

STEEL
ENGINEERING
SHOJI TRADE



JFE Group
CSR REPORT 2017



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Editorial Policy

This report provides stakeholders with information about JFE's CSR activities and elicits feedback to support further enhancement of the company's activities and information disclosure. The 2017 report includes:

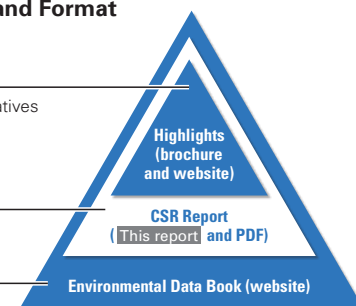
- Material CSR issues that JFE is addressing
- Interviews of the President and CEO and Outside Directors regarding the reorganization of the Board of Directors and Audit & Supervisory Board
- A widened scope of environmental data (e.g., Scope 3 emissions) from Group companies in Japan

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

FY2016 (April 1, 2016 to March 31, 2017)

Reports on some activities undertaken outside this period are included.

Organizations Covered

The report mainly covers the activities of 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 activities of other companies in the JFE Group (376 companies, of which 312 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 domestic and overseas subsidiaries
- Other environmental data: 26 domestic and overseas subsidiaries
- JFE Engineering group
“Environment” section: 10 major domestic subsidiaries
- JFE Shoji Trade group
“Environment” section: 33 major domestic and overseas 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

November 2017 (previous issue: September 2016; next issue (tentative): September 2018)

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 information on 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)

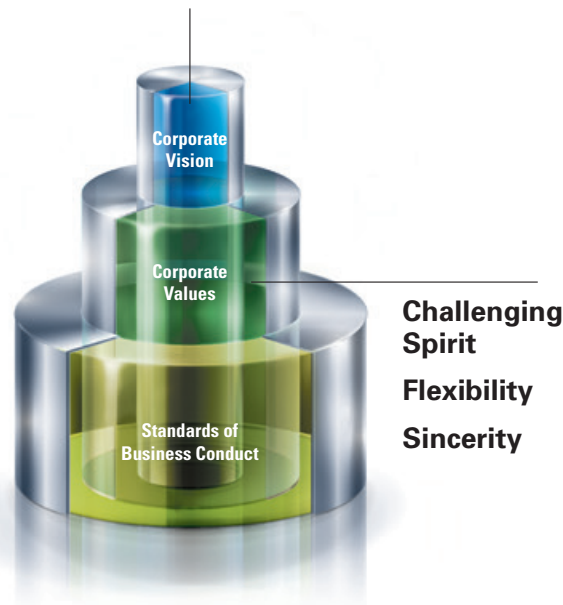
JFE Group business activities

JFE CSR

JFE's corporate values and standards of business conduct are manifested in the company's vision of contributing to society with the world's most innovative technology. JFE proactively addresses critical issues regarding safety, disaster prevention, product quality, human rights, compliance and environmental protection.

JFE considers the perspectives 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.

Mobilizing the world's most innovative address materiality issues for creation of

Message
from the
CEO



Eiji Hayashida

Representative Director,
President and CEO
JFE Holdings, Inc.

Pursuing JFE's Sustainable Growth and Contributing to Society's Sustainable Development

Amid a rapidly changing business environment, JFE has strived to achieve sustainable growth and enhance its corporate value by committing to the vision "contributing to society with the world's most innovative technology," and by leveraging its technological advantages, diverse workforce and comprehensive strengths across a broad scope of business.

In FY2015 we set out our Fifth Medium-term Business Plan to guide business operations for the ensuing three years. Although we might attain our ordinary income and ROE targets slightly behind schedule, we are steadfastly implementing the plan to achieve these goals. Meanwhile, we have positioned environmental protection as a key issue based on the environmental philosophy and strategies established upon our foundation. We continue to conduct our business in harmony with the environment, by leveraging the world's most innovative technologies

in a broad-based effort to help protect the global environment and make societies more affluent.

In the previous fiscal year, our core steel business faced a difficult climate due to the impact of steel oversupply in China, sluggish demand for energy and rising prices for raw materials. Nevertheless, we continued to upgrade our operations with state-of-the-art technologies as well as nurture our workforce to enhance our corporate value and grow sustainably over the medium to long term. Renovating a 40-year-old coke oven and refurbishing a power plant to utilize by-product gas made it possible to significantly cut energy costs to strengthen our competitiveness, reduce our CO₂ emissions and utilize by-product gas more efficiently. These efforts largely contributed to enhancing our corporate value as well as protecting the environment.

Our engineering business contributed to the establishment of a recycling society through its core businesses, including the construction of environmental infrastructure such as a waste-to-energy plant and water treatment plant, and renewable

technologies and diverse workforce to sustainable societies

energy business such as biomass power generation. Our trading business contributed to sustainability through increased use of energy-saving transportation, global resource recycling and biomass-fuel supply.

Harmonizing business competitiveness and environmental protection is a material issue that companies must address to ensure business continuity. We believe that maintaining this balance will support the sustainable growth of not only JFE but society as well.

Material CSR Issues

Environmental protection for sustainable development is an increasing concern of the international community, as expressed in the Paris Agreement to mitigate climate change. In September 2015, the United Nations adopted the 17 Sustainable Development Goals covering a range of issues, including the environment, poverty, hunger, energy and peace. These goals reflect the broad issues faced by global society and global companies including JFE.

Such issues are evolving and growing more complex. During this reporting period, we launched an initiative to identify and inform JFE's material CSR issues and ascertain what most impacts our stakeholders and how we can mitigate risks and create opportunities. Concurrently, we began identifying how to maximize our corporate-resource allocation to bolster our value to society.

