This illustration, created by a JFE Steel employee, depicts workers and humanlike cars, cans, utensils and other familiar objects made of steel holding hands to express their friendliness toward society and the environment.
This report provides stakeholders with information about JFE’s CSR activities, and it elicits feedback to support further enhancement of the company’s activities and information disclosure. The 2015 report offers:

- an expanded scope of data (e.g., employee data) covering all JFE Group companies, and
- a wider scope of environmental data (energy consumption and associated CO2 emissions) covering Group companies in Japan that are accountable in compliance with the Energy Saving Act and major subsidiaries overseas.

Scope of Report

Reporting Period
FY2014 (April 1, 2014 to March 31, 2015)

Reports on some activities undertaken outside this period are included.

Organizations Covered

The report mainly covers the activities of the holding company JFE Holdings, Inc. and its three operating companies – JFE Steel Corporation, JFE Engineering Corporation and JFE Shoji Trade Corporation, but also includes reports on some activities pertaining to other companies of the JFE Group (396 companies, of which 328 are consolidated subsidiaries and 68 are equity method affiliates).

Qualitative information includes data from the following JFE operating companies (see Environmental Data Book for complete list of companies).

- **JFE Steel Group:**
  - “Environment” section: 31 major domestic and overseas subsidiaries (including two equity-method affiliates)
- **JFE Engineering Group:**
  - “Environment” section: 11 major domestic subsidiaries (including major manufacturing subsidiaries)
- **JFE Shoji Trade Group:**
  - “Environment” section: 32 major domestic and overseas subsidiaries (steel processing companies)
  - “Society” section: all 107 subsidiaries

Reference Guidelines

GRI: G4 Sustainability Reporting Guidelines
Ministry of the Environment (Japan): Environmental Reporting Guidelines 2012
Ministry of the Environment (Japan): Environmental Accounting Guidelines 2005

Publication Date

September 2015 (previous issue: September 2014; next issue (tentative): September 2016)

Related Reports

The following information is available at www.jfe-holdings.co.jp/en.

**CSR (Society and Environment)**
CSR Reports (Highlights Version, CSR Report and Environmental Data Book) provide up-to-date information on JFE’s CSR initiatives (PDF format).

**Company Profile**
Outline of JFE Group, corporate governance, etc.

**Investor Information**
JFE Group business information, financial data, stock and rating information, etc.

**JFE GROUP TODAY (PDF)**
JFE Group business activities
JFE puts its corporate value and standards of business conduct into practice to fulfill its mission of contributing to society with the world’s most innovative technology. JFE diligently implements initiatives that address highly important issues, including safety, disaster prevention, product quality and human rights, in addition to compliance and environmental protection.

JFE conducts business from the perspective of all stakeholders, including customers, clients, shareholders, investors, community residents and employees, guided by an equitable, fair and transparent system of corporate governance. In the spirit of its corporate values – Challenging Spirit, Flexibility and Sincerity – JFE strives to earn society’s trust by undertaking CSR with integrity.

Standards of Business Conduct

All JFE executives and employees are expected to adhere to the below-listed Standards of Business Conduct in all facets of corporate activities. The standards embody the vision of JFE and go hand in hand with JFE’s corporate values. Senior executives take the lead in communicating the standards to employees throughout JFE and in creating effective systems and mechanisms to ensure adherence. Suppliers are also asked to observe these standards. Senior executives are directly involved both in planning and implementation, as well as the prevention of violations. They are obliged to disclose information about any violation in a timely and accurate manner both inside and outside JFE, clarify the persons with related authority and accountability, and deal rigorously with any offense.

1. Provide quality products and services
   Earn the trust and high evaluation of customers by endeavoring to provide safe, high-quality products and services based on superior technology, and by fully respecting and protecting the privacy of personal and customer information.

2. Be transparent to society
   Endeavor to communicate with shareholders and society, and actively disclose corporate information.

3. Work cooperatively with communities
   Actively contribute to communities as a good corporate citizen by working together in the spirit of cooperation.

4. Globalize
   Endeavor to achieve understanding with people around the world, working from a global perspective and respecting international norms and local cultures and customs.

5. Exist in harmony with the global environment
   Proactively contribute to the achievement of better living standards and the creation of societies that exist in harmony with the global environment.

6. Maintain proper relationships with government and related authorities
   Build and maintain sound and proper relationships with government and related authorities.

7. Refuse to associate with criminal groups
   Refuse to associate with any person or organization that threatens social order or stability, and reject any illegal or improper demand.

8. Respect human rights
   Respect all employees and members of the general public as individuals and refrain from any discrimination in corporate activities.

9. Provide rewarding work environments
   Provide employees with attractive, safe, and rewarding work environments.

10. Comply with laws and ordinances
    Comply with all laws and ordinances, endeavor to compete fairly and freely, refrain from illegal business activities, promote sound business practices, and be faithful and sincere in all activities and dealings.
I am pleased to present this report as the newly appointed president and CEO of JFE Holdings, Inc. JFE has consistently sought to enhance its corporate value for all stakeholders by upholding its corporate vision of contributing to society with world-class innovative technology. In diverse businesses fields, including steelmaking, engineering and trading, JFE applies its innovative world-class technologies, knowledge and experience in solutions that help societies achieve sustainable growth and protect and restore the global environment.

As our Group unites in a collective effort to meet these challenges and achieve its own sustainable growth, we are focusing on two keys: the centripetal force of steering our business in a direction led by our common values, policies and vision, and the centrifugal force of seeking the independent growth of each business in our Group. Under the governance of JFE Holdings, we balance these two forces to enhance our Group value and fulfill our corporate vision.

In April 2015, we announced JFE’s fifth medium-term business plan, which establishes strategic operating guidelines for the period from April 1, 2015 to March 31, 2018. Under the plan, we will adapt to the changing business environment by strengthening our technological advantages, diversifying our workforce and improving our comprehensive strengths with the aim of becoming a global company that supplies innovative world-class technologies and services. By steadily executing this plan, JFE looks forward to contributing to sustainable societies.
Message from the CEO

JFE, which has made protection and restoration of the global environment a top priority, addresses environmental problems by applying the innovative world-class technologies it has developed over many years.

In our steel business, we have consistently sought to conserve resources and energy as part of reducing the environmental impact of our steelmaking activities. By developing and deploying energy-saving technologies, we have achieved the highest level of energy efficiency in the global steel industry. Our high-performance steel materials offer reduced environmental impact that results in lower CO₂ emissions connected with their use.

We also conserve resources and energy on a global scale by transferring and promoting our innovative technologies, which is part of our mission as a leading steelmaker. This also creates new opportunities for corporate growth, another reason why we are addressing these issues tirelessly.

Our engineering business provides products and services based on cutting-edge proprietary technologies, thereby contributing significantly to sustainability in fields such as energy supply for industry and consumers and the development of environmental and urban-transport infrastructure.

In our trading business, we support sustainability by providing energy-saving products and by improving the distribution efficiency of our global network spanning 19 countries.

Human resources provide the driving force that enables JFE to continue growing and contributing to society. Securing and cultivating human resources is a key issue, which is why we have established the JFE Group Basic Policy for Human Resource Management to guide our activities. Every Group company develops concrete measures based on this policy.

Promoting diversity is an important issue for our Group, so we strive to create work environments in which individuals can fully demonstrate their abilities and thrive, regardless of nationality or gender. In recognition of these efforts, JFE has been selected as a Nadeshiko Brand* company for two consecutive years, in 2014 and 2015, under a joint program in which the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange, Inc. commend listed companies for promoting women’s careers.

A rapid generational change is occurring at our steelworks and manufacturing sites, which has placed critical importance on the need to pass on knowledge and technical skills. In response, we are developing a training system to facilitate the transfer of knowledge and skills to future generations and thereby ensure our preservation of high-level on-site capabilities.

JFE adheres to the principles of fair, equitable and transparent management. We are working steadfastly toward becoming an excellent 21st-century company, guided by our standards of business conduct based on a challenging spirit, flexibility and sincerity, and by upholding our vision of contributing to society with world-class innovative technology. We are committed to forging lasting relationships of trust to prosper alongside our customers, shareholders, employees and local communities.

Solutions to Protect and Restore the Environment

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Maintaining Public Trust

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* Nadeshiko Brand: Companies listed on the First Section of the Tokyo Stock Exchange are recognized publically for promoting opportunities for women to pursue career development. In FY2014, 40 companies were selected.
Ensuring the Sustainability of Societies and the Earth

Steelmaking, engineering and trading are JFE’s core businesses. Steel, a material with infinite possibilities, lies at the center of JFE. We also offer diverse proprietary technologies in areas including energy and resource recycling. JFE Steel leverages innovative world-class technology for sustainable societies worldwide.

Steel Business
- JFE Steel Corporation
- Head Office: Chiyoda-ku, Tokyo
- Sales (consolidated): ¥2,873.8 billion
- Employees (consolidated): 43,680

High-performance products that respond to customer needs
JFE Steel, one of the world’s leading integrated steel producers, operates a highly competitive production system consisting of two major steelworks, one each in eastern and western Japan. The company’s value-added products meet diverse customer needs and reflect JFE Steel’s sophisticated technologies and development capabilities.

Contributions to Sustainability
- Development of high-performance steel materials and energy-conserving products
- Development and global deployment of energy-saving technologies for manufacturing
- Promotion of steel scrap recycling

Trading Business
- JFE Shoji Trade Corporation
- Head Offices: Chiyoda-ku, Tokyo and Kita-ku, Osaka
- Sales (consolidated): ¥1,934.4 billion
- Employees (consolidated): 6,667

Creating Value as JFE’s Core Trading Company
JFE Shoji Trade engages in trading in Japan and the import and export of products centering on steel materials, as well as steel raw materials, non-ferrous metals, chemicals, fuels, materials and machinery, and marine vessels. The company also operates businesses in the food and electronics fields.

Contributions to Sustainability
- Introduction of products for reduced environmental loads and energy consumption
- Expanded use of energy-saving transport
- Steel scrap recycling
Maximizing Corporate Value

JFE Holdings sets Group strategies and procures funding as the holding company of JFE. It also is responsible for disclosing information to the public as a listed company. Each operating company, having developed its own systems suited to its respective industry, strives to enhance corporate value by strengthening its competitiveness and profitability in the pursuit of sustainable growth.

Corporate Profile (as of March 31, 2015)

<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Name</td>
<td>JFE Holdings, Inc.</td>
</tr>
<tr>
<td>Head Office</td>
<td>2-2-3 Uchisaiwaicho, Chiyoda-ku, Tokyo 100-0011, Japan</td>
</tr>
<tr>
<td>Established</td>
<td>September 27, 2002</td>
</tr>
<tr>
<td>Capital</td>
<td>¥147.1 billion</td>
</tr>
<tr>
<td>Employees (consolidated)</td>
<td>58,856</td>
</tr>
<tr>
<td>URL</td>
<td><a href="http://www.jfe-holdings.co.jp/en">www.jfe-holdings.co.jp/en</a></td>
</tr>
</tbody>
</table>

¥3,850.3 billion

- Steel Business: 74.6% ($2,873.8 billion)
- Engineering Business: 9.5% ($367.3 billion)
- Trading Business: 50.2% ($1,934.4 billion)

Adjustments for intra-group transactions: −34.3% ($1,325.3 billion). These include internal sales or transfers between segments totaling ¥1,016.0 billion for the steel business, ¥8.4 billion for the engineering business and ¥301.0 billion for the trading business.

Urban development

Urban development

Engineering Business

- JFE Engineering Corporation
- Head Offices: Chiyoda-ku, Tokyo and Yokohama, Kanagawa
- Sales (consolidated): ¥367.3 billion
- Employees (consolidated): 8,472

Innovative Technologies for Energy and the Environment

JFE Engineering’s technologies enhance the effective use of resources for clean energy in the core businesses of urban infrastructure and energy. JFE Engineering also develops infrastructure by utilizing its expertise in industrial machinery and steel structures, such as bridges.

Contributions to Sustainability

- Facilitating the use of renewable energies
- Expansion of waste recycling
- Establishing of waste-to-energy plants and infrastructure
Fifth Medium-term Business Plan
Becoming a Global Company Supplying Innovative World-class Technologies and Services

JFE’s fifth medium-term business plan establishes strategic operating guidelines for the period from April 1, 2015 to March 31, 2018. JFE aims to become an excellent 21st-century group of companies by quickly and accurately responding to diverse social needs and economic changes. Key themes include improving Japan’s resilience to natural disasters, preparing for the Tokyo 2020 Olympic and Paralympic Games in Japan, and meeting growing overseas demand for infrastructure and technologies for energy savings and environmental protection, particularly in emerging countries.

FY2015 ~ FY2017

Fifth Medium-term Business Plan

JFE is adapting to changes in its business environment by strengthening its technological advantages, diversifying its workforce and improving its comprehensive strengths. By strengthening its profit base in Japan and improving the profitability of its overseas businesses, JFE expects to achieve sustainable growth and improve its corporate value with the aim of becoming a global company supplying innovative world-class technologies and services.

FY2012 ~ FY2014

Major Results of Fourth Medium-term Management Plan

1. Steelmaking Business
   - Promoted development of domestic infrastructure from the medium-to-long-term perspective
   - Expanded overseas projects, including in Thailand and Indonesia

2. Engineering Business
   - Increased orders in fields related to the environment and power generation
   - Acquired environment-related companies for overseas business expansion

3. Trading Business
   - Expanded overseas bases in North America and beyond

4. Group-wide
   - Promoted diversity, and secured and nurtured competent human resources
   - Selected as “Nadeshiko Brand” for two consecutive years
### Corporate Vision

JFE will contribute to society with the world’s most innovative technology.

Support sustainable societies while also achieving sustainable corporate growth

### Our Goals

#### Group-wide Measures

<table>
<thead>
<tr>
<th></th>
<th>Strengthen domestic profit base</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Further upgrade facilities</td>
</tr>
</tbody>
</table>

#### Individual Initiatives of Operating Companies

<table>
<thead>
<tr>
<th></th>
<th>Secure and nurture diverse human resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Create workplaces where employees can demonstrate their full potential</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Establish corporate structure for sustainable growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Implement measures to promote the medium-term management plan and realize the corporate vision</td>
</tr>
</tbody>
</table>

#### Financial Performance Targets

- **Financial position:** Equivalent of A-grade ratings by international credit rating agencies
- **Capital efficiency:** Return on equity of over 10%
JFE’s Response

Addressing Environmental Issues with Innovative

JFE is applying innovative world-class technologies to reduce the environmental load of its business activities, as well as addressing environmental issues through its unique products and services.

1 Prevent Global Warming

Society’s Expectations
Reduce CO₂ emissions from operations

JFE’s Response
Develop and commercialize cutting-edge energy-saving technologies and the world’s most efficient steelmaking processes

Since oil shock in 1973
Achieved 37% reduction in energy consumption

Society’s Expectations
Provide high-performance, high-efficiency products that reduce CO₂ emissions for final-product users

JFE’s Response
Develop and provide high-performance steel materials that reduce weight while ensuring strength, and products that offer highly efficient power generation from natural energy sources

Delivered high-performance steel to reduce CO₂ emissions by 26 million tonnes*1
Generated 700 MW*2 of electric power from renewable energy

2 Expand Resource Recycling

Society’s Expectations
Provide resource-recycling solutions

JFE’s Response
Develop technologies for recycling waste into raw materials for steelmaking and power generation

Recycled plastic waste into 120,000 tonnes of raw materials per year
Generated 300 MW*3 of electricity from biomass fuel
First Japanese trading company to set up palm kernel shell cargo yard
Operation of waste power generation plants in 66 locations*3

*1 CO₂ reduction worldwide, based on five major high-performance steel materials produced by Japanese steelmakers (Japan Iron and Steel Federation estimates)
*2 As of June 2015
*3 As of August 2015
Preserve Biodiversity

World-class Technology

Resources are being depleted by the mass consumption of fossil fuels such as petroleum, while greenhouse gas emissions are further exacerbating global warming, and a strong causal link has been associated with abnormal weather and rising sea levels. At the same time, stricter international regulations have been implemented in response to pollution in marine environments and the global movements of vessels that harm marine ecosystems by releasing ballast water containing non-native species.

JFE’s environmental philosophy puts top priority on protecting and enhancing the global environment to keep JFE in harmony with the environment, ultimately for the prosperity of society. The company addresses environmental issues by harnessing its world-leading technologies, products and services for steelmaking, engineering and trading.

### Currently

- Environmentally friendly operations, products, services and solutions

### Going forward

- Innovative steelmaking technologies and products offering even higher performance

<table>
<thead>
<tr>
<th>Society's Expectations</th>
<th>JFE's Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide products and services that help preserve marine ecosystems</td>
<td>Develop and provide products that help preserve and restore marine environments</td>
</tr>
<tr>
<td>Supplied 600,000 tonnes of iron-steel slag for five marine-restoration projects</td>
<td></td>
</tr>
<tr>
<td>Installed ballast-water treatment systems in over 700 vessels</td>
<td></td>
</tr>
</tbody>
</table>
Reducing CO₂ emissions from operations

**Society's Expectations for JFE**

**Reduce CO₂ emissions from operations**

**Hydrogenous Gas to Reduce CO₂ Emissions and Enhance Quality**

**Super-SINTER™ and Super-SINTER™ OXY**

Super-SINTER™ uses natural gas and other hydrogenous gases to replace part of the coke breeze in the ore sintering process to greatly enhance energy efficiency and improve sintered ore quality. Super-SINTER™ has been installed at all JFE Steel sintering plants.

