurrence of a new strain of influenza.

## 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 shall be considered an emergency situation
  - (1) 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 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 an 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 General Administration Department
3. After receiving this report, the President will establish a response headquarters led by the 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 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 Preparedness Measures

### Earthquake Measures

We have created three scenarios for a major earthquake that strikes directly under the Greater Tokyo Metropolitan Area or a Nankai Trough mega thrust earthquake and have established a response plan for each.

#### 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 also created a mutual support system linking our refineries and are also in the process of establishing an emergency transport and sales system for our petroleum products.

#### 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.

We have formulated a new basic policy on earthquake and tsunami measures given the challenges that arose during the repeated disaster response activities implemented in the wake of the Great East Japan Earthquake. Under this policy, measures to safeguard human life will be implemented, regardless of probability, while other measures will be implemented in consideration of the probability and scale of damages.

In addition, we are currently working on drafting a supply chain continuity plan for petroleum and other products in the event of a major earthquake striking in the Nankai Trough area.

### Measures Against New Strains of Influenza

We have prepared a manual called Response Guidelines for New Strains of Influenza in order to be prepared to deal with the threat of a possible pandemic of a highly-pathogenic avian influenza. These guidelines will help us to check the safety of employees and their families as well as ensure the continuity of our businesses in the event of a pandemic.

In addition, we are currently working on drafting a supply chain continuity plan for petroleum and other products following the enactment of the Act on Special Measures to Counteract New Strains of Influenza in April 2013 as well as the Pandemic Influenza Preparedness Action Plan of the Japanese Government and Guidelines for the Prevention and Control of Pandemic Influenza in June 2013.

## Safety Measures

Our safety philosophy states “We will give top priority to safety 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.



**JX Nippon Oil & Energy Group  
Safety Philosophy**

We will give top priority to safety in all of  
our business activities.

1. We recognize that ensuring safety represents one of the company's most important social responsibilities and is critical to the jobs of each and every one of our employees.
2. We will implement effective safety activities under the strong conviction that all accidents are preventable.
3. We will utilize the most advanced technologies, acquire the most advanced skills and cultivate a solid awareness necessary for ensuring safety.

**JX Nippon Oil & Energy**

### 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 for Fiscal 2013

■ Follow the basic policy below in order to achieve zero accidents and industrial injuries.

1. Thoroughly abide by all rules

Following all rules represents the ironclad law behind the execution of one's work duties and as such all employees must thoroughly abide by laws, guidelines and procedural manuals on safety

2. Rest assuredly implement all safety activities

All safety activities must be implemented fully and the plan-do-check-action (PDCA) cycle must be used for safety management

3. Enhance crisis management capabilities

All possible preparations must be made during normal conditions to ensure that the company can deal with all expected threats and risks if and when they arise

## Enhancing Safety Management

We operate our refineries and plants each and every day with a particular emphasis on our safety philosophy that states safety is the top priority in all of our business activities.

Under our safety policy that emphasizes "rest assuredly implement all safety activities," we take various preventive approaches to 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 in unison by employees of our operating and engineering divisions as well as the employees of our partner companies.

These measures are being promoted in unison by employees of our operating and engineering divisions as well as the employees of our partner companies.



A workplace discussion on safety



Safety check before work



## Occurrences of Industrial Injuries

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

### Number of Industrial Injuries per Fiscal Year

	Lost Worktime	No Lost Worktime
Fiscal 2008	3	9
Fiscal 2009	2	13
Fiscal 2010	1	20
Fiscal 2011	4	11
Fiscal 2012	3	10

## 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

## Information Security

In accordance with the company's Basic Rules on Information Security, information security outlined below, information security at JX Nippon Oil & Energy involves the prevention of improper access, disclosure or divulgence 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.

In fiscal 2012, briefings were held on company rules pertaining to information security in order to foster greater awareness and improve employee knowledge of information security practices. In addition, a survey on information security was held covering all business sites and the results were used to provide feedback on the company's efforts. We plan on continuing these informative activities again in fiscal 2013.

# 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 (page 26)

- ENEOS SOENE Business
- Photovoltaic Power Generation Systems
- Multi Energy Service Stations
- Petrochemical Products
- Customer-centric R&D

### ▶ Quality Assurance (page 28)

- JX Nippon Oil & Energy Policy on Quality
- Quality Assurance System
- Quality Control
- Quality Month
- List of ISO9001 Certified Sites
- Customer Service Center (Call ENEOS)

### ▶ Pursuing Safety and Compliance for Quality Reassurance (page 33)

- 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 SOENE Business

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

We will focus on popularizing the ENE-FARM residential use fuel cell and photovoltaic power generation systems, while also performing verification testing on ENEOS SOENE renovations that incorporate independent and diversified energy systems for multi-unit residential buildings.

- ▶ ENE-FARM (<http://www.no.ejx-group.co.jp/lande/product/fuelcell/index.html>) (available only in Japanese)

### Dr. Ouchi-no Energy

Dr. Ouchi-no 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 600 energy consultants spread across every prefecture in Japan.

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

### Photovoltaic Power Generation Systems

As part of the “renewable energy” and “independence” pillars, JX Nippon Oil & Energy sells a wide range of photovoltaic power generation systems for homes, apartment buildings, public facilities as well as industrial applications, each of which has seen growing demand.

Following the launch of Japan’s feed-in tariff program for renewable energy in July 2012, we are also making inroads into mega solar power generation projects.

- ▶ Photovoltaic power generation systems (<http://www.no.ejx-group.co.jp/lande/product/solar/index.html>) (available only in Japanese)
- ☒ Mega solar power generation business (<http://www.no.ejx-group.co.jp/megasolar/>) (available only in Japanese)



## Multi Energy Service Stations

As part of its measures to establish a hydrogen supply infrastructure to help popularize fuel cell vehicles slated for launch in 2015, JX Nippon Oil & Energy is proposing the concept of a “multi energy service station” – an existing service station that has been fitted with hydrogen filling equipment. We envision that these multi energy service stations will supply fuel for every type of vehicle on the road, including gasoline and diesel as well as electricity and hydrogen.

This fiscal year we completed construction on the first two combined gasoline and hydrogen service stations in Japan located in Kanagawa and Aichi prefectures that will be used for demonstration trials.

In the future, these service stations will receive surplus electricity generated by local renewable energy systems for use in electric vehicles, which will help to coordinate a positive supply-demand balance in the community.

The multi-station platform will enable us to establish a foundation for the hydrogen supply business and help promote the popularization of independent and diversified energy systems in the local community.

## Petrochemical Products

Many of the things that support our way of life and economy, from apparel and daily necessities to airplanes and buildings, are made from petrochemical products, which use crude oil or natural gas as feedstock. Petrochemical products include most notably ethylene and toluene as well as basic chemicals used in a wide range of applications and processed specialty chemicals that have their own unique qualities and functions.

In recent years, demand for paraxylene, a basic component in polyester used to make textile products and PET bottles, has seen a sharp increase in the high growth markets of Asia. As a result, JX Nippon Oil & Energy is in the process of constructing a production plant in South Korea that is expected to come on line in 2014. This new plant will enable us to meet rising demand for paraxylene in Asia.

JX Nippon Oil & Energy is working to build a petrochemical production system that can address changing demand for myriad products, from ethylene to propylene, benzene and paraxylene, in order to maximize the added value of crude oil through an integrated procurement, refining and petrochemical production system.

In our pursuit of new possibilities for crude oil, we will leverage our long-standing strengths, technologies and expertise in chemical manufacturing to establish a stable supply system as well as research and develop globally together with our partners to provide advanced materials that can meet the increasingly more diverse needs of society when it comes to petrochemical products.



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 an integrated 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.

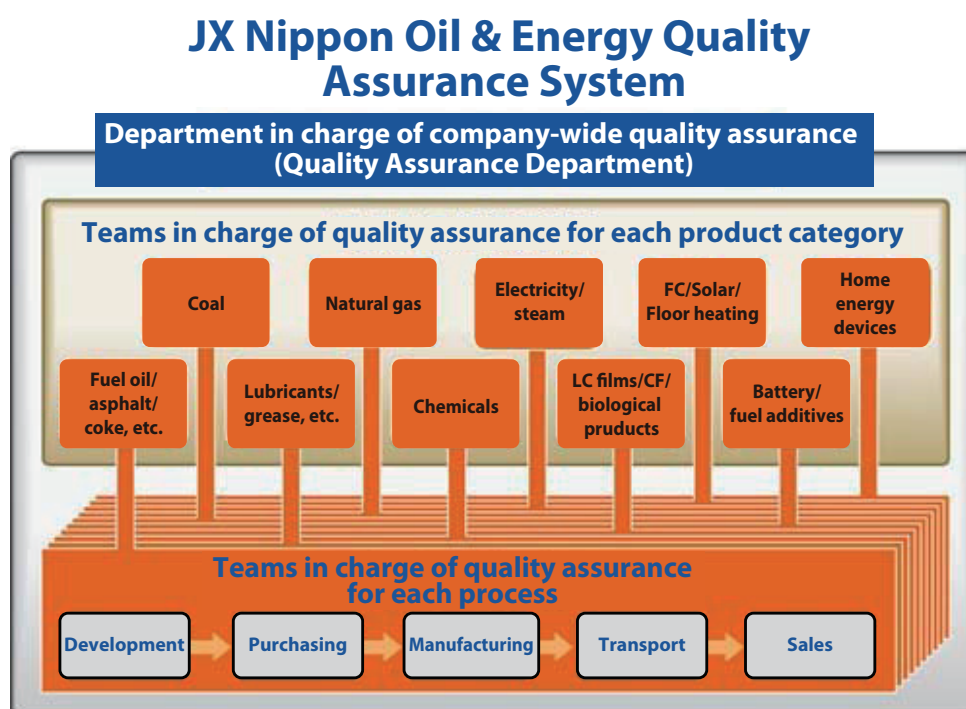
### JX Nippon Oil & Energy Policy on Quality

We take the following steps to ensure that we supply reliable products and services that satisfy each and every one of our customers.

1. We ascertain the requests and expectations of our customers and utilize these in our products and services
2. We are considerate of the environment and safety as well as ensure the peace of mind of both society and our customers
3. We strive to prevent quality complaints and troubles as well as continually take steps to maintain and improve quality

### 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.



### 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 "high-tech"\* tank trucks equipped with state-of-the-art mixing prevention equipment to help eliminate accidents and troubles during delivery. We are also stepping up comprehensive onsite checks involving both customer and tank truck driver at the delivery site. 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 for tank truck drivers to promote full compliance with work procedures and safe operations.

\* High tech tank trucks feature an onboard computer that monitors the type of petroleum for each hatch to prevent the possible mixing of products. At the time of delivery, the petroleum product key for the service station's fill port and cable from the truck's computer are connected, with offloading starting only after the petroleum product name has been verified.

## 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 2012 targeted 4,522 service stations across Japan, with 3,174, or 70.2%, receiving the highest possible score of S/A.

## Quality Month

JX Nippon Oil & Energy Group has designated each November as "Quality Month" as part of our commitment to maintain heightened company-wide awareness toward quality, and to check daily operations and make improvements where needed. Fiscal 2012 represented the 45th time Quality Month was held.

During this month each and every workplace works together with partner companies through a wide range of activities to enhance quality.

## Theme for Fiscal 2012

# Enhance Quality Competencies from a Customer-centric Standpoint

## Fiscal 2012 Slogan

***ENEOS Quality is Directly Linked with a Customer-centric and Professional Mindset***

(Created by: Junko Fujimoto, General Administration Group, Marifu Refinery)

In fiscal 2012, we solicited slogans for Quality Month from employees of the JX Nippon Oil & Energy Group and its partner companies. The slogan above was selected from a total of 11,200 entries that were submitted.

## Fiscal 2012 Poster



The poster features a graphic rendition of an eye, with images of job connections and products included in the center where the pupil would be to articulate our customer-centric approach.

In this manner, the poster expresses our commitment to deliver customer-centric products and services.

At the bottom left of the poster is the logo for our TASUKI Spirit campaign to enhance customer satisfaction.