First, we prioritized materiality in five areas: providing quality products (customer satisfaction), protecting the global environment, ensuring occupational safety and health, recruiting and nurturing diverse human resources and thoroughly enforcing compliance. Of course, everything is underpinned by corporate governance and respect for and awareness of human rights. In addition, I wish to emphasize that undertaking this process reflects our passions for sustainable growth, corporate value enhancement and social contribution.

Securing and Developing Diverse Human Resources

We established our Basic Policy on Human Resource Management in April 2015 to guide our personnel management activities, and our Health Declaration in September 2016 to ensure the health of employees and their families. Related activities are now carried out in accordance with these guides. For example, we are broadening our diversity by hiring more female employees and introducing ways for women to play more active roles in the workplace. In March 2017, JFE was recognized as an excellent listed company for its encouragement of successful participation by women in the workplace, for which the company received its third Nadeshiko Brand designation for the first time in two years.

We are implementing our Workstyle Reform program through a number of initiatives under the strong leadership of management. The aim is to create workplaces where each employee can take pride in their work, realize job satisfaction, achieve high productivity and create value. Going forward, we will continue to advance these efforts Group-wide to further strengthen our diverse workforce.

Enhancing Corporate Governance

The introduction of our Basic Policy on Corporate Governance in FY2015 established our Nomination and Remuneration committees, both comprised of a majority of Outside Directors and Outside Audit & Supervisory Board Members. We also began analyzing and evaluating the effectiveness of our board of directors in FY2015. As a result, upon the recommendation of the Nomination Committee we decided to enhance the compositions of our board of directors and audit & supervisory board in FY2017, ultimately to strengthen our management structure as well as our fairness, objectivity and transparency.

Maintaining Public Trust

Under a corporate vision of contributing to society with the world's most innovative technology, JFE is addressing materiality issues through CSR initiatives, aiming to contribute to the company's sustainable growth and corporate value as well as to strengthen sustainability in global society.

Businesses to Ensure Sustainable Societies

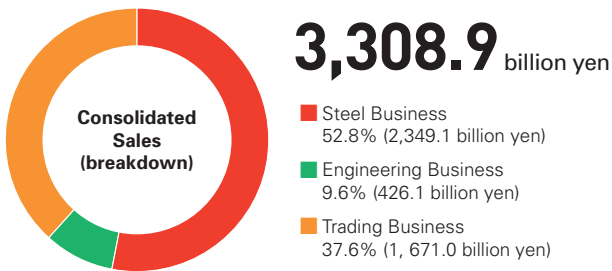
JFE in Society

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 systems suited specifically to its respective business, helps to maximize corporate value by emphasizing competitiveness and profitability aimed at sustainable growth.

Corporate Profile (as of March 31, 2017)

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 yen
Employees (consolidated)	60,439
URL	www.jfe-holdings.co.jp/en



Adjustments for intra-Group transactions totaled -34.4% (1,137.3 billion yen), including internal sales or transfers between segments amounting to 848.1 billion yen in steel business, 9.9 billion yen in engineering business and 279.1 billion yen in trading business.



Steel Business

- JFE Steel Corporation
- Head Office: Chiyoda-ku, Tokyo
- Sales (consolidated): 2,349.1 billion yen
- Ordinary Income (consolidated): 40.5 billion yen
- Employees (consolidated): 44,395

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 reflect JFE Steel's sophisticated technologies and development capabilities.

Contributions to Sustainability

- S-1** Development of high-performance steel materials and energy-conserving products
- S-2** Development and global deployment of energy-saving technologies for manufacturing
- S-3** Steel scrap recycling and effective utilization of iron and steel slag



JFE technologies developed mainly for steelmaking are being used worldwide for new applications in energy, resource recycling and more. JFE is now leveraging innovative world-class technologies from its three core businesses — steelmaking, engineering and trading — to advance sustainable societies worldwide.



Engineering Business

- JFE Engineering Corporation
- Head Offices: Chiyoda-ku, Tokyo and Yokohama, Kanagawa Prefecture
- Sales (consolidated): 426.1 billion yen
- Ordinary Income (consolidated): 26.6 billion yen
- Employees (consolidated): 9,166

Innovative Technologies for Energy and the Environment

JFE Engineering's core businesses in urban infrastructure and energy are underpinned by advanced technologies for resource conservation and clean energy. JFE Engineering develops infrastructure by leveraging its specialized expertise in industrial machinery and steel structures, such as bridges.



Trading Business

- JFE Shoji Trade Corporation
- Head Offices: Osaka and Chiyoda-ku, Tokyo
- Sales (consolidated): 1,671.0 billion yen
- Ordinary Income (consolidated): 21.8 billion yen
- Employees (consolidated): 6,838

Creating Value as JFE's Core Trading Company

JFE Shoji Trade engages in trading in Japan and the import/export of 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

- E-1** Use of renewable energies
- E-2** Expansion of waste recycling
- E-3** Construction of waste-to-energy plants and infrastructure

Contributions to Sustainability

- T-1** Products that reduce both environmental impact and energy consumption
- T-2** Energy-saving transport solutions
- T-3** Resource recycling on a global scale



Material CSR Issues of the JFE Group

Evolving environmental and societal issues are creating increasingly complex challenges for companies. JFE has identified material CSR issues that strongly impact where and how the company should invest its resources, making every effort to minimize negative societal impact and maximize the societal value as only JFE can.