JFE Steel also developed Super-SINTER™ OXY, a combined fuel-injection technology that uses oxygen and hydrogenous gas. The process is in use at two sintering machines of the company’s East Japan Works. By dramatically improving productivity for high-quality sintered ore, JFE Steel has lowered the coke rate of its blast furnaces and thereby reduced CO₂ emissions.

**Innovative Blast Furnace Material for Reducing CO₂ Reduction**

**Ferro-coke**

Ferro-coke is a blast furnace-charging carbonous material dispersed with metallic iron and made by carbonizing briquetted low-grade coal and iron ore. The metallic iron accelerates the reduction reaction rate in the blast furnace, making the reduction of iron oxide possible with less reducing agent, which leads to significantly lower CO₂ emissions and improved energy savings. Long duration production tests using a pilot plant and demonstration tests using a commercial blast furnace have verified that the process actually lowers reducing agent ratio and coke ratio as projected.
Provide high-performance, high-efficiency products that reduce CO₂ emissions for final-product users

Using HITEN with the right performance specification for each component resolves tradeoff between reducing weight and maintaining strength, thereby effectively reducing CO₂ emissions.

<table>
<thead>
<tr>
<th>Component type</th>
<th>Tensile strength (MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior panel (deep drawing)</td>
<td>270-440</td>
</tr>
<tr>
<td>Exterior panel (stretch forming)</td>
<td>270-440</td>
</tr>
<tr>
<td>Frame (energy absorption)</td>
<td>590-980</td>
</tr>
<tr>
<td>Cabin (occupant protection)</td>
<td>780-1470</td>
</tr>
<tr>
<td>Bumpers and door beams</td>
<td>980-1470</td>
</tr>
</tbody>
</table>

Society’s Expectations for JFE

CO₂ Reduction through High-performance Steel Materials

Lighter Automobiles

Raising the tensile strength of steel plates for automobiles enables car weights to be lowered while maintaining collision safety. The result is less CO₂ emissions from driving. JFE Steel is helping to reduce automotive body weights with products including UNI HITEN™ for exterior body panels and cold-rolled, galvanized HITEN with high formability for vehicle frames.

Geothermal Binary Power Generation

Geothermal power generation does not use fossil fuels. Moreover, it is capable of providing a stable supply of electricity regardless of the season or weather conditions. JFE’s highly efficient system wastes neither low-temperature vapor nor brine, and uses turbines driven by motive fluid. It is also an environment-friendly system that does not release white smoke into the atmosphere, but reinjects 100% geothermal fluid back to reservoir.

Since constructing Japan’s first geothermal power plant in Matsukawa, Iwate Prefecture, JFE has supplied steam production equipment over 50 years. A plant in Ibusuki, Kagoshima Prefecture, began operating in October 2014, and construction of another plant in Fukushima is following up in 2015.

Zero-waste System

CO₂ Reduction through High-performance Steel Materials

Lighter Automobiles

CO₂ Reduction through High-performance Steel Materials

Lighter Automobiles

Reinjected hot water

Magma pool

Injection well

Injection well

Underground reservoir
Commercial Biomass Power Generation

Green Energy Tsu

JFE Engineering is building a biomass power plant, named Green Energy Tsu, that will use carbon-neutral energy sources such as palm kernel shells and wood chips to generate 20 MW of energy, equivalent to the power needs of 43,900 households. Construction is underway on the grounds of the company’s Tsu Works in Mie Prefecture, Japan and commercial operation is scheduled to begin in July 2016.

The wood chips are made with unused logs from local forest-thinning operations, which is also helping to vitalize the Mie economy.

JFE Shoji is contributing to the spread of renewable energy by establishing a stable supply system for palm kernel shells in Malaysia.
Preserving Biodiversity

Society’s Expectations for JFE

Provide products and services that help preserve marine ecosystems

Response

Restoring Marine Environments

Marine Stone™ from iron and steel slag

Marine Stone™ has the useful effect of suppressing hydrogen sulfide that arises from unhealthy seabeds and causes foul odors as well as harm to sea life. Marine Stone™ restores seabed environments and thereby improves these habitats for marine life. In addition, it can be used to create artificial reefs and provide bases for seaweed beds.

Preserving Ecosystems with Purified Ballast Water

JFE Ballast Ace™ Seawater Treatment System

JFE Ballast Ace™ is a water treatment system that removes marine organisms and disinfects seawater in the ballast tanks of ships. JFE Ballast Ace™ meets the requirements of the Enforcement of the International Ballast Water Control Convention, which calls for the installation of ballast water treatment devices in ships. JFE Ballast Ace™ systems have been installed in more than 700 ships as of June 2015.
To survive global competition in a rapidly changing business environment that continues to grow in complexity and diversity, JFE is hiring diverse personnel and developing globally capable human resources, as well as seamlessly handing down accumulated technical knowledge and skills to younger employees.

JFE ensures that its knowledge and technology are passed on to future generations, and it is developing globally minded personnel who can demonstrate their talents worldwide.

### Handing Down Technical Expertise

The age distribution of the JFE workforce is changing considerably as large numbers of baby-boomer employees retire and new personnel are hired. This situation has given rise to a pressing need to pass down technical knowledge and skills. Accordingly, each operating company is actively pursuing initiatives to ensure JFE’s continued technological leadership, which lies at the heart of its competitiveness.

**S** JFE Steel introduced its Technical Expert Program in FY2013, under which veteran employees with excellent skills are assigned as dedicated trainers for each key process at the company’s works. The Experts provide on-site guidance and training to strengthen technical capabilities, including the handling of non-routine, low-frequency tasks. About 160 Experts are currently deployed.

**E** To supplement existing job-specific training by veteran employees, JFE Engineering is introducing IT technologies such as direct-view cameras for welding and 3D design software.
Developing globally capable human resources is an integral component of the JFE Group’s overseas expansion. In addition to hiring and developing non-Japanese for career-track positions in Japan and more local hires for overseas offices, JFE is enhancing programs for Japanese employees to gain overseas study and training. The company is also developing younger employees through practical experience by dispatching them on overseas assignments.

To realize the corporate vision of contributing to society with the world’s most innovative technology, JFE established its Basic Policy on Human Resource Management in April 2015. Along with the Fifth Medium-term Management Plan, the policy guides the activities of the entire JFE Group. Under the policy, every Group company develops specific measures tailored to its respective circumstances.

**JFE Group’s Basic Policy on Human Resource Management**

1. Respect human rights and facilitate fair management of human resources
2. Foster a corporate culture that nurtures people and promotes satisfying workplaces
3. Diversify human resources
4. Recruit and steadily nurture excellent human resources

**Resources**

Developing Global Human Resources

Developing globally capable human resources is an integral component of the JFE Group’s overseas expansion. In addition to hiring and developing non-Japanese for career-track positions in Japan and more local hires for overseas offices, JFE is enhancing programs for Japanese employees to gain overseas study and training. The company is also developing younger employees through practical experience by dispatching them on overseas assignments.

**S** JFE Steel is supporting its global expansion by offering technical personnel more opportunities to spend time overseas, including encouraging them to attend international academic conferences and enroll in language programs abroad. Since FY2014, 34 new recruits in administrative positions have been dispatched overseas to gain global business experience by visiting customers and providing sales assistance.

**E** As JFE Engineering grows its international business, it has been nurturing globally capable human resources. Younger employees are being assigned to overseas projects and dispatched to overseas subsidiaries. For local personnel at overseas subsidiaries, the company regularly organizes training at its head office in Japan to cultivate a corporate culture in which business is conducted smoothly across different cultures.

**T** JFE Trade is bolstering efforts to cultivate personnel who can perform at high levels both in Japan and abroad as the company vigorously develops its overseas business. Through overseas assignments and language courses, many employees are acquiring global business experience early in their careers. Management training at the Tokyo head office for overseas personnel is also helping to developing human resources.
Promoting Workforce Diversity

JFE, as part of its emphasis on workforce diversity, has developed strategies to maximize the individual potential of employees coming from varied lifestyles and family backgrounds.

Supporting Women in their Professional Development

JFE is implementing a broad range of initiatives to support female employees, such as increased hiring, enhanced childcare support programs that significantly exceed statutory requirements, and training and education organized by the Diversity Promotion Section. In recognition of its activities, JFE was named a Nadeshiko Brand company for the second consecutive year in March 2015. Under this project, organized by the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange, Inc., listed companies are recognized for actively supporting working women. JFE’s initiatives were also introduced in the FY2015 White Paper on Manufacturing Industries (Monodzukuri), published by the Japanese government.

Managerial Positions for Women

To ensure steady progress in promoting women’s careers, JFE set a target to triple the number of women in managerial positions by 2020. As of the end of August 2014, when the target was set, there were 94 female managers, or 1.8% of all managerial positions, at JFE Holdings, JFE Steel, JFE Engineering and JFE Shoji. By April 2015, the figure had risen by 40% to 130, or 2.5%. JFE will continue striving to achieve its target by 2020.

Expanded Diversity Promotion

To boost the recruitment of women and non-Japanese employees, JFE Steel launched its Diversity Promotion Section in 2012 to organize training and educational activities, such as rank-based training and women’s exchange meetings. JFE Engineering and JFE Shoji set up Diversity Promotion Sections in 2015 to expand these activities to other operating companies. JFE plans to expand these efforts by moving beyond simply exemplary cases to considering common initiatives for the Group.

Work Environments for Employees after Childbirth and Childcare

Sensitivity to Childcare Needs

In accord with the purpose of Japan’s Equal Employment Opportunity Act for Men and Women, JFE treats men and women equally in terms of evaluation, pay and other systems. Programs for childcare support to enable employees to continue working comfortably after childbirth and childcare significantly exceed statutory requirements, such as childcare leave and shorter working hours, a company-operated childcare facility and childcare subsidies.

- Childcare leave that can be extended until a child is 3 years old
- Shorter working hours when a child is in elementary school
- Company-operated childcare facility
- Childcare subsidy program
- Reemployment program for employees who left to care for children or another family member
- Information sharing for employees on childcare leave

To ensure sustainable growth, JFE steadfastly recruits from a diverse pool of applicants and actively hires women, foreign nationals and mid-career personnel. It also recruits year round.

Recruitment Plans and Results

**Fifth Medium-term Management Plan (FY2015–FY2017)**

Between **1,200** and **1,300** persons

**FY2015 Results**

**1,190** persons

- Ratio of women in positions with prospects for promotion: 10% (46 out of 442)
  Of the above, ratio of those in white-collar positions: 21% (26 out of 122)
- Ratio of foreign nationals in positions with prospects for promotion: 4% (15 out of 442)
- Ratio of mid-career and yearround recruits: 35% (407 out of 1,190)
  Of the above, ratio of recruits in positions with prospects for promotion: 33% (145 out of 442)
  Of the above, ratio of mid-career recruits in on-site positions at steelworks: 36% (262 out of 735)

**JFE Steel** aims to have female workers account for 10% of new hires for non-clerical positions (FY2012: 19, FY2013: 22, FY2014: 24, FY2015: 48). The company also is striving to create a better working environment for women by building additional facilities, such as shower rooms and lavatories.

**JFE Engineering** is seeking personnel with diverse cultures and values. The company is recruiting mid-career personnel as well as new graduates, with an increasing number of the former enjoying prospects for promotion every year. The number has risen from 40 in FY2013 to 97 in FY2014 and 128 in FY2015. It is also working to localize overseas bases more deeply by hiring local personnel.

**JFE Shoji** is diversifying its workforce by introducing programs for recruiting new graduates from overseas universities and hiring of recent graduates who have decided for various reasons to leave the first company they joined after university. Both programs take place in October, traditionally a non-hiring period in Japan. It is also focusing on hiring mid-career personnel for positions with prospects for promotion.

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**JFE Steel** is diversifying work styles by introducing discretionary working-hour programs for specialized operations in R&D departments. Flexible working hours are being adopted at steelworks, in addition to the head office and branch offices. Operations are being restructured by delegating significant authority for capital investment to individual steelworks and deploying IT tools, such as teleconferencing and desktop conferencing systems, aiming to speed up decision making and raise operational efficiency.

**JFE Engineering** is nurturing a corporate culture of “coming early and leaving early” by designating 8 am to 4:45 pm as the standard working hours, and in principle prohibiting work after 8 pm. “SHAPE UP” activities are raising operational efficiency through systemization to reduce work with low added value by 20%. Work-life balance is being promoted with work schedules in which employees and their supervisors coordinate holidays in advance, and by designating days on which employees are encouraged to take paid leave or leave work on time.

**JFE Shoji** has a Change of Work Time initiative to enhance employee health, promote work-life balance and improve productivity. In addition to the existing practice of designating Wednesdays as a day to leave work on time, the company has prohibited work after 10 pm since April 2015. The initiative has resulted in a significant reduction of overtime.

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Corporate Governance

Corporate Governance Policy
JFE is a holding company comprising three operating companies — JFE Steel, JFE Engineering and JFE Shoji Trade. As the core of JFE’s integrated governance system, JFE Holdings guides Group-wide strategy, risk management and public accountability. Each operating company has developed its own system suited to its respective industry, ensuring the best course of action for competitiveness and profitability. The holding company and operating companies separately and collectively strive to maximize corporate value for shareholders and other stakeholders.

Management

Governance System
JFE Holdings and its operating companies all have auditors that are held in double check by the Board of Directors, which supervises operational execution, and the corporate auditors, who conduct the audits. Also, the corporate officer system is employed to separate decision making and execution for clarified authority and responsibility, as well as accelerated execution.

JFE Holdings’ Board of Directors comprises five directors, including two external directors (both independent officers). The board seeks to maintain and improve management efficiency while making decisions on statutory issues, formulating important management policies and strategies, and supervising the execution of operations. An Audit & Supervisory Board comprising four auditors, including two external auditors (both independent officers), monitors and enhances the soundness of management.

*1 JFE Holdings auditors concurrently serve as absentee auditors at various operating companies.
*2 Operating company management system (based on JFE Steel model)
JFE’s governance system has been strengthened by reinforcing the fairness, objectivity and transparency of management with the aim of continuously increasing corporate value and profit for shareholders. Two external directors were added in 2007 and the term of directors was shortened from two years to one for greater versatility in developing an optimal management structure and greater clarity of responsibilities.

- **Key Decision Making**
  JFE companies are responsible for business decisions in accordance with their respective rules and procedures, whereas JFE Holdings makes decisions about Group-wide matters. Each operating company determines matters concerning the company and its affiliates through a deliberative process, after which the Board of Directors renders its decisions. JFE Holdings uses this same procedure for relevant matters important to the company, as well as key matters concerning operating companies or other Group businesses.

- **Structure of Management Committee**

<table>
<thead>
<tr>
<th>Company</th>
<th>Chairperson</th>
<th>Attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>JFE Holdings</td>
<td>President</td>
<td>Corporate officers, president of JFE Holdings, president of JFE Steel, president of JFE Engineering, president of JFE Engineering, president of JFE Shoji Trade and corporate auditors</td>
</tr>
<tr>
<td>JFE Steel</td>
<td>President</td>
<td>Directors, major corporate officers and corporate auditors</td>
</tr>
<tr>
<td>JFE Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JFE Shoji Trade</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Optimized Business Systems**
  Businesses within JFE utilize the best systems to optimize their products and operations, working to achieve unity between strategies and earnings.

- **Corporate Structures of Operating Companies**

<table>
<thead>
<tr>
<th>Company</th>
<th>System</th>
</tr>
</thead>
<tbody>
<tr>
<td>JFE Steel</td>
<td>By center and sector</td>
</tr>
<tr>
<td>JFE Engineering</td>
<td>By business division</td>
</tr>
<tr>
<td>JFE Shoji Trade</td>
<td>By sales division</td>
</tr>
</tbody>
</table>

- **Group-wide Management Bodies**
  Technology development, IT issues and CSR initiatives shared across the Group are deliberated by Group-wide management bodies.

- **Group Committees**
  - JFE Group Technology Development Committee
  - JFE Group IT Committee
  - Public Disclosure Committee
  - JFE Group CSR Council
JFE’s internal control system, which includes risk management, is governed by the Basic Policy for Building Internal Control Systems. Rules based on this policy govern organizational and operational matters, information storage and management, countermeasures against criminal groups, and meetings of bodies such as the Board of Directors, Management Committee and JFE Group CSR Council. A Corporate Ethics Hotline has also been established. To enhance corporate value, the basic policy for internal control was partially revised in FY2014 to make necessary improvements.

**Strengthening Internal Controls**

**Internal Audits**

JFE Holdings, its principal operating companies and key Group companies had internal audit organizations comprising 175 people as of April 1, 2015. The organizations share information to enhance overall auditing within the Group.

Internal audit managers of principal operating companies serve concurrently as internal audit managers of JFE Holdings for stronger ties within the Group.