\*TASUKI spirit:

The name given to company-wide activities related to enhancing customer satisfaction at JX Nippon Oil & Energy.

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

On November 1, the President of JX Nippon Oil & Energy shared the following message with employees of group companies and partner companies to call for solid initiatives to be undertaken during Quality Month.

As an Energy Conversion Company, JX Nippon Oil & Energy needs to think hard from a customer-centric standpoint about how and what to deliver in order to satisfy the increasingly more diverse needs and expectations of customers. In this regard, it is absolutely essential to have “quality competencies” in which we are able to provide products and services that offer true value and emotion to our customers.

Each and every employee should be a focal point of the TASUKI spirit. You should build up innovations and actions that are closely in tune with not only our customers, but also other departments and our affiliates as well. By relaying our baton, or tasuki in Japanese, and commitment to the next focal point, our customers will choose our products and services, I believe.

I would like everyone to use Quality Month this year to reaffirm their daily commitment to quality and the customer and to further enhance ENEOS’ quality competencies together as one. I look forward to your proactive efforts during this important month.

## Independent Activities Planned by Each JX Nippon Oil & Energy Group Workplace

Each of our workplaces creates independent initiatives tailored to their own unique situation. Several examples can be found below.

- Onsite inspection patrols and emergency response drills
- Creation of guidelines and procedural manuals as well as presentations on examples of operational improvements
- Calibration of measurement devices, etc.
- Hosting of a lecture at the head office building led by a guest speaker

## 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 April 2013

Business Sites Having Obtained Certification		Month of Certification
Head Office	Advanced Materials Department, Specialty Chemicals & Materials Division	September 2001
Refineries / Plants	Muroran Refinery	May 1995
	Sendai Refinery	December 1998
	Negishi Refinery	February 1995
	Mizushima Refinery	April 1996
	Marifu Refinery	April 1996
	Oita Refinery	May 1997
	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 2012, we received a total of about 32,000 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 11,100 locations (as of July 31, 2013) 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.

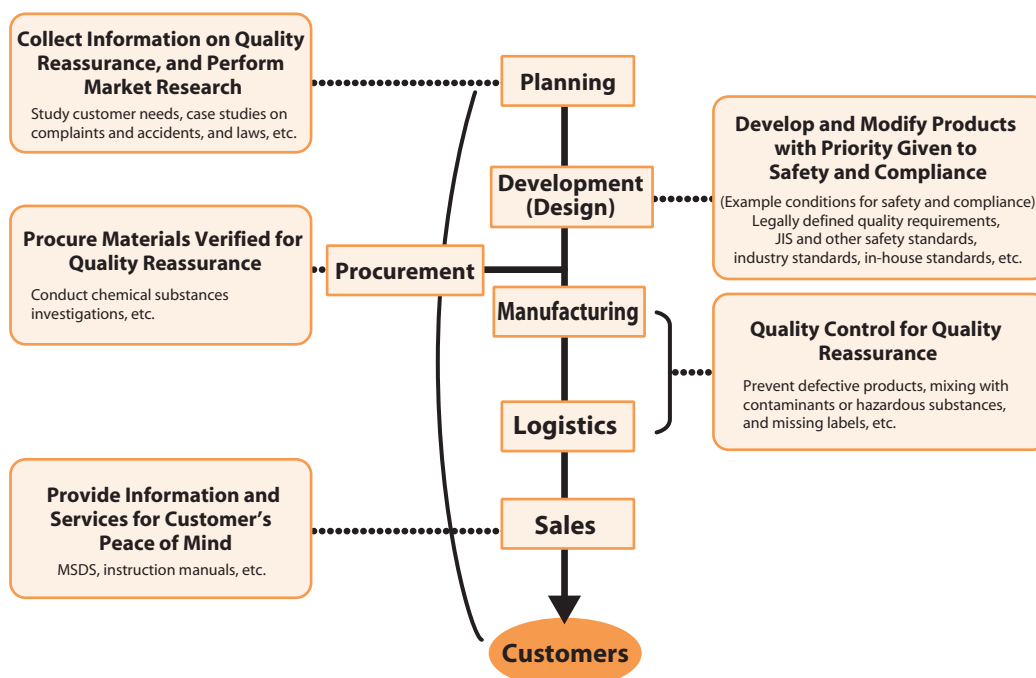
\* Safety at JX Nippon Oil & Energy means that a product is safe for people and the environment during its use, re-use and after disposal. The proper provision of safety measure information also serves to complement overall safety.

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 effects the environment or peoples' health. Through these efforts we are working to mitigate any harmful affects 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 works closely with related industry groups such as the Petroleum Association of Japan and the Japan Petrochemical Industry Association and has launched a contact meeting involving all of its departments to foster greater understanding of REACH regulations as well as encourage the sharing of related information and response expertise.

We have completed the registration of all chemical substances that 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.

## 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 peoples' 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 are encouraging the use of container labels that have two-colored pictorial symbols in conjunction with modifications made to the Act's rules and regulations in 2012.

Example of Automotive Gasoline Container Label

00001

内燃機関用  
**ENEOSレギュラーガソリン**

<p>成分:ガソリン (ヘンゼン、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><b>危険</b></p> <div style="display: flex; justify-content: space-around;"> </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>・眼刺激</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><b>火気厳禁</b> 危険等級Ⅱ 第4類第1石油類 200L</p>
<p>【予防策】</p> <ul style="list-style-type: none"> <li>・ガソリンエンジンにのみ使用する。</li> <li>・他の石油製品と混合使用しない(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(MSDS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>・可燃物の電気機器、換気装置、照明機器、火気の点かない工具を使用すること。</li> <li>・静電気蓄積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>・カーブを使用しないで口で吸い上げないこと。</li> <li>・保護手袋、保護眼鏡、保護服、保護靴を着用すること。</li> <li>・蒸気または噴霧の強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>・可燃物はよく手を洗うこと。</li> <li>・可燃物に注ぎかけないこと(燃焼の恐れがあるため)。</li> <li>・容器を凍結、加熱、圧かけまたは空振しない(残量が減少、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、引きずる等の乱暴な扱いをしないこと。</li> </ul>	<p>【対応】</p> <ul style="list-style-type: none"> <li>・火災の場合、消火には粉末消火器を使用すること。</li> <li>・こぼした場合は、速ちに拭き取る。</li> <li>・皮膚(または髪)に付着した場合、速ちに汚染された衣服を脱ぎ、皮膚を大量の水でよく洗うこと。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>・皮膚障害が生じた場合、医師の診察・手当てを受けること。</li> <li>・目に入った場合、水で数分間流し流すこと。次に、コンタクトレンズを装着している場合は取り除くこと。その後も洗浄を続けること。医師の診察・手当てを受けること。</li> <li>・鼻息が臭い場合は鼻息の臭いがある。又は気分が悪い場合、医師の診察・手当てを受けること。</li> <li>・吸込んだ場合、呼吸器の症状に類似し、呼吸しづらい状態で休息させること。</li> <li>・飲み込んだ場合、速ちに医師に連絡すること。飲用にさせないこと。</li> <li>・蒸気の吸殻が必要な場合、製品情報またはラベルを参考に処理すること。</li> </ul>
<p>【保管】</p> <ul style="list-style-type: none"> <li>・直射日光を避け、涼しく換気のよ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>【連絡先】</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:0120-58-8704 (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 (ヘンゼン、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
- ・眼刺激
- ・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

# Social Engagement

## 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 (page 37)

- Basketball Promotion Activities
- ENEOS' Baseball Support Activities
- Inviting Children to Attend FC Tokyo Soccer Matches
- Sponsorship of Wheelchair Basketball Tournaments
- 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 (page 39)

- ENEOS Environmental Classes
- ENEOS Children's Science Classes
- Energy and Environmental Education Seminar for School Teachers
- ENEOS Forests School
- ENEOS Living Creature School
- Summer Holiday Science Bus Tour

#### ▶ Environmental Protection (page 42)

- 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 (page P47)

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

#### ▶ Volunteer Activities (page 48)

- Supporting Employee 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 76 times in fiscal 2012 with a total of 2,777 people taking part.

☞ JX-ENEOS Basketball Clinic (<http://www.jx-group.co.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 Yokohama DeNA Baystars and the Tohoku Rakuten Golden Eagles of Nippon Professional Baseball as well as sponsor the Rubber-ball Baseball Tournament of Japan Junior Sports Clubs Association, the NPB12 Team Junior Tournament ENEOS Cup, 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.

### 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 2012 we invited a total of 2,000 children and escorts (100 persons for each of the 20 matches) to attend FC Tokyo home matches. In fiscal 2013, we plan on hosting a total of 2,000 children and escorts (100 persons for each of the 20 matches).



Letters of appreciation sent from children

### 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 took part in the tournament in May to provide operational support and assistance.

We plan to continue these same sponsorships and support efforts in fiscal 2013 as well.

## 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 2012 represented the 43<sup>rd</sup> 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 single-mother families, foster homes and 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 foster-care facilities, single-mother support facilities and foster homes who graduate from high school and will pursue higher education.

Starting in fiscal 2011, we made a commitment to donate the proceeds from these purchases to support children affected by the Great East Japan Earthquake for a period of three years. In fiscal 2012, we provided a total of 9 million yen in donations for education and childcare in Rikuzentakata City, Iwate Prefecture, Minamisanriku Town, Miyagi Prefecture, and Soma City, Fukushima Prefecture, which were damaged the most in the earthquake and tsunami (3 million for each municipality). These donations are being used to education and child care programs for foster-care children in need.


## 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 360,000 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 for more than 40 years 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 children 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 28 schools across Japan in fiscal 2012, and were attended by roughly 1,420 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.



"How is oil being used?"



Experiment comparing hydrogen and carbon dioxide

#### Video of an ENEOS environmental class

([http://www.eneos-tv.jp/?movie\\_id=wakuwaku\\_env\\_class](http://www.eneos-tv.jp/?movie_id=wakuwaku_env_class)) (available only in Japanese)

#### Apply for an ENEOS environmental class

([http://www.no.e.jx-group.co.jp/csr/social/society/next\\_generation/information.html](http://www.no.e.jx-group.co.jp/csr/social/society/next_generation/information.html)) (available only in Japanese)

#### Feedback from ENEOS environmental classes

([http://www.no.e.jx-group.co.jp/csr/social/society/next\\_generation/information.html#voice](http://www.no.e.jx-group.co.jp/csr/social/society/next_generation/information.html#voice)) (available only in Japanese)

### ENEOS Children's Science Classes

Our Central Technical Research Laboratory has been holding the ENEOS Children's Science Class at 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 61 times and have been attended by about 2,680 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 feedback from students included, "It was really fun because we did things that we don't normally do in class."



An ENEOS Children's Science Class in progress

## Energy and Environmental Education Seminar for School Teachers

We hold environmental education and energy seminars for school teachers actively involved in these fields in order to foster correct understanding about environmental and energy issues, such as global warming, among their pupils.