Identifying Material CSR Issues

STEP 1 Identification

By measuring the businesses of JFE against the following yardsticks, we have identified 35 core issues with respect to society's expectations for JFE's CSR initiatives:

- GRI G4 Sustainability Reporting Guidelines
- ISO 26000
- ESG survey via external assessment
- Internal documents on employee satisfaction surveys, etc.
- Benchmark surveys

35 Core Issues

Economy

- 1 Thorough compliance
- 2 Appropriate disclosure
- 3 Corporate governance
- 4 CSR management
- 5 Customer satisfaction
- 6 Supply chain management
- 7 Risk management
- 8 Transparent resource development
- 9 Tax management
- 10 Financial performance improvement
- 11 Innovation management
- 12 Provision of quality products
- 13 Information-security management

Environment

- 14 Environment management
- 15 Financial benefits through environmental investment
- 16 Eco-friendly products
- 17 Global warming mitigation
- 18 Energy efficiency improvement

- 19 Efficient use of water resources
- 20 Air emissions control
- 21 Resource recycling
- 22 Biodiversity
- 23 Renewable energy
- 24 Chemical substances management and release control

Society

- 25 Occupational safety and health
- 26 Stakeholder engagement
- 27 Sound labor-management relations
- 28 Respect for human rights
- 29 Human resources diversity
- 30 Fair evaluation and compensation
- 31 Securing and cultivating outstanding human resources
- 32 Employee satisfaction improvement
- 33 Societal contributions through business
- 34 Societal contribution activities
- 35 Work-life balance

STEP 2 Prioritization Group-wide Meeting

The 35 core issues identified in STEP 1 are prioritized in two ways:

- (1) Vertical axis: Stakeholder expectations
- (2) Horizontal axis: Relevance to business (societal impact)

Group-wide Meeting to Prioritize Material CSR Issues

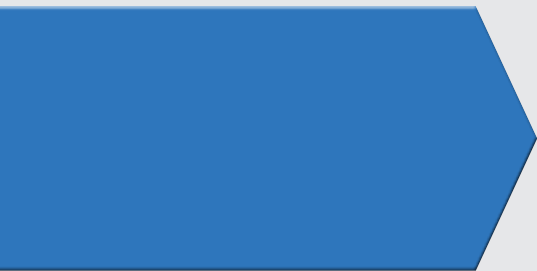
November 29, 2016

Managers from each operating company discussed the prioritization of the 35 core issues from the perspectives of Group management and their respective operating companies' interests.





First meeting of the JFE Group CSR Council held for FY2017



(1) The vertical axis measured the effect of stakeholder impact on decision-making and (2) the horizontal axis measured the effect of a special Group-wide review meeting. Through this process, we identified 13 issues in five focus areas.

STEP 3 Validation

The following process validated 13 material CSR issues in five focus areas:

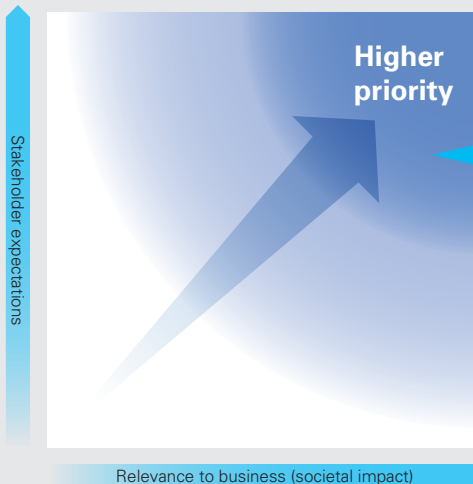
- Confirmation and examination by each operating company
- Two-stage examination and approval by JFE Group CSR Council*

* Participants included the president of JFE Holdings (chairperson), executive vice president, corporate officers, full-time Audit & Supervisory Board members, and the presidents of operating companies, etc.

STEP 4 Review

Material CSR issues identified in FY2016 will be reviewed from FY2017 through the following process. We will also implement measures to address each issue.

- Review by JFE Group CSR Council
- Comments by third-party experts



Five Focus Areas

- Provide quality products (customer satisfaction)
- Protect the global environment
- Ensure occupational safety and health
- Recruit and nurture diverse human resources
- Thoroughly enforce compliance

Identified Material CSR Issues

Five areas of focus and 13 specific issues were identified as material CSR issues. Going forward, JFE will respect human rights as a fundamental aspect of its business and activities contributing to society and will advance its efforts to address these material CSR issues based on fair and transparent corporate governance. Such initiatives will demonstrate the JFE vision of “Contributing to society with the world’s most innovative technology” and will contribute to JFE’s sustainable growth as well as the sustainability of society.

Corporate Vision: Contributing to Society with the World’s Most Innovative Technology

Areas of Focus		Details	Material CSR Issues
Activity	Provide quality products (customer satisfaction)	<ul style="list-style-type: none"> • Provide products and services based on advanced technologies - Continue stable supply of safe, high-quality products - Solve customer problems 	Stably supply products
			Ensure quality
			Pursue research and development
			Respond to customer needs
	Protect the global environment	<ul style="list-style-type: none"> • Mitigate environmental impact • Contribute to recycling societies • Utilize Group technologies to develop products that contribute to environmental protection 	Develop and provide eco-friendly products
			Mitigate global warming
			Protect the global atmosphere
			Pursue resource recycling
	Ensure occupational safety and health	<ul style="list-style-type: none"> • Prioritize safety first • Maintain the physical and mental health of employees and their families and create rewarding workplaces 	Prevent workplace accidents
			Ensure the health of employees and their families
	Recruit and nurture diverse human resources	<ul style="list-style-type: none"> • Maintain work environments where all personnel can maximize their abilities • Accumulate and hand down technologies and skills 	Pursue diversity and inclusion
			Implement personnel development programs
	Basis of activity	Thoroughly enforce compliance	Ensure adherence to Corporate Ethical Standards and compliance

Corporate Governance (Ensure Fairness, Objectivity and Transparency)

Respect and Maintain Awareness of Human Rights

Contributing to Sustainable Development Goals (SDGs)

In September 2015, a UN Summit adopted 17 SDGs to be addressed through worldwide efforts to achieve sustainable development. JFE is responding to this call through contributions achieved by its business activities.