**Audits by Corporate Auditors**

Corporate auditors attend meetings of the Board of Directors and the Management Committee as well as other important meetings. They audit the manner in which directors execute their responsibilities by conducting hearings on operational status from directors and corporate officers and by receiving operational reports from subsidiaries. In addition to undergoing statutory audits, JFE companies take the following initiatives to ensure the effectiveness of internal auditing by corporate auditors and to strengthen coordination among corporate auditors.

- A total of 41 full-time auditors have been appointed to 32 companies, including JFE Holdings. Operating company personnel are dispatched to Group companies as part-time external corporate auditors. Each absentee auditor serves three or four subsidiaries to raise the quality of the audits by their corporate auditors and enhance Group governance. Six absentee auditors served 24 companies in total.
- The JFE Board of Auditors includes both full-time auditors of each Group company and absentee auditors. Subcommittees and working groups created to address specific issues meet autonomously throughout the year to share information, research issues and enhance understanding (see diagram). The results of their activities are presented at the General Meeting of JFE Group Auditors and are reflected in the activities of individual corporate auditors.

**Cooperation between Corporate and Accounting Auditors**

The corporate auditors hold scheduled and unscheduled meetings (ten in FY2014) with the external accounting auditor (Ernst & Young ShinNihon) in which the latter presents its audit plan, actual work and detailed results. The corporate auditors also receive detailed explanations regarding the accounting auditor’s quality management system to confirm its validity. The corporate auditors explain their own audit plans and other matters to the external accounting auditor, and the two sides share opinions on related matters.

**Cooperation between Corporate Auditors and Internal Auditing Department**

The corporate auditors hold scheduled and unscheduled meetings (four in FY2014) with the internal auditing department in which the latter presents its internal audit plan, work status and detailed results. During the meetings the corporate auditors also share opinions with the department.

**Operating Company Governance**

To strengthen governance, JFE Holdings managers attend each operating company’s General Meeting of Shareholders and Management Planning Briefing, receive reports on their business activities, discuss managerial policies and engage in other forms of shareholder oversight as representatives of the holding company.
**JFE CSR System**

JFE, aiming to contribute to the betterment of society as a responsible member, has made the implementation and ongoing strengthening of corporate social responsibility (CSR) central to its business. The JFE Group CSR Council, which was established by JFE Holdings in October 2005 and convenes quarterly, chaired by the company president, supervises JFE CSR activities and related issues such as compliance, the environment, human resources, safety, disaster prevention, social contributions, and countermeasures against criminal groups. Related Group-wide bodies, including the JFE Group Compliance Committee, JFE Group Environmental Committee and JFE Group Internal Control Committee, report to the Council.

**CSR Audit**

To ensure that CSR activities are conducted properly, JFE systematically conducts internal audits of environmental management, Antimonopoly Law compliance, expense management, overseas office management, tax law compliance, safety management and disaster prevention.

If an audit reveals a problem, the internal audit departments of JFE Holdings and its related operating companies share information to support the implementation of correct measures in CSR activities throughout JFE.

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### CSR Promotion Structure

**JFE Group CSR Council**

**Chairperson:** President of JFE Holdings  
**Members:** Executive vice presidents, corporate officers, full-time auditors, respective presidents of operating companies, etc.

- JFE Group Compliance Committee
- JFE Group Environmental Committee
- JFE Group Internal Control Committee

**Issues**

Compliance, environment, internal controls, personnel/labor, safety, disaster prevention, social contributions, etc.

1. Group-wide deliberations (including instructions and guidance on important issues)
2. Monitoring penetration of policies within group
3. Monitoring deployment of policies throughout Group

---

**JFE Steel CSR Council**

**Chairperson:** President

- Environmental Committee
- CSR Awareness Committee
- Social Contributions Committee
- Safety & Disaster Prevention Committee
- Risk Management Committee

**Internal Audits Committee**

**Personnel/Labor Affairs Committee**

**Compliance Committee**

**CS (customer satisfaction) Committee**

**Establishing and Circulating Rules Committee**

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**JFE Engineering CSR Council**

**Chairperson:** President

- Compliance Committee
- Environmental Experts Committee
- Safety & Disaster Prevention Committee

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**JFE Shoji Trade CSR Council**

**Chairperson:** President

- Environmental Management Committee
- Internal Controls Committee
- Information Management Committee
- Disaster Prevention Committee
- Labor-related Legal and Environment Committee

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**JFE Holdings CSR Council**

**Chairperson:** President

- Environmental Awareness Committee
- Social Contributions Committee
- CSR (customer satisfaction) Committee
- Compliance Committee
- Establishing and Circulating Rules Committee
Basic Policy

Compliance lies at the foundation of JFE. Compliance with laws and ethics is vital to maintaining integrity and soundness in business because it helps to ensure that all members of the organization deepen their knowledge and awareness of compliance and act accordingly on a daily basis. To that end, JFE is strengthening related systems and implementing measures for thorough compliance.

Compliance System

JFE has a Standards of Business Conduct to help employees implement corporate activities based on the Corporate Vision, as well as these Standards, and to cultivate awareness among all JFE Group executives and employees to ensure rigorous adherence to corporate ethics.

JFE also has a Compliance Council. Chaired by the president, it generally convenes on a quarterly basis to deliberate basic policies and key issues, and supervise their implementation. Each operating company also has its own system for promoting and supervising compliance in business through similar committees. In addition, operating companies have introduced a Corporate Ethics Hotline to ensure that important information regarding compliance is directly communicated from their front lines to top management.

Ensuring Thorough Compliance

● Using the Guidebook Effectively
As part of its ongoing effort to raise compliance awareness, JFE has compiled a Compliance Guidebook that is distributed to executives and employees. In response to global business development, an English language version of the guidebook has been created for use by staff members in overseas offices.

The guidebook presents over 100 case studies written in plain language to help employees understand JFE’s standards for complying with laws and regulations, as well as internal rules based on social norms. Situations occurring in daily operations that can be unclear or confusing are provided, with each case accompanied by an explanation prepared by the relevant department and reviewed by an attorney for legal compliance. JFE Shoji Trade also has its own version of the Compliance Guidebook, containing explanations of 25 case studies that are unique to the trading business.

Compliance Training

JFE conducts compliance training on topics such as antimonopoly law, insider trading, security export controls, the Construction Business Act, and the Foreign Corrupt Practices Act. Compliance education includes training for everyone from managers to new hires. In addition, JFE Steel and JFE Shoji Trade provide training through e-learning.

Compliance Training Conducted by Each Company

<table>
<thead>
<tr>
<th>Company</th>
<th>Group Training</th>
<th>E-learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Courses</td>
<td>Attendees*</td>
<td>Number of Attendees</td>
</tr>
<tr>
<td>JFE Steel</td>
<td>48</td>
<td>2,471</td>
</tr>
<tr>
<td>JFE Engineering</td>
<td>67</td>
<td>2,610</td>
</tr>
<tr>
<td>JFE Shoji Trade</td>
<td>57</td>
<td>380</td>
</tr>
</tbody>
</table>

* Aggregate total

Compliance Rules Awareness Activities

Each year in October, JFE Steel observes its Compliance Month and conducts compliance-awareness activities. Each department in Japan and overseas has sessions in which participants read legal texts, internal regulations and other materials and information placed in the Compliance Guidebook or posted on the company intranet by the Legal Affairs Department. Such efforts foster greater awareness of compliance and encourage employees to consider if their work practices are in compliance. Based on activities conducted during Compliance Month, work practices and company rules are revised as required.

JFE Shoji Trade conducts readings of its internal regulations and other rules on three separate occasions every quarter. It also conducts its own Compliance Month, during which employees participate in readings of the guidebook and discussions to deepen understanding and awareness.
Formulation of Basic Policy on Preventing Bribery

To ensure that global business expansion proceeds appropriately, the JFE Group established the Group Basic Policy on Preventing Bribery of Foreign Public Servants in February 2015. The text has been disseminated throughout the Group in Japan and abroad.

Antimonopoly Law Compliance Initiatives

JFE Steel and JFE Engineering seriously view past violations of the Antimonopoly Law and continue to implement thorough measures for eliminating the possibility of future infringements. The internal audit departments of both companies constantly monitor contact with other companies to avoid Antimonopoly Law violations. They also check to see that initiatives aimed at promoting legal compliance are functioning properly. Audits are regularly conducted at all business locations, including branch offices. In addition to the operating companies, other Group companies also implement related compliance initiatives.

Key Initiatives

JFE Steel and JFE Engineering have undertaken the following key initiatives:

- Commitments by top management
- Antimonopoly Law training based on specific cases of how violations can seriously impact companies and individuals
- Upgraded regulations to better clarify how violations could lead to disciplinary action
- Strengthened rules on contact with other companies in the same industry

In addition, JFE Steel monitors the activities of external organizations to which its sales department belongs, and JFE Engineering works to ensure that its order-acceptance process is transparent. JFE Shoji Trade pursues initiatives such as providing training and e-learning on the Antimonopoly Law, conducting surveys on the state of legal compliance and organizational membership, and recording contacts with companies operating in the same markets.

Rejection of Organized Crime

The JFE Group Policies for Addressing Antisocial Forces works to ensure sound company management through uniform organization-wide measures under JFE’s compliance system in response to antisocial (organized crime) activities.

JFE has its own Regulations for Addressing Violence Directed at Companies, including a manual on the initial steps that should be taken in responding to violence targeting companies.

Awareness Surveys for Confirmation and Improvement

JFE conducts its Corporate Ethics Awareness Survey to quantitatively assess employees’ awareness of ethics, identify possible risks and help employees stay informed about JFE’s corporate vision.

Recent surveys indicate that many employees believe compliance awareness and behavior have strengthened at JFE. In particular, awareness of corporate policies and values is thought to have improved greatly, and compliance systems and activities are said to have steadily taken hold among employees.

The results of these awareness surveys are reflected in practical measures aimed at overall improvement of the company, including employee training.

Internal Whistleblowing System

JFE’s Corporate Ethics Hotline helps to ensure that important information regarding compliance is communicated from the front lines to top management rapidly and accurately. The hotline is operated under rules and regulations that protect people who report information or seek advice. After the facts of a case are reviewed, the outcome is communicated to the caller. Open to all Group companies, the system serves as a pillar of compliance enhancement in JFE.

Cases Handled by Corporate Ethics Hotline

<table>
<thead>
<tr>
<th>Company</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>JFE Holdings and operating companies</td>
<td>42 cases</td>
<td>40 cases</td>
</tr>
<tr>
<td>(JFE Steel, JFE Engineering and JFE Shoji Trade)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Risk Management System

JFE Holdings is responsible for comprehensive risk management in accordance with the Basic Policy for Building Internal Control Systems. The JFE Group Internal Control Committee, which reports to the JFE Group CSR Council, collects pertinent information to support efforts to reduce the frequency and impact of risks. The relevant executive officer works to identify potential risks associated with business activities, ethical and regulatory compliance, and disclosure of financial reports and information. If potential risks are identified, they are confirmed and assessed by the related organization for possible deliberation and deployment of countermeasures as required.

Response to Risks

● Intellectual Property Management
JFE meticulously manages intellectual property across its diverse business activities. To prevent infringing on third-party intellectual property, JFE monitors the latest information on intellectual property related to its business and implements all necessary measures. It regularly provides training on the topic for employees. With regard to intellectual property owned by the Group, efforts are underway to bolster competitiveness by improving collaboration between business and R&D divisions, while also exercising intellectual property rights to protect and build on such achievements.

● Privacy Protection
JFE has formulated the Basic Policies for Protection of Personal Information on the handling of personal information. Under these policies, JFE protects personal information in accordance with internal rules concerning information management, and by informing, educating and training employees on these rules and other applicable laws and ordinances.

● Information Security
JFE established the Information Security Management Regulations to prevent the improper use or leakage of information within the Group. The regulations are regularly revised by drawing on information and examples of incidents from external institutions. Implementation is strengthened by providing guidance and training for employees and by conducting audits based on checklists.

<table>
<thead>
<tr>
<th>Major Security Initiatives of the JFE Group</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prevention of Improper Use of Information</strong></td>
</tr>
<tr>
<td>1. Authentication measures of JFE’s integrated security system</td>
</tr>
<tr>
<td>2. Personal computer startup authentication using passwords and additional factors (IC cards, etc.)</td>
</tr>
<tr>
<td><strong>Prevention of Information Leaks</strong></td>
</tr>
<tr>
<td><strong>Measures against Loss or Theft</strong></td>
</tr>
<tr>
<td>1. Biometric authentication for server room access</td>
</tr>
<tr>
<td>2. Office-access control</td>
</tr>
<tr>
<td>3. Use of security wires to protect hardware</td>
</tr>
<tr>
<td>4. Hard disk encryption for mobile computers</td>
</tr>
<tr>
<td>5. Encryption of removable media</td>
</tr>
<tr>
<td><strong>Measures against Information Leaks</strong></td>
</tr>
<tr>
<td>1. Limits on use of removable media and maintenance of logs</td>
</tr>
<tr>
<td>2. Checking e-mail sent to external parties</td>
</tr>
<tr>
<td>3. Retention of all e-mail sent to internal and external parties</td>
</tr>
<tr>
<td>4. Limits on use of Web-based e-mail</td>
</tr>
<tr>
<td>5. Limits on use of Web-based bulletin boards, etc.</td>
</tr>
<tr>
<td>6. Preventing access to the Group network via unauthorized computers</td>
</tr>
<tr>
<td><strong>Measures against External Threats</strong></td>
</tr>
<tr>
<td>1. Measures to prevent malware</td>
</tr>
<tr>
<td>2. Firewall restrictions on outside access</td>
</tr>
<tr>
<td>3. Detecting and protecting against suspicious communications</td>
</tr>
</tbody>
</table>
Protecting the Environment

JFE Group CSR REPORT 2015
Environmental Management

Environmental Philosophy and Strategies

JFE has adopted an environmental philosophy and pursues related strategies that actively promote the development of innovative technologies and international cooperation to protect the global environment.

Environmental Philosophy

- JFE puts top priority on protecting and enhancing the global environment to maintain its business in harmony with the environment, ultimately for the prosperity of society as a whole.

Environmental Strategies

1. Reduce the environmental impact of all JFE businesses
2. Contribute through technologies and products
3. Conserve resources and energy
4. Communicate with society
5. Facilitate international cooperation

JFE Group Framework for Environmental Management

The JFE Group Environmental Committee, chaired by the president of JFE Holdings and operating under the JFE Group CSR Council, manages environmental issues by setting objectives for environmental protection, monitoring progress and working to improve environmental performance. Specialized committees set up by each operating company and affiliate implement specific corporate activities.

Environmental Management System

Acquisition of ISO 14001 certification is an important part of each JFE company’s voluntary environmental program. All JFE Steel and JFE Engineering production sites and major JFE Shoji Trade business offices in Japan and abroad have received certification, encompassing 73% of 36,297 employees at 79 companies covered in this report.

- **S** JFE Steel has the Environment Management Department at its head office and in each business office, as well as the Environmental Committee chaired by the president and the Environment Management Committee in each local office. All JFE Steel production sites have obtained ISO 14001 certification, as have 16 of 33 major subsidiaries, for all operations or those centered on production.

- **E** JFE Engineering has maintained its ISO 14001 certification since initially being certified in 1999. Its environmental management system in Japan encompasses production sites in Tsurumi and Tsu, construction sites, Yokohama head office and branch offices in Osaka and Nagoya. Of JFE Engineering’s 11 major group companies, four have obtained ISO 14001 certification.

- **T** JFE Shoji Trade obtained ISO 14001 certification for its Tokyo head office, Osaka head office and Nagoya branch in 2000. This was followed by the certification of 16 branch and sub-branch offices and 76 business sites of 22 group companies, including seven manufacturing subsidiaries in Japan, enabling environmental management throughout the JFE Shoji Trade group. Overseas, 11 manufacturing subsidiaries have also obtained ISO 14001 certification.
Environmental Auditing

In addition to auditing by ISO 14001 certification organizations, certified operating companies are also audited internally by specialized auditors trained by external organizations.

Once a year, the Audit Department and the Environment, Disaster Prevention and Recycling Department at JFE Steel’s head office conduct an environmental audit at each operational site. Companies are grouped on the basis of the results of risk assessments that take sites and other aspects into account. Also, extensive audits using a self-check sheet are conducted every one to five years. A total of 189 business sites of JFE Steel group companies require auditing, of which 26 were audited in FY2014.

Environmental Education

JFE actively provides education to enhance its corporate culture of environmental protection in which all employees participate. Education at operating companies includes training for new recruits and newly promoted employees, and for environmental preservation activities by position and job.

JFE Steel encourages employees to obtain qualifications as pollution control managers. In FY2014, 71 persons were qualified, bringing the total since 2005 to 1,235 people. In FY2011, a new training program was launched for environmental managers in group companies. The program was held three times in FY2014. In addition, the JFE Steel group’s Environmental Liaison Committee trains employees in compliance with environmental laws once a year and in disseminating regulatory revisions twice a year. Training to brush up the waste-management skills of on-site personnel takes place four times a year.