A lecture in progress



A discussion involving program participants

- ▶ Results of the Fiscal 2010 Energy and Environmental Education Seminar ([http://www.noe.jx-group.co.jp/csr/social/society/next\\_generation/seminar10.html](http://www.noe.jx-group.co.jp/csr/social/society/next_generation/seminar10.html))
- ▶ Results of the Fiscal 2009 Energy and Environmental Education Seminar ([http://www.noe.jx-group.co.jp/csr/social/society/next\\_generation/seminar09.html](http://www.noe.jx-group.co.jp/csr/social/society/next_generation/seminar09.html))
- ▶ Results of the Fiscal 2008 Energy and Environmental Education Seminar ([http://www.noe.jx-group.co.jp/csr/social/society/next\\_generation/seminar08.html](http://www.noe.jx-group.co.jp/csr/social/society/next_generation/seminar08.html)) (available only in Japanese)

## 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.noe.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/social/society/environment.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 seven of our refineries in fiscal 2012, attracting a total of 548 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

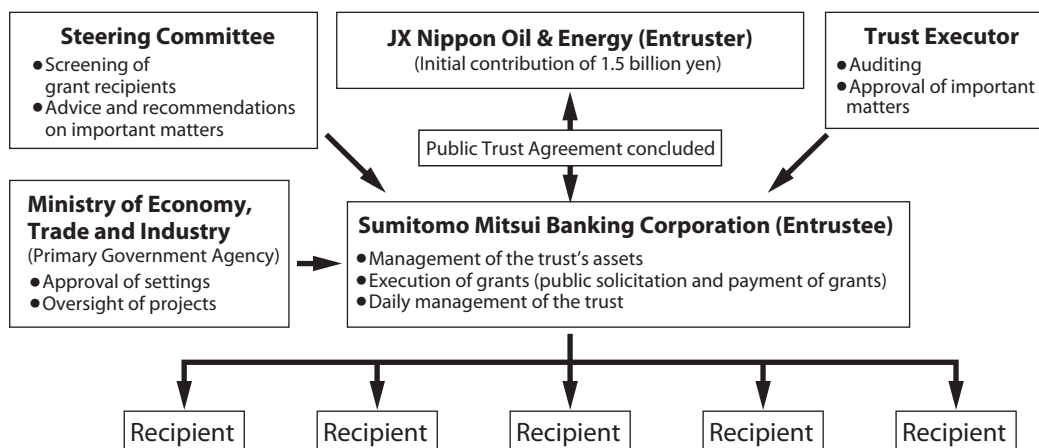
Today, a variety of environment issues such as global warming are in the spotlight and many have called for the development of a sustainable society that grows responsibly with new energy systems that do not produce CO<sub>2</sub> or hazardous substances.

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 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 2012, we provided grants to a five 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 (entrustee) 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.no.ejx-group.co.jp/csr/social/society/environment/index.html>)

### ▶ 7<sup>th</sup> Research Grant Awards and List of Research Awardees

(<http://www.no.ejx-group.co.jp/csr/social/society/environment/aid07.html>)

### ▶ 6<sup>th</sup> Research Grant Awards and List of Research Awardees

(<http://www.no.ejx-group.co.jp/csr/social/society/environment/aid06.html>)

### ▶ 5<sup>th</sup> Research Grant Awards and List of Research Awardees

(<http://www.no.ejx-group.co.jp/csr/social/society/environment/aid05.html>)

### ▶ 4<sup>th</sup> Research Grant Awards and List of Research Awardees

(<http://www.no.ejx-group.co.jp/csr/social/society/environment/aid04.html>)

### ▶ 3<sup>rd</sup> Research Grant Awards and List of Research Awardees

(<http://www.no.ejx-group.co.jp/csr/social/society/environment/aid03.html>)

### ▶ 2<sup>nd</sup> Research Grant Awards and List of Research Awardees

(<http://www.no.ejx-group.co.jp/csr/social/society/environment/aid02.html>)

### ▶ 1<sup>st</sup> Research Grant Awards and List of Research Awardees

(<http://www.no.ejx-group.co.jp/csr/social/society/environment/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 near-by its refineries 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.



Volunteers activities in an ENEOS Forest



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 2012, we conducted activities 16 times at eight locations, with a total of 1,336 participants that included employees and their family. Since 2005, we have held activities a total of 131 times at sites across Japan, with participants numbering 9,532. These activities have spanned from thinning to brush clearing, pruning and trail development.

- ▶ ENEOS Forests (<http://www.noe.jx-group.co.jp/csr/social/society/environment/activity.html>) (available only in Japanese)
- ▶ View a video (51 seconds) on ENEOS Forests at:  
([http://www.noe.jx-group.co.jp/csr/social/society/environment/movie/index\\_mv01.wmv](http://www.noe.jx-group.co.jp/csr/social/society/environment/movie/index_mv01.wmv)) (available only in Japanese)

## Other Forestation Topics

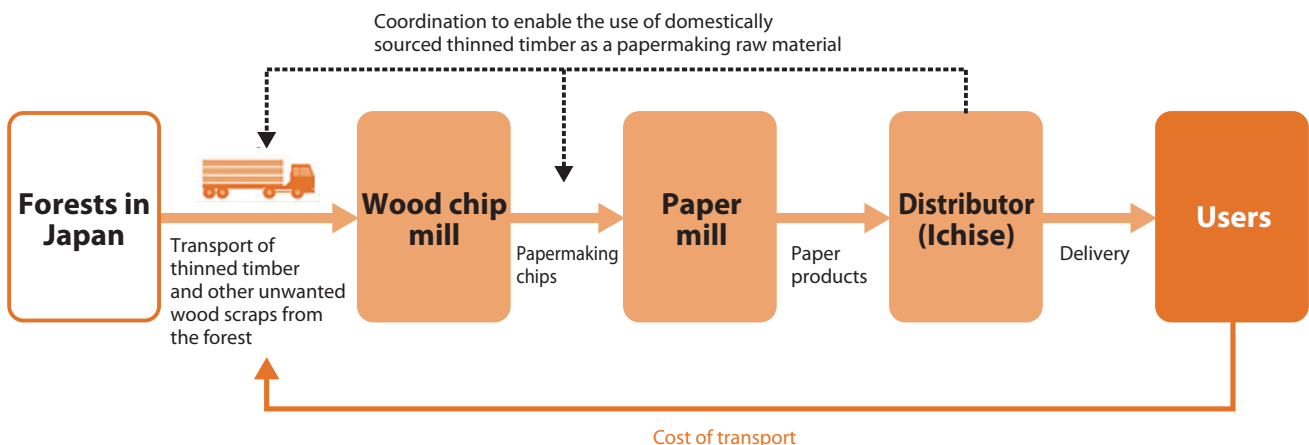
### Turning Thinned Timber from Responsibly Managed Forests into “3.9 Paper”

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 2012, activities were held on eight occasions, with 176 participants taking part. Additionally, since 2004 we have held activities on a total of 61 occasions that have attracted 1,643 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.

- ▶ What is Tokyo Greenship Action? (<http://www.noe.jx-group.co.jp/csr/social/society/environment/green/index.html>) (available only in Japanese)
- ▶ Activities from fiscal 2012 (<http://www.noe.jx-group.co.jp/csr/social/society/environment/green/2012.html>) (available only in Japanese)
- ▶ Activities from fiscal 2011 (<http://www.noe.jx-group.co.jp/csr/social/society/environment/green/2011.html>) (available only in Japanese)



Commemorative photo taken after rice reaping

## 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 butterflies in the flowerbed to help enrich Tokyo's biodiversity.

Tokyo's biodiversity. These activities were held on four occasions in fiscal 2012, attracting a total of 93 volunteers.

- ▶ Activities from fiscal 2012 (<http://www.noe.jx-group.co.jp/csr/social/society/environment/hibiya2012.html>) (available only in Japanese)
- ▶ Activities from fiscal 2011 (<http://www.noe.jx-group.co.jp/csr/social/society/environment/hibiya2011.html>) (available only in Japanese)
- ▶ Activities from fiscal 2010 (<http://www.noe.jx-group.co.jp/csr/social/society/environment/hibiya.html>) (available only in Japanese)



Employees and their families planting new seasonal flowers

## 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 2013, 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.



- ▶ Activities in June 2013  
([http://www.no.ejx-group.co.jp/newsrelease/2013/20130425\\_01\\_0930204.html](http://www.no.ejx-group.co.jp/newsrelease/2013/20130425_01_0930204.html)) (available only in Japanese)
- ▶ ENEOS Living Creatures School activities (June 2013)  
(<http://www.no.ejx-group.co.jp/csr/social/society/environment/kounotori/201306.html>) (available only in Japanese)
- ▶ ENEOS Living Creatures School participant feedback  
(<http://www.no.ejx-group.co.jp/csr/social/society/environment/kounotori/201306voice.html>) (available only in Japanese)
- 📄 Activities in September 2012 (PDF:63KB)  
(<http://www.no.ejx-group.co.jp/csr/social/society/environment/pdf/201209.pdf>) (available only in Japanese)
- ▶ ENEOS Living Creatures School activities (September 2012)  
(<http://www.no.ejx-group.co.jp/csr/social/society/environment/kounotori/201209.html>) (available only in Japanese)
- ▶ ENEOS Living Creatures School participant feedback  
(<http://www.no.ejx-group.co.jp/csr/social/society/environment/kounotori/201209voice.html>) (available only in Japanese)
- ▶ Activities in October 2011  
([http://www.no.ejx-group.co.jp/newsrelease/2011/20110915\\_01\\_0960492.html](http://www.no.ejx-group.co.jp/newsrelease/2011/20110915_01_0960492.html)) (available only in Japanese)
- ▶ ENEOS Living Creatures School activities (October 2011)  
(<http://www.no.ejx-group.co.jp/csr/social/society/environment/kounotori/201110.html>) (available only in Japanese)
- ▶ ENEOS Living Creatures School participant feedback  
(<http://www.no.ejx-group.co.jp/csr/social/society/environment/kounotori/201110voice.html>) (available only in Japanese)
- 📄 A pond created as part of the program's small nature restoration activity (Toyooka City website)  
(<http://www.city.toyooka.lg.jp/www/contents/1323051476011/index.html>) (available only in Japanese)
- ▶ Activities in July 2010  
([http://www.no.ejx-group.co.jp/newsrelease/2010/20100517\\_01\\_0794529.html](http://www.no.ejx-group.co.jp/newsrelease/2010/20100517_01_0794529.html)) (available only in Japanese)
- ▶ ENEOS Living Creatures School activities (July 2010)  
(<http://www.no.ejx-group.co.jp/csr/social/society/environment/kounotori/201007.html>) (available only in Japanese)
- ▶ Activities in March 2010  
([http://www.no.ejx-group.co.jp/newsrelease/noc/2009/20100209\\_01\\_0952366.html](http://www.no.ejx-group.co.jp/newsrelease/noc/2009/20100209_01_0952366.html)) (available only in Japanese)
- ▶ ENEOS Living Creatures School activities (March 2010)  
(<http://www.no.ejx-group.co.jp/csr/social/society/environment/kounotori/201003.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 240 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/social/society/area\\_activity/sealkawasaki.html](http://www.noie.jx-group.co.jp/csr/social/society/area_activity/sealkawasaki.html)) (available only in Japanese)
- ▶ Inflatable shelter  
([http://www.noie.jx-group.co.jp/csr/social/society/area\\_activity/shelter.html](http://www.noie.jx-group.co.jp/csr/social/society/area_activity/shelter.html)) (available only in Japanese)
- ▶ Involvement in the City of Kawasaki's comprehensive disaster-preparedness drill  
([http://www.noie.jx-group.co.jp/csr/social/society/area\\_activity/protectkawasaki.html](http://www.noie.jx-group.co.jp/csr/social/society/area_activity/protectkawasaki.html)) (available only in Japanese)

### Emergency Relief Assistance

#### JX Group Volunteer Activities Supporting Restoration and Recovery

The JX Group and many of its employees have taken part in volunteer activities in support of the recovery effort following Great East Japan Earthquake.

- ▶ JX Group Volunteer Activities Supporting Restoration and Recovery  
(<http://www.hd.jx-group.co.jp/english/csr/volunteer/>)

## 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 2012, 32 employees used this program to take a total of 60 days off for volunteer work.

### Volunteer Collection Drive Activities



Items collected by volunteers

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 2013. Donations of items were provided to the following organizations.

### Unusable Postcards and Unused Stamps



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

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.



## Unused Prepaid Cards and Gift Certificates



Unused prepaid cards and gift certificates being presented to Hunger Free World

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

### 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 March 2013. 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 2,061 books. Many employees, including senior executives, visited the charity book drive venue to purchase a book.

A sign language class sponsored by the Human Resources Department and presentations by partner organizations Peace Winds Japan and EDF-Japan were also held at the same time, which provided an opportunity for all to broaden understanding about citizenship activities.



The charity book drive in progress



Sign language class held by the Human Resources Department



Presentation by Peace Winds Japan



Presentation by EDF-Japan

# 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 (page 51)

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

### ▶ Providing Employee-friendly Workplaces (page 54)

- Developing the Next Generation
- Flextime Program
- Shortened Working Hours Program
- Childcare Assistance Programs
- Care Giver Assistance Programs
- Life Planning Seminars
- 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 (page 57)

- 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.

