

STEEL
ENGINEERING
SHOJI TRADE



JFE Group
CSR REPORT 2016



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Key

The icons on the right identify information that pertains to a specific JFE operating company.



Editorial Policy

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 2016 report offers:

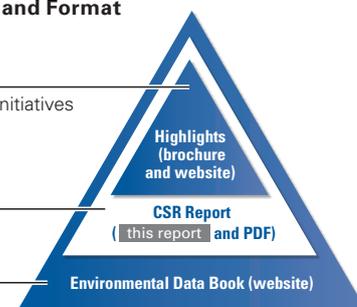
- A more comprehensive governance report based on the Corporate Governance Code, and on a round-table discussion by Outside Directors/Audit & Supervisory Board Members
- New environmental data (e.g. Scope 3 emissions) and a wider scope of environmental data (e.g. SOx emissions) covering Group companies in Japan
- Additional social data (e.g. participation by women in the workforce)

● CSR Report Composition and Format

Reader-friendly summary of CSR initiatives (print and PDF)

Detailed report on CSR activities (this report and PDF)

Extensive data to supplement detailed report (PDF)



● Scope of Report

Reporting Period

FY2015 (April 1, 2015 to March 31, 2016)

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 it also includes reports on some activities pertaining to other companies of the JFE Group (386 companies, of which 322 are consolidated subsidiaries and 64 are equity method affiliates).

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

- JFE Steel Group:
 - “Environment and CO₂ Emissions” section: 30 major domestic and overseas subsidiaries
 - Environmental data other than those in the “Environment and CO₂ Emissions” section: domestic and overseas subsidiaries accountable in compliance with the Energy Saving Act and subject to legal restraints
- JFE Engineering Group:
 - “Environment” section: 11 major domestic subsidiaries
- JFE Shoji Trade Group:
 - “Environment” section: 32 major domestic and overseas subsidiaries and three equity method affiliates
 - “Society” section: all 103 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

October 2016 (previous issue: September 2015; next issue (tentative): September 2017)

● 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.

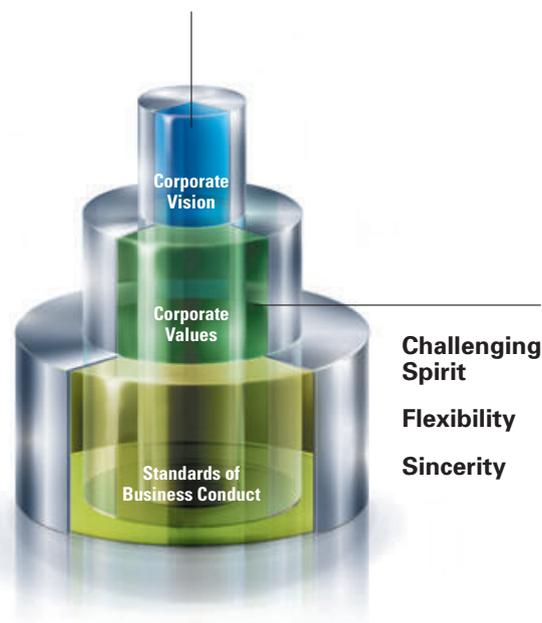
JFE GROUP TODAY (PDF)

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 a fair, objective 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.

Contributing to society with the world's most innovative technology



JFE Group Standards of Business Conduct

All JFE Group executives and employees will faithfully adhere to the following Standards of Business Conduct in all facets of corporate activities. These standards were created to embody the Corporate Vision of the JFE Group and go hand-in-hand with the Corporate Values. Senior executives are to take the lead in communicating these standards to employees throughout the group, and also business partners, and in creating effective systems and mechanisms to ensure adherence to corporate ethical standards.

Senior executives shall be directly involved both in the resolution and implementation of measures to prevent the recurrence of any violations of these standards. They shall disclose information about violations in a timely and accurate manner both inside and outside the group, shall clarify the authority and accountability involved and shall deal rigorously with offenses.

1. Provide quality products and services

Earn the trust and regard 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 open to society at large

Endeavor to communicate with shareholders and the broader community, and actively disclose corporate information.

3. Coordinate and cooperate with the community

Actively contribute to the community as a good corporate citizen in a spirit of coordination and cooperation.

4. Globalize

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.

5. Exist in harmony with the global environment

Actively work to achieve better living standards and the advancement of societies, as well as harmonious existence with the global environment.

6. Maintain proper relations with government and political authorities

Endeavor to build and maintain sound and proper relationships with government and political authorities.

7. Respond appropriately to anti-social elements

Firmly resist all elements and organizations that threaten social order and stability, and refuse all illegal and improper demands.

8. Respect human rights

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

9. Provide challenging work environments

Provide employees with attractive, safe and challenging work environments.

10. Comply with laws and ordinances

Comply with all applicable 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.

JFE's technological advantages and workforce diversity are helping to create sustainable societies



President and CEO
JFE Holdings, Inc.

Eiji Hayashida

Toward Greater Sustainable Growth and Enhanced Group Value

We are steadily fulfilling JFE's corporate vision of contributing to society with the world's most innovative technology, which is the key to strengthening our sustainable growth and corporate value. Although the business environment has been extremely severe since last summer due to factors including sluggish emerging economies and weak resource prices, we continue to pursue sustainable growth and higher corporate value by strengthening our profit base in Japan and improving the profitability of our overseas businesses. We expect to achieve our goals because of our technological

advantages, diverse human resources and the comprehensive strengths we have cultivated in a broad range of businesses.

Products and Services that Contribute to Sustainable Societies

Coexistence with the global environment is a top management priority for JFE, so we are helping to address pressing environmental problems by leveraging our many technologies, which are the world's most innovative.

Steel, one of the most common materials found in everyday life, is highly recyclable and sustainable, so we help facilitate the process of converting expired steel products

into new products. Furthermore, we have improved production processes and equipment with world-class technologies for energy savings and impact reduction. In addition, advanced steel-making technologies that we transfer to developing countries are contributing to the global effort to reduce CO₂ emissions.

We also are contributing in many other ways. Our engineering business, for example, is addressing environmental needs with innovative technology as well as products that contribute to sustainability by means of highly efficient energy solutions, infrastructure and mechanical systems. Also, our trading business is helping to strengthen sustainable societies with business for energy-saving transportation and the recycling of steel scrap.

Nurturing Employees and Empowering them to Succeed

Our initiatives to achieve sustainable growth and contribute to society depend greatly on the diversity of our human resources. Accordingly, throughout the JFE Group, we have endeavored to establish work environments in which people can succeed by realizing their full capabilities, regardless of nationality or gender.

As JFE's veteran baby-boomer workforce transitions into retirement, we are making every effort to equip younger employees in Japan with the knowledge and technical skills they will need to lead the company and thereby maintain our high-level on-site capabilities. We are also making strong efforts to develop diverse global personnel who will help to guide our ongoing expansion overseas. In addition to dispatching more employees on overseas assignments, we are increasingly hiring and developing non-Japanese staff around the world.

Providing safe, healthful work environments is essential to ensuring that our employees work comfortably. JFE is committed to the strict management

of working hours to prevent overwork, and we will continue to implement measures to support employee well-being, including for mental health.

Enhancing Corporate Governance

Last year, we implemented a wide range of initiatives to review and improve JFE's corporate governance, including to achieve full compliance with Japan's newly amended Companies Act and the Corporate Governance Code introduced by the Financial Services Agency and Tokyo Stock Exchange. In advance of such rules, we proactively appointed new Outside Directors/Audit & Supervisory Board Members to strengthen governance and compliance.

To further enhance corporate governance, we formulated our Basic Policy on Corporate Governance, the Nomination Committee and the Remuneration Committee (of which Outside Directors/Audit & Supervisory Board Members form the majorities), and disclosed the results of our Analysis and Evaluation of the Effectiveness of the Board of Directors.

Maintaining Public Trust

Going forward, JFE will continue to adhere to the principles of fair, objective and transparent business. We are steadfastly working to become an excellent 21st-century company guided by high standards of business conduct. We will be driven by our challenging spirit, flexibility and sincerity, and inspired by our vision of contributing to society with the world's most innovative technology. We will remain forever committed to forging and perpetuating lasting relationships of trust for the mutual benefit of our customers, shareholders, employees and local communities.

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): ¥2,445.1 billion
- Employees (consolidated): 43,874



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): ¥1,756.4 billion
- Employees (consolidated): 6,579



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

Steelmaking



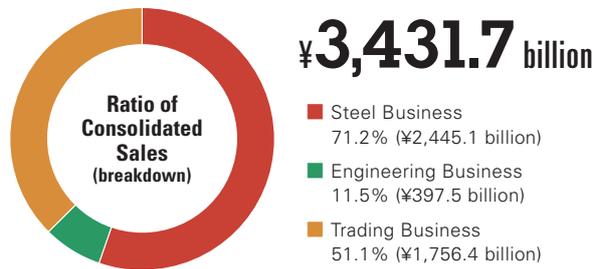
Distribution

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, 2016)

Company Name	JFE Holdings, Inc.
Head Office	2-2-3 Uchisaiwaicho, Chiyoda-ku, Tokyo 100-0011, Japan
Established	September 27, 2002
Capital	¥147.1 billion
Employees (consolidated)	59,460
URL	www.jfe-holdings.co.jp/en



Adjustments for intra-group transactions: -34.0% (¥1,167.4 billion). These include internal sales or transfers between segments totaling ¥875.6 billion for the steel business, ¥9.8 billion for the engineering business and ¥281.9 billion for the trading business.

Urban Development

Engineering Business

- JFE Engineering Corporation
- Head Offices: Chiyoda-ku, Tokyo and Yokohama, Kanagawa
- Sales (consolidated): ¥397.5 billion
- Employees (consolidated): 8,967



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



Outside Directors/Audit & Supervisory Board Members Discuss Governance

Moving boldly toward enhanced corporate value and sustainable growth

The introduction of Japan's Corporate Governance Code in June 2015 has prompted people to expect companies to specifically examine the effectiveness of their Board of Directors, including in terms of how they intend to enhance corporate value over the medium to long term and improve its board meeting. JFE held a roundtable discussion with two Outside Directors and two Outside Audit & Supervisory Board Members on August 30 to consider the status of its corporate governance from an outside perspective and thereby help readers gain a more concrete understanding of what happens at board meetings.

What are your impressions of JFE's corporate governance?

Yoshida: I was the last to join the company as an outside director in 2015. After attending JFE board meetings, I am impressed by how outside directors/audit & supervisory board members express their opinions so frankly and vigorously. Some opinions are rather harsh, which has made me confident that I could engage in frank discussions at the board meetings. I try to put forward my own views on every issue.

Ohyagi: I attend board meetings as an audit & supervisory board member. In board meetings at the company where I serve as chairman, outside directors participate vigorously, but I used to think that the role of outside audit & supervisory board members was primarily to confirm statements made by directors. The atmosphere at JFE board meetings, however, encourages audit & supervisory board members to speak out, which was very surprising to me. Now I try to express my views as an independent officer beyond

my duty as an audit & supervisory board member.

Maeda: Having been a director since 2011, I have served longer than Mr. Yoshida and Mr. Ohyagi. Unlike these two managerial executives, I am a university researcher and professor, so upon accepting this office I was asked to give my opinions on overall technology development. I was also surprised to find all directors/audit & supervisory board members were thoroughly asked questions at board meetings.

Mr. Yoshida and Mr. Ohyagi referred to the frank discussions at JFE board meetings. I think this is because the president who chairs the board is honest and takes the lead in creating such an environment. His stance on the board meeting has been not simply to accept the conclusion of the Management Committee; he also asks questions as a member of the board. A defensive style was not conducive to productive discussions.

This culture of respecting the opinions of outside directors/audit & supervisory board members has been continued. What has changed is the provision of information. At first, I was unable to grasp the whole picture, but now there are sufficient explanations about the overall flow. And we are able to visit production sites when there is a board meeting, as we have done at Tsurumi*¹ and will do at Fukuyama*² and Tsu*³ in the near future.

Itami: It has been six years since I took the office of outside audit & supervisory board member. I feel that the discussions in the board meetings have become more substantial year by year. Recent board meetings have included explanations about business operations and information about production sites, which have been facilitated by, for example, holding board meetings at business sites. I think that is a good idea. We need to get a feel for the atmosphere of actual production sites. In addition, the Nomination Committee and the Remuneration Committee have been set up to advise the board of directors. I feel that we are moving in an even better direction with these additional forums for discussion.

Ohyagi: Initiatives for strengthening governance have accelerated to

catch up with leading initiatives at other companies. As Professor Itami mentioned, my impression is that JFE is committed to letting us know what its actual business is. By visiting overseas business sites in Myanmar and Indonesia as well as domestic locations in Chiba*⁴ and Tsurumi, I have learned that very advanced chemical reactions are controlled in the steel industry. In reviewing environmental and safety initiatives and employee training, we can view JFE culture in any business location. Providing these opportunities may well be an expression of JFE management's commitment to maintaining a highly transparent and open environment.

What do you think about your role as outside director/audit & supervisory board member?

Maeda: For a president alone to grasp all the details of a company as big as JFE is difficult. My role as an outside director is to identify and point out matters that the president and inside directors/audit & supervisory board members may not be aware of or may find difficult to discuss. In general terms, it may be difficult for the current management to criticize projects led by past presidents. That's why I do not hesitate to ask inside directors/audit & supervisory board members for explanations about issues I find strange. As I study steel-making from the viewpoint of a professor, I always ask questions whenever I find something unclear about a JFE steel-making facility or product. I pay attention to this area because a flaw in maintenance or inspection could lead to a major accident. And in light of an unfortunate environmental problem in the past, I watch this aspect as well. This is my role as an outside director. What about the role of outside audit & supervisory board member?



Hiroyuki Itami

Audit & Supervisory Board Member

Dr. Itami became a professor of Graduate School of Innovation Studies, Tokyo University of Science in 2008. He completed his doctoral course at the Graduate School of Industrial Administration, Carnegie Mellon University in 1972. He has also served as a professor and dean of Department of Commerce, Hitotsubashi University and as an Outside Audit & Supervisory Board Member at Mitsui O.S.K. Lines, Ltd. He became a JFE Audit & Supervisory Board Member in June 2010.

Itami: I think the role of outside audit & supervisory board member includes auditing management as well as compliance and accounting. I have two points to make about this. One is the checks-and-balances function. An audit & supervisory board meeting is held the day before a board of directors meeting, and we receive explanations of the topics to be discussed by the board of directors. Sometimes an item is presented based on nonobjective logic in order to just do something new, or perhaps I doubt the accuracy of data. Of course I question the credibility of the numbers in these situations, but the role of an audit & supervisory board member also entails exercising care about what is brought up to the board of directors.

Second, I apply the criterion of whether the minutes of a board of directors meeting appropriately reflects the discussions from the objective perspective of a third party.

Ohyagi: Speaking about the audit & supervisory board system, although overseas investors often



Shigeo Ohyagi

Audit & Supervisory Board Member

Currently chairman of the Board of TEIJIN LIMITED, Mr. Ohyagi joined Teijin in 1971 and has been in this position since 2014, after serving as president and CEO of the company. He is also an Outside Director of Recruit Holdings Co., Ltd. Mr. Ohyagi became a JFE Audit & Supervisory Board Member in June 2014.

claim that governance does not function effectively in companies with an audit & supervisory board, a system unique to Japan, I believe they completely misunderstand how it functions. The foundation of governance lies in knowing the fields. Nowhere else in the world can you find such an excellent governance system in which those who conduct the audits has deep knowledge of the fields. The top concern for me as an outside audit & supervisory board member is how well the governance of the JFE Group is working. I think my major responsibility is to see how JFE is implementing systems and rules that ensure governance in a group with so many affiliated companies.

Also, Japanese companies have been involved in various misconduct recently, which has defamed their corporate brands. JFE should not regard these occurrences as having nothing to do with the Group. In order to prevent defamation of the JFE brand, I pay careful attention in my daily auditing activities to what the full-time audit & supervisory board members are saying. Based on my years of management experience

at Teijin, I often ask questions about numerical information that is not clear to me.

Yoshida: I too feel that it is better to have audit & supervisory board members who can express frank remarks from a perspective that is different from those of the directors. In this sense, as Mr. Ohyagi mentioned, I also appraise the audit & supervisory board system as a good Japanese-style governance that we can pitch to overseas investors. Because I have been involved in business globalization, I ask questions as a director about fluctuations in foreign exchange rates that could impact business sites, for example. In addition, because in the company I have long-term experience handling materials other than steel, I ask to what extent business models in other materials industries may be applicable to the steel industry. Also, I participate in discussions from the point of view of speeding up business by delegating decision-making and how to harmonize this with efforts to ensure the sound management of a global enterprise.

Apart from governance, what initiatives do you expect to enhance JFE's corporate value?

Maeda: The steel industry is engaged in international competition, where China accounts for a major part of production. This makes maintaining current corporate value very difficult. JFE has the technical capabilities to surpass competitors in various ways, but going forward the company must also strengthen its manufacturing capabilities. Stronger production requires thinking about how to guarantee JFE's production in Japan and Asia as well as across the globe. As I

have learned from Mr. Ohyagi, a company is obliged to more than its shareholders. Customers are the highest priority, so we need to create what customers want. Employees who make these products are also key. The value of a company is low if it does not treat its employees well, so I believe treating employees well would be of interest to shareholders.

Ohyagi: Considering JFE's business model, and as Professor Maeda mentioned, enhancing production through global business development is important, and thinking about what the Group can accomplish across the entire value chain is necessary. In the textile industry, in which I have long-term experience, companies that are successful in globalization are all making a profit throughout their value chain and beyond materials. In the case of JFE, the company should aim the growth in not only steel business but also in the engineering business. I may add one more thing: the Group should have a long-term strategy for every aspect, but I'm afraid this is not clear in JFE today. The Group should develop a solid plan covering major points for the future, with a vision to be number one in the world.



Masao Yoshida

Director

Mr. Yoshida became chairman of the Board of Furukawa Electric Co., Ltd. in April of this year. Since joining the company in 1972, he has also held the posts of president and executive chairman. Additionally, he serves as an Outside Director of FURUKAWA Co., Ltd. Mr. Yoshida became a JFE Director in June 2015.

Yoshida: Engaging in a direct competition with the Chinese steel industry will evolve into a war of attrition. As Mr. Ohyagi said, identifying where to survive in the value chain will be a key for JFE's future. However, completely shifting to non-material industry businesses is not realistic. There are ways to survive by creating high-performance materials and building modules or systems with them, in combination with engineering and construction. In this sense, I am interested in the engineering business. Pursuing the value of steel from the perspective of EPC*⁵ may lead to enhancing corporate value. What do you think, Professor Itami?

Itami: My position has been to spend more on technologies and employees to enhance corporate value. With my university students, I compiled a book on the history of Japan's postwar steel industry. At the time, I had an opportunity to study why the Japanese steel industry remained number one in the world when it could have declined. I think there are two reasons for this. One is its investment in projects that were very reasonable in terms of technology, and the other is management that treated employees very well. As regards to employees, in particular, when you review the changes in the number of employees in the Japanese steel industry, you see that the decrease has been quite gradual. This shows that the industry did not fire employees against their will. Consistent with its traditional concern for employee welfare, the industry instead reduced its workforce by waiting for older employees to reach retirement age and then it curbed new hires. I thought this helped to create a culture for accumulating long-term benefit, so the industry could reach

the number-one position through its accumulation of technologies. I hope steel companies including JFE continue this culture.

Ohyagi: Speaking about employee treatment, the issue of diversity is raised more frequently these days. While I believe that JFE is actively striving for diversity, whenever I participate in industry gatherings I am reminded that men still greatly outnumber women in the industry. Increased diversity will change the way the industry sees things in a number of ways.

Yoshida: In terms of the industry, comparisons with competitors often come up in board discussions and materials. While we need to compare ourselves with our industry peers, thinking from different perspectives may also be important.

Maeda: I agree. Simply setting goals in the context of comparisons with other companies does not work. As we compete on a global stage, we should strive to be ahead of the competition, even by one percent, in order to succeed against companies in emerging countries that have cutting-edge equipment.

Itami: This is why I recommend spending more on technology.

Ohyagi: I agree. The business



Masafumi Maeda

Director

A professor of Institute of Industrial Science, the University of Tokyo since 1996, Dr. Maeda completed his Ph.D. at the Department of Metallurgy Graduate School of Engineering, the University of Tokyo in 1981. He previously served as director general of the Institute of Industrial Science, the University of Tokyo and both director and executive vice president of the University of Tokyo. He is also head of Nidec Center for Industrial Science of Nidec Corporation (part-time). Dr. Maeda became a JFE Director in June 2011.

environment for the primary-materials industry is very severe. In order to enhance JFE's corporate value and secure sustainable growth in this environment, we outside directors/audit & supervisory board members should continue to hold these substantive discussions.

*1 JFE Engineering Tsurumi Engineering and Manufacturing Center

*2 JFE Steel West Japan Works (Fukuyama district)

*3 JFE Engineering Tsu Works

*4 JFE Steel East Japan Works (Chiba district)

*5 Engineering, Procurement and Construction, the three processes of the engineering business. An initiative undertaking these three processes as a single package is called an "EPC project."



Corporate Governance

Basic Policy

The JFE Holdings Basic Policy on Corporate Governance was established in October 2015 to strengthen efforts to achieve sustainable growth and increased corporate value over the medium to long term.