JFE Engineering provides education on general environmental issues to raise employee awareness. It also conducts environment-related training for specific operations and organizes three types of training according to employee tasks and responsibilities, placing a particular focus on enhancing the understanding of environmental laws and regulations. Employees of group companies also attend environmental education courses aimed at ensuring compliance and raising awareness of environmental protection initiatives throughout the JFE Engineering group.

JFE Shoji Trade has created its own checklist on compliance with environmental laws, which is distributed to all group companies as part of environmental education. Each company performs a self-check to ensure understanding and rigorous compliance. In addition, under ISO 14001, the company annually provides training on general environmental issues for all employees and training for internal audit staffers. It also offers information on regulatory revisions and laws and regulations to employees responsible for environmental management at JFE companies.
### Environmental Accounting

#### Basic Approach
JFE is saving energy and reducing environmental loads by making its production facilities more efficient and by introducing more environmentally friendly equipment. These investments, which are booked as environmental costs, cover equipment, facilities and related expenditure for environmental protection or load reduction.

#### Environmental Investment and Expenses
Environmental capital investment totaled ¥20.3 billion and expenses amounted to ¥126.6 billion in FY2014. In terms of capital expenditure, ¥9.3 billion was invested in energy savings and global-warming countermeasures, followed by ¥6.1 billion for air-pollution countermeasures and ¥1.8 billion for industrial water recycling. Expenses for environmental activities included ¥37.9 billion for global-warming countermeasures, ¥37.3 billion for air-pollution countermeasures and ¥18.5 billion for industrial water recycling. Environmental R&D expenses came to ¥12.2 billion and environmental capital investment as a percentage of overall capital investment was roughly 28%.

### Breakdown of Environmental Costs

<table>
<thead>
<tr>
<th>Main Items</th>
<th>FY2013</th>
<th>FY2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Investment (million yen)</td>
<td>Cost (million yen)</td>
</tr>
<tr>
<td>Management</td>
<td>100</td>
<td>2,400</td>
</tr>
<tr>
<td>Global warming countermeasures</td>
<td>8,400</td>
<td>39,200</td>
</tr>
<tr>
<td>Conservation of natural resources</td>
<td>800</td>
<td>17,600</td>
</tr>
<tr>
<td>Environmental protection</td>
<td>12,300</td>
<td>33,600</td>
</tr>
<tr>
<td>Water pollution countermeasures</td>
<td>1,900</td>
<td>9,900</td>
</tr>
<tr>
<td>Prevention of soil contamination, noise, vibration and subsidence</td>
<td>10</td>
<td>1,400</td>
</tr>
<tr>
<td>Other</td>
<td>-</td>
<td>1,400</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>4,400</td>
<td>13,100</td>
</tr>
<tr>
<td>Societal activities</td>
<td>-</td>
<td>700</td>
</tr>
<tr>
<td>Total</td>
<td>28,000</td>
<td>123,800</td>
</tr>
</tbody>
</table>

Note: Data covers all investment activities of JFE Steel Corporation and R&D activities of JFE Engineering Corporation.

### Capital Investment
To save energy and reduce environmental loads stemming from production, JFE actively invests in environmental technologies for plants and equipment. Cumulative investment in energy savings, totaling ¥452.8 billion since 1990, has enabled JFE to achieve energy efficiencies that are among the highest in the world. In total, JFE has invested ¥13.4 billion in environmental protection since 1973.

### Results of Environmental Activities
Environmental protection costs include efforts to lower unit-based CO2 emissions to prevent global warming and measures to reduce final disposal waste and conserve natural resources through recycling. Other benefits include reducing discharges of airborne and waterborne substances with pollution loads and compliance with statutory regulations concerning exhaust gas emissions and discharged water. The monetary value of energy savings realized through environmental capital investments and expenses in FY2014 is estimated at about ¥1.8 billion.
Value Chain Initiatives

● Basic Approach
Under the concept of life cycle assessment, JFE strives to reduce environmental loads throughout its supply chains. Also, operating companies work with business partners to reduce their use of materials that have environmental loads.

● Promoting Green Procurement
JFE procurement policies help to conserve resources and protect the environment by ensuring adherence to all laws and regulations, as well as procurement principles stated in the Charter of Corporate Behavior developed by the Japan Business Federation. Going forward, JFE expects to accelerate efforts related to supply chains.

Environmental Risks and Opportunities

● Preventing Global Warming
The steel business accounts for 99.8% of JFE’s CO₂ emissions, so reducing emissions from steelmaking processes is a major goal. Along with helping Japanese steelmaking processes to achieve the world’s highest levels of energy efficiency, JFE has played a key role in reducing CO₂ emissions worldwide through international cooperation. JFE also helps to reduce emissions by offering proprietary high-performance steel materials that save energy, and it develops engineering technologies for renewable energy sources. Stricter regulations on global CO₂ emissions could place certain restrictions on JFE activities centered on steel, but new regulations also present opportunities for growth and heightened competitiveness in increasingly low-carbon societies. JFE is committed to achieving greater energy savings by continuously developing innovative technologies.

● Prevention of Pollution
JFE steadfastly complies with pollution regulations through investment in environmental protection. Its transfer and widespread application of proprietary technologies, mainly in developing countries, are contributing to pollution prevention on a global scale. To avoid any impact on earnings due to regulatory sanctions resulting from noncompliance, JFE is steadily strengthening related internal controls and education.

● Resource Recycling
Economic growth in emerging countries is intensifying the needs to conserve nonrenewable resources and prevent pollution. Addressing these issues requires a gradual decoupling of resource use and economic growth on a global scale. JFE is striving to raise its rates of recycling byproducts from steelmaking and reducing waste at construction sites. The company is also utilizing its steelworks infrastructure to develop recycling businesses and export iron scrap as a recyclable resource. Going forward, JFE will continue contributing to sustainable societies by providing further solutions for resource recycling.

● Products and Services
Tighter regulations and energy conservation in low-carbon societies may significantly alter JFE’s business environment, but the development of products and services that can compete in these greener markets presents major opportunities. JFE possesses proprietary products and services for reducing environmental impact and restoring the environment, such as high-performance steel materials that help save energy, engineering technology for renewable energy sources and steel slag products that can help restore marine environments for biodiversity preservation. JFE products and services contribute to sustainable societies by disseminating the world’s most advanced energy-saving and environmental technologies across the globe. Through continued technology development, JFE will share advances that meet the world’s highest standards for environmental protection.
# Main Environmental Targets and Results

## FY2014 Targets

<table>
<thead>
<tr>
<th>Company</th>
<th>Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Management</strong></td>
<td></td>
</tr>
<tr>
<td>JFE Steel</td>
<td>Continue to improve environmental management systems, including in Group companies</td>
</tr>
<tr>
<td></td>
<td>Voluntary activities for environmental preservation</td>
</tr>
<tr>
<td>JFE Engineering</td>
<td>Enhancement of Group-wide compliance</td>
</tr>
<tr>
<td>JFE Shoji Trade</td>
<td>Enhancement of Group-wide compliance</td>
</tr>
<tr>
<td><strong>Global Warming Prevention</strong></td>
<td></td>
</tr>
<tr>
<td>JFE Steel</td>
<td>Continue global-warming measures under the Low-Carbon Society Action Plan</td>
</tr>
<tr>
<td></td>
<td>Low-Carbon Society Action Plan targets (according to the Japan Iron and Steel Federation)</td>
</tr>
<tr>
<td></td>
<td>Reduce CO₂ emissions by five million tonnes in 2020 compared to business as usual</td>
</tr>
<tr>
<td>JFE Engineering</td>
<td>Reduce CO₂ emissions and other environmental loads through products and services:</td>
</tr>
<tr>
<td></td>
<td>Establish targets for the R&amp;D, planning and design sections of each division and implement</td>
</tr>
<tr>
<td></td>
<td>environmentally friendly initiatives including prevention of global warming</td>
</tr>
<tr>
<td>JFE Shoji Trade</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reduce electricity consumption</td>
</tr>
<tr>
<td></td>
<td>Reduce copy paper usage</td>
</tr>
<tr>
<td><strong>Pollution Prevention</strong></td>
<td></td>
</tr>
<tr>
<td>JFE Steel</td>
<td>Cut dioxins emissions to less than 5.5 g-TEQ per year on average between FY2012 and FY2016</td>
</tr>
<tr>
<td></td>
<td>under a new reduction plan in Japan</td>
</tr>
<tr>
<td><strong>Resource Recycling</strong></td>
<td></td>
</tr>
<tr>
<td>JFE Engineering</td>
<td>Set targets for each division relevant to the scope of work at construction sites. Targets</td>
</tr>
<tr>
<td></td>
<td>are to be set based on the following minimum values:</td>
</tr>
<tr>
<td></td>
<td>• Recycle at least 99.5% of rubble</td>
</tr>
<tr>
<td></td>
<td>• Recycle at least 95.0% of sludge</td>
</tr>
<tr>
<td></td>
<td>• Recycle at least 85.0% of industrial wastes (excluding rubble and sludge)</td>
</tr>
</tbody>
</table>
## Protecting the Environment

### Contributing to Society’s Development

### Management

#### FY2014 Results

- Group Liaison Committee met twice to discuss compliance with environmental laws and regulations
- Uniformly confirmed and followed up on legal compliance
- Conducted environmental management training for new managers (three times for 73 participants)
- Conducted environmental auditing at all of JFE Steel’s manufacturing sites and 26 offices of Group companies
- Conducted environmental inspections at all construction sites
- Conducted a Group-wide environmental compliance audit
- Self-confirmed legal compliance
- Conducted an environmental audit of Group companies
- Implemented the Eco-Processes, Eco-Solutions, Eco-Products (“Three Ecos”) initiative and COURSE 50 program for developing innovative steelmaking processes
- Achieved 59 targets established Company-wide

#### FY2014 Results

- CO₂ emissions increased an average 0.7% per year from FY2010 to FY2014
- Reduced electricity consumption by 50% compared to FY2001
- Reduced copy paper usage by 6.0% compared to FY2001
- Achieved emissions below 5.6 g-TEQ per year (5-year average)
- Kurashiki: Reduced volume of waste by turning oil-containing sludge into a valuable resource: Reduction: FY2013: 800 tonnes → FY2014: 2,100 tonnes

### FY2015 Targets

- Continue to improve environmental management systems, including in Group companies
- Voluntary activities for environmental preservation
- Conduct environmental inspections at all construction sites
- Conduct a Group-wide environmental audit
- Continue to self-confirm legal compliance
- Continue global-warming measures under the Low-Carbon Society Action Plan
- Continue to improve environmental management systems, including in Group companies
- Reduce CO₂ emissions and other environmental loads through products and services, including through R&D, planning and design targets in each division
- Reduce CO₂ emissions by five million tonnes in 2020 compared to business as usual
- Reduce dioxins emissions to less than 5.5 g-TEQ per year on average between FY2012 and FY2016 under a new reduction plan in Japan
- Reduce dioxins emissions to less than 5.5 g-TEQ per year on average between FY2012 and FY2016 under a new reduction plan in Japan
- Reduce dust and sludge and promote recycling efforts
- Kurashiki: Reduce volume of waste from 2,100 tonnes in FY2014 to 3,000 tonnes in FY2015

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JFE Steel is striving to reduce environmental loads while using resources more effectively in its steelmaking processes. The company recycles 93.7% of the water it uses for production and uses 99.8% of the byproducts, such as iron-steel slag. Also, 100% of the byproduct gas generated during production is reused as fuel for reheating slabs, generating power for internal use and supplying power to the public.
### Output

- **Energy supply**: 34.3%
  - Power
  - Fuel gas
  - Steam

- **Steel product**: 28.4 million tonnes (crude steel base)

- **Other products**:
  - Chemicals
  - Oxygen
  - Nitrogen
  - Hydrogen
  - Argon

- **Byproducts**
  - 15.2 million tonnes
    - Slag: 12.2 million tonnes
    - Dust: 2.3 million tonnes
    - Sludge: 600,000 tonnes
    - Other: 100,000 tonnes

### Input

- **Steel**: 54,809 tonnes
- **Energy**
  - Electric power purchased: 28.6 GWh
  - Class A heavy oil: 294.2 kl
  - Kerosene: 46.9 kl
  - Light oil: 208.2 kl
  - Gasoline: 12.2 kl
  - City gas: 482,605 Nm³
  - LPG: 129.6 tonnes
- **Water**: 95,818 tonnes

### Effective use of recovered energy
- 100%

### Effective use of byproducts
- 99.8%

### Byproducts
- 72.3%

### JFE Engineering
- **Supplied by JFE Steel**: 65.7%
- **Supplied to society**: 34.3%

### JFE Engineering (Head Office and Works)
- **Shipments**
  - Marine & land civil engineering materials: 11.0 million tonnes
    - Materials for cement
    - Roadbed materials
    - Port & harbor construction materials
    - Fertilizer

### Recycled products
- NF Board™
- PET flakes
- Palettes
- Recycled resin

### Output and Emissions
- **Products**: 41,963 tonnes
- **Air pollutants**
  - CO₂: 20,321 tonnes
  - NOx: 76 ppm
  - Soot and dust: 0.009 g/Nm³
- **Waste generated**: 1,199.2 tonnes
- **Wastewater**: 156,724 tonnes
- **Others (PRTR)**: 123.9 tonnes
Global Warming Prevention

CO₂ Emissions by JFE Group

JFE’s CO₂ emissions are mainly generated by its steel business. Each operating company, however, sets targets to save energy and further reduce CO₂ emissions.

<table>
<thead>
<tr>
<th>Year</th>
<th>CO₂ Emissions of JFE Group (Million t-CO₂)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>62.1</td>
</tr>
<tr>
<td>2011</td>
<td>61.8</td>
</tr>
<tr>
<td>2012</td>
<td>62.9</td>
</tr>
<tr>
<td>2013</td>
<td>65.0</td>
</tr>
<tr>
<td>2014</td>
<td>64.1</td>
</tr>
</tbody>
</table>

Scope: Data cover 79 companies, including JFE Steel and 31 major domestic and overseas affiliates, 2 companies accounted for by the equity method, JFE Engineering and 11 major domestic affiliates, and JFE Shoji Trade and 32 major domestic and overseas affiliates.

Note: The scope is expanded and corrected retroactively for past fiscal years to ensure uniformity.

CO₂ Emissions, by Operating Company (FY2014)

<table>
<thead>
<tr>
<th>Company</th>
<th>CO₂ Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>JFE Steel</td>
<td>64,021,000t-CO₂</td>
</tr>
<tr>
<td>JFE Engineering</td>
<td>72,000t-CO₂</td>
</tr>
<tr>
<td>JFE Shoji Trade</td>
<td>30,000t-CO₂</td>
</tr>
</tbody>
</table>

99.84% 0.11% 0.05%

Energy Savings and CO₂ Reduction in Steelmaking

JFE Steel strives to save energy and reduce CO₂ in its steelmaking processes, including by carrying out plans set forth by the Japan Iron and Steel Federation.

Initiatives to Save Energy and Reduce CO₂

JFE Steel had been proactively promoting CO₂ reduction and energy savings, including the introduction of energy-saving equipment, before the Japan Iron and Steel Federation introduced its voluntary action plan.

Energy Savings and CO₂ Emissions in FY2014

Energy consumption and CO₂ emissions in steelmaking are greatly influenced by production volume. To accurately assess the effects of improvements due to operational technologies and capital investments, JFE Steel is working to reduce its basic units (energy consumption and CO₂ emissions per unit of production) and related energy-conservation activities.

JFE Steel’s FY2014 crude steel production was 28.44 million tonnes, up 21% from the FY1990 level. Due to the results of ongoing energy-saving activities, however, energy consumption was down 4% and CO₂ emissions were down 3% from FY1990 levels.

The company’s energy consumption per unit for FY2014 was 20% below the FY1990 level at 22.6 GJ/t-steel, while CO₂ emissions per unit were down 19% to 2.00 t-CO₂/t-steel, proving the success of JFE Steel’s energy-conservation activities in recent years, including its capital investments for energy conservation and the development of technologies such as Super-SINTER™ OXY production technology for materials used in steelmaking.

Production of Crude Steel of JFE Steel (Million tonnes/year)

<table>
<thead>
<tr>
<th>Year</th>
<th>Production of Crude Steel of JFE Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>2,350</td>
</tr>
<tr>
<td>2010</td>
<td>2,690</td>
</tr>
<tr>
<td>2011</td>
<td>2,797</td>
</tr>
<tr>
<td>2012</td>
<td>2,667</td>
</tr>
<tr>
<td>2013</td>
<td>2,844</td>
</tr>
<tr>
<td>2014</td>
<td>2,980</td>
</tr>
</tbody>
</table>

21%
Non-energy-derived CO₂ Emissions

Lime and dolomite, which are used as auxiliary materials in blast furnaces and converters, emit CO₂ when broken down. Non-energy-derived CO₂ emissions in FY2014 totaled 1.95 million t-CO₂.