Relevant SDGs



Increased corporate value and sustainable growth

Main Goals

Help realize sustainable societies

Initiatives and Relevant SDGs

The JFE Group is taking action to address CSR issues even in non-material areas as well. The following chart summarizes all activities introduced in this report. The JFE Group intends to contribute to the achievement of the SDGs through these various activities.

		Activities	Page	Related SDGs
Management	Compliance	<ul style="list-style-type: none"> Ensuring Thorough Compliance Antimonopoly Law Compliance Basic Policy on Preventing Bribery of Public Officials Resisting Organized Crime Whistleblowing System 	24–25	 
	Risk Management	<ul style="list-style-type: none"> Disaster Response 	27	
Protecting the Environment	FEATURE 2 Creating Sustainable Societies with World-class Technologies	<ul style="list-style-type: none"> Reducing Environmental Impact Infrastructure Construction 	29–34	      
	Environmental Management	<ul style="list-style-type: none"> Environmental Management System Environmental Education Value Chain Initiatives 	35–38	 
	Global Warming Mitigation	<ul style="list-style-type: none"> Initiatives of Operating Companies 	43–47	   
	Protecting the Environment	<ul style="list-style-type: none"> Controlling Air Emissions Efficient Use of Water and Prevention of Contamination Management of Chemical Substances 	48–49	   
	Resource Recycling	<ul style="list-style-type: none"> Resource-recycling Solutions Resource Recycling 	50–51	   
	Eco-friendly Products and Technologies		52–54	      
	Environmental Communication		55	 
Contributing to Societal Development	FEATURE 3 Workplaces that Provide Dignity and Job Satisfaction for All	<ul style="list-style-type: none"> Changing Workstyles Operational Reforms Work-life Balance 	57–60	   
	Customers and Clients	<ul style="list-style-type: none"> Quality Initiatives Quality Assurance Systems Improving Customer Satisfaction 	61–62	 
		<ul style="list-style-type: none"> Responsible Export Practices 	61	
		<ul style="list-style-type: none"> Fair Competition and Trade 	62–63	  
	Local Communities	<ul style="list-style-type: none"> JFE 21st Century Foundation Local Activities Support for External Organizations Support for Youth Development 	65–67	           
	Employees	<ul style="list-style-type: none"> Respecting Human Rights Securing Diverse Human Resources Human Resource Development and Skill Transfer Workforce Diversity Employee Health and Safety Employee Health Developing Dynamic Work Environments 	68–72	     

Management

JFE Group CSR Report 2017

Management

Protecting the Environment

Contributing to Societal Development



In the Forefront of Corporate Governance

Following JFE Holdings' reorganization of its Board of Directors and Audit & Supervisory Board in June 2017, we interviewed Eiji Hayashida, President and CEO, and Masao Yoshida, then Chairperson of the Nomination Committee about the reorganization. In this section, we also hear from new Outside Director Masami Yamamoto and new Outside Audit & Supervisory Board Member Isao Saiki.

● Foundation of Corporate Governance

To realize the sustainable growth and enhanced medium- to long-term corporate value, JFE's board of directors has been tasked with frankly discussing how to reinforce management supervision to ensure fairness and transparency. JFE has been taking steps to strengthen its governance system since its establishment in 2002, for example, by electing more than one outside director and shortening the term of the director position. Such actions underpin the JFE Holdings Basic Policy on Corporate Governance, established in FY2015.

Web "JFE Holdings, Inc. Basic Policy on Corporate Governance" (English translation) → <https://www.jfe-holdings.co.jp/en/company/h-gaiyo/basic-policy.pdf>

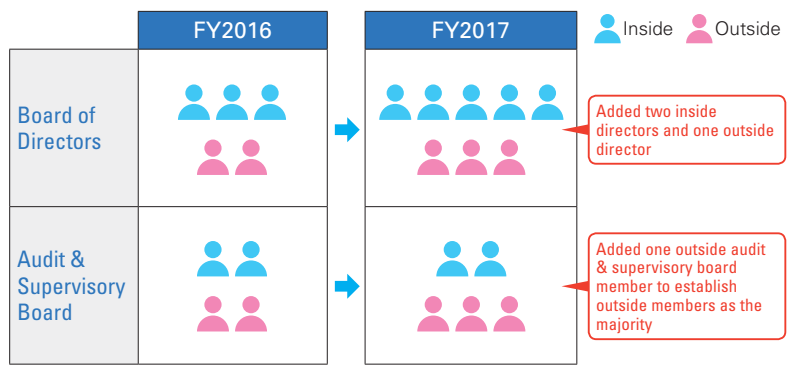
Major Initiatives to Strengthen Governance System

September 2002	Established JFE Holdings, Inc.
June 2007	Added two outside directors and shortened term of directors from 2 years to 1 year
October 2015	Established JFE Holdings, Inc. Basic Policy on Corporate Governance, Nomination Committee, and Remuneration Committee
FY2015	Initiated analysis and evaluation of board of directors' effectiveness
June 2017	Reorganized board of directors and audit & supervisory board

Reorganization of Board of Directors and Audit & Supervisory Board

- Presidents of JFE Engineering Corporation and JFE Shoji Trade Corporation were newly appointed as Directors (adding two inside directors).
- Added one outside director and one outside audit & supervisory board member.