 [JFE Holdings Basic Policy on Corporate Governance →](http://www.jfe-holdings.co.jp/en/company/h-gaiyo/index.html#cg)
www.jfe-holdings.co.jp/en/company/h-gaiyo/index.html#cg

For details:

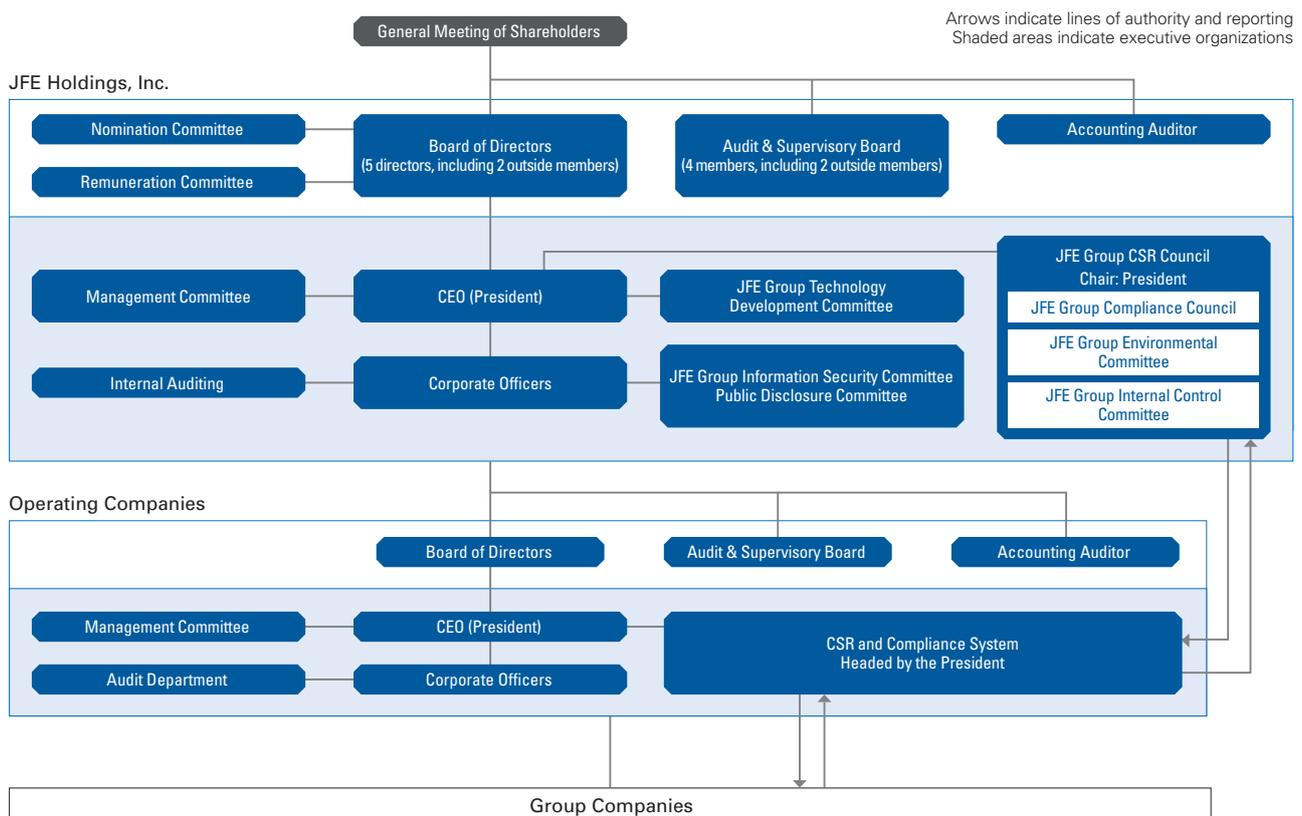
 [Corporate Governance Report →](http://www.jfe-holdings.co.jp/en/company/h-gaiyo/index.html#cg)
www.jfe-holdings.co.jp/en/company/h-gaiyo/index.html#cg

Group Governance System

The JFE Group comprises a holding company and three operating companies – JFE Steel, JFE Engineering and JFE Shoji Trade.

JFE Holdings, the core of the Group’s integrated governance system, 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.

■ Corporate Governance System



Management

■ Governance System

JFE Holdings and each operating company has an Audit & Supervisory Board Member. The companies are crosschecked by the Board of Directors, which supervises operational execution, and the Audit & Supervisory Board Members, which conduct audits. Also, a corporate officer system separates decision-making and execution to clarify authority and responsibility, as well as accelerate execution. Given the broad and diverse fields covered by the Group's businesses, every effort is made to prevent misconduct and strengthen internal control and compliance systems across the Group. To this end, Audit & Supervisory Board Members are given strong legal authority, such as to investigate or demand a stoppage, to effectively monitor the soundness of management independently from the Board of Directors.

JFE Holdings' Board of Directors comprises five directors, including two Outside Directors (both independent directors). 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 members, including two outside members (both independent Audit & Supervisory Board Members), monitors and enhances the soundness of management.

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 Outside Directors were added in June of 2007, and the term of director was shortened from two years to one to make the process of optimizing management structure more flexible and to further clarify responsibilities.

■ Independent Outside Directors

To ensure that independent Outside Directors account for over one-third of the Board of Directors, we appoint multiple independent Outside Directors. These directors leverage their great experience in and in-depth knowledge of managing global companies to help strengthen JFE's governance. Independent Outside Directors are chosen for their independence according to specific criteria set by JFE. The number of independent Outside Directors already exceeds our target ratio.



Standards of Independence for Outside Directors and Audit & Supervisory Board Members of JFE Holdings, Inc. ➔
www.jfe-holdings.co.jp/en/company/h-gaiyo/independence.pdf

■ Independent Outside Audit & Supervisory Board Members

More than half of the members of our Audit & Supervisory Board are outside members. Like in the case of our independent Outside Directors, these members leverage their great experience in and in-depth knowledge of managing global companies to help strengthen JFE's governance and standards of independence, which are specified separately.

■ JFE Holdings Outside Directors and Outside Audit & Supervisory Board Members (as of July 1, 2016)

Position	Name	Major Concurrent Positions
Outside Director	Masafumi Maeda	Professor of Institute of Industrial Science, the University of Tokyo Head of Nidec Center for Industrial Science of Nidec Corporation (part-time)
Outside Director	Masao Yoshida	Chairman of the Board of Furukawa Electric Co., Ltd. Outside Director of FURUKAWA CO., LTD.
Outside Audit & Supervisory Board Member	Hiroyuki Itami	Professor of Graduate School of Innovation Studies, Tokyo University of Science Outside Audit & Supervisory Board Member of Mitsui O.S.K. Lines, Ltd.
Outside Audit & Supervisory Board Member	Shigeo Ohyagi	Chairman of the Board of TEIJIN LIMITED Outside Director of Recruit Holdings Co., Ltd.

■ Support for Directors and Auditors

Directors and Audit & Supervisory Board Members are provided with opportunities and funding support to receive training on laws, corporate governance, risk management and other subjects that help them fulfill their roles and duties. Outside Directors and Outside Audit & Supervisory Board Members are also provided with relevant information and are given opportunities to exchange opinions with the president and other top management, attend key hearings on the operational status of individual departments, and inspect business sites and Group companies.

■ The Nomination Committee and the Remuneration Committee

In October 2015, JFE Holdings set up the Nomination Committee and the Remuneration Committee as advisory bodies to the Board of Directors to secure fairness, objectivity and transparency in the appointment and Remuneration for Directors and Audit & Supervisory Board Members. The majority of committee members are Outside Directors/Audit & Supervisory Board Members and the chairs are chosen from Outside Directors. In FY2015, the Nomination Committee held two meetings and the Remuneration Committee held five.

■ The Nomination Committee and the Remuneration Committee

Committee	Internal Director	Outside Director	Outside Auditor	Chair
Nomination Committee	2	2	2	Masao Yoshida (Outside Director)
Remuneration Committee	2	2	2	Masafumi Maeda (Outside Director)

Executive Compensation

Executive compensation is decided by the Board of Directors or through consultation with Audit & Supervisory Board Members, subject to an upper limit set by the General Meeting of Shareholders. We decided not to pay bonuses to Outside Directors or Inside and Outside Audit & Supervisory Board Members starting from FY2016 and onward based on discussions within the Remuneration Committee.

Executive Compensation (FY2015)

Position	Total compensation, etc. (thousand yen)	Number of executives
Director (excluding Outside Directors)	279,352	4
Inside Audit & Supervisory Board Member	74,734	2
Outside Director/Audit & Supervisory Board Member	44,447	5

Note:

1 The figures include an Inside Director and an Outside Director/Audit & Supervisory Board Member, each of whom left office in FY2015.

2 Compensation is base pay.

Officers whose Consolidated Remuneration Exceeded 100 Million Yen (FY2015)

Name	Position	Company	Per company (thousand yen)	Total (thousand yen)
Eiji Hayashida	Director	JFE Holdings	150,647	150,647
Koji Kakigi	Director	JFE Holdings	9,000	149,657
	Director	JFE Steel	140,657	

Note: All remunerations above are base remunerations.

Analysis and Evaluation of the Effectiveness of the Board of Directors

In FY2015, JFE Holdings began evaluating the overall effectiveness of its Board of Directors based on a questionnaire sent to each Director and Audit & Supervisory Board Member. The president, who chairs the board, interviewed Outside Directors and Outside Audit & Supervisory Board Members to gain a better understanding of the answers and opinions they provided. The questionnaires and interviews confirmed that the board does indeed engage in lively discussions in which members freely exchange opinions with Outside Directors/Audit & Supervisory Board Members, helping to ensure its effectiveness. JFE also gathered suggestions concerning the board's composition, agenda and procedures, based on which the company encouraged the board to engage in even deeper discussions regarding strategic directions and vision, particularly in regard to medium-term planning and other decisions.

Operating System

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

Company	Chairperson	Attendees
JFE Holdings	President	Internal Directors, corporate officers, president of operating companies and full-time Audit & Supervisory Board Members
JFE Steel JFE Engineering JFE Shoji Trade	President	Directors, major corporate officers and Audit & Supervisory Board Members

Optimized Business Systems

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

Operating Company Structures

Company	System
JFE Steel	By center and sector
JFE Engineering	By business division
JFE Shoji Trade	By sales division

Group-wide Management Bodies

Matters shared across the Group, including technology development, IT and CSR, are deliberated by Group-wide bodies.

Group Committees

- JFE Group Technology Development Committee
- JFE Group Information Security Committee
- Public Disclosure Committee
- JFE Group CSR Council

Internal Controls

JFE's internal control system 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.



Basic Policy for Building Internal Control System (in Japanese only) → www.jfe-holdings.co.jp/company/h-gaiyo/naibutousei.pdf

Strengthening Internal Controls

Internal Audits

JFE Holdings, its principal operating companies and key Group companies had internal audit organizations comprising 166 people as of April 1, 2016. These organizations share information to enhance overall auditing within the Group. Internal audit managers of operating companies serve concurrently as internal audit managers of JFE Holdings for stronger ties within the Group.

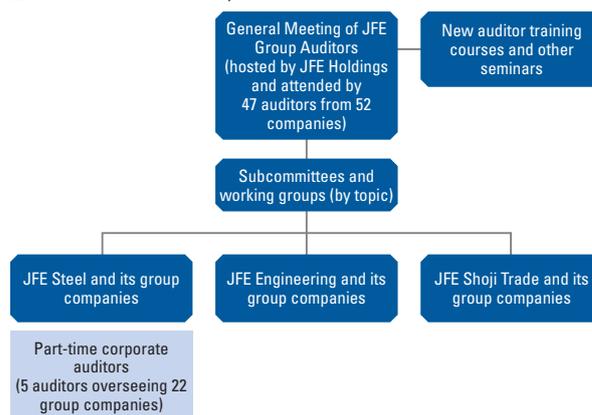
Audits by Audit & Supervisory Board Member

Audit & Supervisory Board Members attend meetings of the Board of Directors and the Management Committee as well as other important meetings. To audit the manner in which directors execute their responsibilities, they conduct hearings with directors and corporate officers regarding operational status and receive operational reports from subsidiaries. In addition to undergoing statutory audits, JFE companies take the following initiatives to ensure the effectiveness of internal auditing by the Audit & Supervisory Board Members and to strengthen coordination among Audit & Supervisory Board Member.

- A total of 47 full-time Audit & Supervisory Board Members have been appointed to 52 companies, including JFE Holdings. Operating company personnel are dispatched to Group companies as part-time Outside Audit & Supervisory Board Members. Each absentee Audit & Supervisory Board Member serves four or five subsidiaries to raise the quality of the audits by their Audit & Supervisory Board Member and enhance Group governance. Five absentee Audit & Supervisory Board Member served 22 companies in total.
- The JFE Board of Auditors includes both fulltime 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 Audit & Supervisory Board Members.

Structure of JFE Group Board of Auditors



Cooperation between Audit & Supervisory Board Members and Accounting Auditors

In FY2015, the Audit & Supervisory Board Members held a total of 19 scheduled or unscheduled meetings with Ernst & Young ShinNihon, JFE's outside accounting auditor, in which the latter presented its audit plan, completed work and detailed results. The firm also presented detailed explanation regarding its quality management system to confirm its validity. In turn, the Audit & Supervisory Board Members explain their own audit plans and other matters to the firm. The two sides also shared opinions on various related matters.

Cooperation between Audit & Supervisory Board Members and Internal Auditing Department

In FY2015, the Audit & Supervisory Board Members held five scheduled or unscheduled meetings with the internal auditing department in which the latter presented its internal audit plan, work status and detailed results. During the meetings, the Audit & Supervisory Board Members also shared opinions with the department.

Operating Company Governance

Some directors, corporate officers and Audit & Supervisory Board Members of JFE Holdings serve concurrently as directors and Audit & Supervisory Board Members of the operating companies to strengthen governance and information sharing across the Group. To strengthen governance, JFE Holdings managers attend each operating company's General Meeting of Shareholders and Management Planning Briefing, receive reports on their activities, discuss managerial policies and engage in other forms of shareholder oversight as representatives of the holding company.

CSR Management

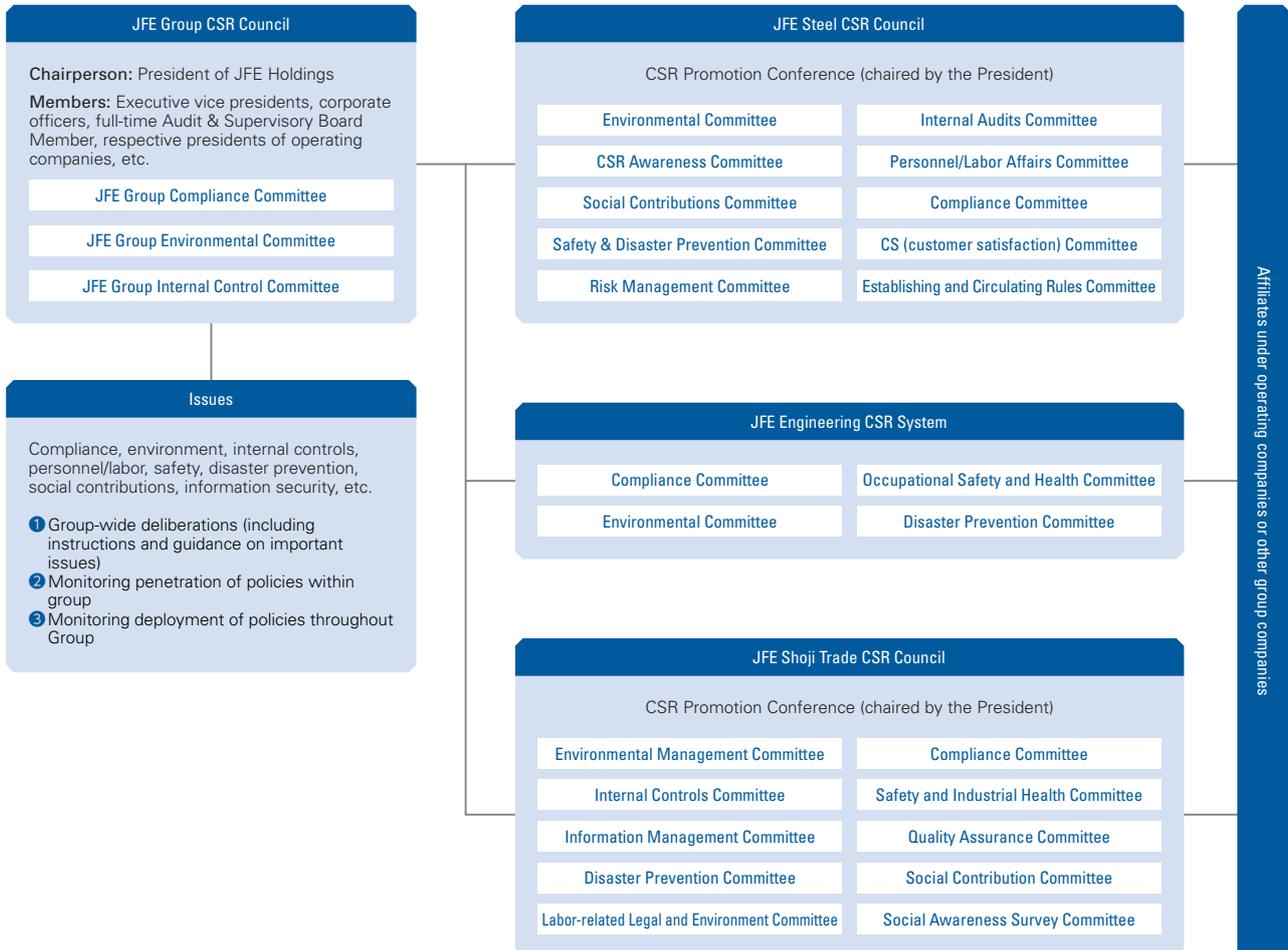
JFE CSR System

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 throughout JFE.

CSR Structure



Compliance

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 works continuously to strengthen related systems and implement 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 and to ensure rigorous adherence to corporate ethics.

JFE also has a Compliance Council, chaired by the president, which generally convenes on a quarterly basis to deliberate basic policies and key issues and to supervise their implementation. Each operating company also has its own system for promoting and supervising compliance through similar committees. In addition, operating companies have introduced a Corporate Ethics Hotline to ensure that important information regarding compliance is directly communicated from the 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 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. Useful examples of 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. Also included are case studies unique to the business of each operating company.

Compliance Training

JFE conducts compliance training on topics such as the Antimonopoly Act, regulation for insider trading, security export controls, the Construction Business Act, prevention of bribery of public officials and responding to antisocial forces. Compliance education includes training for managers and new hires.

Compliance Training at Operating Companies and their Subsidiaries

Company	Group Training		E-learning
	Courses	Attendees	Participants
JFE Steel	85	3,238	748
JFE Engineering	118	3,421	7,379
JFE Shoji Trade	101	1,792	2,796

Compliance Awareness

Every October, JFE Steel observes its internal Compliance Month and conducts compliance-awareness activities. Every department in Japan and overseas organizes sessions in which participants read legal texts, internal regulations and other information 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 reconsider if their work practices are compliant. Based on activities conducted during Compliance Month, work practices and company rules are revised as required.

JFE Engineering provides the latest compliance information through Legal News, a newsletter issued by its Legal Affairs Department, and by posting training materials on the company intranet.

JFE Shoji Trade conducts its own biannual Compliance Month, during which employees read internal regulations, other rules and the Compliance Guidebook, as well as take part in discussions to deepen understanding and awareness. Similar activities are conducted for non-Japanese employees of other Group companies in their own languages in Japan and overseas.

Antimonopoly Law Compliance

JFE Steel and JFE Engineering view past violations of the Antimonopoly Law seriously and continue to implement thorough measures to eliminate 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 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 to learn 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 conducts surveys on the state of legal compliance and organizational membership and records contacts with companies operating in the same markets.

Basic Policy on Preventing Bribery of Public Officials

The bribery of foreign public servants has emerged as a major business risk as international awareness of anti-corruption becomes increasingly acute and charges filed by authorities become increasingly severe. To address this issue, the JFE Group established the Group Basic Policy on Preventing Bribery of Public Officials in February 2015 and disseminated it throughout the global Group. Operating companies are also developing their own systems to prevent the bribery of foreign public servants.

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 organized crime. In addition, 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.

Ethics Awareness Surveys

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.

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. To encourage the active sharing of information, the hotline is operated under rules and regulations that protect people who report information or seek advice. The system, which is open to all Group companies, enables users to directly report to or seek the advice of Audit & Supervisory Board Members. Whistleblowing and requests for advice are regularly reported to full-time Audit & Supervisory Board Members, and the operational status of the system is reviewed by the Board of Directors.

■ Cases Handled by Corporate Ethics Hotline

Company	2013	2014	2015
JFE Holdings and operating companies (JFE Steel, JFE Engineering and JFE Shoji Trade)	42	40	51

Risk Management System

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 CSR Council collects pertinent information to support efforts to reduce the frequency and impact of risks. The executive officer responsible for risk 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 assessed for possible deliberation and the deployment of countermeasures.

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 and implements all necessary measures. Training on the topic is provided regularly 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, and by exercising intellectual property rights to protect and build on such achievements.

■ Privacy Protection

The Basic Policies for Protection of Personal Information accord with JFE's internal rules for information management. Employees are informed and educated about these rules and other applicable laws and ordinances. For information containing personally identifiable numbers under the Social Security and Tax Number System, JFE implements security-control measures and handles information in accordance with the government's Guidelines for Proper Handling Specified Personal Information.

■ Information Security

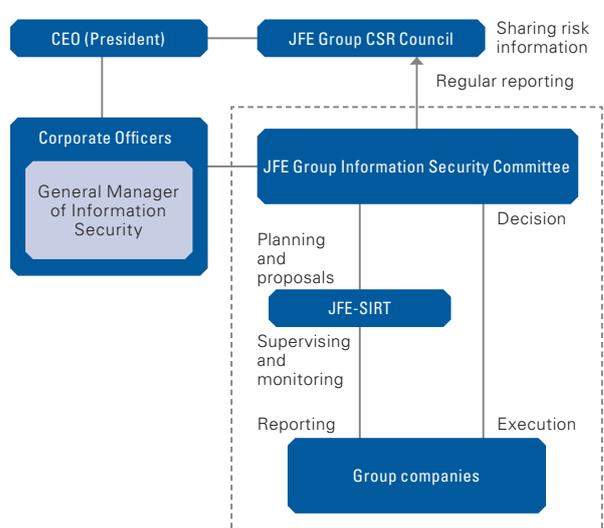
JFE's Information Security Management Regulations helps to prevent the improper use or leakage of information within the Group. The regulations are regularly revised and measures are strengthened by drawing on information and examples of external incidents. Implementation is strengthened by providing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

In June 2015, the JFE Group Information Security Committee was established to deliberate key issues related to information security (the original name, JFE Group IT Committee, was changed to the current name in April 2016). The JFE-Security Integration and Response Team (JFE-SIRT), which responds to information security incidents, was set up in April 2016. JFE-SIRT, which is composed of the information system departments of key Group companies, has the following primary roles:

1. Planning and promoting a common information security infrastructure for the Group
2. Disseminating the latest security information throughout the Group
3. Working for any early recovery following any incident
4. Developing and reviewing rules concerning information security
5. Serving as a contact for consultation on information security

In January 2016, JFE joined the Nippon CSIRT Association to share security-related information with companies experiencing the challenges of recognition and cooperation in the event of an incident.

■ Information Security Governance System



Major Security Initiatives

Prevention of Improper Use of Information

- 1 Authentication measures in JFE's integrated security system
- 2 Personal computer authentication using passwords, and additional factors (IC cards, etc.)

Prevention of Information Leaks

Measures against Loss or Theft

- 1 Biometric authentication for server room access
- 2 Office-access control
- 3 Use of security wires to protect hardware
- 4 Hard disk encryption for mobile computers
- 5 Encryption of removable media

Measures against Information Leaks

- 1 Limits on use of removable media and maintenance of logs
- 2 Checking e-mail sent to external parties
- 3 Retention of all e-mail sent to internal and external parties
- 4 Restricted use of external services (Web e-mail, online bulletin boards, file sharing, etc.)
- 5 Preventing access to Group network via unauthorized computers

Measures against External Threats

- 1 Firewall restrictions on outside access
- 2 Detecting and protecting against suspicious communications
- 3 Anti-malware measures

Disaster Response

The JFE Group's disaster-response system, part of business continuity planning, includes steps to assure employee safety and the provision of emergency manuals.

 JFE Steel conducts annual drills for large-scale earthquakes and 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 more disaster resilient.

 All employees at JFE Engineering are issued the Earthquake Disaster Manual, which draws on lessons learned from the Great East Japan Earthquake, to be sure they know what to do during a major disaster.

 JFE Shoji Trade has created manuals on initial responses and procedures for workplace managers, developed emergency communication methods, provisioned emergency food supplies and established a system for confirming the safety of employees and their families. The company also conducts comprehensive disaster-response exercises and drills that cover Group companies as well.