### 1. 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.

### 2. 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.

### 3. 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.

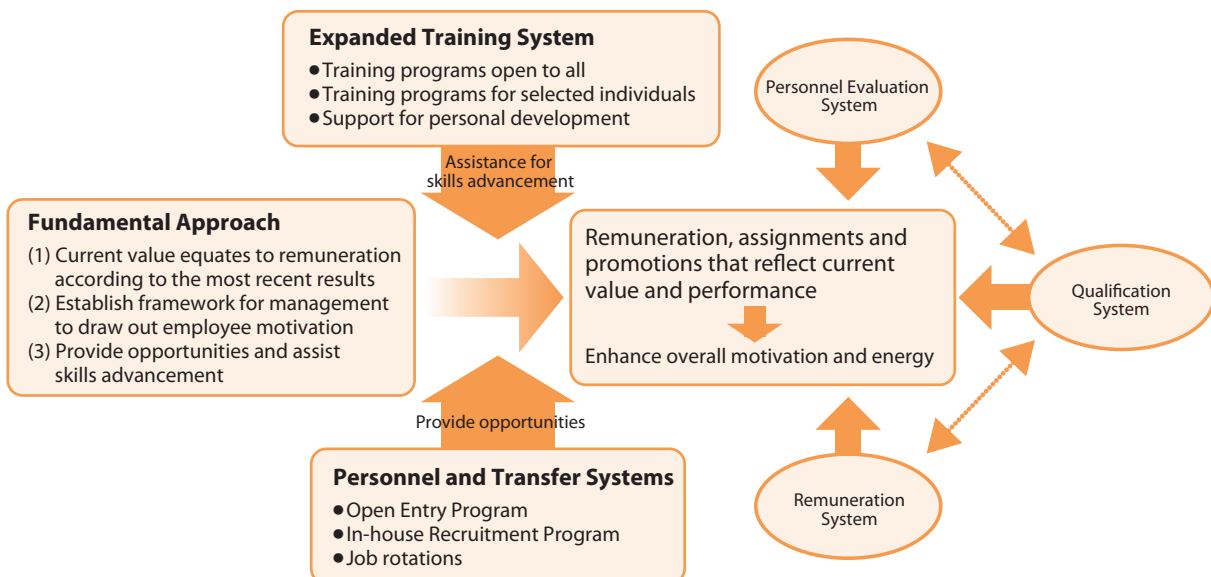
#### ● Open Entry Program

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.

### 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.

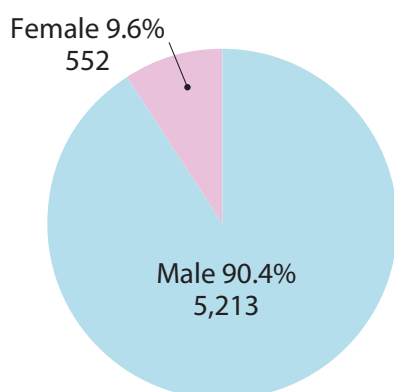
We use a fair selection process that focuses on the aspirations and motivation of prospective employees, and not gender or other personal qualities. Our interviews are held in a professional manner to ensure that both the company and the prospective employee fully understand one another.

## Employee Composition

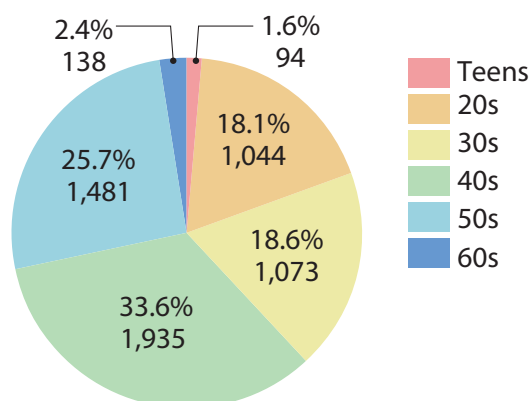
As of March 31, 2013, JX Nippon Oil & Energy had the following number of employees.

Regular employees	5,765
Employees forwarded from other companies	143
Part-time workers	23

### 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

In order to enhance the motivation and improve the skill set of our employees hired locally overseas, we conduct fair and transparent personnel evaluations and have established common rank and evaluation systems at our overseas sites to clearly identify key development tasks for each individual. We also organize group training sessions at the head office in Tokyo for local managers in order to develop the next generation of senior leadership at our overseas sites.

## 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, 2013, our employment rate of persons with disabilities stood at 2.02%.

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.

## Promoting Career Opportunities for Women

We eliminated the full-time track designation used for jobs engaged in fixed and supportive roles, which mainly consisted of female workers, and merged it with the general career track designation in order to develop and invigorate our human resources. This will provide greater opportunities for our female employees to contribute their skills and advance their career to a higher level.

## 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 fifth 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 5<sup>th</sup> Action Plan (April 1, 2013 to March 31, 2015)

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), and 4th General Business Owner Action Plan (April 1, 2011 to March 31, 2013). 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.



We support childcare

#### ● 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' work-life 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.

## Life Planning Seminars

We hold seminars that help employees plan for their retirement.

Held twice a year, these seminars provide basic information on financial planning based on social insurance programs and the corporate pension scheme, how to stay healthy, and how to design life in retirement. This provides outgoing employees with an opportunity to think about their life plan going forward.

## 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 8:00pm
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 support for the next generation and 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 2012, there were a total of 3,360 submissions, including 287 from family members of employees. We selected a total of nine winners and 84 honorable mentions in the employee category as well as five winners and 20 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 19 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 several affiliates. Younger employees with a hearing disability teach us a lot during everyday work situations, but during these classes they act as a sign language instructor to impart their knowledge on participants.

The photograph at right 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 about 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.



# 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

The JX Nippon Oil & Energy Group will

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

## Overview of the JX Nippon Oil & Energy Group Medium-term Environmental Management Plan for the Period from Fiscal 2010 to Fiscal 2012

The targets set out in the JX Nippon Oil & Energy Group Medium-term Environmental Management Plan for the period from fiscal 2010 to fiscal 2012 have almost been achieved.

### I. Promote Measures to Prevent Global Warming and Preserve Biodiversity

Develop and provide environmentally-friendly products and services	<ul style="list-style-type: none"> <li>● Roll out biogasoline nationwide as well as develop and expand sales of environmentally-friendly products such as SUSTINA, etc.</li> <li>● Develop and expand sales of next generation technologies, including the SOFC ENE-FARM fuel cells, photovoltaic cells, and mega solar projects, etc.</li> </ul>
Reduce CO <sub>2</sub> emissions across the entire supply chain	Failed to meet specific energy consumption reduction target of 3% (compared to fiscal 2009) due to weaker operating rate from operational troubles, despite steady progress in energy conservation activities. Compared to Fiscal 2009's specific energy consumption: 8.99, Fiscal 2010: 8.85 (-1.6%), Fiscal 2011: 8.90 (-1.1%), Fiscal 2012: 8.96 (-0.3%)
Take part in activities for the betterment of the environment	Promote contributions to the environment, such as ENEOS forests and ENEOS Children's Science Classes
Utilize the Kyoto Mechanisms	Continue to invest in emissions credit fund and implement the Russia JI Project

## II. Continually Reduce Environmental Impacts

Perform soil contamination studies and take relevant measures	<ul style="list-style-type: none"> <li>● Systematic studies (972) and measures (222) at decommissioned facilities and facilities in operation Completed studies for prevention of offsite spills from facilities in operation</li> <li>● Develop lower cost methods for cleanup (phytoremediation) and roll out at Sendai Refinery, Kudamatsu Plant, Hiroshima Depot and former service station sites</li> </ul>
Take steps to reduce VOCs	Reduce VOC emissions by 50% of fiscal 2000 levels (54% reduction expected for fiscal 2012)
Take steps to reduce waste	Maintain the Zero Emission Plus goals (waste-to-landfill ratio of less than 0.5%) (0.3% expected for fiscal 2012)
Strive to reduce the environmental impacts of offices	<ul style="list-style-type: none"> <li>● Reduce paper usage, trash and electricity consumption of offices Paper usage reduction: Fiscal 2010: 5,952 sheets; Fiscal 2011: 5,676 sheets; Fiscal 2012: 5,559 sheets/year per person</li> </ul>

- ▶ JX Nippon Oil & Energy Group Medium-Term Environmental Management Plan (Fiscal 2010 to Fiscal 2012)  
(<http://www.noj.jx-group.co.jp/csr/environment/managment/plan20102012.html>) (available only in Japanese)

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

\*Equivalent to 20% of JX Nippon Oil & Energy Group CO<sub>2</sub> emissions in fiscal 2009 (20 million tons)

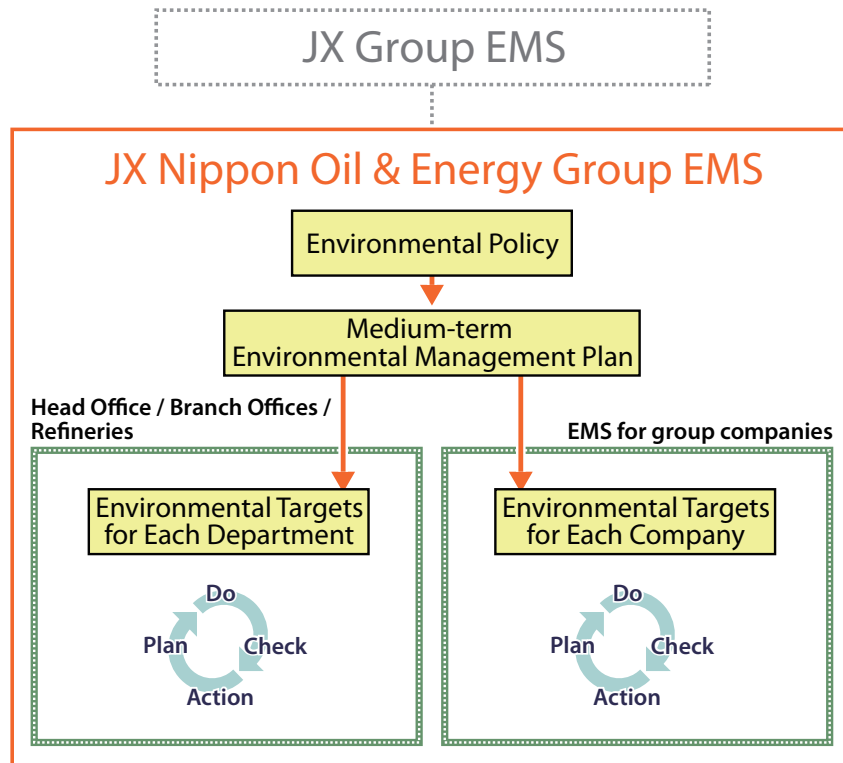
Key Themes	Specific Measures	Specific Initiatives Aimed at Fiscal 2015
I. Promote measures to prevent global warming and preserve biodiversity	(1) Promote energy saving measures at refineries and plants	● Cut CO <sub>2</sub> emissions 800,000 tons compared to fiscal 2009 by promoting energy saving measures
	(2) Encourage the development and popularization of environmentally-friendly products to help realize a low-carbon society	● Promote development of environmentally-friendly products ● Cut customer CO <sub>2</sub> emissions 1.3 million tons compare to fiscal 2009 through expanded sales of our environmentally-friendly products
	(3) Activities that help preserve biodiversity	● Utilize green spaces at refineries and plants and promote conservation activities to protect rare species
II. Reduce environmental impacts	(1) Perform soil contamination studies and take relevant measures	● Promote measures to prevent oil leaks from happening at service stations in operation ● Continue with systematic studies and countermeasures at decommissioned facilities ● Roll out low cost soil remediation technology
	(2) Take steps to reduce VOCs	● Maintain VOC emissions at 50% of fiscal 2000 levels
	(3) Take steps to reduce waste	● Maintain the Zero Emission Plus goals (waste-to-landfill ratio of less than 0.5%)
	(4) Strive to reduce the environmental impacts of offices	● Improve efficiency of office lighting at company-owned facilities by 50% in total ● Reduce paper usage per employee per year to 5,000 sheets ● Follow through on electricity conservation activities and waste sorting
III. Enhance the environmental management system	(1) Strengthen environmental management system, including at overseas plants and sites	● Expand scope of environmental management to major overseas plants and sites ● Provide support for dealerships to establish EMS
	(2) Activities to better the environment	● Implement environmental protection activities ● Develop the next generation and provide support as needed