Ratio of outside directors and outside audit & supervisory board members increased from **44% to 46%**



Balancing Centrifugal and Centripetal Forces for Growth of the Group



Eiji Hayashida Representative Director, President and CEO/Chairperson of the Board

Q Can you explain JFE's governance system and the underlying philosophy?

JFE, that involve many Group companies and partners, is engaged in wide and diverse domains, from steel business requiring large-scale equipment to engineering and trading businesses. So, a prerequisite for our governance system is establishing the independence and raising the efficiency of each operating company, while concurrently managing risks related to the environment, safety and disaster prevention in every corner of the Group. To do this, we implemented a pure holding company system and a corporate officer system to allow for the transfer of appropriate authority to our operating companies for swift decision-making. We also adopt an audit & supervisory board system under which independent audit & supervisory board members are given strong legal authority to monitor corporate management together with our directors. I believe we have found the most effective system for us.

Roughly half of both our board of directors and audit & supervisory board are highly independent members from outside JFE. Also, outside directors and outside audit & supervisory board members comprise the majorities of both the Nomination Committee and the Remuneration Committee, which are voluntary advisory bodies under the board of directors. At board of directors meetings, outside audit & supervisory board members also take part in detailed discussions and express their opinions freely. This has infused the meetings with greater energy, leading to managerial decision-making that is fairer, more transparent and less biased in terms of adhering to in-house logic, helping to ensure more effective management oversight.

Q Why were the Board of Directors and Audit & Supervisory Board reorganized?

We appointed the presidents of both JFE Engineering and JFE Shoji Trade as additional members of the board of directors, and added one each additional outside member to the board of directors and the audit & supervisory board.

The move to reorganize began with a discussion on evaluating the effectiveness of our board of directors, which was initiated in FY2015. During the discussion, particularly the outside directors and audit & supervisory board members questioned the adequacy of the size and diversity of the current board of directors from the perspective of carrying out appropriate Group management. The Nomination Committee took up the matter and subsequently we decided to increase the size of the board and diversify its membership for improved effectiveness and greater management oversight.

The key roles of a holding company are to provide a centrifugal force to drive the growth of each operating company and to simultaneously create a centripetal force to bring the companies together. I believe we have room to grow as a Group and in order to increase corporate value beyond that of our steel business, we must establish greater unity with our steadily growing engineering and trading businesses. So, generating greater internal synergy has become more important than ever. Moreover, from an offensive perspective, we have appointed the presidents of JFE Engineering and JFE Shoji Trade as directors to diversify our board's discussions of strategy and growth, and thereby drive our corporate value. In addition, from a defensive perspective, specifically to protect our Group from risks as we expand, including overseas, we will benefit vitally from these members' awareness of specific risks in their respective business domains.

The two new outside executives are Mr. Masami Yamamoto, chairman of the board of Fujitsu Limited, who combines extensive experience as an executive with an engineering background, and Mr. Isao Saiki, an attorney who is well versed in corporate laws and practices. These appointments will enhance our fairness and transparency. I expect the board to benefit from hearing more diverse viewpoints, including ideas for better utilizing IT, a key to increasing our corporate value, and opinions from a legal standpoint.



Q What is the agenda under this new Board structure?

The current fiscal year is the final year of our Fifth Medium-term Business Plan as well as a key period to set our business plan for the next three years. We must manifest our roadmap for sustainable growth and enhance our medium- to long-term corporate value for stakeholders. We intend to hold robust discussions of our medium-to long-term strategy at the board of directors which has further invigorated by the reorganization.

Enhancing Corporate Value through Group Synergies



Masao Yoshida Outside Director

Mr. Masao Yoshida became a senior adviser of Furukawa Electric Co., Ltd. in June 2017. Since joining the company in 1972, he has also held the posts of president and chairman of the board. Additionally, he is an Outside Director of both FURUKAWA Co., Ltd. and Tokyo Century Corporation. Mr. Yoshida became a JFE Director in June 2015.

Q

What was behind the reorganization of the Board of Directors and the Audit & Supervisory Board?

Several directors and audit & supervisory board members had raised questions about the structure of a five-person board of directors and a four-person audit & supervisory board, in terms of scale and diversity, to oversee Group business amounting to more than three trillion yen and spanning diverse business sectors. In addition, since technology lies at the foundation of our Group, it seemed preferable to appoint a director who understood engineering from a managerial point of view to gain greater insight into laying the technological groundwork for strategies that could leverage our competitive advantage in business development, including overseas expansion. Furthermore, to deepen ties among our business domains and increase corporate value on a consolidated basis, we felt that the board of directors needed to include new members representing JFE Engineering and JFE Shoji Trade who could deliberate matters with sufficient responsibility. All of these points were discussed by the Nomination Committee and the board of directors.

Q How do you evaluate changes made to the governance system?