Protecting the Environment

JFE Group CSR Report 2016

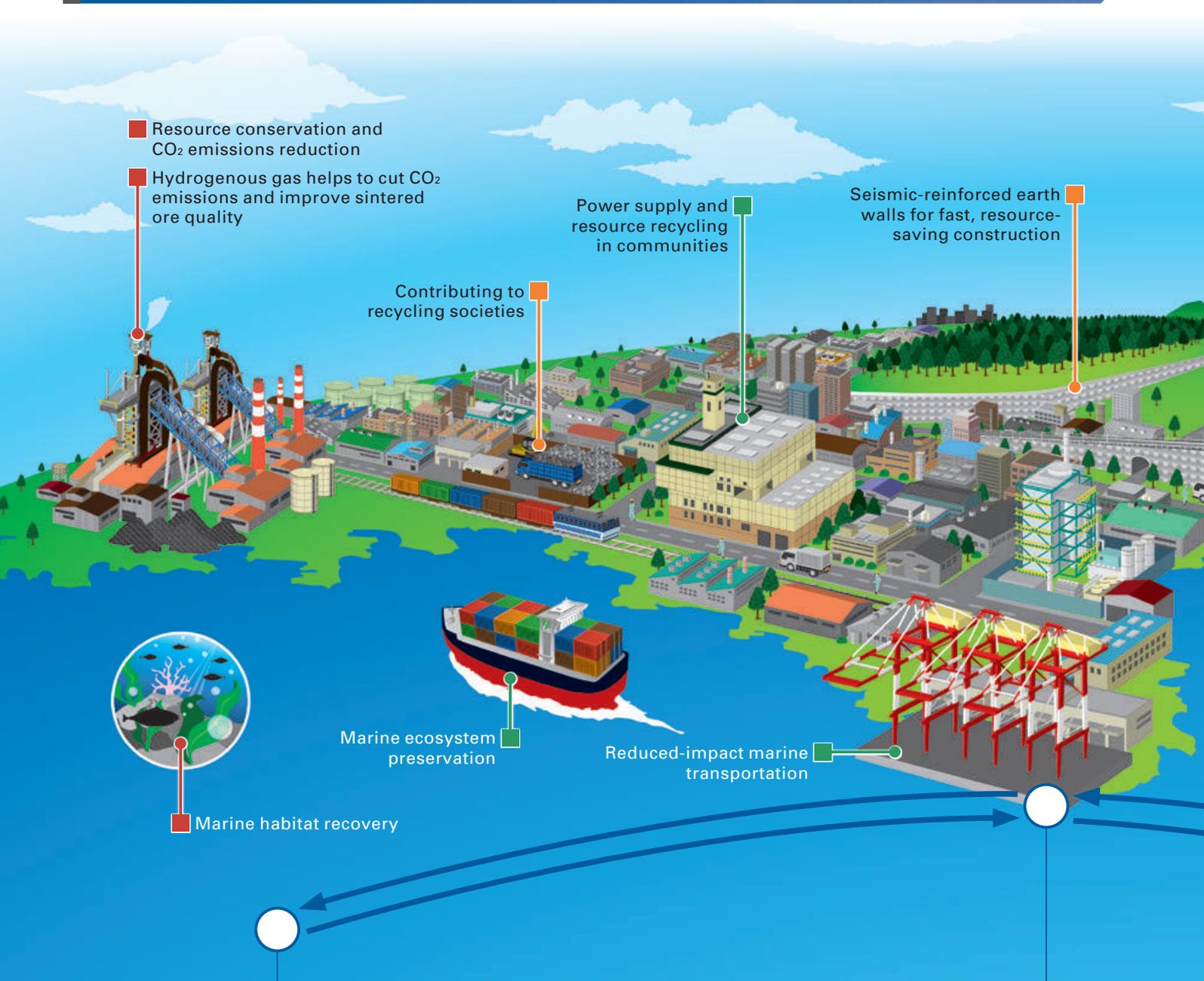
Management

Protecting the Environment

Contributing to Society's Development



Innovative World-Class Technologies for Sustainable Societies



JFE's Eco-friendly Technologies

PP. 23-24

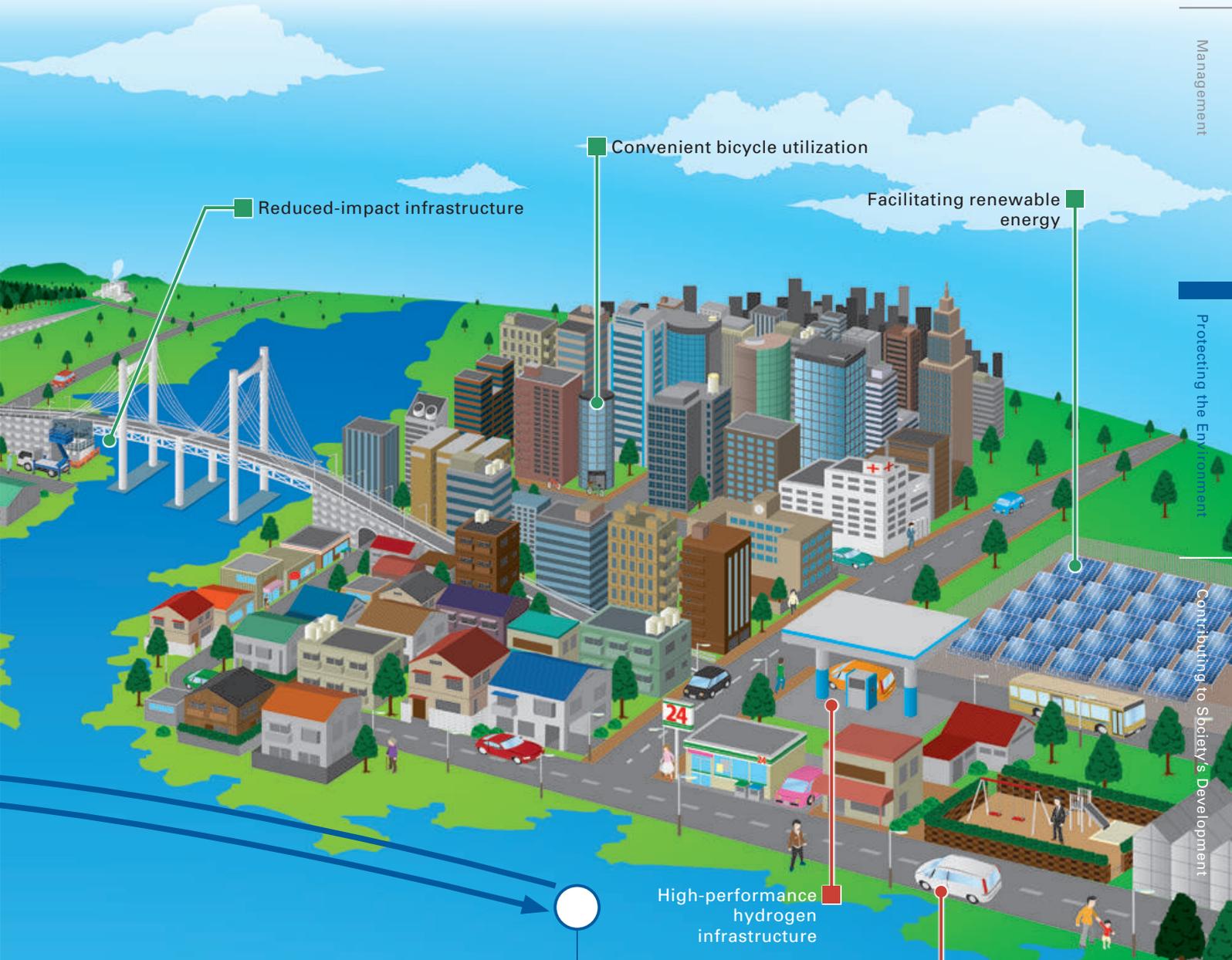
JFE technologies are used widely for environmental protection, including reduced-impact business, global warming countermeasures, resource recycling and biodiversity preservation.

JFE Supports Daily Life

PP. 25-26

JFE technologies are also used for infrastructure that supports daily life, including roads and waste treatment.

JFE's innovative, world-class technologies can be found in manufacturing sites and products throughout society. Many of these technologies help to protect the global environment to enable JFE to remain in a more harmonious relationship with the environment, ultimately for the prosperity of society. World-leading technologies from JFE also contribute to the formation of sustainable societies.



Reduced-impact infrastructure

Convenient bicycle utilization

Facilitating renewable energy

High-performance hydrogen infrastructure

High-performance steel for lighter vehicles

JFE Technologies Around You

PP. 27-28

JFE technologies even can be found in car and bicycles parking lots, further examples of how JFE is helping to protect the environment.

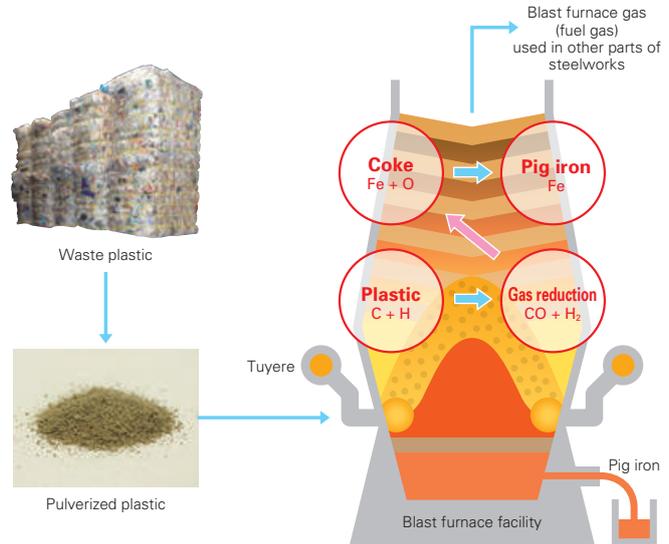
JFE's Eco-friendly Technologies

JFE's innovative, world-class technologies contribute to environmental-protection initiatives, including the reduction of greenhouse gas emissions, resource recycling, biodiversity protection, reduced-load production processes and environmentally sound products and services.

Resource Conservation and CO₂ Emissions Reduction

Injecting Waste Plastic into Blast Furnaces

S JFE Steel became the world's first company to develop and commercialize a total process to recycle waste plastic as a reducing agent and blow it into blast furnaces in 1996. The process uses less coke to remove carbon from iron ore, thereby reducing CO₂ emissions from blast furnaces. In 2007, JFE Steel commercialized pulverization technologies for waste plastic that reduce blast-furnace iron ore with increased efficiency, leading to further resource conservation and CO₂ emissions reduction. In FY2015, CO₂ emissions from the company's entire steelmaking processes were reduced by 260,000 tons.

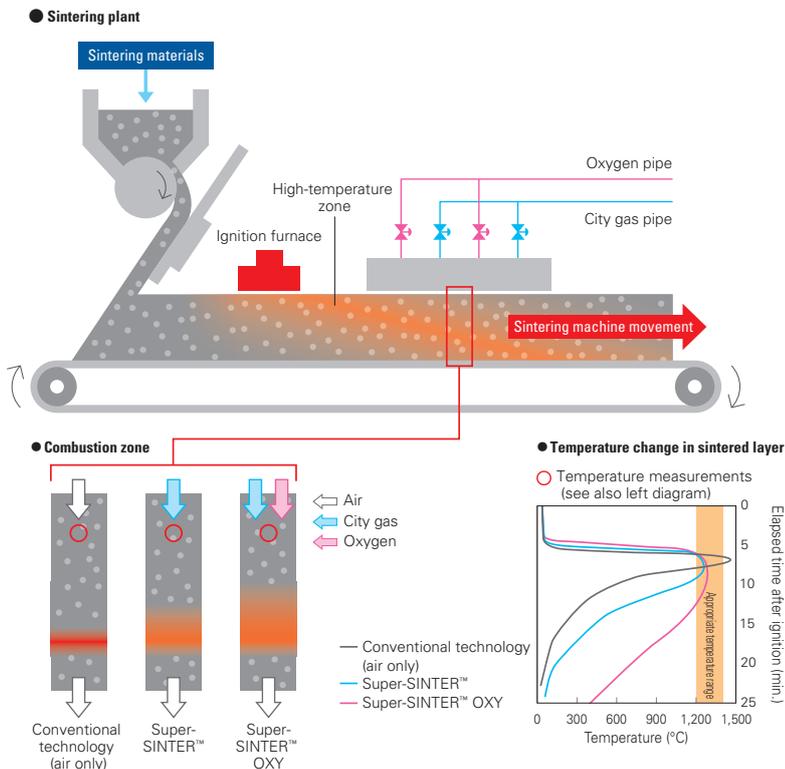


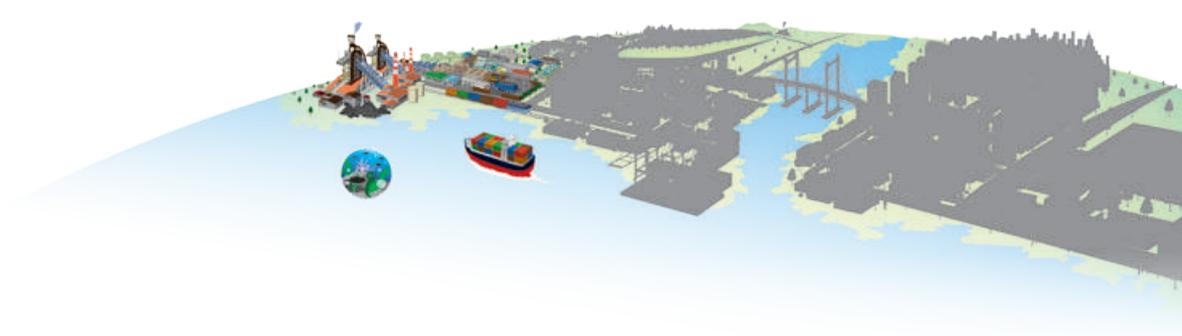
CO₂ Emissions Reduction and Improved Productivity

Super-SINTER™ and Super-SINTER™ OXY

S 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. The Super-SINTER™ system 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, and it eventually will be installed in all other sintering machines. By dramatically improving productivity for high-quality sintered ore, JFE Steel has lowered the coke rate and resulting CO₂ emissions of its blast furnaces. In FY2015, JFE Steel received the Global Warming Prevention Minister of the Environment Award for this advanced technology.





Marine Habitat Recovery

Marine Stone™

S Marine Stone™ is a granularity-adjusted iron and steel slag capable of suppressing hydrogen sulfide that arises from sludge-like bottom sediment in harbors and other enclosed areas of saltwater bays. The result is improved environments for supporting marine life. In recognition of the product's effectiveness in recovering marine environments, the company and Hiroshima University jointly received 12th Eco-Products Awards – Minister's Prize from the Ministry of Agriculture, Forestry and Fisheries. A total of 38,000 tonnes of Marine Stone™ were used in the Fukuyama Port Marine Environment Creation Project (inner harbor area).



Seaweed growing on Marine Stone™



Marine Ecosystem Preservation

JFE Ballast Ace™

E JFE Ballast Ace™ is a water treatment system that removes marine organisms and disinfects seawater in the ballast tanks of ships. The system prevents the disturbance of local ecosystems when ocean-going ships travel great distances and then, after arriving at their destinations, discharge their ballast water containing foreign marine organisms. 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.

Contributing to Recycling Societies

Recycling Scrap

T The recycling rate of steel cans exceeds 90% in Japan. Because these products maintain good quality as scrap with high energy efficiency, their recycling helps to save resources and energy on a global scale. JFE Shoji Trade sells steel scrap both in Japan and to Asian countries. The exported scrap is mainly transported by bulk carrier, so JFE Shoji Trade introduced a simplified container-loading system that facilitates small-lot shipments of such cargo. By eliminating the need for a bulk-cargo berth, the system facilitates exports to Asian countries that have underdeveloped seaport infrastructure, thereby contributing to the expansion of global recycling.



JFE Supports Daily Life

Technologies from JFE are incorporated in roads, waste-treatment facilities and other infrastructure that supports daily life and also helps to reduce environmental impact.

Reduced-impact Infrastructure

Building and Maintaining Transport Infrastructure

E A high level of technological expertise is required to carry out projects to widen/reinforce bridges or alleviate problems related to increased traffic or road deterioration. JFE Engineering, which boasts vast experience in the construction of bridges, is fully qualified to improve key transportation infrastructure and extend its service life. The company places a priority on reducing the environmental impact of such construction and maintenance work.



Power Supply and Resource Recycling in Communities

High-efficiency Power Generation at Waste Plant

E The Hyper 21 Stoker System is a waste-power generation system incorporating JFE Engineering’s proprietary cutting-edge, high-temperature air combustion technology. This technology enables communities to meet their power and recycling needs with industry-leading efficiency. Also, the JFE Hyper Remote™ monitoring system, first deployed at JFE Engineering’s own Yokohama headquarters in 2014, achieves highly efficient power generation. JFE Engineering will continue to work with communities to help them realize low-impact projects aligned with their specific needs.





Reduced-impact Marine Transportation

High-efficiency Container Crane for Improved Port Logistics

E Marine transportation has increased due to the expanding global economy and a modal shift in long-distance mass transportation aimed at reducing CO₂ emissions. JFE Engineering, responding to the demand for more efficient physical-distribution solutions in ports, delivered Japan's first crane that is compatible with the world's largest container ships. Going forward, the company will continue to advance marine-transport efficiency by constructing large container cranes and container warehouses that help to lower environmental impact.



Reinforced Earth Walls for Fast, Resource-saving Construction

Reinforced Earth (Terre Armée) Construction Method

T Terre Armée, or reinforced earth, is a construction method involving vertical embankments that are reinforced with steel strips. This topography-conforming, earthquake-resistant method is highly suited to Japan, where vertical structures are valued for their effective use of limited land area. The method is particularly suited to road construction and other infrastructure development. Half a century after being introduced in Japan, it is now being adopted for applications such as residential land and waterfront development.

JFE Technology Around You

JFE's impact-reducing technologies are even found in automobile and bicycle parking lots. JFE also develops technologies for personal energy-saving and environmental protection.

High-performance Steel for Lighter Vehicles

UNI HITEN™

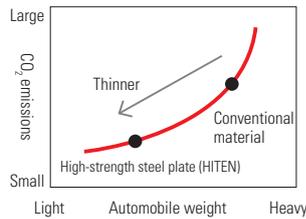
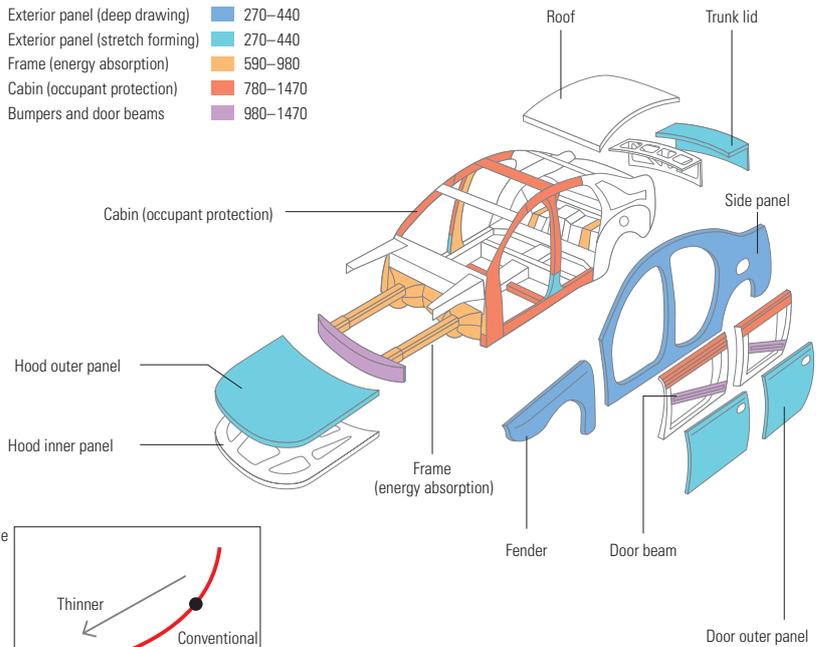
S Raising the tensile strength of steel plates for automobiles allows helps reduce vehicle weight for reduced CO₂ emissions while still maintaining collision safety. JFE Steel has developed high-strength UNI HITEN™ for exterior body panels and cold-rolled, galvanized high tensile steel offering high formability for vehicle frames.



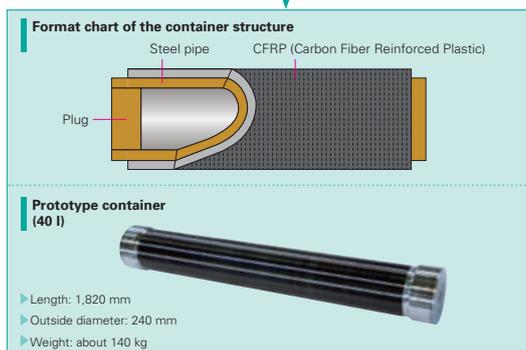
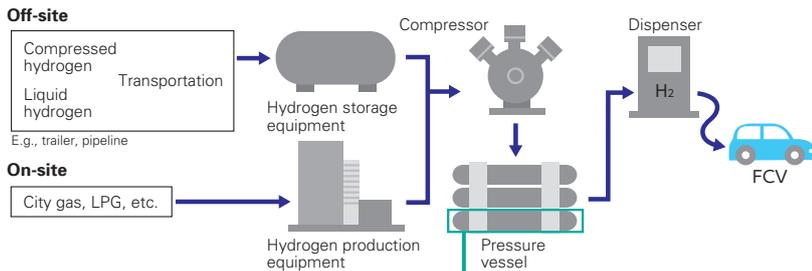
Thin-walled HITEN offers collision energy absorption equivalent to conventional materials

HITEN specifications can be adjusted for specific components to achieve the right balance between weight reduction and strength to effectively reduce CO₂ emissions.

Component type	Tensile strength (MPa)
Exterior panel (deep drawing)	270–440
Exterior panel (stretch forming)	270–440
Frame (energy absorption)	590–980
Cabin (occupant protection)	780–1470
Bumpers and door beams	980–1470



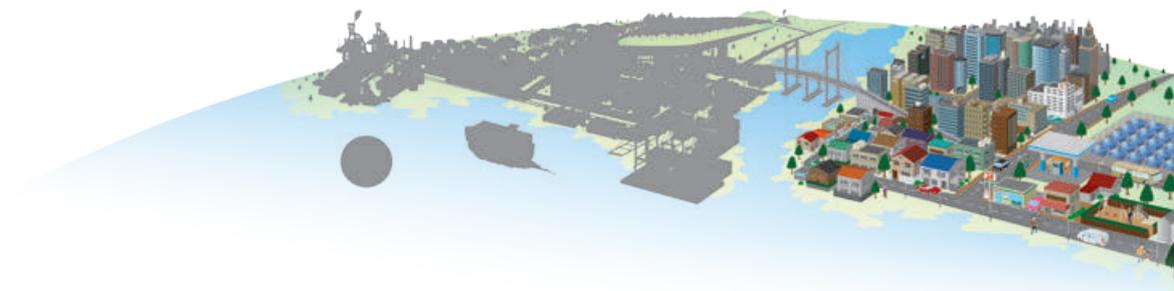
Scheme for Hydrogen-energy Society



High-performance Hydrogen Infrastructure

Pressure Vessel for Hydrogen Stations

S Hydrogen-based energy, which does not emit CO₂, is expected to be used widely in low-carbon societies. JFE Steel is developing pressure vessels to store hydrogen gas at hydrogen stations that are expected to be commercialized in Japan by 2018. The company's proposal for this solution was adopted as a hydrogen technology research and development project by the New Energy and Industrial Technology Development Organization (NEDO). Proprietary technology will reduce the production cost of vessels and extend their service life, thereby improving the practicality of hydrogen stations.