Energy Consumption and Unit Energy Consumption of JFE Steel

Energy-derived CO₂ Emissions and Unit CO₂ Emissions of JFE Steel

Energy consumption: 2010-2013
Unit energy consumption: 2010-2013

Energy consumption: 2010-2013
Unit energy consumption: 2010-2013

CO₂ Reduction in the Value Chain

JFE Steel initiatives to reduce CO₂ emissions include lowering the environmental impact of distribution, providing high-performance steel materials that save energy in final products and international cooperation in energy conservation and environmental technologies.

Energy Saving in Transportation

To reduce the environmental load of transporting steel, JFE Steel is actively shifting its transport modes to ships and rail. The modal shift rate* for FY2014 was 94.6%.

* Percentage of the transportation volume (minimum 500 km) by rail or ship

Reduction in CO₂ Emissions through High-performance Steel Materials

The Japan Iron and Steel Federation, of which JFE Steel is a member, estimates the contribution of high-performance steel materials to the reduction of CO₂ emissions (using provisional calculations by the Institute of Energy Economics, Japan). According to their estimates, major high-performance steel materials (five grades, of which 3.68 million tonnes were used in Japan and 3.84 tonnes were exported, for a total of 7.52 million tonnes) helped to reduce CO₂ emissions by 25.58 million tonnes in FY2013 compared to the FY1990 level.
Initiatives by the Japanese Steel Industry

Low-carbon Society Implementation Plan
The Japan Iron and Steel Federation (JISF) is promoting its Low-Carbon Society Implementation Plan, which focuses on four pillars: “Three Ecos” initiatives and the development of innovative steelmaking processes. The foundation has set targets for reducing CO2 emissions by FY2020 and by FY2030 in Phase 1 and 2, respectively. JFE Steel is actively implementing initiatives to help achieve the plan’s targets.

Assessment of Low-carbon Society Implementation Plan Results
In FY2013, emissions by the Japanese steel industry increased 0.63 million t-CO2 compared with the BAU emissions benchmark. Although certain reductions were achieved as planned by efforts such as improving the efficiency of coke ovens and generation facilities, total emissions increased largely due to changing production structure in response to increased demand for high-performance steel.

Eco-Processes
The Japanese steel industry is continuously striving for improved energy efficiency by taking full advantage of cutting-edge technologies, with the aim of cutting estimated CO2 emissions for respective production volumes (BAU emissions*). Its goals include reducing emissions by 5 million tonnes in FY2020 and 9 million tonnes in FY2030 compared with the BAU benchmark.

Eco-Solutions
The Japanese steel industry is helping to reduce CO2 worldwide, particularly in developing countries, through the transfer and application of world-leading energy-saving Eco-Process technologies. Eco-Solutions are forecast to reduce CO2 emissions by about 70 million tonnes in FY2020 and 80 million tonnes in FY2030.

Eco-Products
The Japanese steel industry also helps to reduce CO2 emissions at the final product stage by providing high-performance steel materials essential to developing low-carbon societies. By FY2020, the use of major high-performance sheet materials is forecast to cut CO2 emissions by approximately 34.0 million tonnes in FY2020 and 42.0 million tonnes in FY2030.

Innovative Steelmaking Process Development (COURSE 50)
The Japanese steel industry intends to achieve a CO2 emissions reduction of about 30% through hydrogen reduction, along with capture, separation and recovery of CO2 from blast furnace gases. The first facility is expected to come online by 2030, followed by other plants by 2050.

Innovative Steelmaking Process Development (Ferro Coke)
The Japanese steel industry intends to develop ferro coke that accelerates and lowers the temperatures of the reduction reaction in a blast furnace as well as its operation process, toward conserving energy and expanding the use of low-rank materials.

* Business As Usual emissions: Estimated level of emissions in the absence of any special measures

Initiatives under the Low-carbon Society Implementation Plan

Ferro-Coke (see page 11)
Ferro-coke is a blast furnace-charging carbonous material dispersed with metallic iron and made by carbonizing briquetted low-grade coal and iron ore. The metallic iron accelerates the reduction reaction rate in the blast furnace, making the reduction of iron oxide possible with less reducing agent, which leads to significantly lower CO2 emissions and improved energy savings. Long-duration production tests using a pilot plant at the Keihin District facilities of JFE Steel’s East Japan Works and demonstration tests using the No. 6 blast furnace at the Chiba District facilities have verified that the process actually lowers the ratios of reducing agents and cokes as projected. Core technologies for the production of ferro-coke have been established in the current pilot stage, with ongoing development targeting eventual practical application.
The objective of COURSE 50 is a 30% reduction of CO₂ emissions from steelworks by developing innovative process technologies that involve hydrogen reduction in iron ore and the separation and recovery of CO₂ from blast furnace gases. As a core participant in this initiative, JFE Steel is collaborating with other companies to develop a technology for accelerating the hydrogen reduction of iron ore. It also is conducting verification tests for the commercial application of CO₂ separation technology at its PSA (Pressure Swing Adsorption) process bench plant in the Fukuyama District.

The technology will be tested in 2016 and 2017 using a test furnace with a capacity of 10 m³, one of the largest in the world. The furnace is currently under construction at the Kimitsu Works of Nippon Steel & Sumitomo Metal Corporation. JFE Steel will participate in this proof of principle study.

Energy-saving Equipment (see page 11)
JFE Steel is actively introducing energy-saving equipment. Super-SINTER®, a breakthrough sintered ore production process, has already been introduced in all districts, and the company is now developing Super-SINTER® OXY, an advanced variation. Related initiatives include energy-conservation investments and coke-oven refreshing at power plants.

Life Cycle Assessment (LCA)
LCA is a method for quantifying and assessing the environmental impact of products over their life cycles, from resource mining and material production to production, use and final disposal. For example, this method shows that we can reduce CO₂ emissions over the life cycle of an automobile by changing materials from common steel to high-tensile steel resulting in lighter weight. Closed-loop recycling is possible for steel materials that are recycled and reused at the end of the life cycles for automobiles, buildings and so on. The Worldsteel* has established a method for calculating CO₂ emissions over the entire life cycle of steel production, excluding the usage phase. Meanwhile, the Japan Iron and Steel Foundation (JISF) is working to establish a world standard for LCI calculation methodology for steel products.

Global Activities to Fight Global Warming
ISO 14404 is an international standard proposed by the Japan Iron and Steel Foundation (JISF) to the International Organization for Standardization as a method for global-uniform calculating CO₂ intensity from iron and steel production to assess the energy efficiency of steel works. The Japanese steel industry is fighting global warming through international public-private collaborations. This includes ISO 14404-based assessment of steelworks in developing countries and recommending specific technologies best suited to respective countries.

JFE Steel is fighting global warming through participation in international activities, such as the Japan-India Public and Private Collaborative Meeting, the Japan-ASEAN Steel Initiative, the GSEP Steel Working Group and the Japan-China Steel Industries Exchange. JFE Steel is also helping to reduce CO₂ emissions through participation in the worldsteel Climate Action Program, which uses ISO 14404 as the standard for measurement and calculation.

* The World Steel Association, or worldsteel, has a membership comprising approximately 170 steel manufacturers and steel-related organizations.
**CO₂ Reduction Initiatives**

JFE Engineering helps customers reduce their CO₂ emissions by providing them with technologies for solar, geothermal and biomass power generation and waste-to-energy technologies such as geothermal air conditioning. To reduce the environmental impact of constructing and operating plants, the R&D, planning and design departments set targets, and 59 of such 64 targets were met in FY2014. The head office, branch offices and works also strive to reduce CO₂ emissions. Activities include introducing energy-saving equipment such as LED lighting, encouraging cool biz practices such as wearing light, comfortable clothing in the summer, and setting official days when employees are encouraged to take paid holidays.

JFE Shoji Trade domestic offices, all of which acquired ISO 14001 certification as of 2000, promote the reduced use of energy and paper, as well as the strict management of waste separation. Energy consumption has been lowered significantly by observing days when employees are encouraged to leave work on time, the installation of pinpoint lighting, turning off lights during lunchtime and the relocation of the Tokyo head office to a more energy-saving building. In FY2014, 1,022 million kWh of energy was consumed, a 50% reduction compared to FY2001.

In addition, the company has introduced video conferencing systems in nearly 60 offices worldwide to reduce printed reference materials and employees’ business trips at home and abroad to further reduce environmental loads.

**Electric Power Consumption by JFE Shoji Trade**

**CO₂ Emissions of JFE Shoji Trade Group**

Notes: The graph shows CO₂ emissions from electric power consumption by 32 companies, including JFE Shoji Trade and domestic and overseas consolidated subsidiaries (steel-processing companies).
Protecting the Environment

Controlling Air Emissions

- **Reducing Sulfur Oxide and Nitrogen Oxide Emissions**
  JFE Steel is increasingly controlling emissions by installing low-NOx burners in reheat furnaces, switching to low-sulfur fuels and deploying desulfurization and denitrification devices in sintering plants, all major sources of SOx or NOx emissions.

- **SOx Emissions**
  ![SOx Emissions Chart]
  - 1973: 36.8
  - 1980: 6.9
  - 2010: 3.5
  - 2011: 3.7
  - 2012: 3.7
  - 2013: 3.8
  - 2014: 3.8

- **NOx Emissions**
  ![NOx Emissions Chart]
  - 1973: 34.6
  - 1980: 13.7
  - 2010: 11.0
  - 2011: 10.8
  - 2012: 11.5
  - 2013: 11.4
  - 2014: 10.3

- **Suppressing Dust Dispersion**
  JFE Steel suppresses dust dispersion through measures including the installation of sprinklers and windbreak fences in raw material yards and enhancement of on-premise cleaning, dust collectors and other dust collection methods.

Efficient Use of Water and Prevention of Contamination

- **Cyclic Use of Water**
  A large amount of water is used during the steelmaking process to cool facilities and process products. JFE Steel, which actively recycles large amounts of water used in its steelmaking processes, achieved the high recycling rate of 93.7% in FY2014.

- **Industrial Water Accepted/Circulated**
  ![Industrial Water Accepted/Circulated Chart]
  - Industrial water accepted: 218, 216, 216, 208, 208
  - Industrial water circulated*: 218, 216, 216, 208, 208
  - Industrial water accepted: 218, 216, 216, 208, 208
  - Industrial water circulated*: 218, 216, 216, 208, 208

* Industrial water circulated (%) = (Total amount − industrial water accepted)/total amount × 100

Note: Data for certain fiscal years have been recalculated retroactively for improved accuracy.
● Preventing Water Pollution
JFE Steel strives to reduce its environmental impact on waterways by thoroughly purifying water used in steelmaking processes before release into public waterways or sewers. Chemical oxygen demand (COD), the water-quality index for wastewater, was 3.0 tonnes per day, the same level as in the previous year.

To prevent the release of unsuitable wastewater in the event of a facility failure, JFE Steel maintains a dual-monitoring system that checks water quality at both manufacturing and water-processing facilities, as well as outlets, to ensure prompt action as required at upstream outlets. The company also conducts drills to prepare for the handling of unsuitable water quality caused by facility failures.

![Changes in Chemical Oxygen Demand (COD)](image)

Note: The Tsurumi Works was connected to the public sewer system in FY2013.

Management of Chemical Substances

JFE Steel also lowers environmental loads by voluntarily reducing the chemical substances it releases. In FY2014, chemical substances released into the atmosphere and public waterways totaled 463 tonnes.

![Release or Transfer of PRTR-registered Substances at JFE Steel](image)

Note: Data for certain fiscal years have been recalculated retroactively for improved accuracy.

Chemical substances at JFE Engineering works are generated primarily from painting steel structures, etc., and welding. The company controls the release or transfer of these substances in accordance with the Law concerning Pollutant Release and Transfer Register (PRTR Law).

![Release and Transfer of PRTR-registered Substances at JFE Engineering](image)

Proper Management of PCB Waste at JFE
Polychlorinated biphenyl (PCB) waste is properly stored and managed at each business office. Treatment of high-concentration PCB waste is carried out in accordance with plans laid down by the Japan Environmental Storage & Safety Corporation (JESCO). The Yokohama Eco Clean Plant and Mizushima Eco-Works of JFE Environmental Service Corporation treat insulating oil contaminated with slight amounts of PCB to reduce this pollutant.

![Proper Management of PCB Waste at JFE](image)
Resource Recycling

Resource-recycling Solutions

The JFE Group engages in recycling businesses as an offshoot of its steelworks recycling technologies, such as the use of plastics in blast furnaces. In the engineering field, its recycling businesses are related closely to local communities, such as the sorting and storage of waste plastics and the conversion of refuse into solid fuel. JFE also contributes to sustainable societies by offering disposal solutions for various types of waste, including materials, chemicals and thermal recycling, aiming to minimize the amount of final disposal.

JFE Group Recycling Businesses

Sendai
- Plastic packaging waste sorting and baling plant
- Plastic material recycling plant
- Fluorescent tube recycling plant
- Recycled pallet manufacturing plant
- RPF manufacturing plant

Toyama
- Rare metal recovery plant for spent catalysts

Kurashiki (Mizushima)
- Waste gasifying and melting furnace
- Waste wood carbonization plant
- Electric-furnace recycling plant

Fukuyama
- Waste plastic recycling plant
- RPF manufacturing plant
- Fukuyama plastic material recycling plant
- Fluorescent tube recycling plant
- Kiln incinerator
- Leachate-controlled landfill
- Liquid waste neutralization plant
- Refuse-derived fuel (RDF) gasifying power generation plant (commissioned operation)

Yokohama
- Kiln-stoker incinerator
- Kiln-ash melting furnace
- Liquid/solid waste intermediate treatment plant
- Solid waste recycling plant
- Fluorescent tube recycling plant
- Plastic packaging waste sorting and baling plant
- Dry cell and battery recycling plant

Kawasaki
- Waste plastic recycling plants (Ogishima & Mizue)
- Waste PET bottle recycling plant
- Can and PET bottle sorting and baling plant
- Kiln-stoker incinerator
- Solid waste recycling plant
- NF Board™ manufacturing plant
- Consumer/office appliance recycling plant

Examples of Recycling and Processing (FY2014)

<table>
<thead>
<tr>
<th>Content</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Containers and packaging plastic bought at auction</td>
<td>100,000 tonnes</td>
</tr>
<tr>
<td>Waste plastic reused in steelmaking process</td>
<td>120,000 tonnes</td>
</tr>
<tr>
<td>Used fluorescent tubes processed</td>
<td>20 million tubes</td>
</tr>
<tr>
<td>Used consumer appliances processed</td>
<td>50,000 units</td>
</tr>
</tbody>
</table>

Boards Made with Recycled Plastic

JFE recycles plastic containers and packaging which is collected from households as recyclable waste. NF Board™ is recognized for its excellent durability, high workability and usability equivalent to virgin material. It has many uses, including the inner walls of livestock barns, large bulletin boards, steel product (coil) protection boards and concrete forming molds. NF Board™ was accredited by Kawasaki City as a Low CO₂ Kawasaki Brand ‘09 product.
Resource Recycling

Each operating company of JFE carries out resource recycling suited to its particular business, such as recycling byproducts from manufacturing processes, reducing waste at construction sites and promoting the 3Rs in offices. JFE continues to seek increasingly efficient resource uses in both the production and product/service phases of its businesses, including the recycling of steel scrap, biomass fuel production and waste-to-energy initiatives.

Reducing and Reusing Byproducts

JFE Steel controls the occurrence and emission of iron and steelmaking slag (steelmaking byproduct), iron dust from blast furnaces and converters, sludge from water treatment facilities and other byproducts. Dust and sludge with high iron content are recycled as raw materials for steelmaking. All iron and steelmaking slag is recycled for reuse in cement and other construction materials, and potential uses as an environmental remediation material are being examined. As a result of such efforts, JFE achieved a 99.8% recycling rate for slag, dust and sludge in FY2014.

Generation of Byproducts and Recycling Rates

![Graph showing generation of byproducts and recycling rates]

Efficient Use of Byproducts (Example)

One-tonne Marine Rocks™ are made by mixing steel slag and blast furnace slag powder and then solidifying the mixture through hydration reaction. Shaped like natural rocks and performing as well as concrete construction material, Marine Rocks™ are recycled products with a low environmental load. In large quantities, they can be used to construct harbor seawalls, etc.

Recycling

Each department of JFE Engineering establishes recycling rate targets and encourages recycling. The construction department, which separates waste at construction sites and employs disposal companies with high recycling rates, had a recycling rate for industrial waste of 99.4% in FY2014.

Office departments work to improve their recycling rates by displaying easy-to-understand rules for waste separation, supported by recycling patrols in each work and branch office.

The city of Yokohama has recognized the Yokohama head office (former Tsurumi Works) as a Workplace with Excellent 3R Activities for three consecutive years beginning in FY2012 to recognize its waste reduction, reuse and recycling activities.

Each office of JFE Shoji Trade reduces and recycles waste including by strictly separating paper for recycling. The company’s recycling business handles steel and aluminum scrap, with steel scrap exported to Asian countries for off-shore trading. While steel scrap exported from Japan is mainly transported by bulk carrier, a container loading system introduced by JFE Shoji Trade enables timely shipments of small-lot cargo, which is supporting the development of recycling societies across Asia.
Eco-friendly Products and Technologies

● Hot Metal Desulfurization Technology
In response to the increasing demand for the sulfur concentration in steel materials to be lowered, JFE has developed a lime-injection method and a slag hot-recycling method for hot metal desulfurization. Both technologies improve the efficiency of reaction between the lime-based desulfurization agent and sulfur in hot metal, thereby helping to reduce the desulfurization agent, desulfurization slag and iron-making energy consumption.