Based on my experience as directors for other listed companies, I think that JFE's outside directors and outside audit & supervisory board members can frankly express their opinions and we participate in very active and ongoing discussions. As the system is designed to be flexible, a project is open to revision once submitted to the board if it is decided that the project lacks reasonability as a result of discussion. The directors engage in very meaningful discussions in an attempt to approach the essence of an issue, and I feel that the opinions of outside directors and outside audit & supervisory board members are given great latitude in terms of acceptance within the discussions. I also feel that chairperson Hayashida runs the board with considerable flexibility. The governance system's reorganization was carried out swiftly and with due consideration for the opinions of outside directors and outside audit & supervisory board members.

The role of a pure holding company is to take a panoramic perspective of managing broad areas and diverse business domains, and to discuss the group's direction. The knowledge and experience of the members of JFE's board of directors and audit & supervisory board have become even better balanced with the addition of Mr. Yamamoto, a newly appointed outside director with a background in engineering, and Mr. Saiki, an attorney newly appointed as an outside member of the audit & supervisory board who is well versed in corporate laws and practices. This reorganization finalizes the process of building a medium- to long-term decision-making framework for management through which we intend to push forward with discussions on enhancing corporate value and ensuring the Group's sustainable growth.



Q What do you see as the future direction of the Group?

JFE has moved forward to diversify and globalize its businesses amid a period of dramatic change, as seen in the change of economic policies in Europe and the U.S. and rising geopolitical risks. Even under these unpredictable circumstances, I believe that there can be no growth without taking risk. No risk produces no profit. From this perspective, the role of management is to figure out how to mitigate and avoid risks so as to shield the business from constant risk exposure. Since this is an unpredictable period, we must closely monitor customers and changes in the market. Also, we must maintain a medium- to long-term perspective as we discuss how to enhance corporate value by harnessing Group synergies among the steel, engineering and trading businesses. While the steel business will continue to be the Group's main trunk of our corporate tree, so to speak, I hope that the Group will evolve into a forest by cultivating the surrounding soil for other trees, rather than merely depend on the main tree's continued growth.

JFE's Technology and Human Capital Challenged by Digitalization

I have worked at Fujitsu Limited, an ICT company, for over 40 years, so as an engineer I have been involved in the development of Japanese word processors and personal computers. Since FY2010 I have been committed to Fujitsu's management as a president and representative director, and since FY2015 as the chairman. What I've learned from these experiences is that the most important aspect of running a company is to develop the necessary human capital, which supports sustainable growth.

The hottest topic in business today is digitalization, which can be defined by keywords such as artificial intelligence (AI), big data and the internet of things (IoT). For example, self-driving vehicles have become a major focus in the automobile industry and the structure of vehicles is dramatically changing as these autonomous cars come closer to reality. JFE's business is closely connected to this industry, so we must meet the rising demand for lightweight auto bodies. Manufacturing is JFE's core business, and its ability to engage digitalization represents a turning point for future growth. But capturing this growth will increasingly depend on having the human resources and organization needed to accurately identify crucial market trends and invest steadily in growth.

As an outside director, I intend to keep a close eye on how our business principles of technological advantage and workforce diversity are being implemented as a means for guiding the company through this rapidly changing market environment.



Masami Yamamoto

Newly appointed Outside Director

Mr. Masami Yamamoto became Chairman of the Board of Fujitsu Limited in June 2017. After joining Fujitsu in 1976, he has also been appointed as the company's president and representative director in 2010 and chairman and representative director in 2015. Mr. Yamamoto became a JFE Outside Director in June 2017.

Contributing to Stakeholders from a New Standpoint

I have been involved in positions related to corporate governance on an ongoing basis through my responsibilities as an attorney and outside audit & supervisory board members. Over the years, I have seen many companies face the crisis of governance. They have all shared a common problem: a lack of proper communication among directors and audit & supervisory board members. The mere existence of a board of directors or audit & supervisory board has no meaning if they cling to precedent and fail to engage in active discussion.

This is my second appointment as an outside member of the audit & supervisory board of JFE Holdings. My first term was for the period from April to June, 2014, when I was designated as a substitute audit & supervisory board member. Once again I am amazed by the enthusiastic exchange of views at meetings of the board of directors and the audit & supervisory board. JFE is sometimes perceived as being a rigid heavy-manufacturing company that supports the steel industry, a key national industry. But on the contrary, I can feel each director's spirit of wanting to materialize the corporate vision of "contributing to society with the world's most innovative technology" by having the corporate values of "Challenging Spirit, Flexibility and Sincerity" and through active discussion.

I am very cognizant that the ultimate role of the outside directors and audit & supervisory board members is to provide fresh stakeholder perspectives to people involved in management and execution. I will actively participate in discussions regardless of the area of expertise, and I intend to live up to the expectations of our stakeholders.



Isao Saiki

Newly appointed Outside Audit & Supervisory Board Member

Mr. Isao Saiki is a Partner Attorney at Abe, Ikubo & Katayama. He is a member of the 41st graduating class of the Legal Training and Research Institute, was admitted to the bar in 1989 (Dai-Ichi Tokyo Bar Association) and joined the Ginza Law Office (now the Abe, Ikubo & Katayama Law Firm) that same year. Mr. Saiki became a JFE Audit & Supervisory Board Member in June 2017.

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. Please review the Corporate Governance Report for more information.

Web [JFE Holdings, Inc. Basic Policy on Corporate Governance →](http://www.jfe-holdings.co.jp/en/company/h-gaiyo/basic-policy.pdf)
<http://www.jfe-holdings.co.jp/en/company/h-gaiyo/basic-policy.pdf>

Web [Corporate Governance Report →](http://www.jfe-holdings.co.jp/en/company/h-gaiyo/corporate-governance.pdf)
<http://www.jfe-holdings.co.jp/en/company/h-gaiyo/corporate-governance.pdf>

Group Governance System

The JFE Group comprises a holding company and three operating companies—JFE Steel, JFE Engineering and JFE Shoji Trade. JFE Holdings, a pure holding company at 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 individually and collectively strive to maximize corporate value for shareholders and all other stakeholders.