Convenient Bicycle Utilization

Cycle Tree®

E Cycle Tree® is a mechanical parking solution for bicycles that realizes high capacity and fast entry/exit in confined spaces, such as near urban train stations or inside buildings. JFE Engineering has developed a wide variety of designs to suit the needs of various locations, including a world's-first rooftop solution deployed at a commercial building in Osaka, Japan. Through sales of Cycle Tree®, the company looks forward to encouraging the increasingly wider use of eco-friendly bicycles.



Facilitating Renewable Energy

Photovoltaic Power Generation

E 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 110 EPC (engineering, procurement and construction) orders totaling more than 580 MW by the end of FY2015, and it also conducted power generation on its own at eight locations, amounting to 40 MW. Looking ahead, the company will continue providing innovative solutions to facilitate the increased adoption of renewable energy, such as the installation of unobtrusive solar panels conforming to the topographical features of a former golf course.

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 related to protecting 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



Environmental Management System

Acquisition of ISO 14001 certification is an important part of each JFE company's voluntary environmental program. All production sites of JFE Steel and JFE Engineering and major business offices of JFE Shoji Trade in Japan and abroad have received certification, encompassing 77% of 34,701 employees at 76 companies covered in this report.

S JFE Steel has an 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 began implementing a company-wide environmental management system focusing on ISO 14001:2015. The company's environmental strategy, which targets all employees, consists of contributing to the environment through products and services, reducing the environmental impact of its business and ensuring compliance with environmental laws. 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 75 business sites of 21 group companies, including seven manufacturing firms in Japan, enabling environmental management throughout the JFE Shoji Trade group. Overseas, 13 manufacturing group companies have 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.

S Once a year, the head office's Audit Department and the Environment, Disaster Prevention and Recycling Department of JFE Steel conduct an environmental audit at each operational site. Group companies are grouped based on risk assessments concerning equipment, etc. using a self-check sheet, part of an extensive audit conducted every one to five years. A total of 189 business sites of JFE Steel companies require auditing, of which 31 were audited in FY2015.



Environmental audit of a Group company

E JFE Engineering places a top priority on compliance with environmental laws and regulations. It conducts environmental inspections of all construction sites to confirm legal compliance in daily operations. In addition, each year about 50 sites are selected from among manufacturing sites in Tsurumi and Tsu, Japan, construction sites in Japan and group company sites for auditing by the Safety and Environment Department, which evaluates their compliance with environmental laws and regulations.

T At JFE Shoji Trade, the Environmental Management Team of the head office's Audit Department conducts an environmental audit of all group companies in Japan, generally on a three-year cycle. The audit primarily focuses on confirming legal compliance related to noise and vibrations at manufacturing affiliates and for waste at sales affiliates.

Environmental Education

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

S JFE Steel encourages employees to obtain qualifications as pollution-control managers. In FY2015, 82 persons were qualified, bringing the total to 1,317 people since 2005. A training program launched in FY2011 for environmental managers in group companies was held three times in FY2015. In addition, JFE Steel provides employees with annual training to ensure compliance with environmental laws, and it disseminates regulatory revisions at its semi-annual Environmental Liaison Committee meetings for companies in its group. Training to brush up the waste-management skills of on-site personnel takes place four times a year.

E JFE Engineering provides education on general environmental issues to raise 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 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.

T 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 provides general training on environmental issues for all employees and special training for internal audit staffers, both annually. It also provides information on regulatory revisions and laws and regulations to employees responsible for environmental management at group 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 ¥35.1 billion and expenses amounted to ¥123.2 billion in FY2015. In terms of capital expenditure, ¥17.8 billion was invested in air-pollution countermeasures, followed by ¥13.4 billion for energy savings and other measures to prevent global warming, and ¥2.1 billion to prevent water pollution.

Expenses for environmental activities included ¥34.1 billion for global-warming countermeasures, ¥38.5 billion for air-pollution countermeasures and ¥17.8 billion for industrial water recycling. Environmental R&D expenses came to ¥12.9 billion. Environmental capital investment as a percentage of overall capital investment was roughly 28%.

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 ¥466.2 billion since 1990, has enabled JFE to achieve energy efficiencies that are among the highest in the world. In total, JFE has invested ¥634.0 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 largest environmental capital investment in FY2015 was for facilities to address dust and soot emitted from coke ovens. Because the amount of dust and soot from coke ovens tends to increase as the ovens age, investments in dust collection equipment were made to avoid this problem. The monetary value of energy savings realized through environmental capital investments and expenses in FY2015 is estimated at about ¥7.0 billion.

Breakdown of Environmental Costs

Main Items		FY2014		FY2015	
		Investment (million yen)	Cost (million yen)	Investment (million yen)	Cost (million yen)
Management	Impact monitoring and measurement, EMS expenses and education	10	2,400	100	2,400
Global warming countermeasures	Energy-saving and efficient use of energy	9,300	37,900	13,400	34,100
Conservation of natural resources	Recycling industrial water	1,800	18,500	600	17,800
	Recycling and waste management of internally generated materials, etc.	10	5,400	40	5,200
Environmental protection	Air pollution countermeasures	6,100	37,300	17,800	38,500
	Water pollution countermeasures	1,500	9,500	2,100	10,000
	Prevention of soil contamination, noise, vibration and subsidence	70	1,100	3	900
Other	Charges, etc.	-	1,400	-	700
R&D	Technologies for protecting the environment, saving energy and preventing global warming	1,500	12,200	1,100	12,900
Societal activities	Support for nature preservation and forestation, information disclosure, exhibitions and public relations	-	900	-	700
Total		20,300	126,600	35,100	123,200

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

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 not only to all laws and regulations, but also procurement principles stated in the Charter of Corporate Behavior developed by the Japan Business Federation. Going forward, JFE expects to accelerate such efforts in its 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 supplying 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.

■ Preventing Pollution

JFE complies with pollution regulations, including through investment in environmental protection. Its transfer and widespread application of proprietary technologies, mainly in developing countries, also are contributing to pollution prevention on a global scale. In addition, related internal controls and education are steadily being strengthened to ensure compliance with laws and regulations.

■ Resource Recycling

Economic growth in emerging countries is intensifying the need to conserve nonrenewable resources and prevent pollution. Addressing these issues requires a gradual decoupling of resource use and economic growth on a global scale, so JFE is raising 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.

■ 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 offers 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. JFE contributes to sustainable societies with products and services that are created with world-leading energy-saving and environmental technologies.

Main Environmental Targets and Results

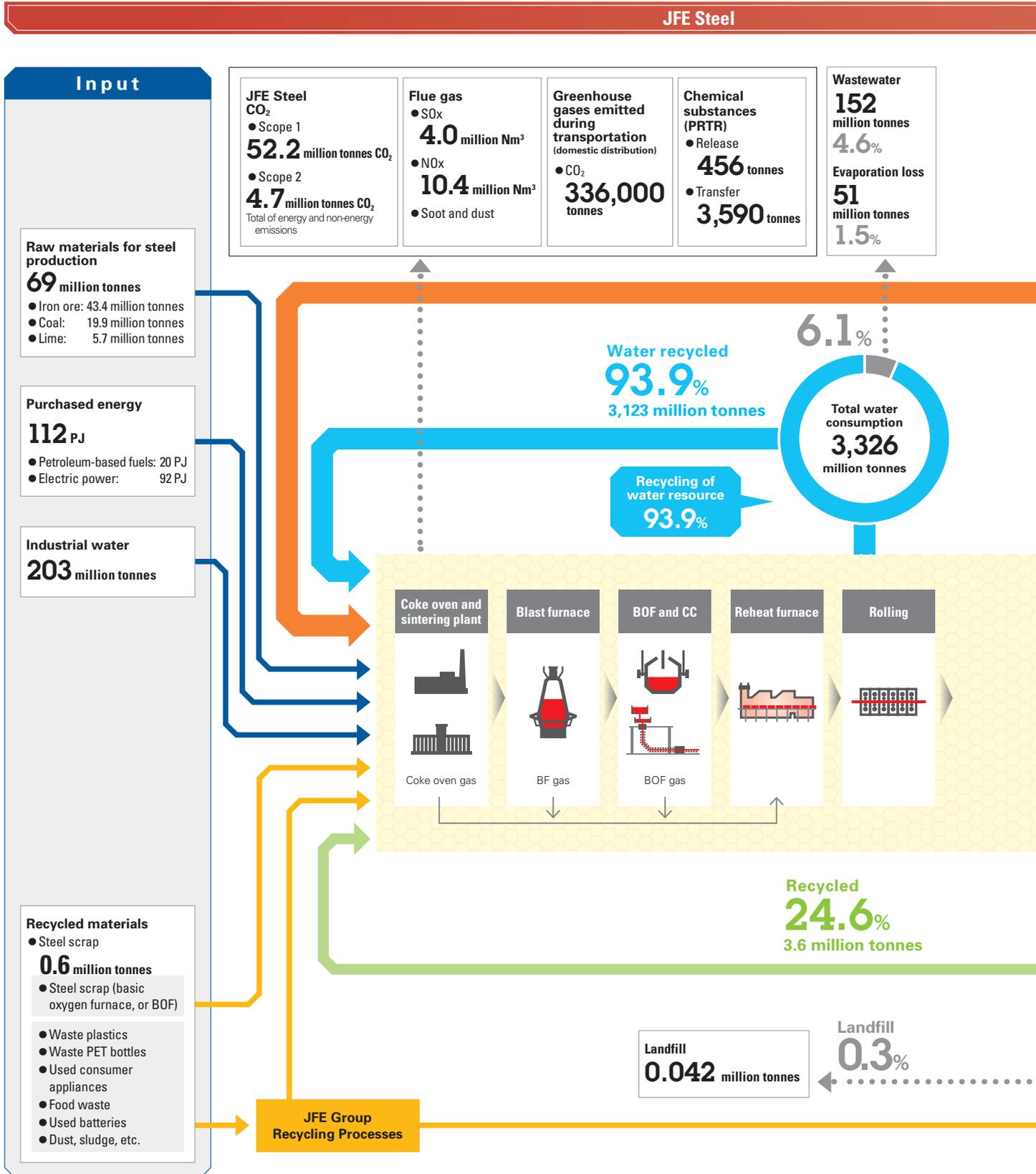
		FY2015 Targets
Management	JFE Steel	<ul style="list-style-type: none"> Continue to improve environmental management systems, including in Group companies
		<ul style="list-style-type: none"> Voluntary activities for environmental preservation
	JFE Engineering	<ul style="list-style-type: none"> Conduct environmental inspections at all construction sites Enhance Group-wide environmental compliance
	JFE Shoji Trade	<ul style="list-style-type: none"> Continue to self-confirm legal compliance
Global Warming Prevention	JFE Steel	<ul style="list-style-type: none"> Continue to implement measures under the Japan Iron and Steel Federation's Low-Carbon Society Action Plan, which aims to reduce CO₂ emissions by five million tonnes by 2020 compared to business as usual
	JFE Engineering	<ul style="list-style-type: none"> Reduce CO₂ emissions and other environmental loads through products and services, including R&D, planning and design targets in each division
	JFE Shoji Trade	<ul style="list-style-type: none"> Reduce electricity consumption Reduce copy paper usage
Pollution Prevention	JFE Steel	<ul style="list-style-type: none"> Cut dioxins emissions to less than 5.5 g-TEQ per year on average between FY2012 and FY2016 under a new reduction plan in Japan
Resource Recycling	JFE Steel	<ul style="list-style-type: none"> Reduce dust and sludge and promote increased recycling Kurashiki: Reduce volume of waste by turning oil-containing sludge into a valuable resource Reduction: 2,100 tonnes → 3,000 tonnes
	JFE Engineering	<p>Set targets for each division relevant to the nature of work at construction sites, using the following minimum values:</p> <ul style="list-style-type: none"> Recycle at least 99.5% of rubble Recycle at least 95.0% of sludge Recycle at least 85.0% of other industrial waste

○: Target exceeded △: Target partially achieved ×: Target not achieved

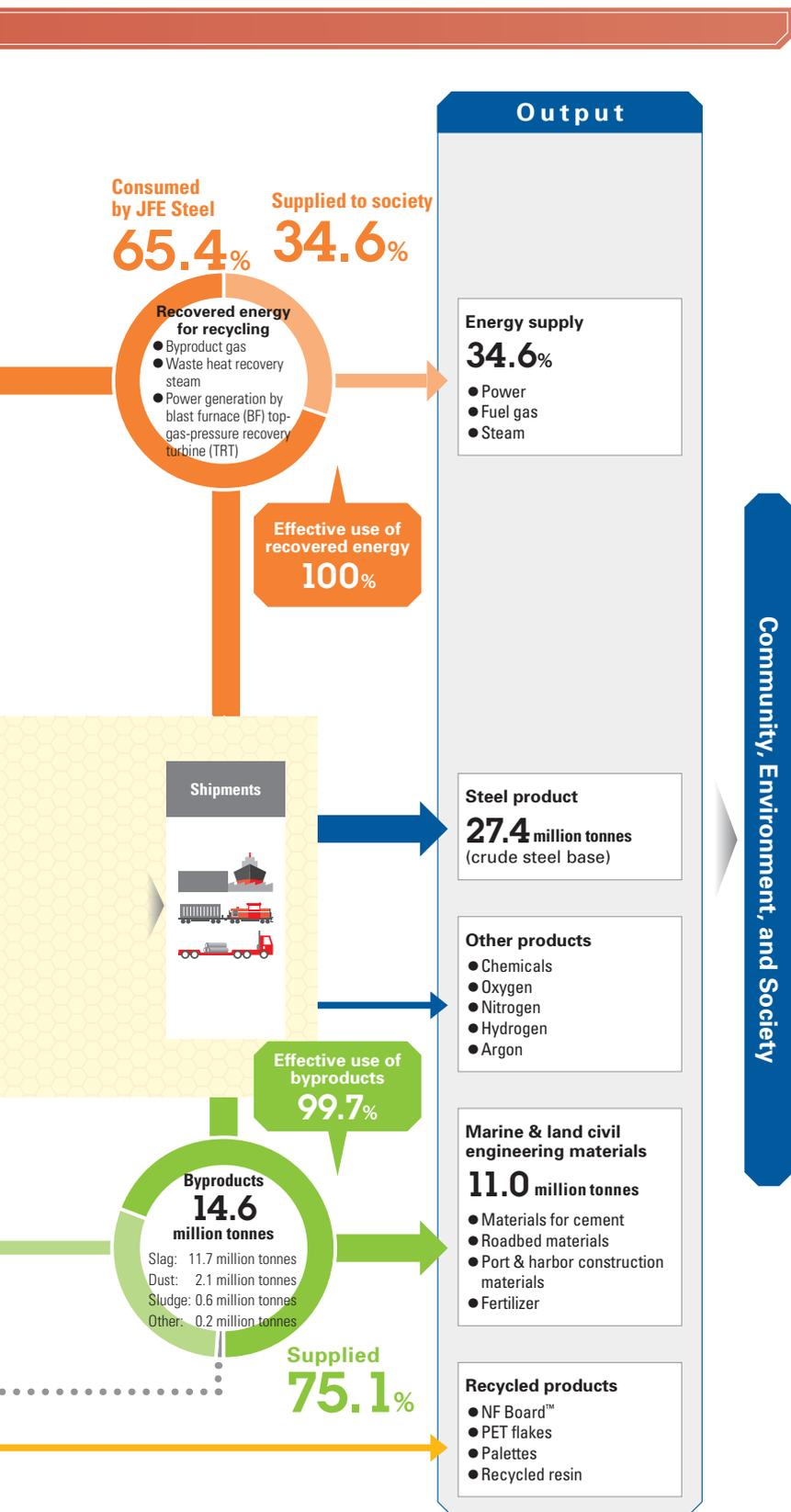
	FY2015 Results	Evaluation	FY2016 Targets	Pages
	<ul style="list-style-type: none"> ● Group Liaison Committee met twice to discuss compliance with environmental laws and regulations ● Uniformly confirmed and followed up on legal compliance 	○	<ul style="list-style-type: none"> ● Continue to improve environmental management systems, including in Group companies 	29
	<ul style="list-style-type: none"> ● Conducted environmental management training for new managers (three times for 67 participants) ● Conducted environmental auditing at all of JFE Steel's manufacturing sites and 31 offices of Group companies 	○	<ul style="list-style-type: none"> ● Voluntary activities for environmental preservation 	30
	<ul style="list-style-type: none"> ● Conducted environmental inspections at all construction sites ● Conducted a Group-wide environmental compliance audit 	○	<ul style="list-style-type: none"> ● Conduct environmental inspections at all construction sites ● Enhance Group-wide environmental compliance 	30
	<ul style="list-style-type: none"> ● Self-confirmed legal compliance ● Conducted environmental management training for 22 newly appointed officers of Group companies ● Conducted environmental audit of Group companies 	○	<ul style="list-style-type: none"> ● Continue to self-confirm legal compliance 	30
	<ul style="list-style-type: none"> ● Continued Eco-Processes, Eco-Solutions, Eco-Products ("Three Ecos") initiative and COURSE 50 program for developing innovative steelmaking processes 	○	<ul style="list-style-type: none"> ● Continue to implement measures under the Japan Iron and Steel Federation's Low-Carbon Society Action Plan, which aims to reduce CO₂ emissions by five million tonnes by 2020 compared to business as usual 	37-40
	<ul style="list-style-type: none"> ● Achieved 53 targets established company-wide (23 to prevent global warming, 15 for resource recycling, 13 to prevent pollution and 2 for others) 	○	<ul style="list-style-type: none"> ● Reduce environmental loads through products and services Assess reduction of environmental loads (e.g., CO₂ emissions reduction) of products and services, set targets and implement measures to achieve them 	41, 47-48
	<ul style="list-style-type: none"> ● Reduced electricity consumption by 53% compared to FY2001 	○	<ul style="list-style-type: none"> ● Reduce electricity consumption 	41
	<ul style="list-style-type: none"> ● Reduced copy paper usage by 13% compared to FY2001 	○	<ul style="list-style-type: none"> ● Reduce copy paper usage 	41
	<ul style="list-style-type: none"> ● Achieved emissions below 3.6 g-TEQ per year (5-year average) 	—	<ul style="list-style-type: none"> ● Cut dioxins emissions to less than 5.5 g-TEQ per year on average between FY2012 and FY2016 under a new reduction plan in Japan 	—
	<ul style="list-style-type: none"> ● Kurashiki: Reduced volume of organic sludge Reduction: 3,400 tonnes in FY2015 	○	<ul style="list-style-type: none"> ● Reduce dust and sludge and promote recycling efforts 	45
	<ul style="list-style-type: none"> ● Achieved all targets for 7 divisions involved in construction work ● Recycled 99.9% of rubble ● Recycled 99.9% of sludge ● Recycled 91.7% of other industrial waste 	○	<ul style="list-style-type: none"> Set targets for each division relevant to the nature of work at construction sites, using the following minimum values: ● Recycle at least 99.5% of rubble ● Recycle at least 95.0% of sludge ● Recycle at least 85.0% of other industrial waste 	45

Material Flow

JFE Steel works to reduce the environmental impact its steelmaking processes, including through the effective use of resources. The company recycles 93.9% of the water it uses for production and uses 99.7% of its byproducts, such as iron-steel slag. In addition, 100% of gas byproducts generated during production is reused as fuel for reheating slabs, generating power for internal use and supplying power to the public



→ Supply ••• → Emissions



JFE Engineering (Head Office and Works)

Input	
Steel	32,893 tonnes
Energy	
• Electric power purchased	27.3 GWh
• Class A heavy oil	516.4 kl
• Kerosene	8.3 kl
• Light oil	205.7 kl
• Gasoline	12.5 kl
• City gas	386,043 Nm³
• LPG	110.1 tonnes
Water	94,924 tonnes

JFE Engineering	
• Tsurumi Works	
• Tsu Works	

Output and Emissions	
Products	31,150.3 tonnes
CO₂	18,285 tonnes
Flue Gas	
• NO _x	91.0 ppm
• Soot and dust	0.0050 g/Nm³
Waste generated	1,349.1 tonnes
Wastewater	165,407.0 tonnes
Others (PRTR)	127.9 tonnes

Management

Protecting the Environment

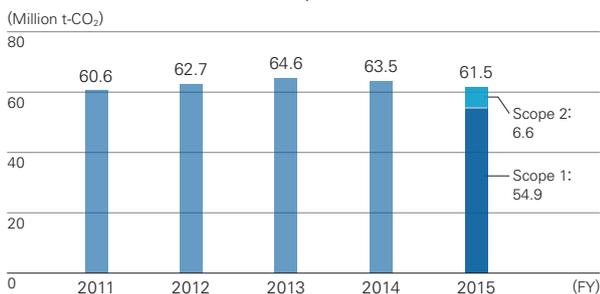
Contributing to Society's Development

Global Warming Prevention

CO₂ Emissions of the 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.

CO₂ Emissions of the JFE Group



Notes: Data cover 76 companies, including JFE Steel and 30 major domestic and overseas subsidiaries, JFE Engineering and 11 major domestic subsidiaries, and JFE Shoji Trade and 32 major domestic and overseas subsidiaries. Data for certain fiscal years have been recalculated retroactively for improved accuracy.

CO₂ Emissions, by Operating Company (FY2015)

JFE Steel	JFE Engineering	JFE Shoji Trade
61,360,000 t-CO ₂	64,000 t-CO ₂	33,000 t-CO ₂
99.85%	0.10%	0.05%

Calculation of Greenhouse Gas Emissions (Scope 3) in Value Chain

The JFE Group began calculating greenhouse gas emissions (Scope 3) in its value chain in FY2015. The calculation for FY2015 covered the seven categories in the table at the bottom of this page.

Energy Savings and CO₂ Reduction in Steelmaking

S JFE Steel strives to save energy and reduce CO₂ in its steelmaking processes.

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.

Unit Energy Consumption at JFE Steel



Scope 3 Emissions of the JFE Group

Category	CO ₂ Emissions (t-CO ₂)	Calculation Method
1 Purchased goods and services	7,334,000	Purchase prices for materials and outsourced work multiplied by CO ₂ emission unit*
3 Fuel- and energy-related activities not included in Scope 1 or Scope 2	4,360,000	Annual consumption of each energy type multiplied by CO ₂ emission unit*
5 Waste generated in operations	91,800	Waste volume by type multiplied by CO ₂ emission unit*
6 Business travel	2,440	Number of employees multiplied by CO ₂ emission unit*
7 Employee commuting	29,000	Number of employees multiplied by CO ₂ emission unit*
9 Downstream transportation and delivery	336,000	Transportation distance stated in reports based on Energy Saving Act multiplied by CO ₂ emission unit*
15 15 Investments	3,695,000	Emissions from companies of which more than 20% of their stock is held by the Group, and which are accountable under the Energy Saving Act, multiplied by the stock holding ratio

*Source: Green Value Chain Platform (Ministry of the Environment) and others

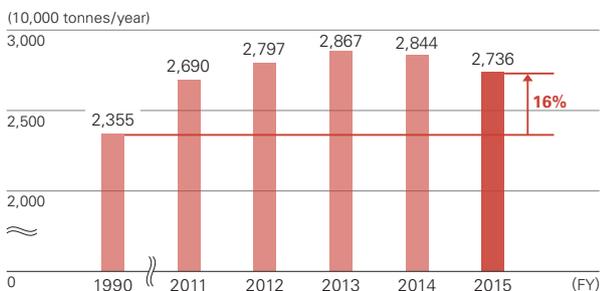
● Energy Savings and CO₂ Emissions in FY2015

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.