## Environmental Management System

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

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

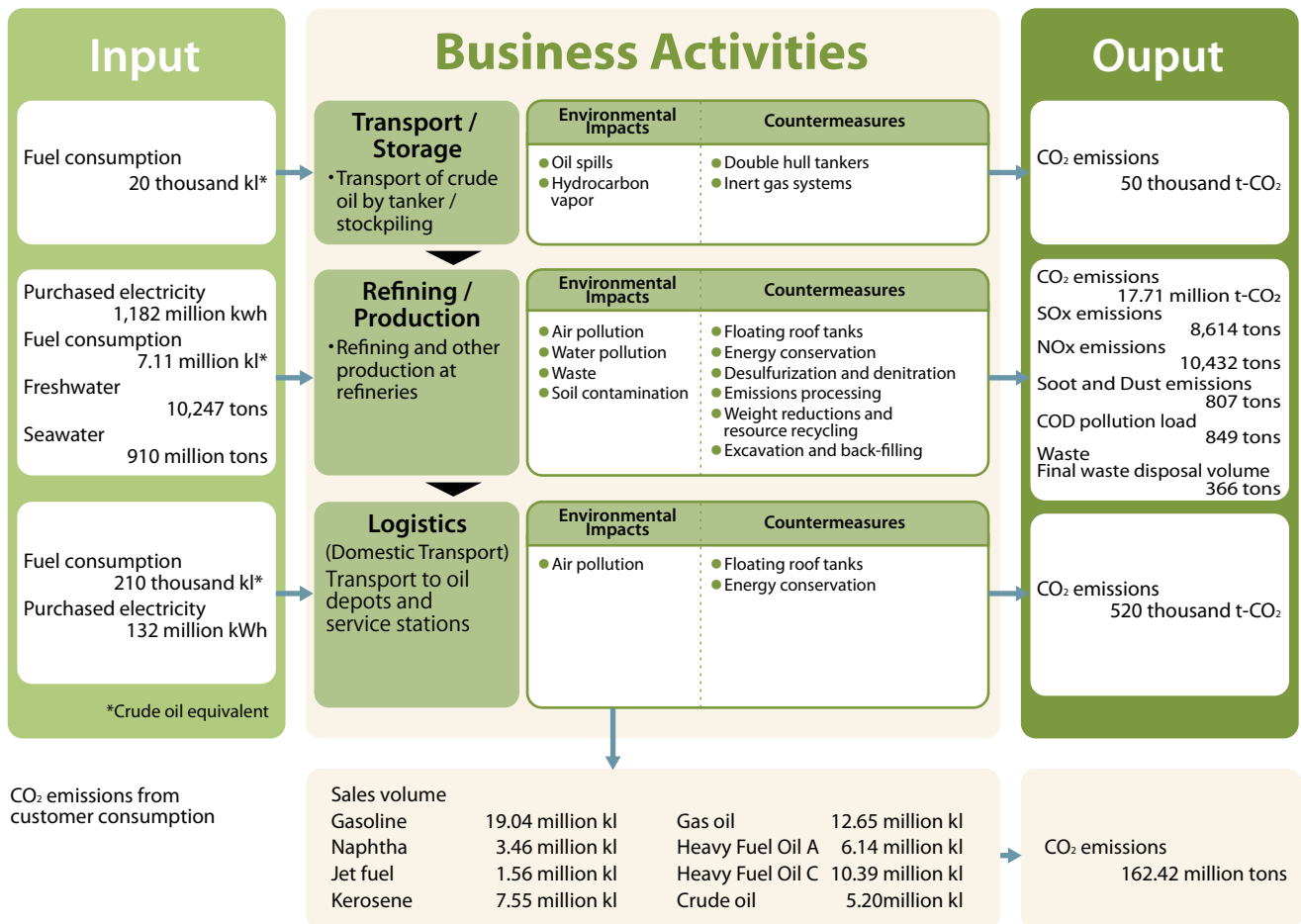
In fiscal 2012, the Toda Terminal was added to the list of JX ISO integrated certification sites because it is the location of the newly established Life Science Department.



# 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 2011. As an integrated 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.)





## 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.

### Air and Water

	Extent of Environmental Impacts (tons)	2010	2011	2012
Air	SOx	11,005	9,468	8,391
	NOx	10,597	9,443	10,041
	Soot and Dust	855	770	799
Water	COD	723	694	839

### PRTR

Total Volume of Release and Transfer (tons)	2010	2011	2012
Benzene	25	55	30
Toluene	99	97	98
Xylene	87	94	66

### Waste

	2010	2011	2012
Volume of waste generated (tons)	225,545	225,858	235,308
Final waste disposal volume (tons)	376	941	293

# Global Warming Prevention Measures

## Fundamental Approach

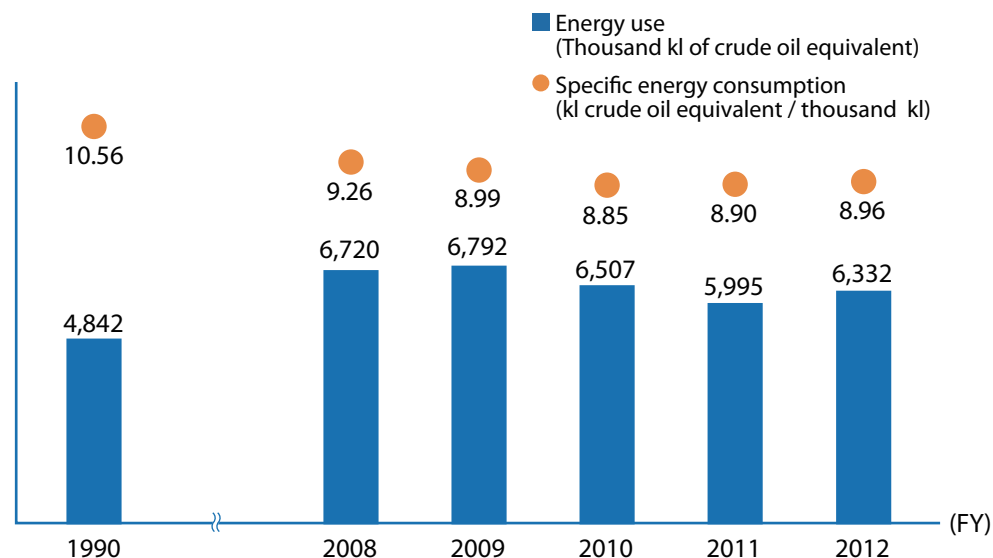
The JX Nippon Oil & Energy Group is constantly aware of environmental impacts throughout its entire supply chain. In addition to improving energy efficiency in refining and production phases, which represent our core business activities, and reducing fuel consumption during the transport of products, 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.

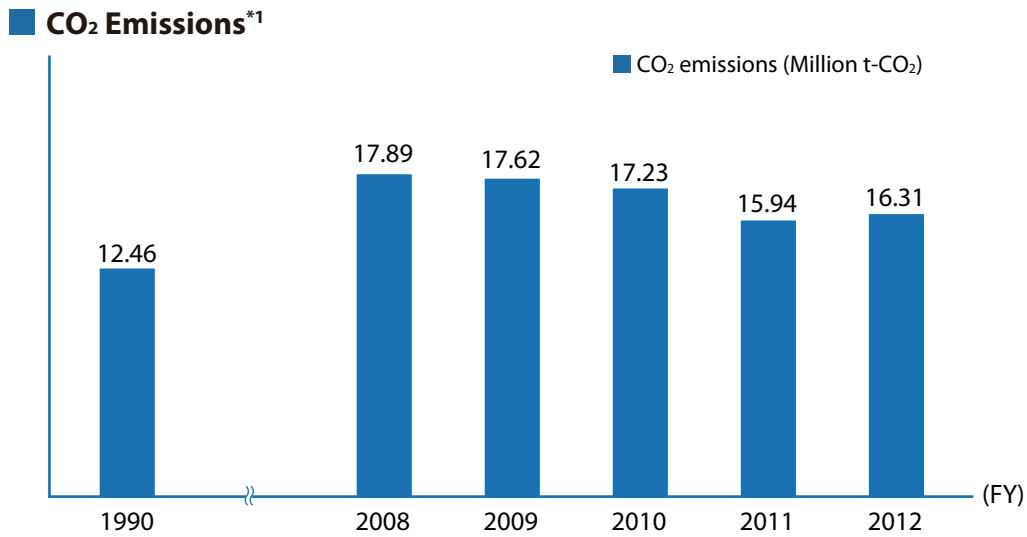
## Efforts to Reduce CO<sub>2</sub> Emissions

### 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 contains the target to reduce specific energy consumption from refining by 3% compared to fiscal 2009. We have initiated a wide range of energy conservation activities toward this goal, including the development and implementation of cutting edge technologies, improvements to our production processes, and reduction of heat loss. Results for fiscal 2012 fell 0.3% below fiscal 2009 levels due to a significant drop in utilization rate. Nevertheless, we have been able to reduce levels by 14.8% of 1990 levels, which far outstrips the 13.0% target compared to 1990 levels set by the petroleum industry (Petroleum Association of Japan) for the period from 2008 to 2012.

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





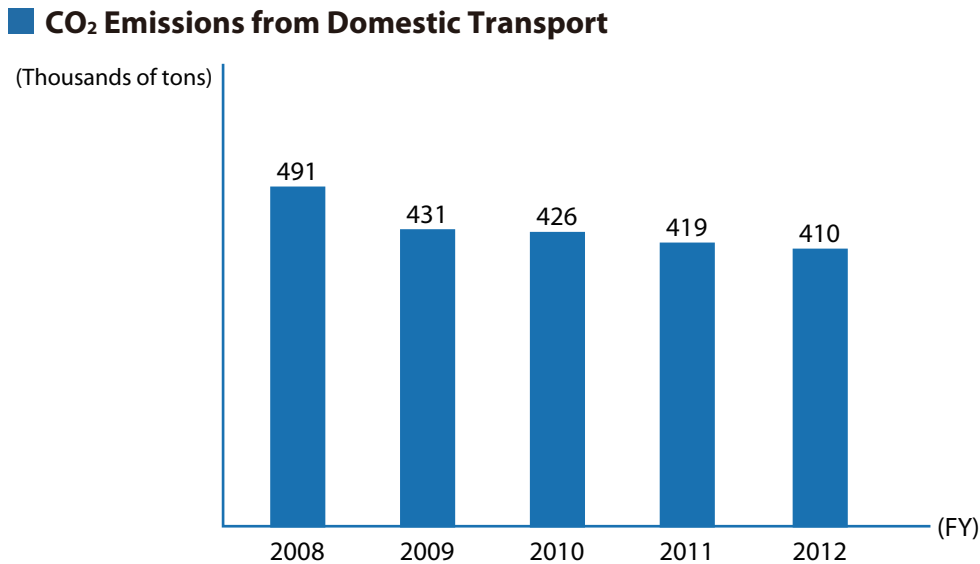
\*1: Includes only the oil refining divisions of the JX Nippon Oil & Energy Group

### 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 2012, our CO<sub>2</sub> emissions associated with fuel consumption in domestic transport totaled 410 thousand tons, representing a 4.9% drop over fiscal 2009 levels.