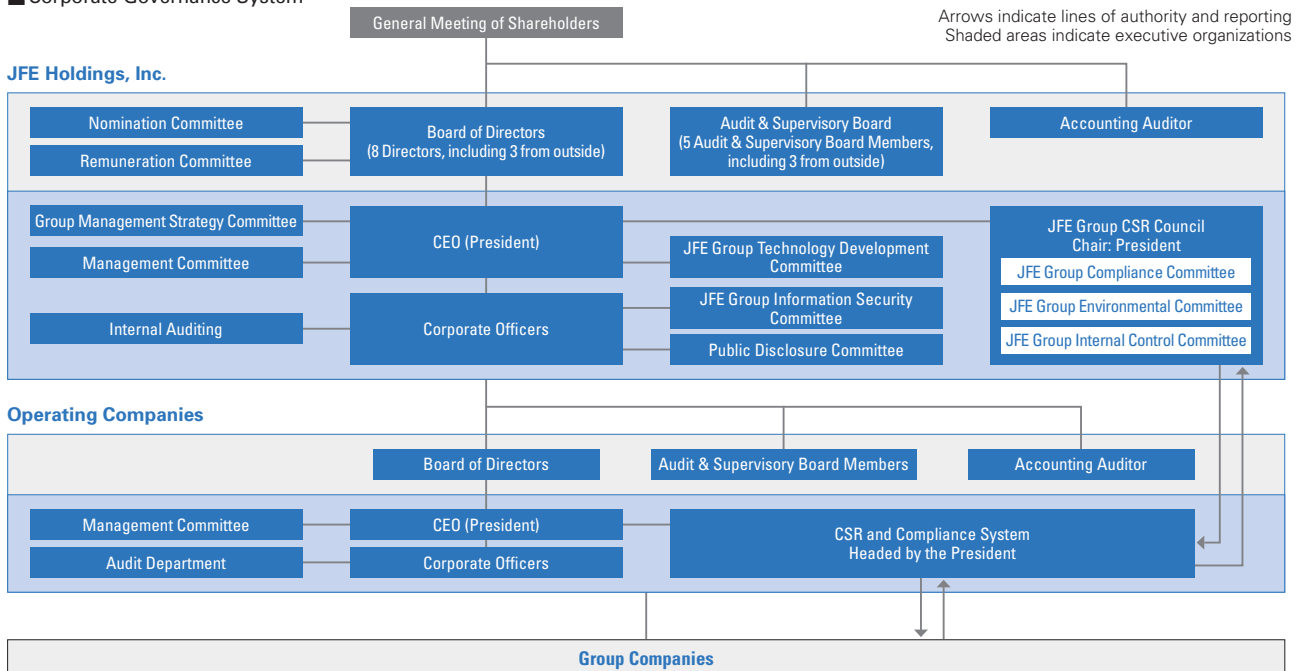
Management

● Governance System

JFE Holdings and each operating company has an Audit & Supervisory Board Members. The companies are crosschecked by the Board of Directors, which supervises operational execution, and the Audit & Supervisory Board Members, which conducts audits. Also, a corporate officer system separates decision making and execution to clarify authority and responsibility, as well as to accelerate execution. JFE Holdings’ Board of Directors is responsible for maintaining and improving management efficiency and passing resolutions as legally required, laying down key management policies and strategies and supervising operational execution. The Audit & Supervisory Board oversees management for the purpose of strengthening its soundness.

JFE’s governance system has been strengthened by reinforcing fairness, objectivity and transparency with the aim of continuously increasing corporate value and profit for shareholders. Two Outside

■ Corporate Governance System



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.

● Changes in Board of Directors and Audit & Supervisory Board Composition

In FY2015, JFE Holdings began to evaluate the overall effectiveness of its Board of Directors. Based on the results, the compositions of the Board of Directors and Audit & Supervisory Board were changed in June 2017.

➔ More information is provided on pages 13 to 18 under the title, "Feature 1."

● Independent Outside Directors

We elect several Independent Outside Directors with the aim of composing one-third or more of the Directors by Independent Outside Directors. Independent Outside Directors will be elected from persons who are appropriate to bear the responsibility of strengthening governance such as those who possess abundant experience as management in global enterprises or experts who possess profound knowledge and satisfy our independence standards.

● Independent Outside Audit & Supervisory Board Members

More than half of the Audit & Supervisory Board Members are from outside. Independent Outside Audit & Supervisory Board Members will be elected from persons who are appropriate to bear the role of enhancing auditing function such as those who possess abundant experience as management in global enterprises or experts who possess profound knowledge and satisfy our independence standards.

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

● Nomination Committee and 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 of and remuneration for Directors and Audit & Supervisory Board Members. For both committees, the majority of committee members are Outside Directors/ Audit & Supervisory Board Members and the chairs are chosen from among these people.

The Nomination Committee reports to the Board

of Directors on matters related to CEO succession, selection of the Representative Directors and other Directors with special titles, and the nomination of candidates for Outside Directors and Outside Audit & Supervisory Board Members. Five meetings were held in FY2016. The Remuneration Committee discusses matters related to basic policies on executive compensation for JFE Holdings as well as each operating company and also reports to the Board of Directors. Two meetings were held in FY2016.