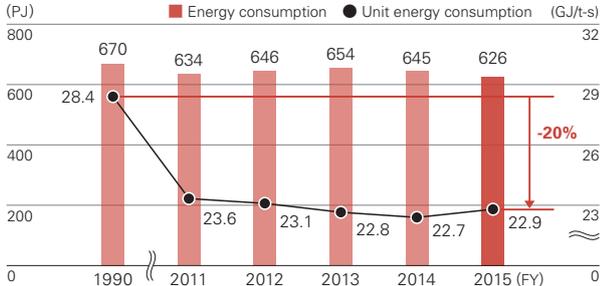
JFE Steel's crude steel production was 27.36 million tonnes in FY2015, down 4% from FY2014 and but up 16% from FY1990. Thanks to ongoing energy-saving activities, however, energy consumption was down 7% and CO₂ emissions were down 5% from FY1990.

The company's energy consumption per unit in FY2015 was 20% below the FY1990 level at 22.9 GJ/t-steel, while CO₂ emissions per unit were down 19% to 2.02 t-CO₂/t-steel. The results prove the success of JFE Steel's energy-saving activities in recent years, including capital investments in energy conservation and the chrome ore smelting reduction process using a hydrocarbon fuel burner.

■ Production of Crude Steel of JFE Steel

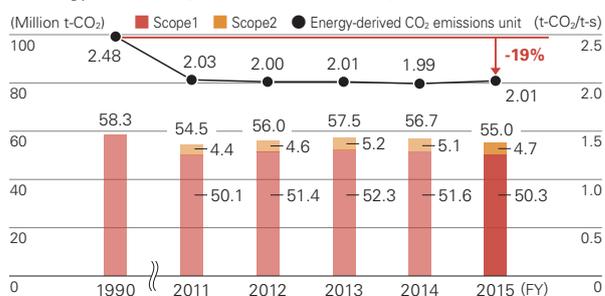


■ Energy Consumption and Unit Energy Consumption of JFE Steel



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

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



Notes: The CO₂ coefficient for electricity purchased in FY2015 is based on the Japan Iron and Steel Federation's Low-Carbon Society Implementation Plan. Data for certain fiscal years have been recalculated retroactively for improved accuracy.

■ CO₂ Emissions of JFE Steel Group



Notes: Data cover JFE Steel (energy- and non-energy-derived emissions), 26 domestic subsidiaries (energy-derived emissions) and 4 overseas subsidiaries (energy-derived emissions). Data for certain fiscal years have been recalculated retroactively for improved accuracy.

● 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 FY2015 totaled 1.85 million t-CO₂.

■ Non-energy-derived CO₂ Emissions of JFE Steel



Initiatives by 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—the Three Ecos initiatives and the development of innovative new steelmaking processes. JFE Steel is actively implementing initiatives to help achieve the plan's targets.

■ Assessment of Low-carbon Society Implementation Plan Results

In FY2014, emissions by the Japanese steel industry increased 1.01 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 the changing production structure in response to increased demand for high-performance steel.

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

Eco-Processes

The Japanese steel industry is continuously striving to improve energy efficiency by taking full advantage of cutting-edge technologies. Its goals include reducing emissions by 5 million tonnes in FY2020 (Phase I) and 9 million tonnes in FY2030 (Phase II) compare to 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. EcoSolutions 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, to conserve energy further and expand the use of low-rank materials.

Initiatives under Low-carbon Society Implementation Plan

● Energy-saving Equipment

JFE Steel is actively introducing energy-saving equipment in accordance with the Low-carbon Society Implementation Plan of the Japan Iron and Steel Federation. The chrome ore smelting reduction process for stainless steel using a hydrocarbon fuel burner has been developed and put into practical use. Related initiatives include energy-conservation investments at the Chiba Power Plant No. 4 Facility (gas turbines and combined cycle, GTCC) and coke-oven refurbishing.

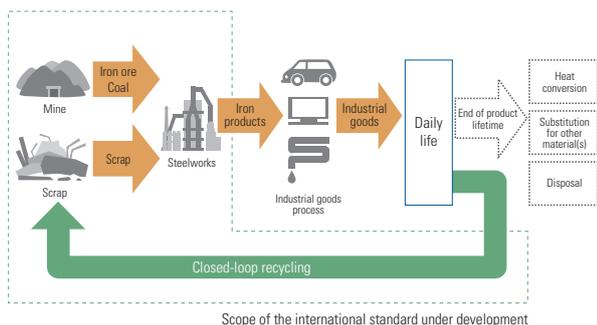
● Life Cycle Assessment (LCA)

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, the method shows that CO₂ emissions can be reduced over the life cycle of an automobile by changing materials from common steel to high-tensile steel to lower weight. Also, closed-loop recycling is possible for steel materials recycled and reused at the end of the life cycles for automobiles, buildings and so on. JFE Steel, together with the World Steel Association* and the Japan Iron and Steel Foundation (JISF), is working to establish LCA as a

world standard for calculating environmental loads over the entire life cycle of steel materials.

*The World Steel Association (worldsteel) comprises approximately 170 steel manufacturers and steel-related organizations.

■ Steel Materials Life Cycle



● Fighting 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 the globally unified calculation of CO₂ intensity from iron and steel production, ultimately to assess the energy efficiency of steelworks. The Japanese steel industry is fighting global warming through international public-private collaborations, including ISO 14404-based assessment of steelworks in developing countries and recommending specific technologies best suited to respective countries.

JFE Steel is also combating global warming by participating 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. In addition, JFE Steel is involved with the World Steel Association's Climate Action Program, which uses ISO 14404 as the standard for measurement and calculation.



Climate Action Member Certificate

CO₂ Reduction in Value Chain

S 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

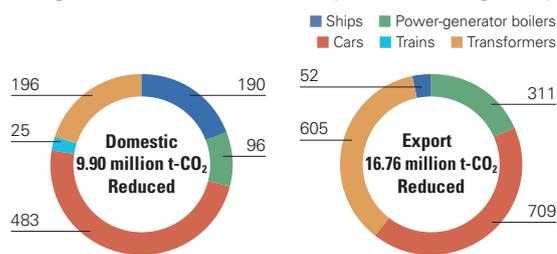
To reduce the environmental load of transporting steel, JFE Steel is actively shifting its transport modes to ships and rail. The modal shift rate* for FY2015 was 95.5%.

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

Reduced 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 3.77 million tonnes were used in Japan and 3.53 tonnes were exported, for a total of 7.30 million tonnes) helped to reduce CO₂ emissions by 26.66 million tonnes in FY2014 compared to the FY1990 level.

■ CO₂ Emissions Reductions in FY2014 (26.66 million t-CO₂ in total)



Source: The Institute of Energy Economics, Japan

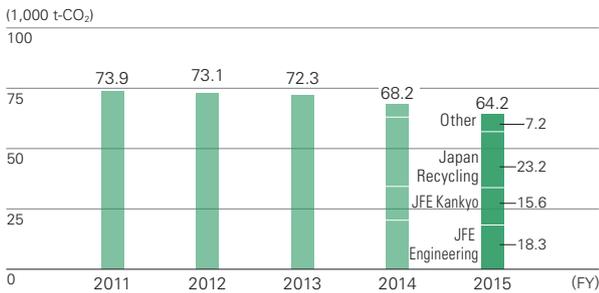
CO₂ Reduction Initiatives

E The head office, branch offices and works of JFE Engineering 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.

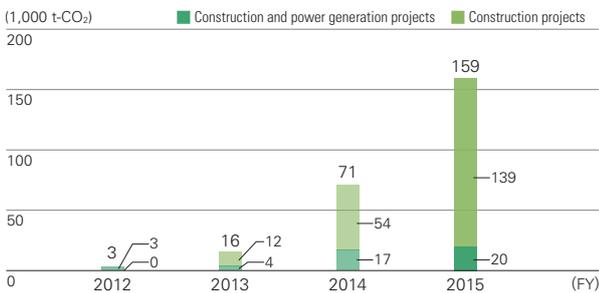
In addition to reducing CO₂ emissions from its own business, JFE Engineering helps its clients reduce their CO₂ emissions by providing them with environmentally sound products and services, including technologies that harness renewable energy and energy-saving products (see pages 47 and 48).

Companies of the JFE Engineering group also work to reduce CO₂ through energy-saving initiatives suited to their respective businesses.

CO₂ Emissions of the JFE Engineering Group

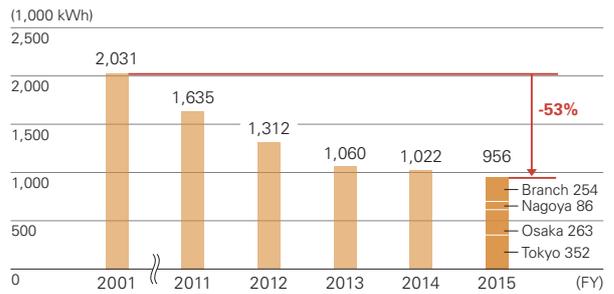


CO₂ Emissions Reduced due to Construction of Solar Power Plants

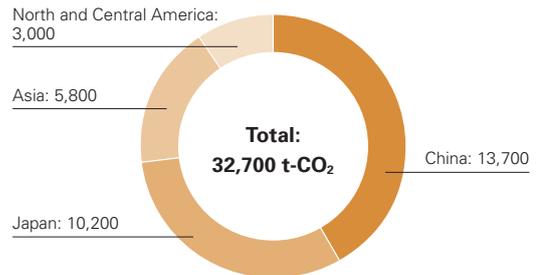


T JFE Shoji Trade offices in Japan, all of which acquired ISO 14001 certification as of 2000, work to reduce their use of energy and paper, as well as strictly manage waste separation. Energy consumption has been lowered significantly by observing days when employees are encouraged to leave work on time, prohibiting night work, introducing pinpoint lighting, turning off lights during lunchtime and relocating the Tokyo head office to a more energy-saving building. In FY2015, 956,000 kWh of energy was consumed, a 53% reduction compared to FY2001. In addition, the company has introduced video conferencing systems in about 65 offices worldwide to reduce printed reference materials and domestic/international business trips.

Electric Power Consumption by JFE Shoji Trade



CO₂ Emissions of the JFE Shoji Trade Group

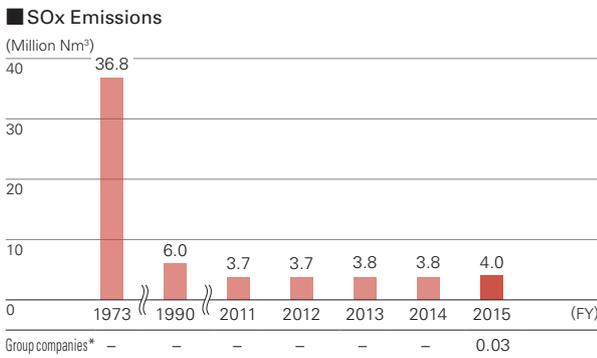


Note: The graph shows CO₂ emissions from electric power consumption by JFE Shoji Trade and 32 domestic and overseas consolidated subsidiaries (steel-processing companies).
 CO₂ Emission Factor for Purchased Energy
 Japan: unadjusted emission factors of each electric power company
 Overseas: based on each country's GHG protocol

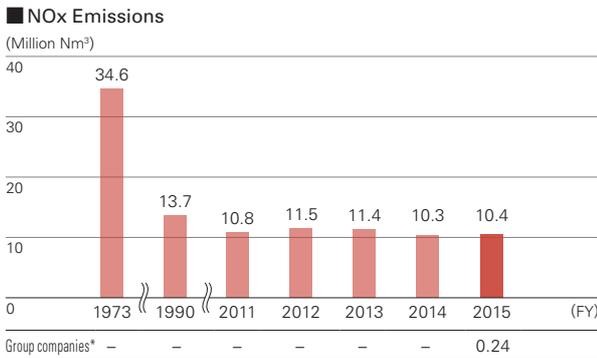
Protecting the Environment

Controlling Air Emissions

S JFE Steel is increasingly controlling emissions by installing low-NOx burners in reheat furnaces, switching to low-sulfur fuels and deploying desulfurization and denitration devices in sintering plants, all major sources of SOx or NOx emissions. In addition, the company suppresses dust dispersion through measures including the installation of sprinklers and windbreak fences in raw material yards and enhancement of on-premises cleaning, dust collectors and other dust-collection methods.



*10 JFE Steel consolidated subsidiaries in Japan.

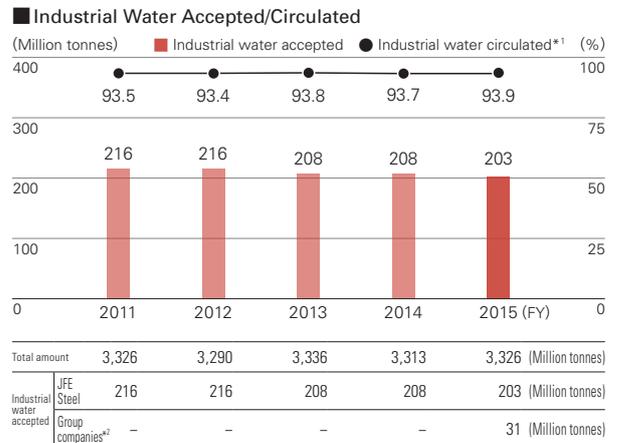


*12 domestic consolidated subsidiaries of JFE Steel.

E To ensure compliance with the Air Pollution Control Law and local regulations on soot- and smoke-emitting facilities, JFE Engineering regularly measures and strictly controls nitrogen oxide emissions, etc., at its Tsurumi and Tsu works.

Efficient Use of Water and Prevention of Contamination

S **Cyclic Use of Water**
A large amount of water is used in the steelmaking process to cool facilities and process products. JFE Steel, which actively recycles water used in its steelmaking processes, achieved the high recycling rate of 93.9% in FY2015.

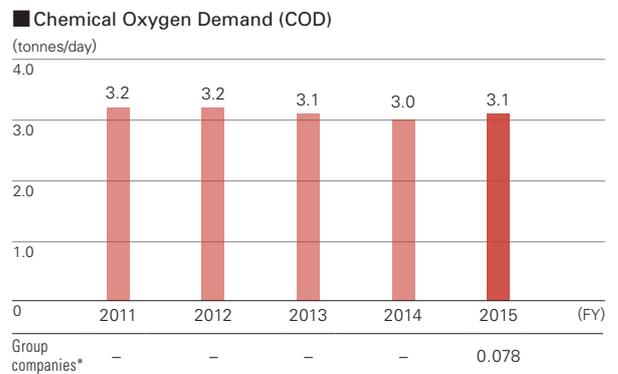


*1 Industrial water circulated (%) = (Total amount – industrial water accepted) / total amount × 100

*2 Data cover 26 domestic consolidated subsidiaries of JFE Steel.

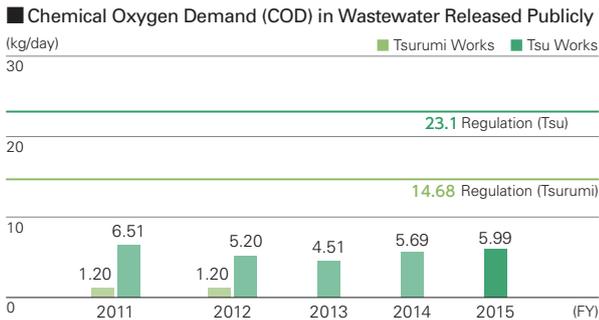
Preventing Water Pollution

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 3.1 tonnes per day, the same level as the previous year.



*11 JFE Steel consolidated subsidiaries in Japan.

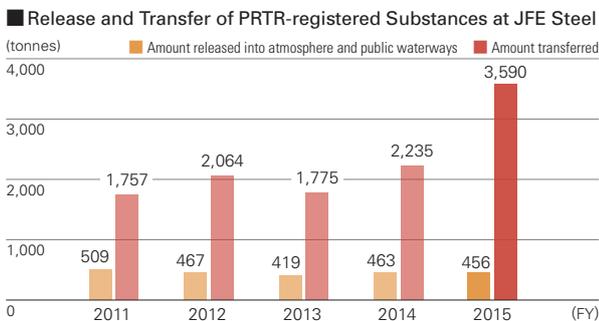
E Wastewater from each JFE Engineering works is released into public waterways or sewer systems. Water quality is strictly controlled at each outlet to ensure regulatory compliance.



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

Management of Chemical Substances

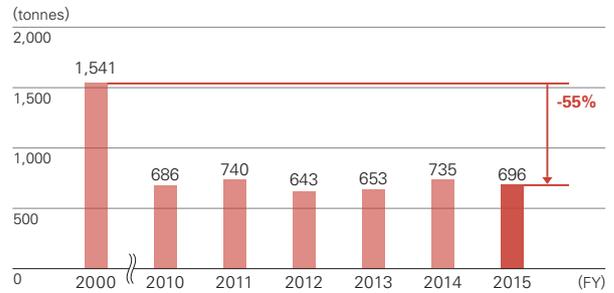
S JFE Steel also lowers its environmental impact by voluntarily reducing the chemical substances it releases. In FY2015, chemical substances released into the atmosphere and public waterways totaled 456 tonnes. The Japan Iron and Steel Federation formulated a voluntary action plan to reduce VOC emissions by 30% from the FY2000 levels by FY2010. While actual reductions in the industry were significantly better than the levels targeted for FY2020, follow-up efforts are helping to prevent any increase in emissions. As a member of the federation, JFE Steel has implemented VOC emissions cut equal to more than 50% from its FY2000 level.



Group companies*	Amount released	-	-	-	-	386	(tonnes)
	Amount transferred	-	-	-	-	5,048	(tonnes)

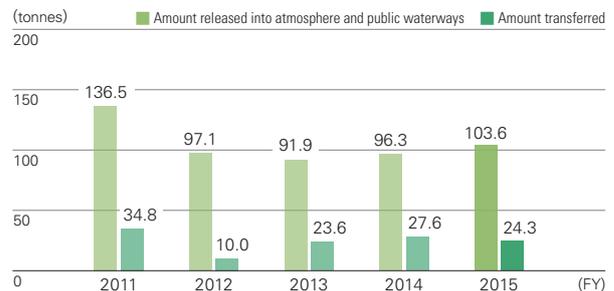
* 19 JFE Steel consolidated subsidiaries in Japan.

VOC Emissions



E Chemical substances at JFE Engineering works are generated primarily from painting steel structures 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 Works



PCB Waste Management at JFE

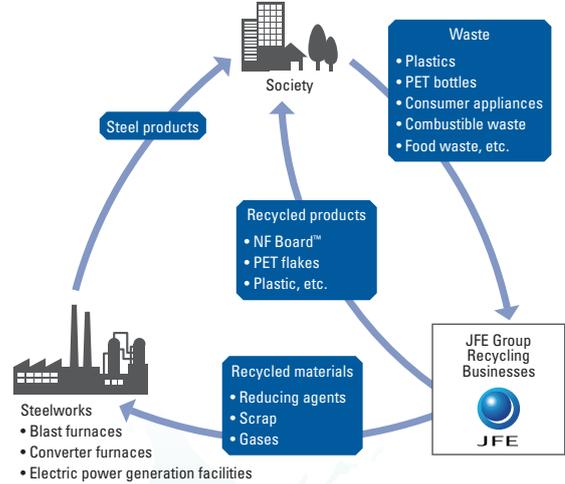
Polychlorinated biphenyl (PCB) waste is properly stored and managed at JFE facilities. High-concentration PCB waste is treated in accordance with guidelines laid out by the Japan Environmental Storage & Safety Corporation (JESCO). The Yokohama Eco Clean Plant and Mizushima Eco-Works of JFE Environmental Service Corporation treat insulating oil contaminated with slight amounts of PCB to reduce this pollutant.

Resource Recycling

Resource-recycling Solutions

JFE engages in recycling businesses, such as the use of plastics in blast furnaces, as an offshoot of its steelworks recycling technologies. 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.

Resource-recycling Solutions



JFE Group Recycling Businesses

Sendai

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

Toyama

- Rare metal recovery plant for spent catalysts

Kurashiki (Mizushima)

- Waste gasifying and melting furnace
- Waste wood carbonizing facility
- 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/sludge waste intermediate treatment plant
- Dry cell and battery recycling plant
- Solid waste recycling plant
- Fluorescent tube recycling plant
- Plastic packaging waste sorting and baling plant

Chiba

- Waste gasifying and melting furnace
- Food waste 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 (FY2015)

Content	Volume
Containers and packaging plastic bought at auction for FY2016	100,000 tonnes
Waste plastic reused in steelmaking process	130,000 tonnes
Used fluorescent tubes processed	20 million tubes
Used consumer appliances processed	500,000 units

Boards Made with Recycled Plastic

JFE recycles plastic containers and packaging 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.



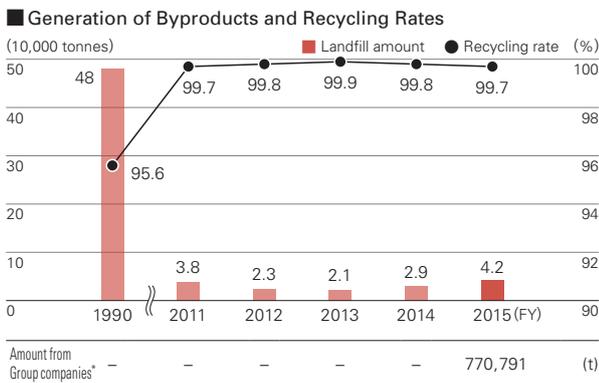
Inner wall of a livestock barn

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 three Rs in offices. JFE continues to seek increasingly efficient resource uses in both the production and product/service phases of its businesses, including steel scrap recycling, biomass fuel production and waste-to-energy initiatives.

S 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 material are being examined. As a result of such efforts, JFE achieved a 99.7% recycling rate for slag, dust and sludge in FY2015.



● Efficient Use of Byproducts (Example)

Steel slag hydrated matrix is primarily made of steel slag and blast furnace slag powder, which are mixed and then solidified through hydration reaction. Shaped like a natural rock or block and performing as well as concrete construction material, Marine Rocks™ is a recycled, low-impact product that has been used in large quantities to reconstruct harbor seawalls after a major earthquake.



Protecting a shoreline with recycled slag

Promoting Recycling

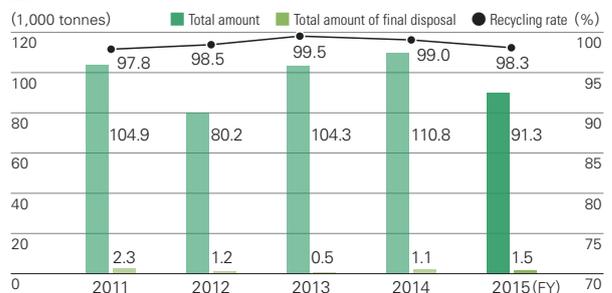
E JFE Engineering's industrial waste is largely rubble and sludge generated at construction sites. By separating waste at these sites and employing disposal companies with high recycling rates, the construction department constrained its industrial waste to 91,309 tonnes with a recycling rate of 98.3% in FY2015.