\*The above represents quantitative data reported as a specific 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 42

## Utilizing the Kyoto Mechanisms

### Joint Implementation Project for the Recovery and Effective Use of Associated Gas at the Yety-Purovskoe Oil Field in Russia

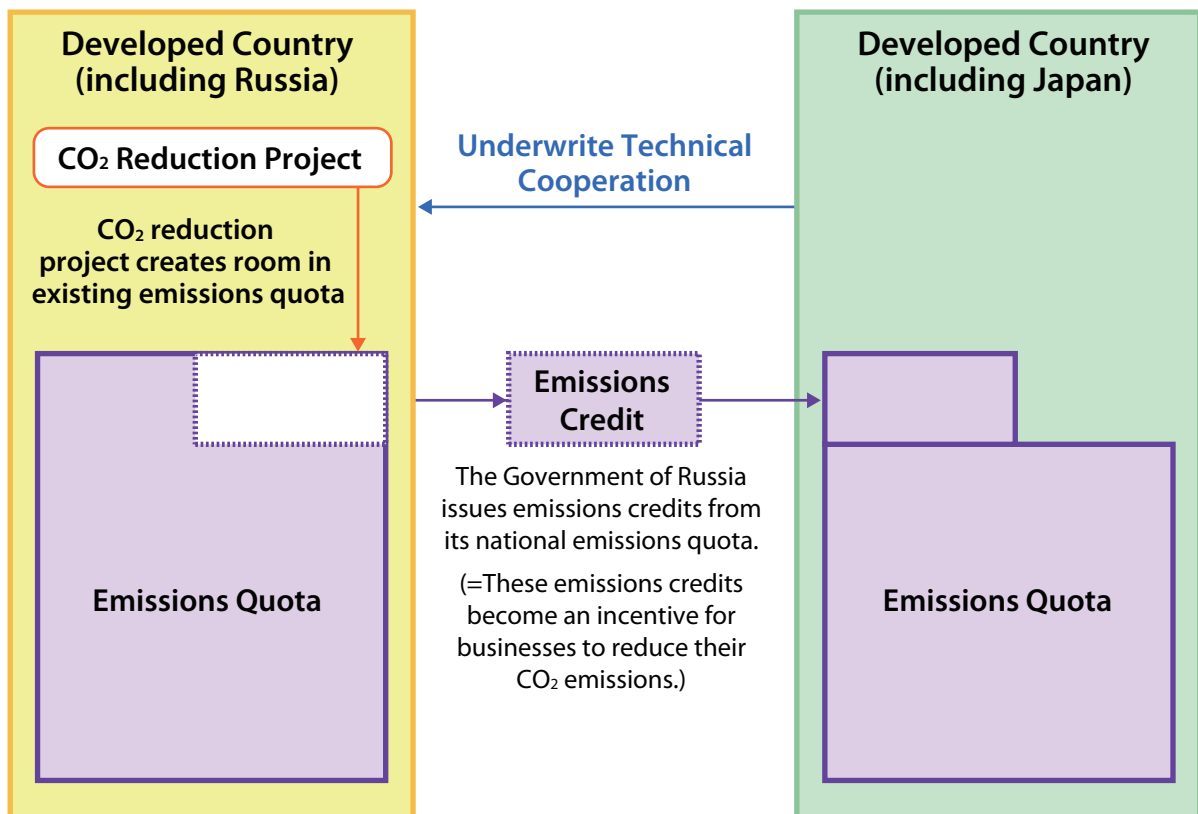
Under this project, associated gas from the Gazprom Neft-owned Yety-Purovskoe oil field located in the Yamalo-Nenets Autonomous Okrug in Russia that had been incinerated is now being recovered using a newly constructed pipeline and supplied to other parts of Russia as fuel.

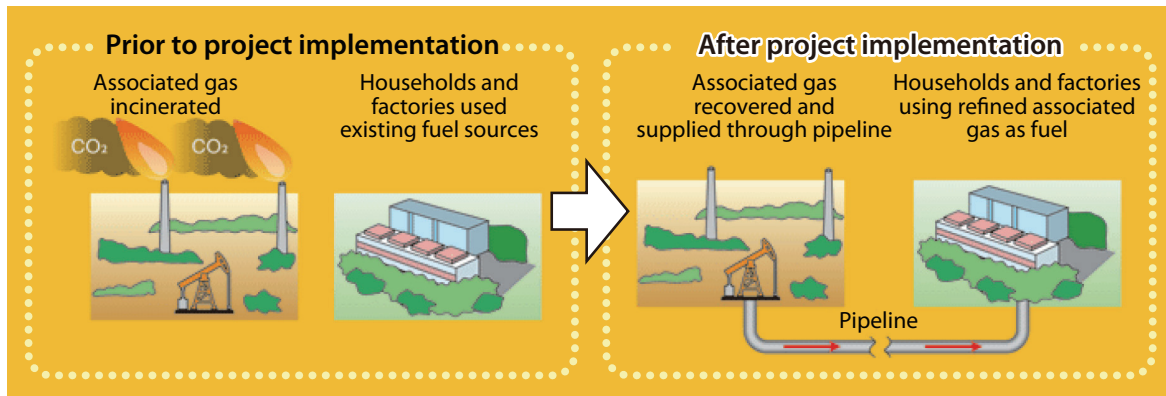
JX Nippon Oil & Energy has been involved in this project since the commercialization study phase as the developer in cooperation with Mitsubishi Corporation and Gazprom Neft, one of Russia's largest oil companies. Our aim was to provide technical assistance for the issuance of emissions credits and prepare the project design document, using our experience from the clean development mechanism (CDM) project at the Rang Dong oil field in Vietnam. On July 23, 2010, the Government of Russia approved this project as the country's first-ever joint implementation project. Following this, Russia issued its first emissions credits in January 2011.

A joint implementation project represents one method for reducing greenhouse gas emissions stipulated in the Kyoto Protocol in which two developed nations cooperate to initiate a greenhouse gas reduction project in either of their countries. Based on the emissions reductions from this project, the country implementing the project can then issue emissions credits.

The cumulative amount of CO<sub>2</sub> emissions designated by the Government of Russia for the duration of the project is 2.25 million tons. No additional emissions credits will be issued under this scheme, following the expiration of the first commitment period under the Kyoto Protocol but efforts to reduce CO<sub>2</sub> emissions locally will continue.

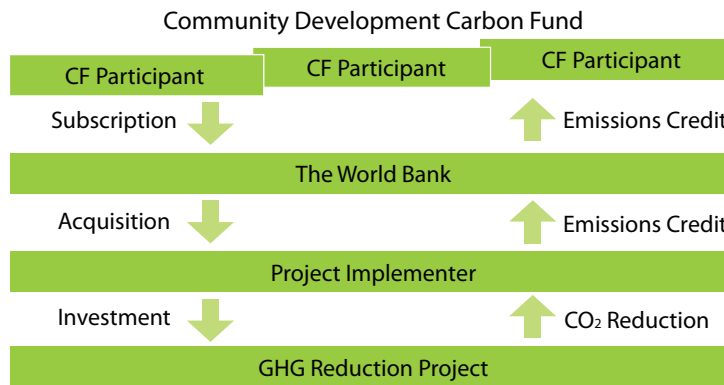
### Joint Implementation Project (JI)





### 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.



### Involvement in the Japan Greenhouse Gas Reduction Fund (JGRF)

The Japan Greenhouse Gas Reduction Fund (JGRF) purchases emissions credits from developing countries and Eastern European countries and allocates these to fund participants. The fund, which has a total capitalization of 141.5 million dollars, was established by the Japan Bank for International Cooperation (JBIC), the Development Bank of Japan and Japanese corporations. JX Nippon Oil & Energy is the largest participant in the fund with a subscription totaling 12 million dollars.

We have also made an investment in Japan Carbon Finance, Ltd., which procures emissions credits from funds provided by the JGRF, and maintain a seat on its board of directors.

## 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 addition, activities have been initiated in fiscal 2012 to establish internationally standardized activities for safety and to encourage the wider adoption of these technologies.

In May 2008, Japan's Ministry of Economy, Trade and Industry established Japan CCS Co., Ltd. This company performs preliminary studies in advance of verification testing in Japan and in fiscal 2012 it began work at a site opened in Tomakomai, Hokkaido. Currently, preparatory work is underway on the design and construction of facilities to separate and capture CO<sub>2</sub> and on the wells that will be dug for the injection of CO<sub>2</sub>, which is planned for sometime in fiscal 2016 or later.

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 36 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

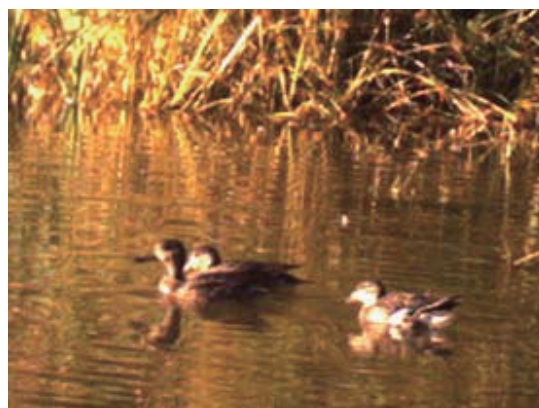
### Measures at Our Refineries and Plants

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” 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.



Chita Plant's biotope



A spot-billed duck 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 the common goal of biodiversity protection.

# 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 2012

(millions of yen)

Category	Surveys		Countermeasures	
	Number of Case	Expenditure	Number of Case	Expenditure
Service stations	228	463	104	1,771
Oil depots	9	57	3	107
Refineries / Terminals	8	11	0	0
Total	245	531	107	1,878

## Soil Contamination Reporting and Published Properties in Fiscal 2012

Category	Location	Survey Results				Status
		Soil		Groundwater		
		Substance	Scale Factor	Substance	Scale Factor	
Idle Land	Aichi	Lead	3.7	-	-	Countermeasures completed
	Kanagawa	Benzene	38	Benzene	650	Countermeasures underway (will be completed by the end of Oct.)
	Osaka	Benzene	33	Benzene Lead	30 2.6	Countermeasures underway
Operating	Okayama	Benzene	7.5	Benzene	5.4	Countermeasures underway

## Measures for the Future

As part of the JX Nippon Oil & Energy Medium-term Environmental Management Plan for Fiscal 2010 to Fiscal 2012 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 perform systematic surveys and initiate countermeasures where needed at facilities that have been decommissioned. We are also in the process of researching and developing new lower cost and more environmentally-friendly cleanup technologies. The phytoremediation soil restoration technology (using process from natural vegetation to cleanup soil contamination) developed jointly with Sumitomo Forestry Co., Ltd. received the 2012 Environment Minister Award for Model Initiatives on Environment Measures from Japan's Ministry of the Environment. Going forward, we will utilize this and other proprietary technologies to contribute to environmental security and safety.



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

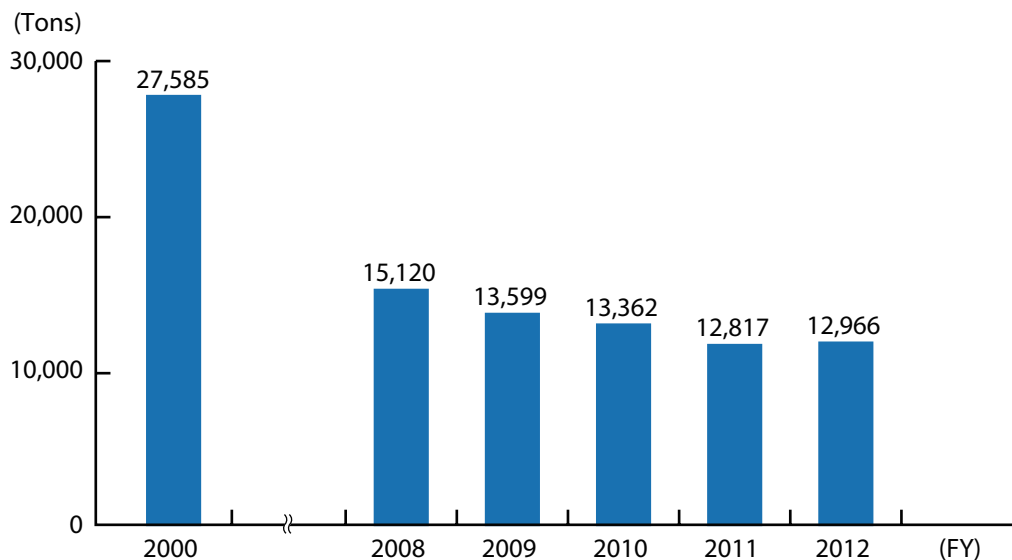
The JX Nippon Oil & Energy Group continually implements measures at its facilities and for its equipment to help prevent the release of volatile organic compounds (VOCs).