● LP Steel Plate™
Forces acting on ships and bridges vary depending on where the forces are applied. For example, water pressure on a ship decreases from the bottom of the hull toward the top, so plates used for the upper portions of transverse bulkheads can be thinner. LP Steel Plates™ offer longitudinally varied thicknesses to reduce the weights of ships and bridges, and thereby their environmental burdens and production costs. In recognition of its high-quality, high-efficiency production technology and widespread use, LP Steel Plate™ was awarded the 44th (2012) Ichimura Industrial Award Contribution Prize and accredited as a Low CO₂ Kawasaki Brand ‘14 by the city of Kawasaki.

● High Tensile-strength Steel Plates (UNI-HITEN™)
High tensile strength steel sheets are being increasingly used for automotive panel parts. UNI-HITEN™ has a tensile strength of 440 megapascals, significantly higher than the 340-megapascal rating of conventional automotive panels. It also offers better resistance against permanent deformation and excellent appearance. Increased strength reduces steel volume used in the production stage and lowers car weight for improved fuel efficiency in the final-use stage. The product was awarded the 2014 Otani Art Museum Prize for its outstanding quality.

● JNP™ Series Electrical Steel Sheet
Hybrid vehicles and electric vehicles directly contribute to the reduction of CO₂ emissions. JNP™ Series non-oriented electrical steel sheet is used for electric motors that drive these vehicles, contributing to their increased power and improved efficiency. JNP™ was awarded the 2011 Technological Development Prize from The Japan Institute of Metals.
• **Verification of Thermoelectric Generation Technology using Waste Heat**
Thermoelectric generation from heat using the Seebeck effect converts the temperature difference between different metals or semiconductors into electric voltage. This is a clean generation of power free of CO₂ emissions. As a means for effectively utilizing untapped waste heat at ironworks, JFE used a thermoelectric generation system for the continuous cast equipment of its East Japan Works (Keihin District) in March 2013. In a verification test, JFE became the world’s first company to achieve 10 kW-level power generation using heat radiated from slab (steel ingots).

![Diagram of Thermoelectric Generation System]

• **Recovered Biodiversity along Yamashita Park Shore**
In a joint research project* with the city of Yokohama using steel slag products (Marine Blocks™, Marine Rocks™ and Marine Stones™) JFE Steel confirmed an increased number of living species, including eelgrass (seaweed), in the sea bordering Yamashita Park. JFE Steel’s slag products provided sea organisms with a base for nurture and growth, thereby improving the marine ecosystem.

![Imagery of Yamashita Park and Sea Life]

* Implemented to improve marine ecosystems for the natural cleansing of sea beds and seawater

• **Constructing Photovoltaic Power Plants across Japan**
The introduction of a renewable energy feed-in tariff program in Japan has accelerated the spread of photovoltaic power generation throughout the nation. JFE had received about 100 EPC (engineering, procurement and construction) orders totaling more than 480 MW by the end of FY2014, in addition to conducting power generation on its own at eight places, which amounted to 40 MW. The photo shows a photovoltaic power plant with installed capacity of 26 MW. The plant, constructed on a former golf course, started operating in March 2015.

![Photovoltaic Power Plant]

• **Supporting Disaster Waste Disposal**
JFE Engineering has been working on the reconstruction of areas affected by the Great East Japan Earthquake since its immediate aftermath in 2011. We are now incinerating and reducing the volume of disaster waste in four areas of Fukushima Prefecture.

![Image of Fukushima Waste Treatment Plant]

Project: Waste treatment (reduction) in Minami Soma, commissioned by Fukushima Office for Environmental Restoration, Tohoku Regional Environmental Office, and Ministry of the Environment
● Eco Paint Peeling Method
JFE Engineering is supporting the upgrade of infrastructure with a repainting method that enhances work efficiency and reduces environmental impact. Eco Paint Peeling (EPP) is an innovative paint removal method that uses a film-stripping agent that is simply applied to a surface to quickly delaminate the paint. The method, safe and environmentally friendly, uses a single-component water-based peeling agent that does not contain thinners or other organic solvents. The peeling process does not damage the underlying metal structure and can be completed within 6 to 24 hours after application, thus raising efficiency and lowering work time.

● Large-scale Biomass Energy Complex
A biomass energy complex under construction in Toyohashi will be used to collect sewage sludge, excretion (septic tank sludge) and garbage for methane fermentation to produce biogas for power generation. This first such project in Japan will achieve highly effective use of waste energy to reduce needs for facility construction, maintenance and administrative expenditures. The plant will also process residue methane fermentation to extract all possible energy from the biomass resources.

● Biomass Fuels
Power generation using biotic resources (biomass fuel) as a carbon-neutral renewable energy is an effective use of resources. The introduction of a renewable energy feed-in tariff program in Japan in July 2012 has boosted the demand for biomass fuels for power generation. JFE Shoji Trade has been investigating the possibility of using palm kernel shells (PKS), a residual product of palm oil extraction, as biomass fuel. In 2010, it became the first Japanese trading company to establish a cargo yard for PKS, paving the way for a commercial project. In October 2013, JFE Shoji Trade established a company in Malaysia to operate the cargo yard and increased the supply of PKS. The company is also working to assure PKS quality management, including the stabilization of moisture content by improving storage facilities and the removal of foreign substances using shifters and magnetic separators. In response to rising demand, the company will help ensure stable supplies by providing technical advice on establishing partnership yards in Malaysia and Indonesia.
Environmental Communication

Promoting Environment-related Communication
The JFE Group gives utmost priority to communication with all stakeholders, including in matters relating to the environment.

Disclosing Environmental Data of Operational Sites
The East Japan Works of JFE Steel discloses real-time environmental data on air and water quality. Visitors can review this information in the first-floor lobby of the Visitor Center in the Chiba District, and in the Amenity Hall and first-floor lobby of the Keihin Building in the Keihin District.

Disclosure and Exchange of Information

- Ecobeing Environmental Website
  JFE cooperates with the “ecobeing” environmental website, which is intended to broaden awareness of eco-activities. In FY2014 the website focused on the theme “Redesigning Tokyo” and other topics concerning the future of cities. In FY2015, the site will take up forest development in Japan under the theme “Thinking About Forests.”

- “Midori no Komichi” Environmental Diary
  The JFE Group sponsors the “Midori no Komichi” (Green Trail) environmental diary project hosted by Green Cross Japan with the hope that children will become more aware of environmental issues by keeping a diary of their activities and thoughts, with ecology as a theme.

- “Kikkories” Volunteer Group
  “The Forest of Beauties” is a grove of beech trees in Tokamachi, Niigata Prefecture that is about 90 years old. When local residents launched a project to preserve the beauty of this cherished grove, staffers at JFE Engineering’s office in the city established the “Kikkories” volunteer group to help fund preservation activities by selling woodwork products that they had created.

- Firefly Watching Event in Educational Environmental Zone
  The Chita Works contributes to the preservation of biodiversity by maintaining an educational environmental zone on its premises that includes a stream and biotope. As part of this initiative, An Evening with Fireflies event was held in June 2015 to share the preserved ecosystem with local residents. During the two-day event, the second of its kind, about 240 people enjoyed a romantic evening watching the emergence of fireflies that had been released by local children in the spring. Through the events, participants have come to appreciate that the Chita Works maintains grounds that are clean enough to support fireflies, which require pristine habitats.
Contributing to Society’s Development

JFE Group CSR Report 2015
Customers and Clients

JFE Standards of Business Conduct (excerpt)

1. Provide quality products and services
   Earn the trust and high evaluation of customers by endeavoring to provide safe, high-quality products and services based on superior technology, and by fully respecting and protecting the privacy of personal and customer information.

JFE Group’s Quality Initiatives

The JFE Group manages quality by ensuring compliance with quality standards set by each operating company. All manufacturing sites that require ISO 9001 certification of their quality management have been duly certified.

Quality Assurance System of Each Operating Company

JFE Steel has acquired ISO 9001 and all other quality assurance certifications required for steel products, including the JIS mark and approvals from ship classification bodies. In response to globalization needs and customer demand, the company has established a system to receive certification under national standards specific to countries where the company has business.

JFE Steel is developing advanced manufacturing technologies to meet customer needs for more sophisticated specifications and higher quality, and it also deploys cutting-edge sensors and testing equipment to provide quality assurance. The company will continue strengthening its quality assurance structures to provide products that all customers can use with confidence, and thereby enhance trust in the JFE brand.

JFE Engineering has developed a system for quality management, including quality assurance spanning all work processes. Also, FAQ manuals covering product features are provided to customers to help meet their rigorous demands for quality.

T JFE Shoji Trade places great emphasis on customer satisfaction, including through quality management and assurance. Preventing human error in manual procedures is a key priority at processing centers in Japan and abroad, as demonstrated by the following measures:

- Barcode collation for entire processes to ensure accurate identification throughout in-factory distribution;
- Automatic collation through radio transmission of value measurements during processing.

Such measures have also facilitated the creation of useful databases for quality control.

Responsible Export Practices

JFE Steel promotes international peace and security by working against the spread of weapons of mass destruction and excess accumulation of conventional weapons. The company carries out inspections to confirm the final destinations, customers and applications of its exported products, and ensures that export procedures are carried out properly. In addition, its Legal Affairs Department conducts internal briefings to disseminate knowledge of export-related laws and regulations, such as the Foreign Exchange and Foreign Trade Act.

JFE Shoji Trade also ensures compliance in its export activities through education related to export security controls and other measures targeting business units involved in trading.
Evolution of Operational Systems
JFE Steel is continuing to refine and develop its J-Smile system, which is designed to strengthen information management and operational systems for enhanced usage of corporate resources and increased customer satisfaction. J-Smile has strengthened the company’s response to customer needs in areas such as lead-time, delivery dates, quality assurance and product development. Also, existing systems at steelworks have been upgraded for effective operational control and management.

Also, JFE Steel has launched an order tracking and inventory system, Smile Port, to provide customers with timely information on inventory and shipping status. The system offers easy Internet access to information, which has led to strengthened relationships with customers.

Collaboration with Customers on Product Development
JFE Steel has facilities for conducting research and development with customers. These include the Customers’ Solutions Lab (CSL) for auto industry customers and the Steel Structural Materials Solutions Center (THiNK SMART) for customers involved with infrastructure. In October 2014, the company opened its Customer Center Fukuyama (CCF) in the Fukuyama District of its West Japan Works. The facilities are equipped for widely varying research and experimentation, plus conference rooms and space for exhibiting research results. Under this framework, a number of successes have been achieved in helping customers to resolve technological issues through testing and discussion.

Unified Customer Care
JFE Steel regularly conducts customer questionnaires and interviews to draft strategies for greater customer satisfaction. Business strategies are communicated effectively to sales departments, centers, business planning departments, steelworks and research laboratories to facilitate unified customer care and proposals that leverage the collective strengths of the JFE Group.

Sales Personnel Who Excel in Customer Relations
The Sales Department holds training sessions for sales managers from headquarters, branch offices and foreign offices to discuss how best to work with customers and create better relationships with them. The meetings focus on how to overcome challenges and reach resolutions, including best practices for enhanced customer relationships. The participants are expected to apply such ideas when considering how to strengthen the capabilities of their respective sales offices. To enhance customer-response capabilities, JFE Steel conducts training courses to foster technical discussions with customers and to strengthen feedback on product development, the development of proposals for improving logistics and distribution, and analysis of financial indicators and costs.

Company Assessments Based on Customer Evaluations
JFE Engineering uses customer surveys, interviews and construction evaluation forms to assess the company’s construction management, product quality, advanced technologies and innovation. Each division analyzes this information and uses it for quality improvements, new product development and overall strengthening of after-sales service, ultimately for maximized customer satisfaction.
Meeting Customer Needs
JFE Shoji Trade, aiming to fully satisfy customer needs, is accumulating expertise and knowledge about steel products in specific industries. To do this, the company is creating an automotive steel headquarters, integrating its steel bar and wire rod businesses, and providing finely tuned services. In addition, the company is building an IT system to facilitate more timely responses to input from global customers.

Fair Competition and Trade
Compliant purchasing and procurement activities are critical to becoming a good business partner and developing understanding and trust with suppliers. Each JFE operating company clearly defines its purchasing and procurement policies and discloses them to suppliers to encourage them to maintain the same high standards.

Basic Philosophy on Procurement
JFE Steel upholds its Basic Policy on Procurement to conduct purchasing activities with fairness and sincerity, and on the basis of understanding and trust as a good business partner for all suppliers.

Supplier Support for CSR
JFE Steel requests suppliers to cooperate with the company’s efforts to prioritize environmental protection, safety, disaster prevention, compliance and other matters that fundamentally impact the business. Ultimately, JFE Steel believes such efforts increase stakeholder satisfaction and lead to strengthened corporate value.

Win-win Relationships with Customers
JFE Steel establishes win-win relationships with clients by leveraging their knowhow and ideas for improving materials, design, shapes, specifications and production methods. The company carries out value-analysis activities that allow clients to propose how to reduce costs, improve the functions of materials, and upgrade quality, safety and work efficiency. The company then strives to implement such ideas wherever possible.

Fair and Sincere Procurement
JFE Engineering’s planning, design, procurement and construction businesses are fully accountable. Procurements are a key factor in ensuring safe, high-quality products and services for customers. JFE Engineering conducts fair and honest procurements by cultivating relationships of trust with suppliers based on the following:
1. Fair opportunities
2. Fair assessment of quality and pricing
3. Legal compliance

Ensuring a Safe, Fair Supply Global Chain
JFE Shoji Trade carries out responsible procurements throughout its global supply chain. This includes working in concert with suppliers for strengthened procurement initiatives that enable the company to respond to customers’ growing demands for responsible procurements. JFE Shoji Trade releases data on the environmental impact of each customer in its supply chain and provides information on substances used in the products it sells.

JFE Steel’s Requests to Suppliers Regarding CSR Initiatives
1. Develop a system for promoting CSR
2. Comply with laws, regulations and social norms, and information management
3. Observe human rights and occupational health and safety
4. Respect the global environment
5. Provide safe and competitive products and services

Purchasing and Procurement Policies (Japanese only)
www.jfe-steel.co.jp/company/purchase_policy

Web
Shareholders and Investors

Returns to Shareholders

JFE Holdings makes return on shareholder investment one of its top business priorities. Profits are basically returned in the form of dividends. The actual payout ratio for FY2012–FY2014 was 25.1%, which was higher than the 25% ratio (consolidated) envisioned in the Fourth Medium-term Business Plan.

The company intends to raise the payout ratio to 25%–30% under its Fifth Medium-term Business Plan based on improved financial standing, revenue and cash flow resulting from investments in the Group’s growth to strengthen the domestic revenue base and increase income from overseas businesses.

Proactive Information Disclosure

JFE actively communicates with investors by holding investors’ meetings when announcing financial results, medium-term business plans or other important information. The president explains the announced results and answers questions, as well as provides small-group briefing sessions and conducts individual interviews with institutional investors and securities analysts. In addition, managers regularly visit investors in Japan and overseas, including institutional investors in North America and Europe.

For individual investors, briefings are held at the branch offices of securities firms around Japan. The company also distributes e-mails regarding IR information. Important press releases and Notices of Calling are provided in English for overseas investors.

JFE Holdings strives for fair disclosure based on established internal policy.

Enhancing Communication with Shareholders

JFE Holdings created the Investor Relations and Corporate Communications Department in April 2015 to facilitate more interactive communication with diverse stakeholders. The company holds constructive dialogues with shareholders and feeds useful information from these encounters back to management.

Viewing its general meetings of shareholders as a chance for dialogue with shareholders, the company sends invitations at the earliest possible date in an effort to maximize attendance and avoids days on which the shareholder meetings of other companies are concentrated. For shareholders who cannot attend, the company allows online voting in addition to providing the normal proxy form. This year, invitations were also posted on the company website at the earliest possible date.

Plant tours and company briefing sessions are held to improve shareholders’ understanding of JFE. In FY2014, workplaces in six districts at JFE Steel, JFE Engineering and Japan Marine United held 24 such events for about 2,000 shareholders. In FY2015, these activities will be expanded to include Japan Marine United Maizuru Shipyard to attract even more shareholders, including those in the Kansai region of central Japan.

### Major IR Activities in FY2013

<table>
<thead>
<tr>
<th>Activity</th>
<th>Total Audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual interviews with institutional investors and securities analysts</td>
<td>Approx. 500</td>
</tr>
<tr>
<td>Briefings for private investors at securities firms</td>
<td>1,805 in 20 briefings</td>
</tr>
</tbody>
</table>

Information for Shareholders and Investors

Japanese:  [www.jfe-holdings.co.jp/investor](http://www.jfe-holdings.co.jp/investor)

Local Communities

**JFE Standards of Business Conduct (excerpt)**

3. Work cooperatively with communities
   Actively contribute to communities as a good corporate citizen by working together in a spirit of cooperation.