Our production sites endeavor to improve their recycling rates by meticulously separating valuable byproducts and waste. In FY2015, the Tsurumi Works recycled 49.8% of 282 tonnes of waste and the Tsu Works recycled 34.0% of 564 tonnes.

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

Each department of JFE Engineering establishes targets for these efforts as part of its environmental management system.

■ Amount of Waste Generated



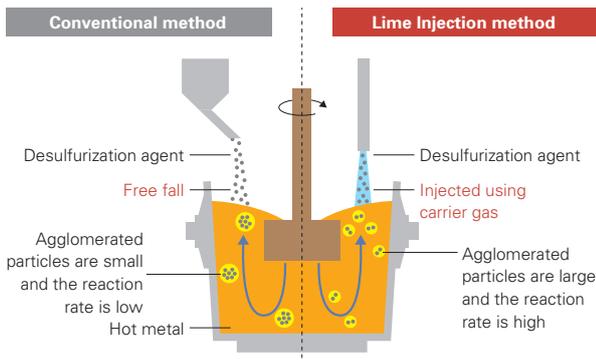
T Each office of JFE Shoji Trade reduces and recycles waste by using waste paper and strictly separating waste. The company's recycling business handles steel and aluminum scrap, with steel scrap exported to Asian countries where it is sold for both offshore and domestic trading. Steel scrap exported from Japan is mainly transported by bulk carrier using a container loading system introduced by JFE Shoji Trade for timely shipments of small-hot cargo that is being used in Asia's emerging recycling societies.

Eco-friendly Products and Technologies

S

● Hot Metal Desulfurization Technology

In response to the increasing demand for lower sulfur concentration in steel materials, JFE has developed a lime-injection method and a slag hot-recycling method for hot-metal desulfurization. Both technologies improve the efficiency of the 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. JFE Steel has introduced and uses the technology at all of its steelworks.



● Resource-saving and Highly Heat-resistant Stainless Steel JFE-TF1

For improved automotive fuel efficiency, exhaust manifolds and other high-temperature exhaust system parts must be resistant to temperatures exceeding 800°C. Stainless steel containing a large amount of molybdenum (Mo) is conventionally used to improve heat resistance, but molybdenum is an expensive and rare metal. In response, JFE Steel developed JFE-TF1, which uses Cu and Al to realize the same or better high heat resistance. JFE-TF1 won the 2015 Monodzukuri Nippon Grand Award (Ministry of Economy, Trade and Industry Minister's Prize) in recognition of its resource-saving stainless steel with superior thermal resistance.



● 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.



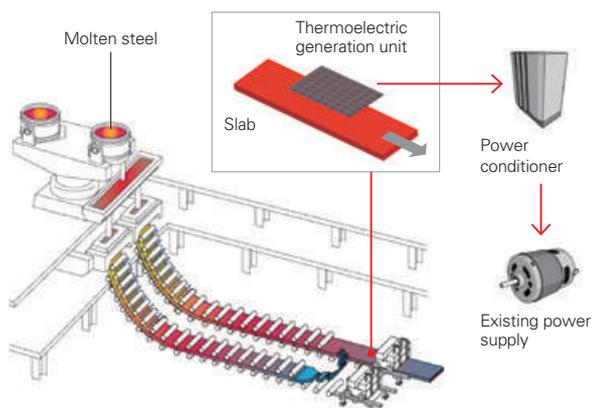
● JNP™ Series Electrical Steel Sheet

Hybrid vehicles and electric vehicles directly contribute to the reduction of CO₂ emissions. The 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 34th Technological Development Prize from The Japan Institute of Metals in 2011.



● 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 as clean power free of CO₂ emissions. As a means for effectively utilizing untapped waste heat at ironworks, JFE Steel installed 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).



● Recovered Biodiversity in Tokyo Bay

JFE Steel used its steel slag products—Marine Blocks™, Marine Rocks™ and Marine Stones™—in a joint research project with the city of Yokohama. The project aimed to recover marine ecosystems and facilitate the natural cleansing of seabeds and seawater in Tokyo Bay with the help of JFE Steel's slag products, which provide sea organisms with a base for nurture and growth. The project confirmed that the number of living species, including eelgrass (seaweed), increased near the shores of Yokohama's Yamashita Park.



Wild eelgrass

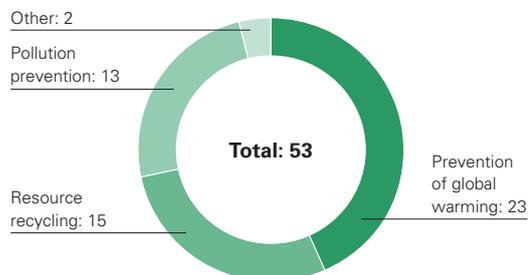


Organisms living on a slag product

Reducing Environmental Impact through Technologies

JFE Engineering strives to help clients reduce their environmental impact by providing them with technologies for photovoltaic, geothermal and biomass power generation and waste-to-energy and other recycling technologies, as well as technologies for saving energy and preventing pollution associated with construction and the operation of related plants. The R&D, Planning and Design departments work to develop reduced-impact products and technologies that meet targets for environmental protection, including the prevention of global warming. Reduced-impact targets also are set for the production or construction of such products. A total of 53 of the 61 targets were achieved in FY2015.

■ Impact Reduction through Technologies (FY2015)



Renewable Energy for Impact Reduction

● Photovoltaic Power Generation

JFE aims to facilitate the public use of renewable energy by constructing photovoltaic power plants to help reduce CO₂ emissions. The plants themselves also are designed for reduced impact, such as by arranging solar panels along the natural topographical features of a site.

T

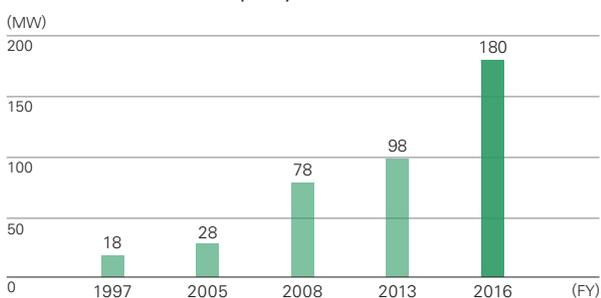
● Biomass Power Generation

Biomass power generation that uses plants or other biological materials can reduce environmental impact since it effectively uses resources and does not increase atmospheric CO₂. JFE's circulating fluidized bed boiler uses fuel biomass such as wooden pellets and palm kernel shells or waste plastic. The system efficiently burns these fuels and fluid media by agitating and fluidizing them with high-speed combustion air to generate power. This is not only economically efficient but also contributes to the local community by revitalizing domestic forestry through the use of biomass fuel.



Biomass power plant

■ Cumulative Installed Capacity of Biomass Power Plants



● Geothermal Binary Power Generation

Geothermal power generation does not use fossil fuels and therefore produces almost no CO₂ emissions. 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 hot water, and it uses turbines driven by motive fluid. It is also environmentally friendly and does not release white smoke or odor into the atmosphere.

Since constructing Japan's first geothermal power plant in Matsukawa, Iwate Prefecture, JFE Engineering has supplied steam production equipment to 12 plants, or about half of the geothermal power plants producing over 300 kW across Japan. We supplied geothermal binary equipment to two of the 12 power plants.

● Biomass Fuels

Power generation using biotic resources (biomass fuel) as a carbon-neutral renewable energy is an effective use of resources. 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 sifters and magnetic separators. In response to rising demand, the company will help to ensure stable supplies by providing technical advice on establishing partnership yards in Indonesia.

Wooden pellets are co-combusted at operating coal-fired power plants in an effort to lower environmental impact by reducing CO₂ emissions. JFE Shoji Trade looks forward to supplying not only PKS but also wooden pellets as biomass fuel, taking advantage of its network in Japan and abroad to encourage the use of renewable energy and the effective utilization of resources.



Cargo yard (left) and palm kernel shells (right)



Local operating company (left) and loading PKS (right)

Environmental Communication

Facilitating Useful Communication

The JFE Group gives utmost priority to communication with all stakeholders, including in matters relating to the environment.

Disclosing Environmental Data

The East Japan Works of JFE Steel discloses real-time environmental data on local 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 helps to broaden awareness of eco-activities. In FY2015, the website took up forest development in Japan under the theme Thinking About Forests. In FY2016, the site will take up nature-oriented technology under the theme Our Future.

 ecobeing (Japanese only) ➔
www.ecobeing.net

Sponsoring “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.

 “Midori no Komichi” Environmental Diary (Japanese only) ➔
www.midorinokomichi.net

Participating in Eco-Products 2015 Environmental Exhibition

The JFE Group took part in Eco-Products 2015, one of Japan’s largest environmental exhibitions, which was held in December 2015. The exhibit, organized under the theme For the Earth and Our Daily Lives—Making Eco at the JFE Group, introduced JFE green products and technologies targeting a Cool Future and provided children with free tours to inspire their green awareness.



Eco-Products International Fair and Eco Award

The JFE Group made its inaugural independent appearance and delivered a presentation at the 10th Eco Products International Fair in June 2016. This was the first international environmental trade show held in Southeast Asia to stimulate recycling societies, green products and services, and environmental businesses. It was held in Bangkok under the theme 24-Hour Eco Life. Also, the JFE Group won its first Eco Products International Fair Award in 2016 for promoting sustainable development, green industries and green supply chains.



Contributing to Society's Development

JFE Group CSR Report 2016

Management

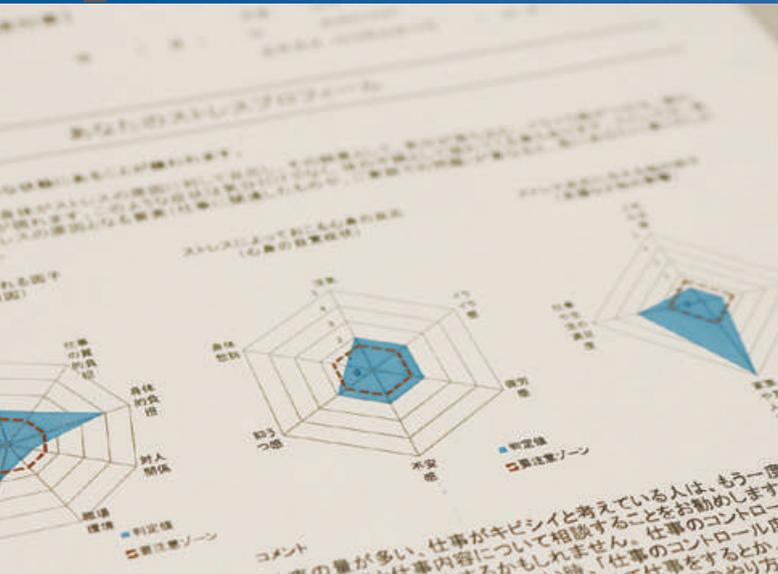
Protecting the Environment

Contributing to Society's Development



Creating Healthy and Rewarding Workplaces

JFE has made a top-level commitment to maintain and advance the health of employees and their families.



1 JFE Group Health Declaration

In September 2016, JFE issued a declaration of its commitment to on maintain and advance the health of employees and their families for significantly more attractive, safe and rewarding workplaces and other environments where its diverse human resources can fully demonstrate their abilities. All JFE companies are taking concrete actions based on this declaration.

JFE Group Health Declaration

- ① JFE, recognizing that safety and health are fundamental for fulfilling its mission, creates workplaces in which every employee can work with vigor.
- ② JFE and its health insurance union work together to advance initiatives for maintaining and upgrading the physical and mental health of employees and their families.
- ③ JFE gives top priority to safety and health, and creating a health culture in which each employee takes personal responsibility.

Priority Measures

Workplace Health

Create safe and rewarding workplaces

- Improve work efficiency and prevent long working hours
- Encourage more two-way communication in workplaces
- Expand and improve systems to support efforts by employees and their families to be healthy and work vigorously

Mental Health

Maintain mental health

- Implement stress checks and steadily improve working environments based on the results
- Raise awareness of self-care through mental health education
- Ensure line care by managers and supervisors
- Enhance mental health consultation programs

Physical Health

Detect diseases among employees and their families early and prevent serious illnesses

- Ensure that everyone receives physical examinations and suitable health guidance
- Raise the rate of health examinations for spouses
- Promote health in cooperation with health insurance union
- Improve lifestyle habits based on physical examination results



2 Changing Work Styles and Workplace Health

To create safe and rewarding workplaces, JFE implements measures to balance work and health, which include discouraging long working hours and encouraging two-way communication.

S JFE Steel supports the diversification of work styles by introducing discretionary working-hour programs for specialized operations in R&D departments and by expanding the application of flexible working hours to steelworks. Operations are being restructured by delegating significant authority from the head office to individual steelworks and deploying IT tools, such as teleconferencing, with the aim of speeding up decision-making and raising operational efficiency.

E JFE Engineering is nurturing a corporate culture of “coming early and leaving early” by designating 8:00 am to 4:45 pm as its standard working hours, and in principle prohibiting work after 8 pm. 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. The company is also raising operational efficiency through its “Super Shape Up” activity, including deploying IT tools.

T JFE Shoji introduced its Change of Work Time initiative to reduce overtime work. In addition to its practice of designating Wednesday as a day to leave work on time, the company has prohibited work after 10 pm, which has resulted in a significant reduction of overtime.



After-work club activity

3 Employee Health

JFE is undertaking various initiatives to advance employee health in cooperation with its health insurance union.

Periodical medical examinations

We provide both periodic and special medical examinations for employees in Japan and abroad in accordance with the Industrial Safety and Health Act. Industrial physicians and public health nurses are stationed at major business sites to provide health guidance.



Routine fitness

We organize workplace recreational activities and support club activities to encourage employees to exercise on a routine basis, in addition to our efforts to enrich workplace communication.



Powering Up Health Care

The entire JFE Group is participating in Powering Up Health Care, a program hosted by its health insurance union. Employees set their individual health goals, such as engaging in sports, dieting and quitting smoking. Health Points are awarded as goals are achieved.

Prevention and early detection of diseases

JFE conducts metabolic syndrome checkups during periodical medical examinations and provides guidance on exercise and diet.

Strict separation of smoking areas and encouraging non-smoking

JFE is promoting non-smoking and maintaining separate areas for smokers and non-smokers within buildings to prevent passive exposure to smoke and create comfortable working environments. Industrial physicians and public health nurses are providing guidance to quit smoking.

Health Point System

Points are gained from in Power Up Health activities, medical examinations for spouses, cancer screenings, etc., and by achieving goals or producing certain results. Earned points can be used for medical examinations, gifts from catalogs, trips and medicines.

■ Metabolic Syndrome Rates



Data on those aged 40 or older and insured by JFE's health insurance union

■ Smoking Rates



Data on those aged 40 or older and insured by JFE's health insurance union

“Let’s Extend the Healthy Life Expectancies! Award”

JFE Steel West Japan Works (Kurashiki District) received a “Let’s Extend the Healthy Life Expectancies! Award” from the health service bureau of the Ministry of Health, Labour and Welfare in November 2015. The award is given to companies, groups and local governments that conduct outstanding activities to raise awareness of health promotion and lifestyle-related diseases.



4 Mental Health Care

JFE also has many initiatives to maintain the mental health of employees. Specifically, the initiatives are divided into four categories: "Self-care" by workers strive to remain aware of stress and take preventive measures, "Care by management supervisors" who improve working environments in terms of mental health, including by providing advice to subordinates, "Care by industrial health staff of workplaces" who support employees, managers and supervisors, and "Care by human resources outside workplaces" who specialize in agencies as well as experts.

Self-care

JFE encourages employees to undergo stress checks and participate in training based on their positions to remain aware of stress, learn stress-identification and coping strategies, and seek advice on their own initiative.

Care by management supervisors

Through training that is organized by employee position, managers and supervisors are taught to recognize that promoting mental health in the workplace is part of their jobs. They learn about the early detection of and response to mental health issues and about providing support, such as personal consultation. In addition, a mentor system has been introduced to encourage people to receive counsel in or outside of the workplace.

Care by industrial health staff of workplaces

Specialists including industrial physicians, public health nurses and clinical psychologists assigned to major workplaces develop mental health plans, give advice to employees and support managers and supervisors. They also analyze stress factors based on stress checks in workplaces. Their efforts are supported by personnel departments and workplace managers to improve the working environment.



Full-time industrial physician
JFE Steel East Japan
Steelworks

Care by human resources outside workplaces

JFE together with its health insurance union provides free, 24-hour phone-based health consultations and mental health counseling for employees and their families.

For employees who take a leave of absence for mental health reasons, JFE has a system to help them return to work. The personnel department, workplace managers and industrial health providers cooperate to ensure they have the support required to smoothly reenter the workplace.

5 Support for Work-life Balance

JFE offers programs for childcare support to enable employees to continue working comfortably after childbirth and childcare. The programs significantly exceed statutory requirements in terms of childcare leave, shortened work hours, company-operated childcare facilities and childcare subsidies. JFE also promotes male participation in childcare by encouraging employees to take childcare leave, and the company has programs for nursing care support.

- Childcare leave can be extended until a child is three years old (S)
- Shorter working hours when a child is in elementary school (S, E)
- Company-operated childcare facility (E)
- Childcare subsidies (S, T)
- Leaves and shorter working hours for nursing care (S, E, T)
- Reemployment for employees who left to care for a family member (S, T)
- Information sharing for employees on childcare leave (T)



Sharing information about returning to work

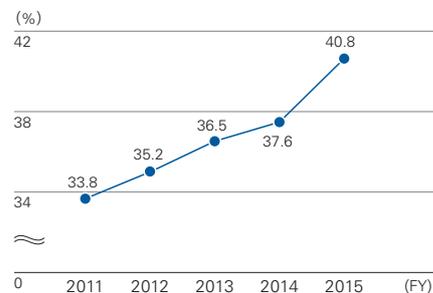


Preschool at JFE Children's Forest

6 Support Employee Families

JFE works to maintain the health of employee families by encouraging medical examinations for spouses. It also organizes plant tours and workplace visits for families (Family Day) to create workplaces that fathers and mothers can show to their children with pride.

Health Examination Rate for Dependents



JFE Steel Family Day

Customers and Clients

JFE Standards of Business Conduct (excerpt)

① Provide quality products and services

Earn the trust and regard 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.

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

S JFE Steel has received all quality assurance certifications required for steel products, including the JIS mark and approvals from ship classification bodies regarding its quality management system based on ISO 9001. In response to customer demands, the company has also received certification under national standards specific to countries where it has business.

To meet the increasingly sophisticated needs of customers, the company established a quality-assurance system for using advanced sensors to monitor processes and high-precision equipment for product testing. JFE Steel is also developing advanced manufacturing technologies that help assure better quality.

The company will continue strengthening its quality assurance structure to provide products that all customers can use with confidence.

E JFE Engineering, as a supplier of products for energy, the environment and urban infrastructure, is constantly refining its quality management systems. Recently, the company developed a quality-management manual covering the related characteristics of each product. In addition, ISO 9001 certification has been received for each product category.

Looking ahead, JFE Engineering will steadfastly implement its quality management initiatives to ensure that its quality propositions continue to satisfy every one of its customers worldwide.

T JFE Shoji Trade is constantly striving to enhance its quality assurance through strict management of its facilities and human resources. In terms of facilities, its processing centers in Japan and abroad are eliminating manual procedures to prevent human error through the systematization and automation of processing sites.

For human resources, employee awareness is emphasized to help prevent human error at every stage, from receiving orders to issuing work orders to shipping. The company also continues to strengthen quality education for employees, for example, by introducing both internal and external case studies of non-conformance.

Responsible Export Practices

Each JFE operating company promotes international peace and security by working against the spread of weapons of mass destruction and excess accumulation of conventional weapons. Specifically, the company carries out inspections to confirm the final destinations, customers and applications of its exported products, and then ensures that export procedures are carried out properly. In addition, the 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 also conducts education related to export security controls and other measures targeting Group companies involved in trading.

Improving Customer Satisfaction

■ Competitive IT Strategy Company Stock Selection

In 2016, the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange chose JFE Holdings for inclusion, for the second consecutive year, in the Competitive IT Strategy Company Stock Selection, recognizing the company's efforts to use IT to reform its business and strengthen its competitiveness.



● Upgrading Mission-critical Systems to Be a Preferred Company

JFE Steel has undertaken the renewal of mission-critical systems at its steelworks. Since each steelworks currently maintains its own mission-critical system, their distinctive characteristics create challenges in the sharing of information with other steelworks. To address this, JFE has begun standardizing production-related processes, from order acceptance to final delivery, and unifying its companywide database. Ultimately, this should help to optimize production planning and execution, and lead to more flexible and faster responses to customer needs and environmental changes. JFE is also revising work styles by adopting big data, smart devices, IoT and other ICT tools to realize new modes of operations, ultimately to create new value and continue to be the preferred company that customers choose first.

● 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 infrastructure-related customers. In October 2014, the company opened its Customer Center Fukuyama (CCF) in the Fukuyama District of its West Japan Works. By using these facilities to strengthen EVI* activities, the company is working to develop new products based on a better understanding of customer needs, cutting-edge evaluation techniques and innovative production processes.



Customer Center Fukuyama

*Early Vendor Involvement: Participation in customer development of new products from an early stage to encourage proposals for new methods and functions, such as processes or performance evaluation, for the development of new steel materials.

● 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.

● Training Sales Personnel to Excel in Customer Relations

To strengthen customer-oriented sales efforts, the Sales Department holds training sessions by position and job targeting sales managers from the headquarters and branch offices, including newly appointed managers, middle-rank employees and office heads. The department also provides group training in Japan for regional employees of overseas offices to further enhance job performance. Training goals include developing the abilities to engage in technical conversations, pick up clues from customer relations and use them in product development, offer suggestions to improve logistics and distribution, and analyze financial indicators and costs.

E ● 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.

T ● Meeting Customer Needs

JFE Shoji Trade is strengthening the functions of its business sites and developing business in new areas, as well as reinforcing its cooperation with JFE Steel to support the ongoing globalization of the JFE supply chain management.

In response to needs for local procurement, the company has established a finely tuned system for manufacturing and selling products and meeting customer requirements on the front lines, supported by the company's operation of extensive processing lines around the world.

Fair Competition and Trade

Compliant purchasing and procurement activities are critical to becoming a good business partner and nurturing the understanding and trust of 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 thereby continue earning suppliers' trust in the company as a good business partner.



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

We purchase raw materials after confirming that suppliers are not using conflict minerals.

● 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.

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

● Win-win Relationships with Customers

JFE Steel establishes win-win relationships with clients by leveraging their ideas for improving materials, designs, shapes, specifications and production methods. The company's value-analysis activities allow clients to propose how to reduce costs, improve materials functions, and upgrade quality, safety and work efficiency. The company then strives to implement the ideas wherever possible.