### 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%). The Petroleum Association of Japan members achieved a 34% reduction, while JX Nippon Oil & Energy reached 51%. Since 2011, we have maintained the same levels as 2010 in accordance with government policy.

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



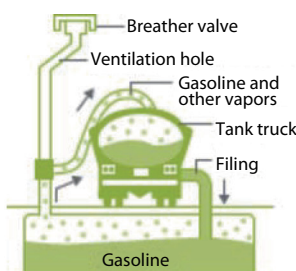
### Measures at Our Service Stations

#### 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.

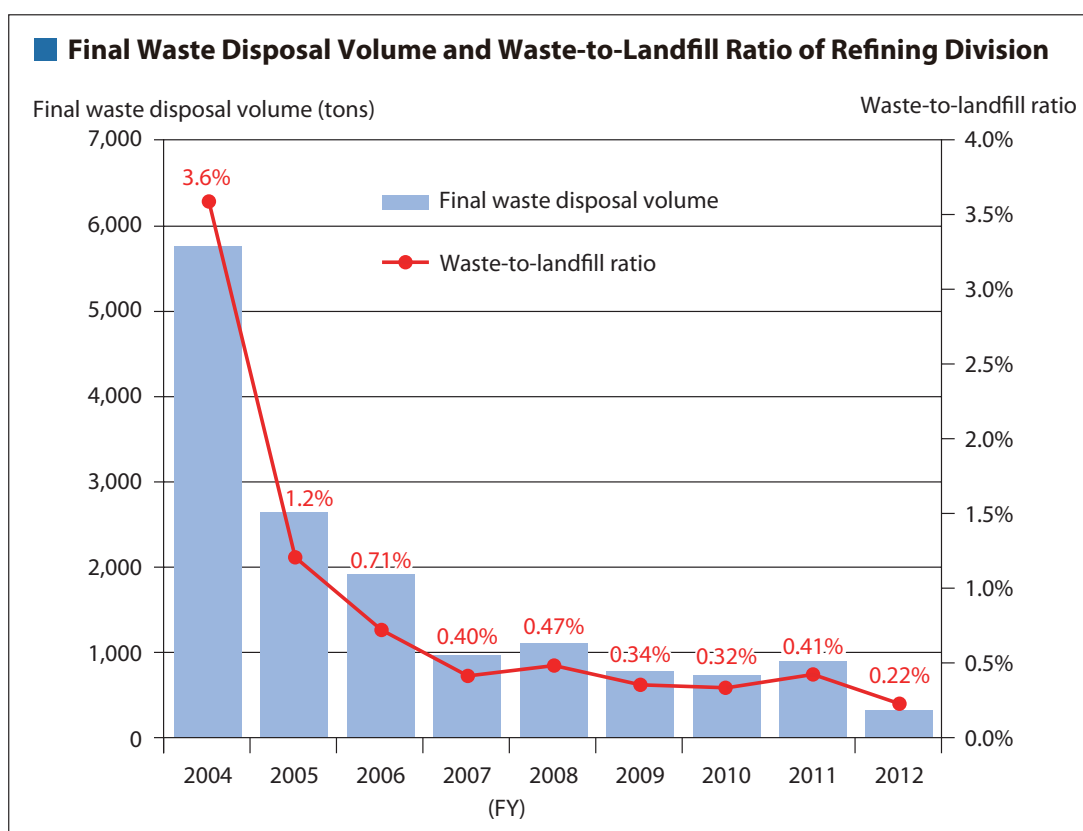
### Reducing Our Waste-to-Landfill Ratio

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.

Unfortunately, our final waste disposal volume increased year on year in fiscal 2011 due to oil waste caused by the Great East Japan Earthquake. In fiscal 2012, we had reduced our final disposal rate all the way to 0.12%.

\*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 2012 we were able to switchover 99.7% of all manifests, or about 10,300, to electronic manifest systems.

In recognition of these efforts, we received the Reduce, Reuse, Recycle Promotion Council Chairman's Award in fiscal 2010.





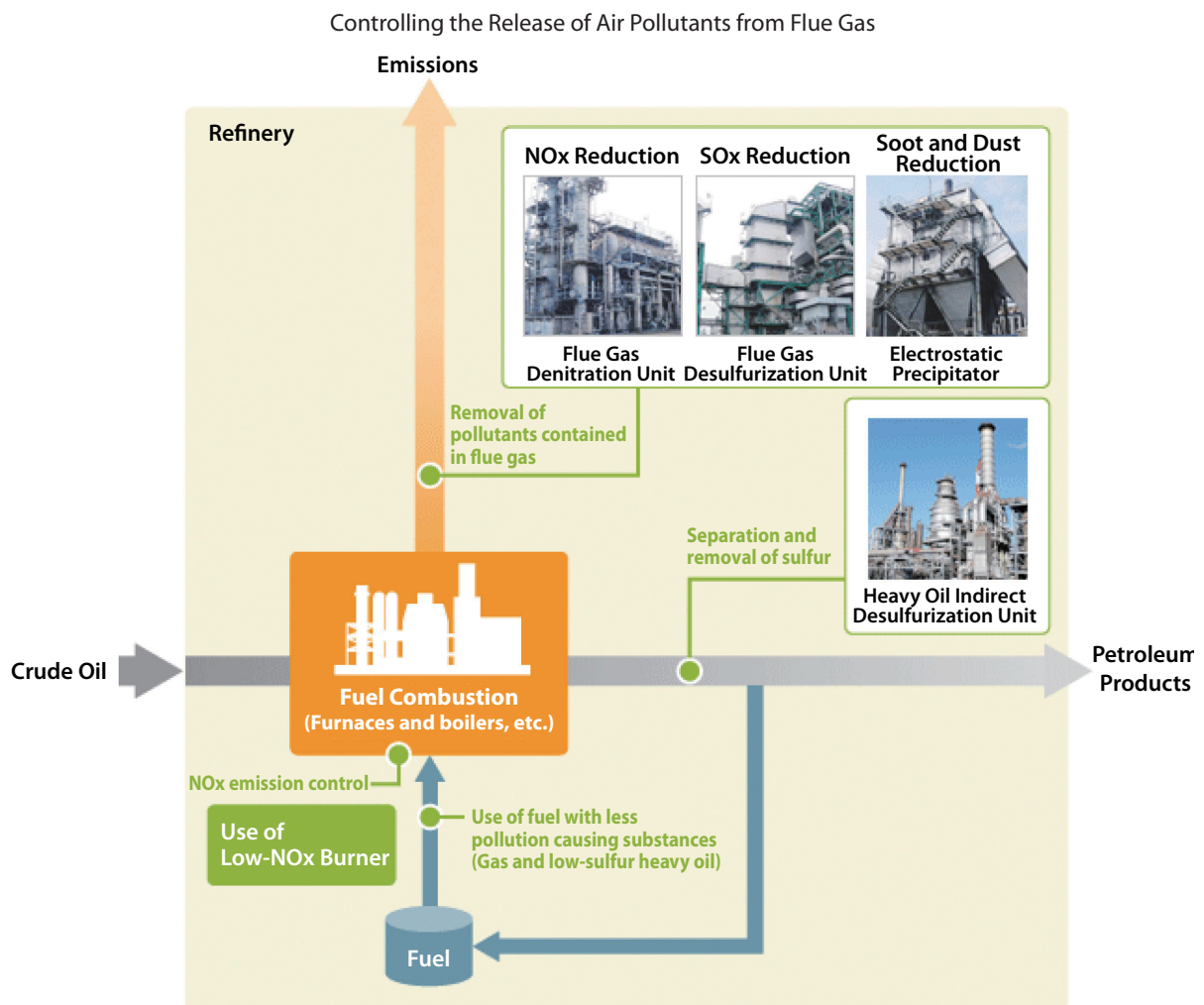
## Air Pollution Prevention Measures

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

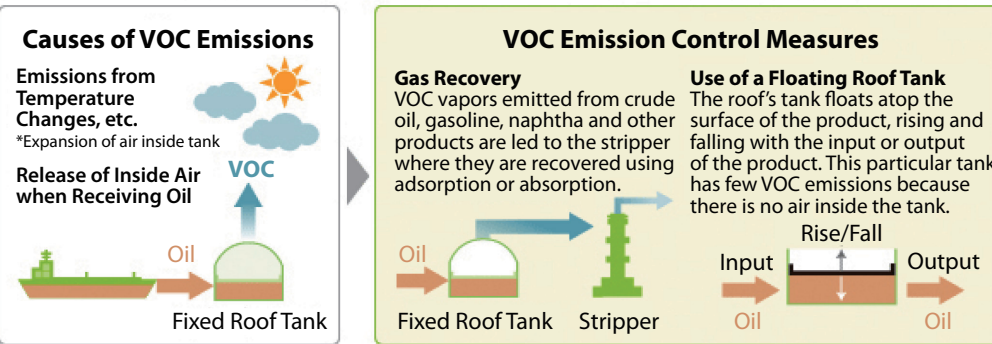
The petroleum product manufacturing process consumes fuel as the necessary energy for distillation and chemical reactions. As a result, sulfur oxides and other air pollutants are released when incinerating impurities found in this fuel. Refining, storage and shipment facilities for crude oil and petroleum 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.