**JFE 21st Century Foundation**

Founded in 1990, the JFE 21st Century Foundation is steadily expanding operations in fulfillment of its mission to promote common good as a nonprofit organization.

**Support for Technology Research**

The foundation has supported technology research at universities since FY1991. In FY2014, it fielded 167 grant requests and provided a total of 50 million yen in the form of two-million-yen grants to 13 projects involving iron and steel technologies and 12 projects concerning environmental technologies, including global warming countermeasures.

**Support for Asian History Studies**

The foundation began awarding grants in support of Asian history studies at Japanese universities in FY2005. During FY2014, 65 applications were received and 10 grants worth 1.5 million yen each, or 15.0 million yen in total, were awarded.

<table>
<thead>
<tr>
<th>Grant Field</th>
<th>Number</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology Research</td>
<td>505</td>
<td>1,017.8 million yen</td>
</tr>
<tr>
<td>Asian History Studies</td>
<td>80</td>
<td>120.0 million yen</td>
</tr>
</tbody>
</table>

**Support for Host Communities of Steelmaking Facilities**

Since FY1991, the foundation has been sponsoring JFE 21st Century Foundation prizes for contests in the writing of essays and poems, including tanka and haiku poetry. The contests are conducted by the Japan Overseas Educational Services for Japanese elementary and middle school students attending schools overseas. Copies of Chikyu ni Manabu (Learn from the Earth) Vol. 35, a collection of the winning entries in FY2014, were presented to 466 elementary schools, 215 middle schools, 84 public libraries and 10 education committees.

**Events in FY2014 (Location)**

- Jo Chihun Cup Go Competition (Chiba)
- Chiba Prefectural Youth Go Competition (Funabashi)
- International Music Day Concert and Chiba Citizens’ Music Festival (Chiba)
- MUZA Lunch & Night Concert (Kawasaki)
- Community Festival (Kawasaki)
- How Far Does a Dragonfly Fly? Forum (Kawasaki)
- Handa Community Industrial Festival (Handa)
- Mie Prefecture High Schools’ Robot Tournament (Tsu)
- Kurashiki Music Festival (Kurashiki)
- Kurashiki Shogi Tournament (Kurashiki)
- Fukuyama Rose Festival (Fukuyama)
- The World of Matsuri (Fukuyama)
- Educational support (Ghana)
Local Contribution Activities

● Host Communities
Every year JFE opens up its manufacturing facilities to residents in local host communities for demonstrations, tours and other events. In addition, on-site recreational facilities are made available for community sports activities such as soccer, baseball, volleyball, basketball and other JFE-sponsored events. Coaching sessions are offered by company baseball and track teams, which compete in Japan’s top-level corporate leagues. Such activities promote sports and health, as well as stronger relationships with host communities.

● On-site Events in FY2014

<table>
<thead>
<tr>
<th>Region</th>
<th>Event</th>
<th>Date</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Japan Works, Chiba</td>
<td>JFE Chiba Festival</td>
<td>October 26</td>
<td>40,000</td>
</tr>
<tr>
<td>East Japan Works, Keihin</td>
<td>Keihin Community Festival</td>
<td>May 25</td>
<td>45,000</td>
</tr>
<tr>
<td>West Japan Works, Kurashiki</td>
<td>JFE West Japan Festival in Kurashiki</td>
<td>November 3</td>
<td>70,000</td>
</tr>
<tr>
<td>West Japan Works, Fukuyama</td>
<td>JFE West Japan Festival in Fukuyama</td>
<td>May 11</td>
<td>70,000</td>
</tr>
<tr>
<td>Chita Works</td>
<td>Handa Community Industrial Festival</td>
<td>November 8</td>
<td>20,000</td>
</tr>
<tr>
<td>Tsu Works</td>
<td>Tsu Autumn Festival</td>
<td>October 25</td>
<td>70,000</td>
</tr>
</tbody>
</table>

Education at Elementary Schools
The East Japan Works of JFE Steel conducts plant tours and classes for students at nearby elementary schools. Additionally, company employees visit schools to explain steelmaking processes, steelworks features, environmental initiatives and other topics to deepen understanding of the steel industry. In the current fiscal year, the plants are reaching out to more elementary schools and developing programs for specific interests.

In FY2014, classes have also been organized during summer vacation. The program has been further augmented with presentations on the history of steel and the industry’s place in the world.

● Manufacturing Classroom
The Chita Works of JFE Steel organizes classes on making accessories out of cast parts, which it couples with plant tours to allow local children to experience the fascination and excitement of manufacturing. The activity, launched in FY2003 in collaboration with the local board of education, has expanded to include classes at local elementary schools and community centers. About 7,100 residents have participated to date. Since FY2014, classes have also been organized during summer vacation. The program has been further augmented with presentations on the history of steel and the industry’s place in the world.
Support for External Organizations

● **UN World Food Programme**
The Japan Association for the UN World Food Programme is an NPO-accredited supporter of the UN World Food Programme (WFP), an organization that is focused on eliminating hunger and poverty. The association conducts activities to expand the circle of WFP support in Japan, including by collecting donations. JFE supports these activities.

● **Training Foreign Medical Professionals**
Toranomon Hospital in Tokyo, with assistance from private corporations including JFE, manages the Japanese Council for Medical Training to provide training opportunities for foreign doctors. The program invites doctors from developing countries, primarily in Asia, to study in Japan and then return home to promote enhanced medical standards. It also fosters stronger relationships between Japan and these countries.

● **Japanese Foundation for Cancer Research**
Since its establishment in 1908, the Japanese Foundation for Cancer Research has upheld its basic philosophy of contributing to the improvement of human welfare by overcoming cancer. The foundation, which JFE supports, has played a leading role in research and treatment, as well as human resource development in Japan.

Support for Youth Development

● **Japanese Language Speech Contest**
The All-China Japanese Speech Contest for students in China has been held since 2006 to further Japan-China relations through language and communication. JFE supports the contest as a way to promote stronger international exchange.

● **High School Essay Contest**
The Japan Science & Engineering Challenge (JSEC) is a national science-paper contest for high school and technical college students. The contest was launched in 2003 under the sponsorship of the Asahi Shimbun newspaper. JFE Steel, which in 2006 began providing support to help nurture future scientists and engineers, continues to work with the JSEC to raise the standards of science and technology in Japan.

● **FY2014 Internship Achievements**
JFE hosted 190 student interns from across Japan in FY2014. JFE Engineering also received 36 students, including interns from overseas, to help them gain practical experience at company workplaces, such as design and construction sites, for periods of two to six weeks.

● **Supporting Elementary Schools in Ghana and Nigeria**
Since FY2011, JFE Shoji Trade and its subsidiary Kawasho Foods Corporation have supported elementary schools in the West African countries of Ghana and Nigeria. In FY2014, 830 sets of desks and chairs, 28,000 notebooks and 12,500 cans of food were donated. Going forward, JFE will continue to support educational development in these nations.
Employees

JFE Standards of Business Conduct (excerpt)

8. Respect human rights
Respect all employees and members of the public as individuals and refrain from any discrimination in corporate activities.

9. Provide rewarding work environments
Provide employees with attractive, safe and rewarding work environments.

Respecting Human Rights

JFE, viewing respect for human rights as both a corporate social responsibility and a foundation of its business, works to raise awareness of human rights among all employees. Specific examples include appointment of employees to oversee human rights education at each JFE company, implementation of human rights training courses, guaranteed employment opportunities and promotion of fair human resource management.

Harassment of a sexual or power nature, or on any other basis, is prevented through measures including company regulations, training, workplace posters and hotlines staffed by men and women at each business location. During the annual Human Rights Week, leaflets with messages from senior management are distributed and employees are encouraged to submit slogans.

Securing and Developing Human Resources

In response to the massive generational change due to baby boomer retirements, JFE is placing a strong emphasis on securing and nurturing outstanding personnel.
Workforce Diversity

JFE, as part of its emphasis on workforce diversity, has developed strategies to maximize the individual potential of employees coming from varied lifestyles and family backgrounds. JFE participates in the Action Plans to Advance Women’s Activities of the Japan Business Federation, which includes disclosing on the federation’s website the company’s voluntary action plan for promoting women to senior positions.

Now that JFE Steel is hiring more women and foreign nationals, a dedicated team is recruiting women for technical career-track positions and assigning them to production and research departments. Over 100 female employees are currently in on-site positions at steelworks. To support career development for female and foreign national employees, the company holds training sessions to improve their skills in communicating with supervisors and senior employees. Also, meetings are organized to enable female employees to exchange opinions. In addition, group training is held at the Tokyo head office for international personnel hired overseas, the goal being to further cultivate a sense of unity among employees who transcend national borders and cultural backgrounds.

JFE Engineering operates a wide range of businesses, so the company seeks to create a workforce representing varied cultural backgrounds and values. Diverse individuals are being hired, such as people from other business sectors and foreign nationals. The head office regularly provides training to about 100 regional employees of overseas subsidiaries to cultivate mutual understanding and transcend differences in culture and customs. The personnel system was revised in 2013 to abolish employee rankings based on operational tasks, thereby broadening career paths for females. In January 2015, the company set up the Diversity Promotion Office, one of many actions the company would like to take to foster more diverse human resources.

JFE Shoji Trade is diversifying its workforce by hiring more women for career-track positions and foreign nationals and individuals with experience in other business sectors. It is expanding opportunities for females by promoting them to management positions and introducing a system to enable them to convert from clerical to career-track positions. Also, clerical job categories are being expanded and training programs are being enhanced for women in these positions. Management training in Japan is provided for employees hired overseas to promote global human resource development. In April 2015, the Diversity Promotion Office and Diversity Promotion Project Team were set up to develop a more broadly based workforce.

<table>
<thead>
<tr>
<th>Employee Data (consolidated)</th>
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</thead>
<tbody>
<tr>
<td>Category</td>
</tr>
<tr>
<td>Employees*</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Management positions*</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
</tbody>
</table>

Scope: consolidated subsidiaries (JFE Steel: 162; JFE Engineering: 59, JFE Shoji Trade: 107)

<table>
<thead>
<tr>
<th>Employee Data (nonconsolidated)</th>
</tr>
</thead>
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<tr>
<td>Category</td>
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<tr>
<td>Male</td>
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<td>Female</td>
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<tr>
<td>Management positions*</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Ratio of women in management positions (%)</td>
</tr>
<tr>
<td>Recruits*</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>New graduates</td>
</tr>
<tr>
<td>Mid-career</td>
</tr>
<tr>
<td>Years employed</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Job turnover rate (%)</td>
</tr>
<tr>
<td>Retired employees*</td>
</tr>
<tr>
<td>Average annual leave taken (days per year)</td>
</tr>
<tr>
<td>Average overtime (hours per month)</td>
</tr>
<tr>
<td>Employees working shorter hours for childcare* (aggregated)</td>
</tr>
</tbody>
</table>

* As of March 31, 2015. Other figures are as of FY2014.

Employment of Persons with Disabilities

JFE has established three special subsidiaries — JFE Apple East Corporation, JFE Apple West Corporation and Mie Data Craft Co., Ltd. — to promote the employment of persons with disabilities and create enjoyable workplace environments for them. JFE Engineering has been striving to hire more persons with disabilities after the ratio of such employees fell temporarily due to an increase in its total workforce.
JFE Shoji Trade conducts training and other activities by position level to inform employees about company programs for work-life balance. To reduce extended working hours, the company is raising awareness of the need for operational efficiency through measures such as designating Wednesday as a day to leave work at the official closing time and conducting the J-SLIM program to implement operational reforms.

Reemploying Retirees
JFE has established a system for employees to work until the age of 65, largely to ensure that the skills and experience of veteran employees are handed down.

JFE Steel created a Senior Expert Program to rehire employees who wish to continue working after mandatory retirement at age 60.

JFE Engineering established a wholly owned subsidiary, JFE Career Navi, to facilitate the continued careers of retirees.

For enhanced work-life balance, employees of JFE Shoji Trade may choose from a variety of working arrangements, including full-time, shortened work weeks or shortened working hours.

Work-life Balance
JFE, in addition to complying with regulations such as the Child Care and Family Care Leave Act and the Act for Measures to Support the Development of the Next Generation, significantly exceeds statutory requirements with enhanced holiday and leave programs. To address any possible concerns about long working hours, JFE monitors overtime work and implements necessary adjustments through its CSR Council and other organizational entities.

JFE Steel carefully explains the needs and purposes of work-life balance through internal publications produced separately for managers and other employees. Management and labor jointly review progress in promoting work-life balance, such as the number of holidays and leaves taken by employees.

JFE Engineering encourages employees to take at least 15 days of paid leave each year by designating every Friday between July 15 and September 15 as days to take paid leave.

---

### Employment of Persons with Disabilities (as of June 1 each year) (%)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>JFE Steel</td>
<td>1.95</td>
<td>2.02</td>
<td>2.06</td>
<td>2.16</td>
<td>2.25</td>
</tr>
<tr>
<td>JFE Engineering</td>
<td>1.86</td>
<td>1.88</td>
<td>1.90</td>
<td>1.84</td>
<td>2.00</td>
</tr>
<tr>
<td>JFE Shoji Trade</td>
<td>1.71</td>
<td>1.86</td>
<td>1.90</td>
<td>2.30</td>
<td>2.25</td>
</tr>
</tbody>
</table>

Note: Data for past years have been recalculated retroactively for improved accuracy.

### Applicants for Childcare and Nursing Leave (persons)

<table>
<thead>
<tr>
<th>Category</th>
<th>Company</th>
<th>FY2012</th>
<th>FY2013</th>
<th>FY2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Childcare leave</td>
<td>JFE Steel</td>
<td>20 (1)</td>
<td>23 (1)</td>
<td>27 (5)</td>
</tr>
<tr>
<td></td>
<td>JFE Engineering</td>
<td>27 (1)</td>
<td>21 (2)</td>
<td>22 (5)</td>
</tr>
<tr>
<td>Nursing leave</td>
<td>JFE Steel</td>
<td>5 (2)</td>
<td>5 (1)</td>
<td>8 (2)</td>
</tr>
<tr>
<td></td>
<td>JFE Engineering</td>
<td>5 (1)</td>
<td>2 (2)</td>
<td>1 (1)</td>
</tr>
</tbody>
</table>

Note: Figures in parentheses are males.

### Examples of JFE Programs for Work-life Balance

<table>
<thead>
<tr>
<th>Category</th>
<th>Statutory Requirement</th>
<th>Company</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Childcare when spouse gives birth</td>
<td>Not stipulated</td>
<td>JFE Steel</td>
<td>5 days of paid leave</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JFE Engineering</td>
<td>2 days of paid leave</td>
</tr>
<tr>
<td>Nursing leave period</td>
<td>Maximum 93 days per person</td>
<td>JFE Shoji Trade</td>
<td>Reemployment of those who left for childbirth, childcare, nursing care or spousal relocation</td>
</tr>
<tr>
<td>Shortened working hours</td>
<td>Maximum 93 days per person</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maximum total of 2.5 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maximum total of 2.5 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maximum total of 1 year</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Employee Health and Safety

Providing for the safety and health of employees is a basic requirement of companies, particularly manufacturers, and is fundamental to the continued existence of any company. JFE, which adheres to the philosophy of “safety first,” works to consistently maintain safe working environments and secure workplaces for all employees.

Disaster Prevention

JFE Steel conducts annual drills for large-scale earthquakes or tsunamis. Based on the results of these drills, disaster preparedness is being strengthened with increased options for emergency communication, supported by system backup mechanisms and contact bases at the time of an earthquake, to help maintain command and control of critical facilities and functions. JFE Steel is also stepping up efforts to make equipment and people alike more disaster resilient.

Health Management

JFE initiatives to maintain and enhance the health of its employees are supported by occupational health and safety staff members to ensure that all employees perform at top capacity by maintaining healthy minds and bodies.
Key Initiatives
- Regular physical examinations
- Physical examination follow-up (counseling and adjustments in assignments, as required)
- Treatment and follow-up by partner hospitals and their networks
- Enhanced mental healthcare (counseling services, education for managers, care for those in need, etc.)

JFE Steel Initiatives (besides above)
- Meetings with physicians specializing in worker health to consider health-management measures
- Hosting conferences where worker-health physicians present case studies
- Operation of health management systems
- Utilization of occupational health management system
- Preventive measures against new strains of influenza
- Measures regarding passive smoking
- Introduction of a stress test program
- Response to mandatory risk assessment of chemical substances, etc.

JFE Engineering Initiatives (besides above)
- New award program for promoting specific health guidance
- Stress tests for all employees and promotion of workplace invigorating activities
- Guidance from worker-health nurses and physicians who visit branch offices and worksites
- Preventive measures against new strains of influenza

JFE Shoji Trade Initiatives (besides above)
- Preventive measures against new strains of influenza
- Weekly reporting and consultation between worker-health physicians and health staff members
- Monthly Health Committee meetings
- Promotion of specific health guidance

Development of Dynamic Work Environments
- Sound Labor-management Relations

S
Recognizing that labor-management cooperation is essential for the company to tackle its business challenges appropriately, JFE Steel has established a strong, positive relationship with its labor union, one based on mutual understanding and trust. The company convenes its Labor-Management Business Discussion Committee four times a year to bring the president and other executives together with labor representatives for the purpose of exchanging ideas on business challenges. The two sides also share views on working conditions and workplaces, and hold joint consultations whenever the labor system is revised.