● Fair and Sincere Procurement

JFE Engineering's planning, design, procurement and construction businesses are fully accountable. Procurement is key to ensuring safe, high-quality products and services for customers. JFE Engineering conducts fair and honest procurement by cultivating relationships of trust with suppliers based on:

1. Fair opportunities
2. Fair assessment of quality and pricing
3. Legal compliance

● Ensuring a Safe, Fair Supply Chain

Corporate social responsibility (CSR) plays a pivotal role in JFE Shoji Trade's supply chain for the provision of products, functions and services through its global business. In part, this is because each year, more customers demand CSR-based procurements. In addition our existing initiatives for quality, stable supply, safety and reasonable prices, we are building a supply chain to maintain customer trust by enhancing our support for the global environment, human rights and occupational safety and health.

Shareholders and Investors

JFE Standards of Business Conduct (excerpt)

② Be open to society at large

Endeavor to communicate with shareholders and the broader community, and actively disclose corporate information.

Returns to Shareholders

JFE Holdings makes return on shareholder investment one of its top management priorities. Profits are basically returned in the form of dividends. The company intends to raise its payout ratio to 25%–30% under its Fifth Medium-term Business Plan based on improved financial standing, revenue and cash flow resulting from investments to strengthen the domestic revenue base and increase income from overseas businesses.

Proactive Information Disclosure

JFE Holdings strives for fair disclosure based on established internal policy. The company actively communicates with investors by holding meetings when announcing financial results, medium-term business plans or other important information.

The president explains the announced results and answers questions at investor meetings, and he also holds 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.



Disclosure Policy (Japanese only) →
www.jfe-holdings.co.jp/investor/disclosure-policy.html

Enhancing Communication with Shareholders

JFE Holdings created its Investor Relations and Corporate Communications Department in April 2015 to facilitate more interactive communication with diverse stakeholders. Constructive dialogues are held with shareholders to feed useful information to management. JFE views general meetings of shareholders as a chance for dialogue with shareholders, so it sends invitations at the earliest possible date to maximize attendance and avoid overlapping with the shareholder meetings of other companies.

For shareholders who cannot attend, the company allows online voting in addition to providing normal proxy forms. Since FY2015, invitations have been posted on the company website at the earliest possible date.

Plant tours and company briefing sessions are organized to foster shareholder understanding of JFE.

In FY2015, workplaces in six districts at JFE Steel, JFE Engineering and Japan Marine United held 27 such events for about 2,200 shareholders. In FY2016, these activities will be expanded to include the Tomakomai Plant of J Farm, an affiliate of JFE Engineering, and the Japan Marine United Ariake Shipyard.

Major IR Activities

Activity	Participants
Investor meetings	Approx. 600
Individual interviews with institutional investors and securities analysts	Approx. 500
Briefings for private investors at securities firms	Approx. 1,000 in 20 briefings



Information for Shareholders and Investors →
 Japanese: www.jfe-holdings.co.jp/investor
 English: www.jfe-holdings.co.jp/en/investor

Local Communities

JFE Standards of Business Conduct (excerpt)

③ Coordinate and cooperate with the community

Actively contribute to the community as a good corporate citizen in the spirit of coordination and cooperation.

JFE 21st Century Foundation

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



JFE 21st Century Foundation →
www.jfe-21st-cf.or.jp/eng

■ Support for Technology Research

The foundation has supported technology research at universities since FY1991. In FY2015, it fielded 146 grant requests and provided a total of 50 million yen in the form of two-million-yen grants to 15 projects involving iron and steel technologies and 10 projects concerning environmental technologies, including for global warming prevention.



■ Support for Asian History Studies

The foundation began awarding grants in support of Asian history studies at Japanese universities in FY2005. During FY2015, 59 applications were received and 10 grants worth 1.5 million yen each were awarded.

■ Grants: Cumulative Number and Value

Field	Number	Value
Technology Research	530	1,067.8 million yen
Asian History Studies	89	133.5 million yen

■ Support for Host Communities of Steelmaking Facilities

Since FY1991, the foundation has been sponsoring JFE 21st Century Foundation prizes for essay and poem writing contests, 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. A total of 851 copies of Chikyu ni Manabu (Learn from the Earth) Vol. 36, a collection of the winning entries in FY2015, were presented to 677 elementary and middle schools and 84 public libraries.

■ Events in FY2015 (Location)

- Cho Chi-hun Cup Go Competition (Chiba, Japan)
- Chiba Prefectural Youth Go Competition (Funabashi, Japan)
- International Music Day Concert and Chiba Citizens' Music Festival (Chiba, Japan)
- MUZA Lunch & Night Concert (Kawasaki, Japan)
- Community Festival (Kawasaki, Japan)
- How Far Does a Dragonfly Fly? Forum (Yokohama, Japan)
- Handa Community Industrial Festival (Handa, Japan)
- Mie Prefecture High Schools' Robot Tournament (Tsu, Japan)
- Kurashiki Music Festival (Kurashiki, Japan)
- Kurashiki Shogi Tournament (Kurashiki, Japan)
- Fukuyama Rose Festival (Fukuyama, Japan)
- The World of Matsuri (Fukuyama, Japan)
- Educational support (Ghana)
- Jiaxing City Cherry Blossom Festival (China)



Chiba Citizens' Music Festival

Local Activities

■ Host Communities

Every year, JFE opens 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 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 FY2015

Location	Event	Date	Attendance
East Japan Works, Chiba	JFE Chiba Festival	October 25	45,000
East Japan Works, Keihin	Keihin Community Festival	May 31	47,000
West Japan Works, Kurashiki	JFE West Japan Festival in Kurashiki	November 3	90,000
West Japan Works, Fukuyama	JFE West Japan Festival in Fukuyama	May 10	70,000
Chita Works	Handa Community Industrial Festival	November 7	21,000
Tsu Works	Tsu Autumn Festival	October 24	7,000



Keihin Community Festival



JFE West Japan Festa in Kurashiki



JFE West Japan Festa in Fukuyama

■ Tours of Steelworks and Chita Works

Every year, JFE Steel invites over 100,000 guests, mostly elementary and junior high school students from host communities, to tour steel production sites at its East Japan Works, West Japan Works and Chita Works. In addition, when communities hold festivals or events, the company organizes plant tours for the public, which have been well received by participants.

● Education at Elementary Schools

The East Japan Works of JFE Steel conducts plant tours for students at nearby elementary schools. Also, company employees visit schools to hold classes in which they 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.



Course at Miyazaki Elementary School (Chiba City)

● Manufacturing Classroom

The Chita Works of JFE Steel organizes classes on making key chains 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 7,600 residents have participated to date. Since FY2014, classes have also been organized during summer vacation. The program has been enhanced with presentations on the history of steel and the industry's place in the world.



Children experiencing the fascination of manufacturing

Support for External Organizations

■ UN World Food Programme

The Japan Association for the World Food Programme is an NPO-accredited supporter of the UN World Food Programme (WFP), an organization focused on eliminating hunger and poverty. The association conducts activities to expand the circle of WFP support in Japan, including by collecting donations, and 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 Southeast 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 improve the well-being of people everywhere by achieving better cancer control. The foundation, which JFE supports, has played a leading role in research and treatment as well as in 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.



JFE Steel Award recipients Shunsuke Sato, Akiko Suzuki (from right) and Naoki Shibukawa (second from left) of Shizuoka Kita High School, Shizuoka Institute of Science and Technology

● FY2015 Internship Achievements

JFE Steel hosted 217 student interns from across Japan in FY2015. JFE Engineering also received 60 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 eight 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 FY2015, 700 sets of desks and chairs, 17,000 notebooks and 12,500 cans of food were donated. Going forward, JFE will continue to support educational development in these nations.



Employees

JFE Group's Basic Policy on Human Resource Management

1 Respect Human Rights and Facilitate Fair Management of Human Resource

The Group manages human resources fairly by respecting the human rights of all employees and nurturing employees who embrace the Group's corporate values and standards of business conduct.

2 Foster Corporate Culture that Nurtures People and Promotes Satisfying Workplaces

The Group facilitates interactive communication among employees to cultivate a corporate culture that nurtures human resources and creates safe, attractive environments where everyone can enjoy working.

3 Diversify Human Resources

The Group ensures that diverse all people, including women, non-Japanese, the elderly and the disabled, can demonstrate their full potential.

4 Recruit and Steadily Nurture Excellent Human Resources

To survive in an increasingly complicated and diversified global environment, the Group steadily recruits diverse, high-quality skilled human resources, ensures that they receive the skills and knowledge necessary to continue strengthening the Group's technological capabilities, and nurtures their global capabilities.

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 Diverse Human Resources

Fifth Medium-term Management Plan (FY2015–FY2017):
Between **1,200** and **1,300** persons
FY2016 Results: **1,446** persons

- Women in positions with prospects for promotion: 15% (73 out of 476)
Of the above, those in white-collar positions: 29% (47 out of 161)
- Foreign nationals in positions with prospects for promotion: 4% (17 out of 476)
- Mid-career and year-round recruits: 33% (473 out of 1,446)
Of the above, recruits in positions with prospects for promotion: 24% (115 out of 476)
Of the above, mid-career recruits in on-site positions at steelworks: 38% (358 out of 954)

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

■ Recruitment Results (for Three Operating Companies, Excluding their Subsidiaries)

	Career-track positions			On-site and clerical positions	Total
	White-collar	Technical	Total		
Male	114	289	403	869	1,272
Female	47	26	73	101	174
Total	161	315	476	970	1,446
Ratio of women	29%	8%	15%	10%	12%

■ Target Ratios for Female Recruits

	Position	Target
JFE Steel	Career-track white-collar positions	At least 35%
	Career-track technical positions	At least 10%
	On-site positions for regular recruitment	At least 10%
JFE Engineering	Career-track positions	At least 20%
	Production/construction positions (technical)	At least 5%
JFE Shoji Trade	Career-track positions	At least 20%

■ Employee Data (Consolidated)

Category	JFE Steel	JFE Engineering	JFE Shoji Trade
Employees*	43,874	8,967	6,579
Male	38,877	7,867	4,743
Female	4,997	1,100	1,836
Management positions*	10,802	2,689	1,634
Male	10,330	2,607	1,420
Female	472	82	214
Ratio of women in management positions (%)	4.4	3.0	13.1

Scope: Consolidated subsidiaries (JFE Steel: 161, JFE Engineering: 58, JFE Shoji Trade: 103)

Category	JFE Steel	JFE Engineering	JFE Shoji Trade
Employees*1	14,462	3,708	936
Male	13,457	3,243	609
Female	1,005	465	327
Management positions*1	2,577	2,094	355*2
Male	2,504	2,014	335
Female	73	80	20
Women in management positions (%)	2.8	3.8	5.6
Recruits*1	1,167	205	74
Male	1,033	187	52
Female	134	18	22
New graduates	802	107	64
Mid-career	365	98	10
Years employed	18.2	13.7	14.8
Male	18.0	13.8	14.9
Female	21.2	13.1	14.7
Job turnover rate (%)	1.4	0.8	2.1
Rehired employees*	1,117	337	23
Average annual leave taken (days per year)	15.5	17.0	10.7
Average overtime (hours per month)	26.4	25.0	27.6
Employees working shorter hours for childcare* (aggregated)	146	55	37

*1 As of March 31, 2016. Other figures are as of FY2015.

*2 Management positions of JFE Shoji Trade do not include employees on loan.

Human Resource Development and Skill Transfer

JFE strongly emphasizes nurturing the capacities of each employee and transferring their skills to counter the significant generational changeover as baby-boomer personnel retire.

S Skill Transfer by Technical Experts

At manufacturing sites, about 170 veteran employees are participating in the Technical Expert Program as full-time instructors who provide training in key steelworks processes. Through on-the-job training and classroom lessons, their students become more rounded employees capable of handling irregular or infrequent tasks.

E Training Opportunities and In-house Recruitment

The company has adopted an in-house recruitment system for employees who are especially interested in particular positions, allowing them to challenge themselves and make the most of their capabilities.

T Diverse Measures for Employee Development

Key measures of the company include a planning sheet on which each employee clearly defines their individual training points and goals and the IT Literacy Training program, which helps employees learn how to assess existing businesses and then develop new ideas.

Developing Global Personnel

Developing globally capable personnel is an integral component of JFE's overseas expansion. In addition to hiring and developing non-Japanese for career-track positions in Japan and more local hires overseas, 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.

Personnel Development Programs

Company	Program
S T	Study abroad
S T	Short-term overseas language training
S E T	Overseas assignments for younger employees
S	Dispatching engineers to international conferences
S E T	Training for regional employees of overseas offices
E	Internship for international students

Workforce Diversity

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

Company Policy Explained by the President

The president of JFE Holdings has endorsed the Declaration on Action that was introduced by a group of male leaders in Japan who intend to create "A Society in which Women Shine" with the support of the government's Cabinet Office Gender Equality Bureau. He also announced additional measures to support the professional development of female personnel, thereby communicating both inside and outside the company that women can play active roles at JFE.

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.

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 2016, the figure had risen by 50% to 189, or 3.5%. JFE formulated an action plan to support women in their professional development in compliance with the Act to Advance Women's Success in Their Working Life and is disclosing relevant information.



Expanded Diversity Promotion

To ensure that diversity is promoted steadily, 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 disseminate exemplary case studies

and implement shared initiatives across the Group. In addition, the first exchange workshop for female employees spanning operating companies was held to encourage the sharing of opinions on the career development of younger female employees. JFE aims to expand such activities going forward.



■ Key Activities

S JFE Steel conducts training sessions to improve the skills of female and foreign national employees to communicate with supervisors and senior employees. Also, meetings are organized to enable female employees to exchange opinions. In addition, diversity training for managers is carried out to strengthen workplace management. At steelworks with more than 200 female employees working on-site, showers and other employee welfare facilities have been built, and a company-operated childcare facility will be established in the Chiba district.

E JFE Engineering operates a wide range of businesses, so the company needs a workforce that represents 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.

T JFE Shoji Trade hires diverse people regardless of attributes such as gender or nationality, and adopts diverse work styles to maximize employee abilities. The company is expanding opportunities for female employees by promoting them to managerial positions, expanding clerical job categories and revising duties. It is also supporting career development through enhanced training programs. Management training in Japan is provided for employees hired overseas to promote global personnel development and related interaction. The company is creating increasingly friendly working environments by experimenting with telecommuting, expanding nursing care support, encouraging employees to take paid leave and other efforts.

■ Employment of People with Disabilities

JFE has established three special subsidiaries—JFE Apple East Corporation, JFE Apple West Corporation and Mie Data Craft Co., Ltd.—to employ people 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.

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

	2012	2013	2014	2015	2016
JFE Steel	2.02	2.06	2.16	2.25	2.24
JFE Engineering	1.88	1.90	1.84	2.00	1.59
JFE Shoji Trade	1.86	1.90	2.30	2.25	2.11

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

■ Reemploying Retirees

JFE reemploys people after mandatory retirement at age 60, largely to ensure that the skills and experience of veteran employees are handed down. In the spirit of Japan's Elderly Persons Employment Stabilization Law, JFE has created a system for all employees to work until the age of 65.

As of 2016, 1,477 elderly employees, about 8% of the total, are working at JFE Steel, JFE Engineering and JFE Shoji Trade.

S For enhanced work-life balance, JFE Steel employees can choose full-time or shorter work weeks after reaching their retirement age.

E JFE Engineering created the Skilled Partner Program to rehire employees who wish to continue working after mandatory retirement at age 60.

T For enhanced work-life balance, employees of JFE Shoji Trade after retirement age may choose from a variety of working arrangements, including full-time, shortened workweeks or shortened daily work hours.

Work-life Balance

JFE, in addition to complying with regulations such as the Child Care and the Family Care Leave Law and the Act on Advancement of Measures to Support Raising 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 bodies.

S 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.

E 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. The company also promotes the reduction of extended working hours by setting a day to leave work at the official closing time and in principle prohibiting work after 8 pm.

T JFE Shoji Trade conducts training and other activities by position level to inform employees about company programs for work-life balance. To reduce overtime, 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 Activity to implement operational reforms.

Applicants for Childcare and Nursing Leave

Category	Company	FY2013	FY2014	FY2015
Childcare leave	JFE Steel	23 (1)	27 (5)	28 (5)
	JFE Engineering	21 (0)	22 (5)	23 (4)
	JFE Shoji Trade	32 (0)	39 (6)	37 (2)
Nursing leave	JFE Steel	5 (1)	8 (2)	9 (3)
	JFE Engineering	2 (2)	1 (1)	0 (0)
	JFE Shoji Trade	0 (0)	1 (1)	1 (0)

Note: Figures in parentheses are males.

Examples of JFE Programs for Work-life Balance

Category	Statutory Requirement	Company	Details	
Childcare	Childcare leave period	Until child is 1 year old	S	Up to 3 years old
			E	Up to 2.5 years old
			T	Up to 2 years old
	Shortened working hours	Until child is 3 years old	S E	2 hours per day until child finishes elementary school
			T	2 hours per day until child finishes third grade
	Childcare subsidies	Not stipulate	S	Partial subsidy for nonregistered nursery schools and daycare facilities for sick children
E			Company childcare facility offering reduced fees	
T			Partial childcare subsidy for employees returning from childcare leave	
Special leave when spouse gives birth	Not stipulated	S E	5 days of paid leave	
		T	2 days of paid leave	
Nursing Care	Nursing leave period	Maximum 93 days per person	S	Maximum total of 3 years
			E	Maximum total of 2.5 years
			T	Maximum total of 1 year
	Shortened working hours	Maximum 93 days per person	S E	Maximum total of 3 years
			S E	Maximum total of 2.5 years
			T	Maximum total of 1 year
Career Support/ Reemployment Program	Not stipulated	S T	Reemployment of those who left for childbirth, childcare, nursing care or spousal relocation	

S: JFE Steel **E**: JFE Engineering **T**: JFE Shoji Trade

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.

Lost-work Injuries and Severity (Rates)

		FY2011	FY2012	FY2013	FY2014	FY2015
JFE Steel	Lost-work injuries	0.27	0.23	0.06	0.15	0.15
	Severity	0.19	0.48	0.01	0.09	0.16
JFE Engineering	Lost-work injuries	0.47	0.17	0.73	0.42	0.28
	Severity	0.89	0.01	0.03	0.40	0.01
JFE Shoji Trade Group	Lost-work injuries	0.39	0.52	0.26	0.72	0.67
	Severity	0.02	0.01	0.08	0.06	1.02
Manufacturing industry average	Lost-work injuries	1.05	1.00	0.94	1.06	1.06
	Severity	0.08	0.10	0.10	0.09	0.06

JFE Steel and JFE Engineering: parent company, business associates and contractors;
JFE Shoji Trade: parent and 107 consolidated subsidiaries, business associates and contractors

S JFE Steel, based on its core belief in safety first, as declared by the company president himself, follows three basic strategies: promote the autonomous

resolution of issues, strengthen health and safety at business associates and group companies, and promote mental and physical health. By adopting specialized safety knowhow developed by DuPont, JFE Steel is building a new safety culture, changing the focus away from the dependency of people doing only what they are told to do and toward the autonomy of people exercising initiative. Everyone, including workers on the frontline, take action from the perspective of DuPont's "felt leadership" (respect through action for the well-being of people) in the belief that every accident can be prevented.

E JFE Engineering, striving to eliminate accidents at its construction and operating sites nationwide and two manufacturing plants, by specifying priority items to be shared across the company and identifying the sources of danger and required safety measures through detailed risk assessments for each operation. Efforts to promote physical and mental health and enhance working environments are also helping to ensure the health of individual employees and raise the level of occupational health.

T All JFE Shoji Trade employees participate in health and safety activities under the slogan "Create an accident-free setting with the participation by all." The aims are the early achievement of no severe accidents and no lost-work accidents. The company creates safe working environments by implementing (and following up on):

- ① Creating workplaces that strictly observe rules (improved behavior);
- ② Strengthening day-to-day safety management (interactive management); and
- ③ Vitalizing improvement measures (improved work environment and methods)

Developing Dynamic Work Environments

■ Sound Labor-management Relations

S Recognizing that labor-management cooperation is essential for the company to tackle its business challenges fully, JFE Steel has established a strong relationship with its labor union based on 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 meeting 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 held twice a year. Also, groups selected through competition are given opportunities to go overseas as an incentive.

*Activities for turning JFE into an excellent company and propelling it into the No. 1 position in the industry are called J1 Activities at JFE Steel and JE1 Activities at JFE Engineering.

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 implemented its J-SLIM operational reform activity of system examinations and measures to improve management, work environments and line work. In FY2015, 18 teams, including JFE Shoji Trade, five domestic companies and four overseas companies, presented their activities during the seventh J-SLIM presentation at the 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

	Prizes/Awards	Award-winning Items	Sponsors
JFE Steel	62nd Okochi Memorial Technology Prize	Electric-resistance welded steel pipe for use in the Arctic: welds that have the low-temperature impact resistance of the base material	Okochi Memorial Foundation
	48th Ichimura Prize in Industry for Distinguished Achievement	Highly precise and efficient method for manufacturing high-tension steel plates using uniform cooling	New Technology Development Foundation
	12th Eco Products Awards – Minister’s Prize, Ministry of Agriculture, Forestry and Fisheries	Marine Stone™: A habitat forming material to improve water and sediment quality in enclosed coastal waters	Eco-Products Promotion Council
	42nd Iwatani Naoji Memorial Award	Chrome ore smelting reduction process using hydrocarbon fuel burner	Iwatani Naoji Foundation
	6th Monodzukuri Nippon Grand Award (Ministry of Economy, Trade and Industry Minister’s Prize)	Resource-saving stainless steel with superior thermal resistance for eco-friendly automobiles	Ministry of Economy, Trade and Industry
	13th New Machinery Promotion Award, Ministry of Economy, Trade and Industry Awards	Highly efficient press-bending process for pipe making	Japan Society for the Promotion of Machine Industry
JFE Engineering	17th Infrastructure Technology Development Awards	Hybrid caissons for precast block structures	Japan Institute of Country-ology and Engineering Coastal Development Institute of Technology
	2015 Engineering Merit Awards	Explosion-proof wireless LAN and explosion-proof tablet	Engineering Advancement Association of Japan
	2015 Technology Award	Express seismic diagnosis program for gas distribution network (NeEX: Network EXpress)	Japan Gas Association



62nd Okochi Memorial Technology Prize



48th Ichimura Prize in Industry for Distinguished Achievement



42nd Iwatani Naoji Memorial Award



17th Infrastructure Technology Development Awards

Internal Awards

	Prizes/Awards	Award-winning Items	Award-winning Departments
JFE Steel	Award for Excellence, JFE Steel President’s Awards	Greater profitability through high-performing high-silicon steel sheet	West Japan Works (Kurashiki District), Electrical Steel Department, and others
	Gold Prize, New Product Development Awards	UHP-17CR-110 highly corrosion-resistant seamless pipe	Steel Research Laboratory, Steel Pipe and Casting Research Department, and others
JFE Engineering	President Recommendation for Technology Development	AtoMS® system for stable calorific-value adjustment over a wide flow-rate range	Research Center of Engineering Innovation, and others

GRI Content Index

This report contains Standard Disclosures from the GRI G4 Sustainability Reporting Guidelines.