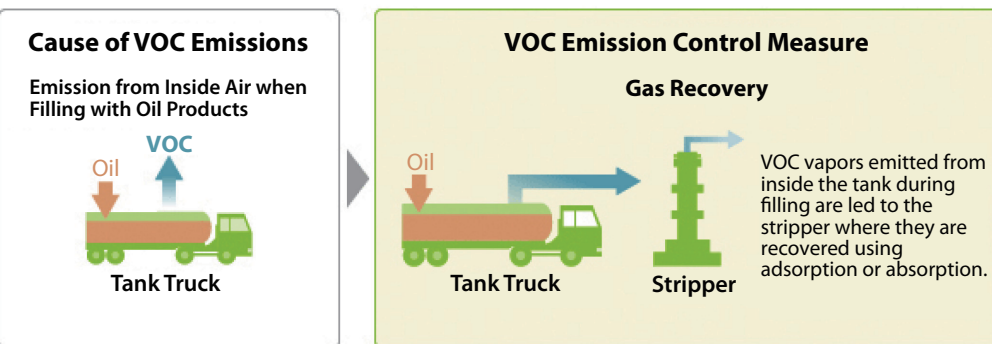


VOC Emissions at Refineries and Control Measures

**Storage Tank**



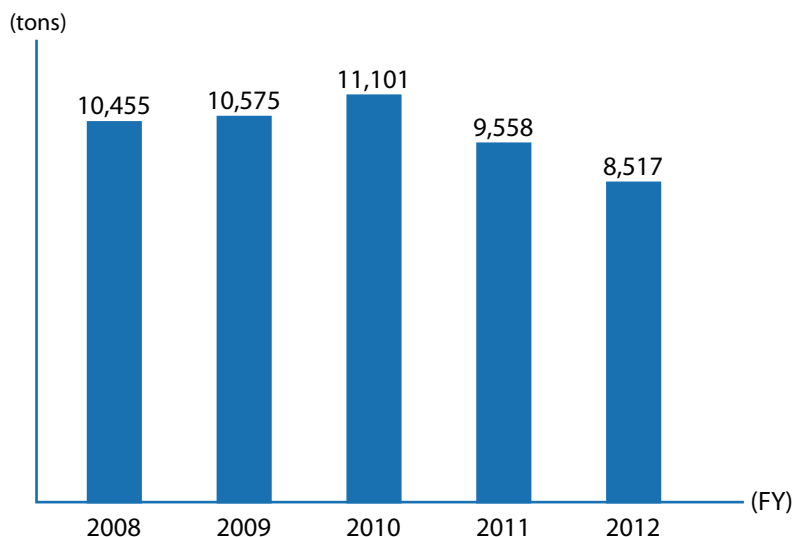
**Shipment Facilities**



**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.

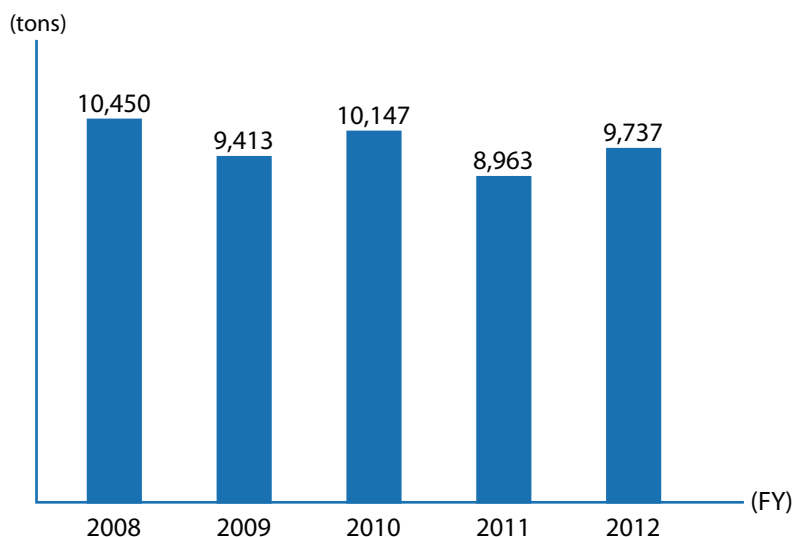
**SOx Emissions at Our Refineries**



## 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.

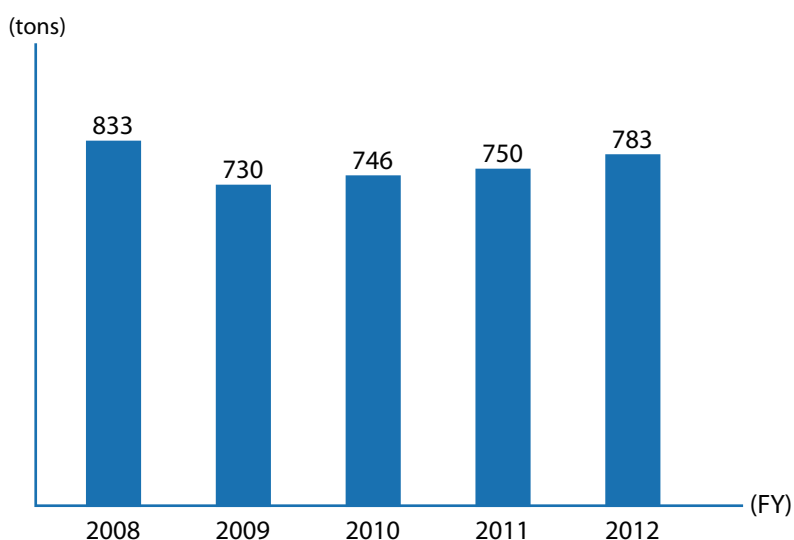
### NOx Emissions at Our Refineries



## 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



## Mizushima Refinery Fails to Comply with Regular Inspections under the Air Pollution Control Act

In February 2011, we found out that certain facilities at our Mizushima Refinery and at group company Wakayama Petroleum Refining's Kainan Plant failed to comply with soot and dust concentration measurements under the Air Pollution Control Act. Following this, we implemented comprehensive inspections at all of our refineries in Japan and took measures to prevent any future reoccurrences. Since then, each year we have held training sessions for employees on environmental laws, had pollution prevention managers conduct internal audits, and performed audits led by the head office in order to ensure complete compliance with relevant laws and ordinances.

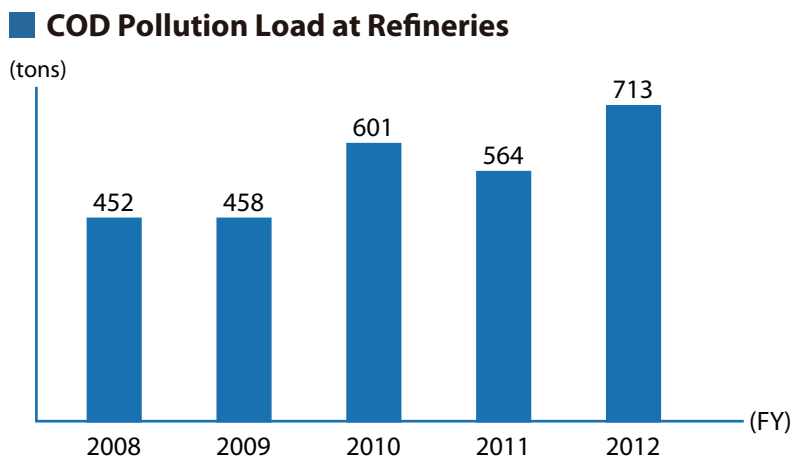
## Water Contamination Prevention Measures

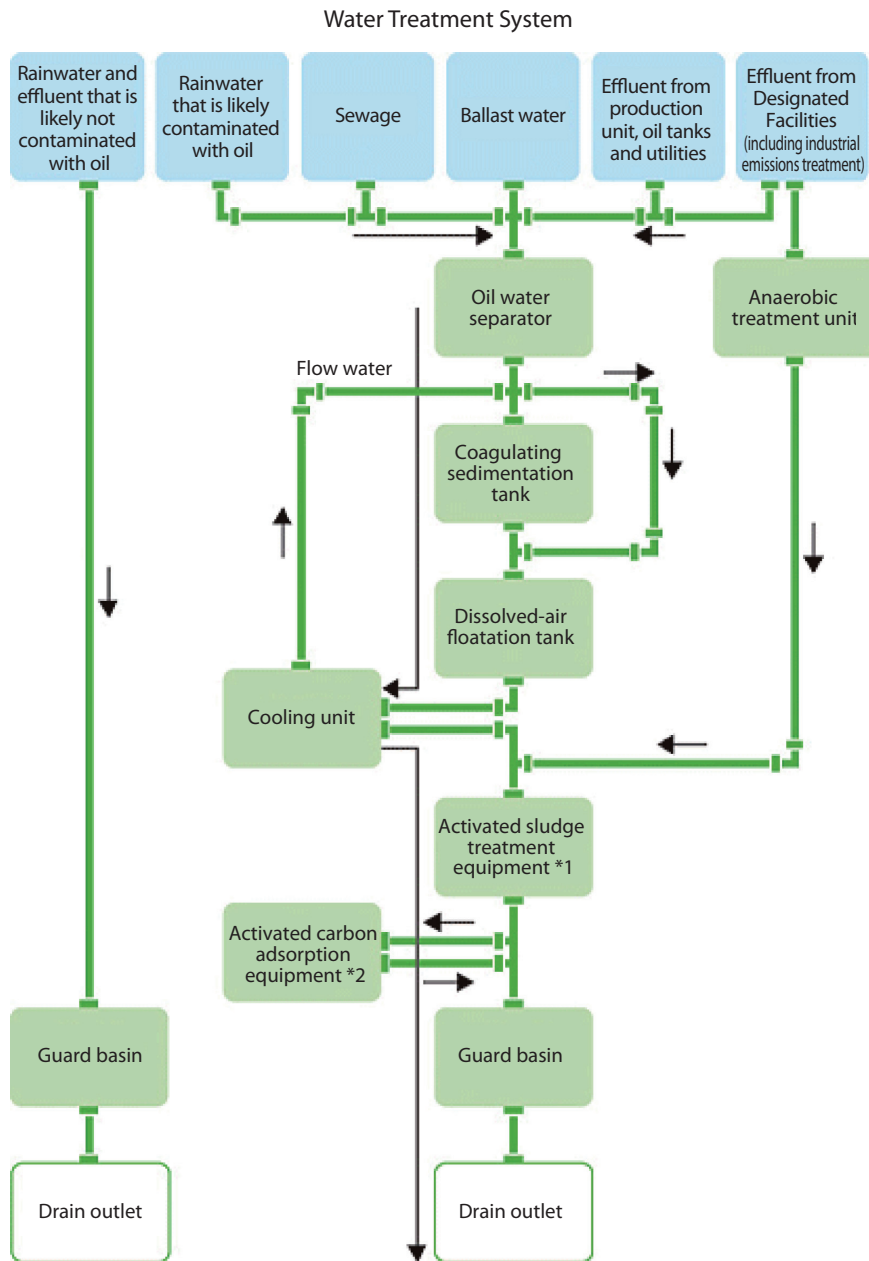
The JX Nippon Oil & Energy Group has initiated a wide range of measures for preventing water contamination.

### 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).





\*1: Activated sludge treatment unit



\*2: Activated carbon adsorption unit



**Measures during Transport**

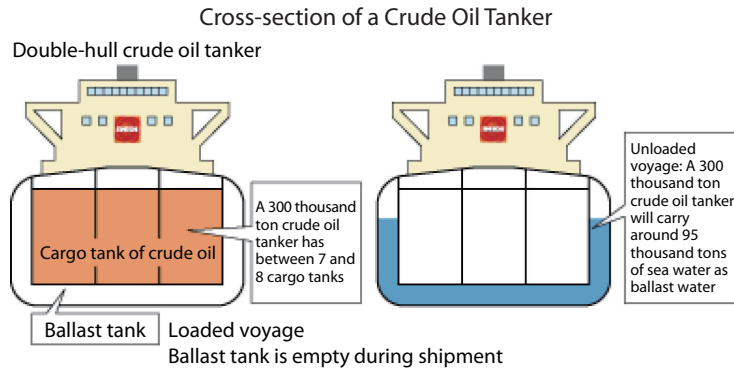
**Stepping up Our Fight to Prevent Marine Pollution**

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.

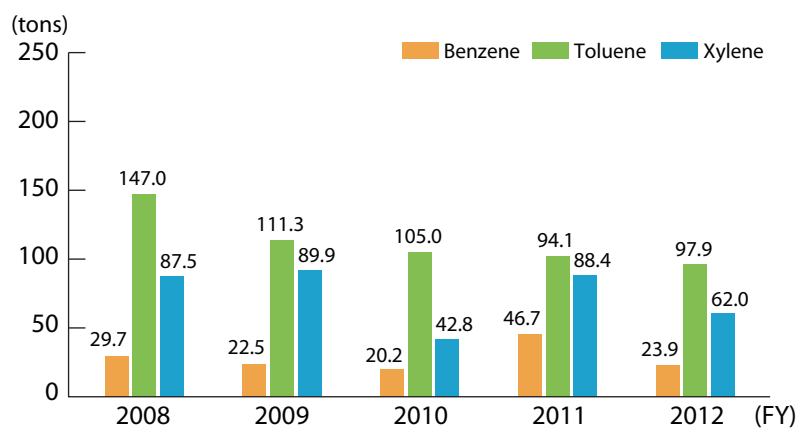
### Monitoring and Managing the Release and Transfer Amounts of Chemical Substances

#### 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 2012, our petroleum refining division released and transferred a total of 537 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 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.noe.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 (Available only in Japanese)

- ▶ Muroran Refinery (<http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/muroran/eco/index.html>)
- ▶ 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>)
- ▶ 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\\_safe/index.html](http://www.noe.jx-group.co.jp/company/about/gaiyou/jigyousho/chita/eco_safe/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 2013 Edition

The special feature section of this report titled “Our Role as an Energy Conversion Company” covers JX Nippon Oil & Energy and its efforts as an integrated energy company to tackle key issues in terms of converting a variety of different resources into the energy types most needed by society to ensure each and every consumer’s energy needs are met, and to provide stable supplies of petroleum, today’s mainstay source of energy.

Specific details pertaining to the company’s activities can be found in the Management Report, Corporate Citizenship Report 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 25 main affiliates (including refineries and plants of the company and its affiliates)

### Timeframe

April 2012 to March 2013

However, certain activities and plans that took place prior to March 2012 or after March 2013 have also been included.

### Published

October 2013

(The next edition is slated for publication in October 2014)



Data appearing in this report is from the period spanning April 2012 to March 2013.  
(This also includes certain activities and plans that took place prior to March 2012 or after March 2013)