E
JFE Engineering strives to ensure sound labor-management relations through its union shop system. In addition to Central Labor-Management Committees, which are regularly convened for group-company presidents and executives to share views with labor representatives, a labor-management committee on work-life balance has been set up to maintain friendly working environments.

T
JFE Shoji Trade management and labor regularly exchange opinions and share information. During a Management Committee convened twice a year, the company’s president and other executives exchange views with labor representatives.

- Invigorating Workplaces through Small Group Activities

S
Throughout JFE Steel, approximately 1,500 small groups carry out J1 Activities* for quality and work improvement. In addition, the JFE Family Result Reporting Conference, which includes participation from domestic and overseas group companies, is organized twice a year, and groups selected through competition are given opportunities to go overseas as an incentive.

E
At JFE Engineering, about 160 teams involving 1,400 employees, including those of group companies worldwide, participate in JE1 Activities and present results at a company-wide competition at the end of the fiscal year. The activities, which cover topics including quality, efficiency, safety and costs, contribute significantly to workplace vitality and corporate performance.

T
Since October 2008, JFE Shoji Trade has pursued its J-SLIM operational reform program, which includes system examinations and measures to improve management, work environments and line work. In 2014, 15 teams, including JFE Shoji Trade, five domestic companies and two overseas companies, presented their activities during the sixth J-SLIM presentation at the company’s Tokyo head office.
Awards and Accolades

External Awards

JFE develops innovative technologies and products to meet the needs of society, and the results of its activities have been widely recognized in Japan and overseas.

<table>
<thead>
<tr>
<th>Prizes/Awards</th>
<th>Award-winning Item(s)</th>
<th>Sponsors</th>
</tr>
</thead>
<tbody>
<tr>
<td>61st Okochi Memorial Technology Prize</td>
<td>Manufacturing method for raw iron that blows gaseous fuel to reduce CO2 emissions</td>
<td>Okochi Memorial Foundation</td>
</tr>
<tr>
<td>FY2014 Otani Art Museum Award</td>
<td>Uni-Hiten high-strength steel plate for outer panels, combining excellent appearance and fuel efficiency</td>
<td>Otani Art Museum</td>
</tr>
<tr>
<td>12th New Machinery Promotion Award, Ministry of Economy, Trade and Industry Awards</td>
<td>Robust, uniform cooling equipment for steel plates during rolling process</td>
<td>Japan Society for the Promotion of Machine Industry (JSPMI)</td>
</tr>
<tr>
<td>2014 R&amp;D 100 Awards</td>
<td>JFE-TF1 highly heat-resistant stainless steel that helps conserve resources</td>
<td>R&amp;D Magazine (U.S.)</td>
</tr>
<tr>
<td>NIKKAN KOGYO SHIMBUN Prize: Japan Industrial Water Association</td>
<td>Steel pipe for faults</td>
<td>Japan Industrial Water Association</td>
</tr>
<tr>
<td>Engineering Merit Awards</td>
<td>Viaduct construction project in Shwegonedine, Myanmar</td>
<td>Engineering Advancement Association of Japan</td>
</tr>
<tr>
<td>Engineering Encouragement Special Award</td>
<td>Development of hybrid tide embankment</td>
<td>Engineering Advancement Association of Japan</td>
</tr>
<tr>
<td>Japan Gas Association Technology Award</td>
<td>AtoMS device for adjusting gas heat quantity; Dual torch welding technology for pipelines; and Toppless method for polyethylene pipe</td>
<td>Japan Gas Association</td>
</tr>
<tr>
<td>Good Design Award</td>
<td>Cycle Free (Cycle Station Toride) automated-parking facility for bicycles</td>
<td>Japan Institute of Design Promotion</td>
</tr>
<tr>
<td>Industrial Machinery Achievement Award</td>
<td>Personal award for Executive Yasuo Suzuki</td>
<td>The Japan Society of Industrial Machinery Manufacturers</td>
</tr>
</tbody>
</table>

Internal Awards

<table>
<thead>
<tr>
<th>Prize/Award</th>
<th>Award-winning Item</th>
<th>Award-winning Departments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Award for Excellence, JFE Steel President’s Awards</td>
<td>Production method for thick, high-strength steel pipe, leading to profitable entry into new high-end market</td>
<td>West Japan Works (Fukuyama District, Welded Pipe Department, and others)</td>
</tr>
<tr>
<td>Gold Prize, New Product Development Awards</td>
<td>SP3 Rail with high wear resistance</td>
<td>Steel Research Laboratory, Steel Material Research Department, and others</td>
</tr>
</tbody>
</table>
This report contains Standard Disclosures from the GRI G4 Sustainability Reporting Guidelines.
General Standard Disclosures

| G4-SI | a. Remuneration policies for the highest governance body and senior executives for the below types of remuneration: 
|      | Functional and variable pay  
|      | Performance-based pay  
|      | Bonuses  
|      | Deferred or vested share  
|      | Severance bonuses or retrenchment incentive payments  
|      | Long-term incentives  
|      | Any other benefits, including the difference between benefits schemes and contribution rates for the highest governance body, senior executives, and other employees  
| b. Performance review in the remuneration policy related to the highest governance body’s and senior executive’s economic, environmental, and social objectives. |

| G4-S2 | Incentive for determining remuneration, and whether remuneration consultants are involved in determining remuneration, as well as whether they are independent of management. Any other relationships which the remuneration consultants have with the organization. |

| G4-S6 | Descriptions of the organization’s values, principles, standards, and norms of behavior such as codes of conduct and codes of ethics. |

Specific Standard Disclosures

| G4-DSWA | a. Why the Aspect is material. Report the impacts that make this Aspect material. |
| G4-DSWA | b. How the organization manages the material Aspect. |
| G4-DSWA | c. The mechanisms for evaluating the effectiveness of the management approach. |
| G4-DSWA | d. The results of the evaluation of the management approach. |
| G4-DSWA | e. Any related adjustments to the management approach. |

Economic Performance

| G4-EC1 | Gross economic value generated and distributed. |
| G4-EC2 | Potential implications of tax and other fiscal policies for the organization’s activities due to climate change. |
| G4-EC3 | Average of the organization’s defined benefit pension plan obligations. |

Economic Stability

| G4-ES1 | Development and impact of infrastructure investments and services supplied. |
| G4-ES2 | Significant indirect economic impacts, including the extent of impact. |

Materials

| G4-EN1 | Materials used by weight or volume. |
| G4-EN2 | Percentage of material used that are recycled or re-used. |

Energy

| G4-EN3 | Energy consumption within the organization. |
| G4-EN4 | Energy consumption outside of the organization. |
| G4-EN5 | Energy intensity ratio for the organization. |
| G4-EN6 | Reduction of energy consumption. |
| G4-EN7 | Reduction in energy requirements of products and services. |

Water

| G4-EN8 | Total water withdrawal by source. |
| G4-EN9 | Percentage and total volume of water recycled and reused. |

Biodiversity

| G4-EN10 | Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas. |

Losses and Liabilities

| G4-EN11 | Significant indirect economic impacts, including the extent of impact. |

Products and Services

| G4-EN12 | Description of significant impacts of products, processes, and services on biodiversity in protected areas and protected areas of high biodiversity value outside protected areas. |

Employee Relations

| G4-LA1 | Total number and volume of significant spills. |
| G4-LA2 | Percentage of products and materials that are recycled or re-used. |
| G4-LA3 | Percentage of total workforce represented in formal joint management worker health and safety committees that help monitor and advise on occupational health and safety programs. |
| G4-LA4 | Percentage of total workforce represented in joint occupational health and safety programs. |
| G4-LA5 | Percentage and total volume of water recycled and reused. |
| G4-LA6 | Total number of new employee hires and employee turnover by age group, gender, and region. |

Employee Health and Safety

| G4-LA7 | Percentage of total workforce represented in joint occupational health and safety programs. |
| G4-LA8 | Total number and volume of significant spills. |
| G4-LA9 | Total number and volume of significant spills. |

Customer Relations

| G4-LA10 | Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings. |
| G4-LA11 | Effectiveness of training programs. |

Human Rights

| G4-LA12 | Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity. |

Investment

| G4-EN1 | Materials use by weight or volume. |
| G4-EN2 | Energy consumption within the organization. |
| G4-EN3 | Energy consumption outside of the organization. |
| G4-EN4 | Energy intensity ratio for the organization. |
| G4-EN5 | Reduction of energy consumption. |
| G4-EN6 | Reduction in energy requirements of products and services. |

Social

| G4-ES1 | Development and impact of infrastructure investments and services supplied. |

Environmental

| G4-EN1 | Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas. |

Financial

| G4-EC1 | Gross economic value generated and distributed. |
| G4-EC2 | Potential implications of tax and other fiscal policies for the organization’s activities due to climate change. |
| G4-EC3 | Average of the organization’s defined benefit pension plan obligations. |

Legal Activities

| G4-EN11 | Significant indirect economic impacts, including the extent of impact. |

Data Book Pages

| 63 | Data Book Pages |
### Comparison with Environmental Reporting Guidelines 2012
(Ministry of the Environment, Japan)

#### 1. Environmental Policies, Visions and Business Strategies
- Information and Indicators on how Environmentally Focused Management including Environmental Management is Working
  - Policies for selecting a type of report
    - Editorial Policy
  - Assured and other measures to enhance reliability of environmental information
    - Assurance and other measures to enhance reliability of environmental information
  - Extraordinary events
    - Organizations coverage ratio and reporting period difference
  - Summary of activities to address an individual environmental issue
    - Priority Targets and Results

#### 2. Organizational Systems and Governance
- Financial contexts in an enterprise
  - Economic contexts of Environmentally Focused Management
  - Economic contexts in an enterprise
  - Economic contexts in an enterprise
  - Economic contexts in an enterprise
  - Economic contexts in an enterprise

#### 3. Responsiveness of Stakeholder Issues
- Social contexts of environmentally focused management
  - Economic contexts in an enterprise
  - Economic contexts in an enterprise
  - Economic contexts in an enterprise
  - Economic contexts in an enterprise

#### 4. Environmental Initiatives in the Value Chain
- Information and indicators on how Environmentally Focused Management including Environmental Management is Working
  - Policies for selecting a type of report
    - Editorial Policy
  - Assured and other measures to enhance reliability of environmental information
    - Assurance and other measures to enhance reliability of environmental information
  - Extraordinary events
    - Organizations coverage ratio and reporting period difference
  - Summary of activities to address an individual environmental issue
    - Priority Targets and Results

#### 5. Summary
- Summary
  - Summary

#### Environmental Data Book Pages
- Information and Indicators on how Environmentally Focused Management including Environmental Management is Working
  - Policies for selecting a type of report
    - Editorial Policy
  - Assured and other measures to enhance reliability of environmental information
    - Assurance and other measures to enhance reliability of environmental information
  - Extraordinary events
    - Organizations coverage ratio and reporting period difference
  - Summary of activities to address an individual environmental issue
    - Priority Targets and Results

#### Event Categories
- Events after the reporting period
  - Events after the reporting period

#### Message from the CEO
- Message from the CEO

#### Appendices
- Appendices

#### Environmental Data Book Pages
- Information and Indicators on how Environmentally Focused Management including Environmental Management is Working
  - Policies for selecting a type of report
    - Editorial Policy
  - Assured and other measures to enhance reliability of environmental information
    - Assurance and other measures to enhance reliability of environmental information
  - Extraordinary events
    - Organizations coverage ratio and reporting period difference
  - Summary of activities to address an individual environmental issue
    - Priority Targets and Results

#### Contact Information
- Contact Information

#### Report Profile
- Report Profile

#### GRI Content Index
- GRI Content Index

#### Contributing to Society’s Development
- Contributing to Society’s Development

#### Addressing Environmental Issues with Innovative World-class Technology
- Addressing Environmental Issues with Innovative World-class Technology

#### Controlling Air Emissions
- Controlling Air Emissions

#### Materials Flow
- Materials Flow

#### Materials Flow
- Materials Flow

#### Materials Flow
- Materials Flow

#### Materials Flow
- Materials Flow
1. Fifth Medium-term Business Plan
Something that merits special commendation in this fiscal year’s report is that the five group-wide measures set forth in the Fifth Medium-term Business Plan incorporate a growth strategy that is strongly committed to sustainable societies. This clarifies JFE’s intention to transition its business model for integration of its CSR policy and business activities. This will include strengthened energy- and resource-saving in production, environmental load reduction based on environment-friendly products, the global transfer and dissemination of advanced production technologies, and products and services suitable for infrastructure development.

2. Expanded Reporting Scope
The reporting scope has continued to expand. For this fiscal year, the numbers of employees and managers are reported on a consolidated basis, and the CO₂ emissions of the three operating companies and their different businesses are disclosed separately. Also reported are trends in CO₂ emissions by the JFE Group. I hope that JFE will further expand its consolidated reporting of other KPIs.

3. Progress in Diversity Promotion
Significant improvement can be seen in JFE’s diversification. In 2015, JFE established its Group Basic Policy for Human Resource Management, which established diversification as a guiding principle, indicating the direction in which the Group is heading. Previously, JFE Steel was the only operating company to have a Diversity Promotion Section, but similar units were created by JEF Engineering and JEF Shoji Trade in 2015. Also established was the numerical goal of tripling the number of female managers by 2020. Another key achievement is that all the three operating companies reported child and/or family care leaves taken by male employees. Diversity has become a Group-wide matter with significant promise for the future, as exemplified by JFE’s recognition as a “Nadeshiko Brand” for two consecutive years.

4. Challenges Going Forward
Each of the three operating companies has established a system for disclosing employee information, so the next challenge will be to disclose information for individual group companies in Japan. Given that each operating company has many group companies, time will be required to establish channels for collecting data, for which JFE is expected to develop a well-planned system.

GRI G4, which applies to this year’s report, requires additional information disclosure. Above all, sharing the process of materiality assessment for selecting information to be disclosed is a basic requirement that should be addressed as soon as possible. Incorporating CSR management throughout the value chain is another growing international trend. Further efforts to increase the accuracy of the existing information would be welcomed, for which a good start may be the disclosure of Scope 3 items of the CDP questionnaire survey.

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*1 The 15-category Scope 3 refers to related greenhouse gas emissions by any vendor or purchaser in a supply chain, from upstream activities associated with products and services procured by a company to downstream activities, such as the disposal of products sold by a company.

*2 CDP (formerly, the Carbon Disclosure Project) is an international NPO working to reduce greenhouse gas emissions and mitigate the risks of climate change. CDP distributes questionnaires to companies around the world and reports its analysis and evaluation of the results to institutional investors.
1. Significance of CSR Reports
The diversification of society has a dual meaning for enterprises. One is the diversification of people’s values and attributes, and the other is the expanded fields of new-business opportunity in international society, which is actually an aggregation of diverse societies.

How can sustainable growth be achieved in the midst of internal and external diversification? A CSR report is one way to answer to this question.

2. Efforts to Address Environmental Challenges
First, I want to cite Feature 1, which reports on efforts to address environmental challenges. These are very topical and intriguing. Super-SINTER™, Ferro-coke and Marine Stone™ clearly demonstrate an earnest commitment to respond to environmental issues. The corporate mission of “contributing to society with the world’s most innovative technology” is firmly put into practice.

However, I expect the JFE Group to go one step further. How the public views what should constitute future society — the ultimate question — continues to diversify. It would be in JFE’s interest to spell out more clearly the kind of society it wishes to help create, which would make this report even more convincing.

3. Efforts to Secure and Develop Human Resources
The next topic is human resources, which is taken up in Feature 2. I appreciate JFE’s ongoing implementation of measures to secure and develop diverse human resources. Diversification is a centrifugal force for a company and requires a corresponding centripetal force to mobilize the capacities of diverse human resources. Generating this centripetal force may require a more forceful presentation of JFE’s common vision.

But my impression is that the report attaches too much weight to efforts in Japan. I hope that the next report will cover efforts and policies to strengthen JFE’s globally capable human resources.

4. Toward a True Global Enterprise
My final comment concerns globalization. The JFE Group Standards of Business Conduct states: “Endeavor to achieve mutual understanding with people around the world, working from a global perspective and with respect to international norms, and also local cultures and customs.” The CSR Report is an important means to this end. Achieving mutual understanding requires more than simply stating your strengths. Naturally, some issues require further improvement, and some that impact the environment or society have not yet been tackled, so disagreements with stakeholders may need to be addressed. These unresolved issues must be candidly stated “to achieve mutual understanding with people around the world.”

The book Kaizen, which gained global popularity at the peak of Japan’s competitive strength, cited the ability to recognize problems as a source of strength for Japanese companies. “Kaizen” is impossible without recognizing problems. The CSR reports of Japanese companies will gain a new competitive edge in a diversified world when they clearly express the problems that companies are encountering.
This illustration, created by a JFE Steel employee, depicts workers and humanlike cars, cans, utensils and other familiar objects made of steel holding hands to express their friendliness toward society and the environment.