General Standard Disclosures		Report Pages	Environmental Data Book Pages
Strategy and Analysis			
G4-1	Statement from the most senior decision-maker of the organization (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and the organization's strategy for addressing sustainability.	3-4	-
G4-2	Description of key impacts, risks, and opportunities.	3-4, 30	-
Organizational Profile			
G4-3	Name of the organization.	5-6	-
G4-4	Primary brands, products, and services.	5-6	-
G4-5	Location of the organization's headquarters.	5-6	-
G4-6	Number of countries where the organization operates, and the names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report.	5-6	1
G4-7	Nature of ownership and legal form.	5-6	-
G4-8	Markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries).	5-6	-
G4-9	Scale of reporting organization: <ul style="list-style-type: none"> Total number of employees Total number of operations Net sales (for private sector organizations) or net revenues (for public sector organizations) Total capitalization broken down in terms of debt and equity (for private sector organizations) Quantity of products or services provided 	5-6, 62	-
G4-10	a. Total number of employees by employment contract and gender. b. Total number of permanent employees by employment type and gender. c. Total workforce by employees and supervised workers and by gender. d. Total workforce by region and gender. e. Whether a substantial portion of the organization's work is performed by workers who are legally recognized as self-employed, or by individuals other than employees or supervised workers, including employees and supervised employees of contractors. f. Significant variations in employment numbers (such as seasonal variations in employment in the tourism or agricultural industries).	57	-
G4-11	Percentage of total employees covered by collective bargaining agreements.	66	-
G4-12	A description of organization's supply chain.	5-6,57	-
G4-13	Significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain: <ul style="list-style-type: none"> Changes in location or operations, including facility openings, closings, and expansions Changes in the share capital structure and other capital formation, maintenance, and alteration operations (for private sector organizations) Changes in the location of suppliers, the structure of the supply chain, or in relationships with suppliers, including selection and termination 	Not applicable	-
G4-14	Explanation of whether and how the precautionary approach or principle is addressed by the organization.	17	-
G4-15	Externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses.	18, 40	-
G4-16	Memberships of associations (such as industry associations) and national or international advocacy organizations in which the organization: <ul style="list-style-type: none"> Holds a position on the governance body Participates in projects or committees Provides substantive funding beyond routine membership dues Views membership as strategic 	37-38	-
Identified Material Aspects and Boundaries			
G4-17	Operational structure of the organization. a. All entities included in the organization's consolidated financial statements or equivalent documents. b. Any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.	1	1
G4-18	a. Process for defining the report content and the Aspect Boundaries. b. How the organization has implemented the Reporting Principles for Defining Report Content.	1	1
G4-22	Explanation of the effect of any restatements of information provided in previous reports, and the reasons for such restatements.	37-38	4,11-13
G4-23	Significant changes from previous reporting periods in the Scope and Aspect Boundaries.	1	1
Report Profile			
G4-28	Reporting period (such as fiscal or calendar year) for the information provided.	1	1
G4-29	Date of the most recent previous report (if any).	1	1
G4-30	Reporting cycle (such as annual, biennial).	1	1
G4-31	Contact point for questions regarding the report or its contents.	Back cover	Back cover
G4-32	a. "In accordance" option has been chosen by the organization. b. GRI Content Index for the chosen option (see tables below). c. Reference to the External Assurance Report, if the report has been externally assured. GRI recommends the use of external assurance, but it is not a requirement to be "in accordance" with the Guidelines.	Reference, 68-69	-
Governance			
G4-34	Governance structure of the organization, including committees of the highest governance body. Identify any committees responsible for decision making on economic, environmental and social impacts.	11-12	-
G4-35	Process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees.	15	-
G4-36	Details on whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental and social topics, and whether post holders report directly to the highest governance body.	15	-
G4-37	Processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics.	15	-
G4-38	Composition of the highest governance body and its committees by: <ul style="list-style-type: none"> Executive or non-executive Independence Tenure on the governance body Number of each individual's other significant positions and commitments, and the nature of the commitments Gender Member of under-represented social groups Competences relating to economic, environmental and social impacts Stakeholder representation 	Corporate Governance Report, Securities Report	-
G4-39	Details on whether the Chair of the highest governance body is also an executive officer (and, if so, his or her function within the organization's management and the reasons for this arrangement).	Securities Report	-
G4-40	Nomination and selection processes for the highest governance body and its committees, and the criteria used for nominating and selecting highest governance body members. <ul style="list-style-type: none"> Whether and how diversity is considered Whether and how independence is considered Whether and how expertise and experience relating to economic, environmental and social topics are considered Whether and how stakeholders (including shareholders) are involved 	12, Corporate Governance Report, Securities Report	-
G4-41	Processes for the highest governance body to ensure conflicts of interest are avoided and managed. <ul style="list-style-type: none"> Cross-board membership Cross-shareholding with suppliers and other stakeholders Existence of controlling shareholder Related party disclosures 	11-14	-
G4-42	Highest governance body's and senior executives' roles in the development, approval, and updates of the organization's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental and social impacts.	15	-
G4-44	a. Processes for evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics, and whether such evaluation is independent or not, and its frequency, as well as whether such evaluation is a self-assessment. b. Actions taken in response to evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics, including, as a minimum, changes in membership and organizational practice.	13,15	-
G4-46	Highest governance body's role in reviewing the effectiveness of the organization's risk management processes for economic, environmental and social topics.	11-15	-
G4-47	Frequency of the highest governance body's review of economic, environmental and social impacts, risks and opportunities.	11-15	-
G4-49	Process for communicating critical concerns to the highest governance body.	11-15, 17	-
G4-50	Nature and total number of critical concerns that were communicated to the highest governance body and the mechanism(s) used to address and resolve them.	17	-

General Standard Disclosures		Report Pages	Environmental Data Book Pages
G4-51	a. Remuneration policies for the highest governance body and senior executives for the below types of remuneration: <ul style="list-style-type: none"> Fixed pay and variable pay: <ul style="list-style-type: none"> Performance-based pay Equity-based pay Bonuses Deferred or vested shares Sign-on bonuses or recruitment incentive payments Termination payments Clawbacks Retirement benefits, including the difference between benefit schemes and contribution rates for the highest governance body, senior executives, and all other employees b. Performance criteria in the remuneration policy related to the highest governance body's and senior executives' economic, environmental and social objectives.	13, Corporate Governance Report, Securities Report	-
G4-52	Process 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.	13, Corporate Governance Report, Securities Report	-
Ethics and Integrity			
G4-56	Description of the organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics.	2	-
G4-58	Internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organizational integrity, such as escalation through line management, whistleblowing mechanisms and hotlines.	17	-
Specific Standard Disclosures		Report Pages	Environmental Data Book Pages
Disclosures on Management Approach			
G4-DMA	a. Why the Aspect is material. Report the impacts that make this Aspect material. b. How the organization manages the material Aspect or its impacts. c. Evaluation of the management approach, including: <ul style="list-style-type: none"> The mechanisms for evaluating the effectiveness of the management approach The results of the evaluation of the management approach Any related adjustments to the management approach 	15, 29, 55, 58, 59, 62	-
Economic			
Economic Performance			
G4-EC1	Direct economic value generated and distributed.	Securities Report	-
G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change.	32	-
G4-EC3	Coverage of the organization's defined benefit plan obligations.	Securities Report	-
Indirect Economic Impacts			
G4-EC7	Development and impact of infrastructure investments and services supported.	59-61	-
G4-EC8	Significant indirect economic impacts, including the extent of impacts.	59	-
Environmental			
Materials			
G4-EN1	Materials use by weight or volume.	35-36	9-10, 11, 25, 30
G4-EN2	Percentage of materials used that are recycled input materials.	35-36, 44-45	9-10
Energy			
G4-EN3	Energy consumption within the organization.	35-36, 37-38, 41	9-10, 13, 26, 30
G4-EN4	Energy consumption outside of the organization.	35-36	9-10, 13
G4-EN5	Energy intensity ratio for the organization.	35-36, 37-38	13
G4-EN6	Reduction of energy consumption.	35-36, 37-38	9-10, 13
G4-EN7	Reductions in energy requirements of products and services.	40	-
Water			
G4-EN8	Total water withdrawal by source.	42	9-10, 11, 25
G4-EN10	Percentage and total volume of water recycled and reused.	35-36, 42	9-10, 12
Biodiversity			
G4-EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.	24, 47	-
Emissions			
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1).	37-38, 41	4, 9-10, 12-13, 26
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2).	37-38, 41	4, 9-10, 12-13, 26, 30
G4-EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3).	37	4
G4-EN18	Greenhouse gas (GHG) emissions intensity.	38	13
G4-EN19	Reduction of greenhouse gas (GHG) emissions.	37-38, 41	13
G4-EN21	NO _x , SO _x , and other significant air emissions.	35-36, 42	9-10, 14
Effluents and Waste			
G4-EN22	Total water discharge by quality and destination.	35-36, 42-43	9-10, 15, 27
G4-EN23	Total weight of waste by type and disposal method.	35-36, 45	9-10, 14, 28-29
G4-EN24	Total number and volume of significant spills.	Not applicable	-
Products and Services			
G4-EN27	Extent of impact mitigation of environmental impacts of products and services.	21-28, 40, 41, 44-45, 46-48	5-6
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category.	35-36, 45	5
Compliance			
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	Not applicable	-
Transport			
G4-EN30	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.	35-36, 37, 40	4, 9-10, 13
Overall			
G4-EN31	Total environmental protection expenditures and investments by type.	31	3-4
Social			
Labor Practices and Decent Work			
Employment			
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender, and region.	62	-
G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operations.	62-66	-
G4-LA3	Return to work and retention rates after parental leave, by gender.	65	-
Occupational Health and Safety			
G4-LA5	Percentage of total workforce represented in formal joint management worker health and safety committees that help monitor and advise on occupational health and safety programs.	65-66	-
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, absenteeism, and total number of work-related fatalities by region and gender.	65	-
G4-LA8	Health and safety topics covered in formal agreements with trade unions.	65-66	-
Training and Education			
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.	62-64	-
Diversity and Equal Opportunity			
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.	62-64	-
Human Rights			
Investment			
G4-HR2	Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.	62	-
Society			
Local Communities			
G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs.	59-61	-
G4-SO2	Operations with significant actual and potential negative impacts on local communities.	Not applicable	-
Anti-Corruption			
G4-SO4	Communication and training on anti-corruption policies and procedures.	17	-
Product Responsibility			
Customer Health and Safety			
G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement.	55	-
Product and Service Labeling			
G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.	Not applicable	-
G4-PR5	Results of surveys measuring customer satisfaction.	56	-
Marketing Communications			
G4-PR6	Sale of banned or disputed products.	Not applicable	-

Comparison with Environmental Reporting Guidelines 2012 (Ministry of the Environment, Japan)

Report Parameters and Summary						
Item	CSR Report					Environmental Data Book Pages
	Pages	Content	JFE Steel	JFE Engineering	JFE Shoji Trade	
1. Report Profile						
(1) Report boundary and reporting period	1	Editorial Policy	○	○	○	1
(2) Organizations coverage ratio and reporting period difference	1	Editorial Policy	○	○	○	-
(3) Reporting policies	68-69	GRI Content Index	○	○	○	-
(4) Policies for selecting a type of report	1	Editorial Policy	○	○	○	-
	Back cover	Contact information	○	○	○	Back cover
2. Chairman's statement/CEO's statement						
	3-4	Message from the CEO	○	○	○	-
3. Summary						
(1) Overview of environmentally focused management	5-6	JFE in Society	○	○	○	2
(2) Overview of KPI trends	-	-				-
(3) Summary of activities to address an individual environmental issue	33-34	Priority Targets and Results	○	○	○	7-8
4. Material Balance						
	35-36	Materials Flow	○	○		9-10

Information and Indicators on How Environmentally Focused Management Including Environmental Management is Working						
Item	CSR Report					Environmental Data Book Pages
	Pages	Content	JFE Steel	JFE Engineering	JFE Shoji Trade	
1. Environmental Policies, Visions and Business Strategies						
(1) Environmental policies	2	Standards of Business Conduct	○	○	○	-
	29	Environmental Philosophy and Strategies	○	○	○	-
(2) Material issues, visions and business strategies	3-4	Message from the CEO	○	○	○	-
	32	Environmental Risks and Opportunities	○	○	○	-
2. Organizational Systems and Governance						
(1) Organizational systems for environmentally focused management	29-30	Environmental Management	○	○	○	3
	71-72	Third-party Comments	○	○	○	-
(2) Environmental risk management system	29-30	Environmental Management	○	○	○	-
(3) Compliance with environmental regulations	30	Environmental Auditing	○	○	○	-
	42-43	Protecting the Environment	○	○	○	-
3. Responsiveness of Stakeholder Issues						
(1) Responsiveness to stakeholder issues	29	Environmental Philosophy and Strategies	○	○	○	-
	32	Environmental Risks and Opportunities	○	○	○	-
	39-40	Initiatives by the Japanese Steel Industry	○	○	○	-
(2) Philanthropy related to the environment	49	Environmental Communication	○	○	○	-
4. Environmental Initiatives in the Value Chain						
(1) Strategies and environmental policies in the value chain	32	Value Chain Initiatives	○	○	○	-
	32	Environmental Risks and Opportunities	○	○	○	-
	37	Calculation of Greenhouse Gas Emissions (Scope 3) in Value Chain	○	○	○	4
	40	CO ₂ Reduction in Value Chain	○	○	○	13
(2) Green purchasing and procurement	32	Value Chain Initiatives	○	○	○	-
	21-28	Addressing Environmental Issues with Innovative World-class Technology	○	○	○	-
(3) Products and services designed for mitigating environmental impacts	40	CO ₂ Reduction in Value Chain	○	○	○	13
	44-45	Resource Recycling	○	○	○	5-6
	46-48	Eco-friendly Products and Technologies	○	○	○	-
	21-28	Addressing Environmental Issues with Innovative World-class Technology	○	○	○	-
(4) New environmental technologies and research and development	31	Environmental Accounting	○	○	○	3-4
	39-40	Initiatives by the Japanese Steel Industry	○	○	○	-
	46-48	Eco-friendly Products and Technologies	○	○	○	-
(5) Environmentally sound transportation	40	CO ₂ Reduction in Value Chain	○	○	○	13
(6) Resource exploitations and real estate development/investment with less environmental impacts	-	-				-
(7) Waste management and recycling	33-34	Priority Targets and Results	○	○	○	7-8
	44-45	Resource Recycling	○	○	○	12, 14, 28-29

Information and Indicators on Environmental Impacts of Business Activities and Environmental Initiatives Undertaken to Mitigate Them						
Item	CSR Report					Environmental Data Book Pages
	Pages	Content	JFE Steel	JFE Engineering	JFE Shoji Trade	
1. Resources Used and Energy Consumption						
(1) Total energy consumption and initiatives to reduce it	23	Addressing Environmental Issues with Innovative World-class Technology	○	○	○	-
	33-34	Priority Targets and Results	○	○	○	7-8
	35-36	Materials Flow	○	○	○	9-10
	37-38	Energy Savings and CO ₂ Reduction in Steelmaking	○	○	○	11-13
	41	CO ₂ Reduction Initiatives	○	○	○	25, 30
(2) Total materials used and initiatives to reduce them	23	Addressing Environmental Issues with Innovative World-class Technology	○	○	○	-
	33-34	Priority Targets and Results	○	○	○	7-8
	35-36	Materials Flow	○	○	○	9-10
(3) Water withdrawal and initiatives to reduce it	35-36	Materials Flow	○	○	○	9-10
	42	Cyclic Use of Water	○	○	○	12, 25
2. Recycled input resources (within the organizational boundary)						
	23-24	Addressing Environmental Issues with Innovative World-class Technology	○	○	○	-
	33-34	Priority Targets and Results	○	○	○	7-8
	35-36	Materials Flow	○	○	○	9-10
	42	Cyclic Use of Water	○	○	○	12
	45	Resource Recycling	○	○	○	5-6
3. Products and Services and Environmental Impacts Arising from Production						
(1) Total products manufactured or goods sold	35-36	Materials Flow	○	○	○	9-10, 11, 25
(2) Greenhouse gas emissions and initiatives to reduce them	23	Addressing Environmental Issues with Innovative World-class Technology	○	○	○	-
	33-34	Priority Targets and Results	○	○	○	7-8
	35-36	Materials Flow	○	○	○	9-10
	37-41	Global Warming Prevention	○	○	○	4, 12-13, 26, 30
(3) Total water discharge and initiatives to reduce it	35-36	Materials Flow	○	○	○	9-10
	42	Efficient Use of Water and Prevention of Contamination	○	○	○	11-12, 15, 27
(4) Effluents and nuisance, and initiatives to reduce them	35-36	Materials Flow	○	○	○	9-10
	42	Controlling Air Emissions	○	○	○	14
(5) Release and transfer of chemical substances and initiatives to reduce them	35-36	Materials Flow	○	○	○	9-10
	43	Management of Chemical Substances	○	○	○	15-24, 27-28
(6) Total weight of waste generated, waste disposed by land filling or incineration and initiatives to reduce them	33-34	Priority Targets and Results	○	○	○	7-8
	35-36	Materials Flow	○	○	○	9-10, 11-12, 14
	44-45	Resource Recycling	○	○	○	5-6, 28-29
(7) Significant spills of hazardous substances and measures taken for preventing them	43	Management of Chemical Substances	○	○	○	-
4. Conservation of Biological Diversity and the Sustainable Use of its Components						
	24	Addressing Environmental Issues with Innovative World-class Technology	○	○	○	-
	47	Eco-friendly Products and Technologies	○	○	○	-
	49	Disclosure and Exchange of Information	○	○	○	-

Information and Indicators on the Economic and Social Contexts of Environmentally Focused Management						
Item	CSR Report					Environmental Data Book Pages
	Pages	Content	JFE Steel	JFE Engineering	JFE Shoji Trade	
1. Economic Contexts of Environmentally Focused Management						
(1) Economic contexts in an enterprise	31	Environmental Accounting	○	○	○	4
	32	Environmental Risks and Opportunities	○	○	○	-
(2) Economic contexts in society	32	Environmental Risks and Opportunities	○	○	○	-
2. Social contexts of environmentally focused management						
	7-19	Management	○	○	○	-
	50-66	Contributing to Society's Development	○	○	○	-

Miscellaneous Contents to Be Disclosed						
Item	CSR Report					Environmental Data Book Pages
	Pages	Content	JFE Steel	JFE Engineering	JFE Shoji Trade	
1. Events after the Reporting Period						
(1) Events after the reporting period	-					-
(2) Extraordinary events	-					-
2. Assurance and Other Measures to Enhance Reliability of Environmental Information						
	-					-

Third-party Comments



Yoshinao Kozuma

Professor
Faculty of Economics,
Sophia University

1. Enhancement of the Corporate Governance System

The achievement by JFE Holdings that I have the highest regard for this fiscal year is the enhancement of their corporate governance system. Sound corporate governance is essential for bolstering the effectiveness of CSR management. As a foundation for this, JFE formulated its Basic Policy on Corporate Governance and set up the Nomination Committee and the Remuneration Committee to advise the Board of Directors. The company also started evaluating the effectiveness of its Board of Directors in FY2015. These practical measures reinforce the governance structure of companies that have an Audit & Supervisory Board. Overall, the steps taken by JFE underscore its firm intention to further enhance its governance system in a timely manner with regard to the Corporate Governance Code.

2. JFE Group Health Declaration

The JFE Group Health Declaration was another major achievement of this fiscal year. Because the three operating companies under JFE Holdings engage in different businesses and operations, each one's CSR management is relatively unique. However, the JFE Group Health Declaration is a commitment to unified health maintenance and promotion policies across the Group, giving the impression that the Group intends to strengthen and promote integrated CSR management. At present, there are some differences among the measures taken by each operating company, but I hope they will further promote the initiative so that unified measures are applied Group-wide, thereby enabling all employees and their families to benefit equally.

3. Other Improvements

JFE Group companies are promoting compliance training such as group training and e-learning, Scope 3 emission data of the Group were aggregated and disclosed, and the reporting scope of JFE Steel's environmental data was expanded from a nonconsolidated to domestic consolidated basis. These are highly valuable improvements and proof that JFE's PDCA cycle is effective.

4. Challenges Going Forward

Shifting the reporting scope to a consolidated basis represents a major future challenge. JFE's disclosure on a domestic consolidated basis is excellent, especially in terms of the employment rate of persons with disabilities and data on applicants for childcare or nursing leave. The goal for environmental data is disclosure on a consolidated basis covering both domestic and overseas companies. Another long-term challenge will be to provide more supply-chain information, such as the status of CSR procurements, including respect for human rights in the supply chain, and green procurements.

Third-party Comments



Toshihiko Fujii

Consulting Fellow
The Research Institute of
Economy, Trade and Industry

1. Steady Progress in CSR Initiatives

This report demonstrates that JFE's CSR initiatives have achieved progress, of which I would like to mention the most notable.

(1) Expanded reporting scope for environmental data

The reporting scope for CO₂ emissions has been expanded to Scope 3 ahead of industry peers, which represents a more comprehensive commitment by JFE to climate change. Similarly, expanding the scope of SOx emissions, etc. to Group companies in Japan is also commendable.

(2) Governance

Descriptions of governance in many CSR reports focus on systems and therefore do not grab the attention of readers. JFE's report this year, however, is an exception in a good way. The transcription of a roundtable of Outside Directors/Audit & Supervisory Board Members is well worth reading because their frank remarks turn governance into a lively topic. I hope JFE will continue to pursue governance from the perspective of both systems and the people involved.

(3) Health of employees

The scope of corporate social responsibility expands in parallel with global trends, so its central focus changes accordingly. Corporate responsibility regarding the physical and mental health of employees and their families has been receiving attention, so report has taken up the challenge of health management with notable timeliness. The JFE Group Health Declaration, a guideline for this initiative, demonstrates a comprehensive health policy covering three areas: workplace, mental and physical. As such, the declaration is a good reference for a broad range of efforts. Moreover, it increases the sense of security in working for JFE among employees and their families, who are also important readers of this CSR Report.

2. Expectations for the Next Report and Beyond

(1) Establish goals for outcomes

Although JFE's environmental initiatives are extensive, many goals are based on actions instead of outcomes. For example, the goal for electricity consumption is to "Maintain measures for reducing electricity consumption" instead of setting a specific reduction rate. There is room for reconsideration, so I am hoping for goals to be based on outcomes as far as possible, if only to enhance companywide initiatives.

(2) Expand diversity

Diversification of human resources is a constant demand of society, as well as a necessity is the company is to remain competitive. To this end, the active participation of women is a critical component and will not decrease in importance in the immediate future, considering the current state of Japanese society. At the same time, new challenges are emerging in regard to the diversity of human resources, including prevention of discrimination against sexual minorities. I strongly recommend that JFE continue to expand the scope of its diversity initiatives.

3. Conclusion

As I indicated in the beginning, the JFE Group CSR Report 2016 is an excellent report with richer content compared to the 2015 report. It is easy to read and has been written from the perspective of readers. In conclusion, I express my hopes for further progress and look forward to reading next year's report.



JFE

JFE Holdings, Inc.

2-2-3 Uchisaiwaicho, Chiyoda-ku, Tokyo 100-0011, Japan
www.jfe-holdings.co.jp/en

Inquiries:

Corporate Planning Department
JFE Holdings, Inc.

Tel: +81-3-3597-4321

Email: kankyo@jfe-holdings.co.jp