■ Nomination Committee and Remuneration Committee (as of July 1, 2017)

Committee	Inside Director	Outside Director	Outside Audit & Supervisory Board Member	Chair
Nomination Committee	2	3	1	Masami Yamamoto, Outside Director
Remuneration Committee	2	2	2	Masafumi Maeda, Outside Director

■ JFE Holdings Outside Directors and Outside Audit & Supervisory Board Members (as of July 1, 2017)

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	Senior Adviser of Furukawa Electric Co., Ltd. Outside Director of FURUKAWA CO., LTD. Outside Director of Tokyo Century Corporation
Outside Director	Masami Yamamoto	Chairman of the Board of Fujitsu Limited
Outside Audit & Supervisory Board Member	Hiroyuki Itami	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.
Outside Audit & Supervisory Board Member	Isao Saiki	Partner Attorney at ABE, IKUBO & KATAYAMA

● Support for Directors and Audit & Supervisory Board Members

Directors and Audit & Supervisory Board Members are provided with opportunities and funding to receive training in legal matters, corporate governance, risk management and other subjects that help them fulfill their roles and duties. In addition, a briefing is held for Outside Directors and Outside Audit & Supervisory Board Members prior to Board of Directors meetings. Furthermore, Outside Directors and Outside Audit & Supervisory Board Members are provided with relevant information and opportunities to exchange opinions with the president and other top managers, attend key hearings on the operational status of individual departments, and inspect business sites and Group companies.

● Executive Compensation

Executive compensation is subject to either a resolution of the Board of Directors or deliberation by Audit & Supervisory Board Members. Payment shall not exceed the total monthly compensation limit approved at the General Meeting of Shareholders. In addition, Outside Directors and Audit & Supervisory Board Members (including Outside members) have been excluded from the payment of bonuses since FY2016 based on discussions by the Remuneration Committee.

■ Executive Compensation (FY2016)

Position	Total Compensation, etc. (thousand yen)	Number of Executives
Director (excluding Outside Directors)	233,404	3
Audit & Supervisory Board Member (excluding Outside Audit & Supervisory Board Members)	77,434	3
Outside Directors/Audit & Supervisory Board Members	48,047	4

Note: The figures include one Audit & Supervisory Board Member (excluding Outside Audit & Supervisory Board Members) who retired in FY2016.

■ Officers whose Consolidated Remuneration Exceeded 100 Million Yen (FY2016)

Name	Position	Company	Per Company (thousand yen)	Total (thousand yen)
Eiji Hayashida	Director	JFE Holdings	143,537	143,537
Koji Kakigi	Director	JFE Holdings	12,000	139,256
	Director	JFE Steel	127,256	

● Analysis and Evaluation of Board of Directors Effectiveness

In FY2015, JFE Holdings began evaluating the overall effectiveness of its Board of Directors. In FY2016, a questionnaire was sent to each Director and Audit & Supervisory Board Member. FY2016 achievements were also examined based on the questionnaire as well as opinions and suggestions obtained from the prior year's evaluation.

After the Board of Directors reviewed the results of the questionnaire, it was agreed that overall efficiency was ensured through the vigorous input of Outside Directors and Audit & Supervisory Board Members as well as active deliberations at each board meeting. Taking into consideration the results of our FY2016 analysis, we changed the composition of the board for enhanced diversity by adding three Directors including one Outside Director. In addition, the reporting content of the management situation for the three operating companies was further expanded starting in FY2016 to

deepen the Outside Directors' and Audit & Supervisory Board Members' understanding of the Group's business.

Furthermore, in addition to accurate and fair audits performed by the Audit & Supervisory Board Members, the Members also express opinions and actively ask questions at Board of Directors meetings to further invigorate deliberations. Such outcomes support the conclusion that JFE functions more efficiently as a company with Audit & Supervisory Board.

The analyses revealed that further improvement in efficiency will depend on two important points. One is new ideas that deepen discussions regarding strategic directions and visions when formulating medium-term plans and core operational execution. The other is that reports presented to Board of Directors meetings regarding sustainability issues and CSR initiatives must be further developed. Going forward, we intend to further enhance the effectiveness of our Board of Directors.

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 key matters through a deliberative process by its own Management Committee and Board of Directors. In April 2017, JFE Holdings changed the operating structure of key committees. Management strategies involving the entire group are now deliberated by Group Management Strategy Committee and core issues of JFE holdings, the operating companies and the Group are deliberated by the Management Committee before they are submitted to the Board of Directors for resolution.

■ Structure of Group Management Strategy Committee and Management Committee

Committee	Company	Chairperson	Attendees
Group Management Strategy Committee	JFE Holdings	President	Inside Directors (including 3 operating company Presidents), corporate officers and full-time Audit & Supervisory Board Members
Management Committee	JFE Holdings	President	Inside Directors (excluding 3 operating company Presidents), corporate officers and full-time Audit & Supervisory Board Members
	Each operating company	President	Directors, major corporate officers and Audit & Supervisory Board Members

Internal Controls

The JFE Group's internal control system, in accordance with the Basic Policy for Building Internal Control Systems, is maintained through various committee regulations including the Rules of the Board of Directors, Regulations for Group Management Strategy Committee, Regulations for Management Committee, Regulations for the JFE Group CSR Council, Regulations for Organization and Operations, Regulations for Document Management, Regulations for Addressing Violence Directed at Companies, and the installation of Corporate Ethics Hotline. The Basic Policy for Building Internal Control Systems is revised and improved from time to time to boost sustainable corporate value.

Web [Basic Policy for Building Internal Control System \(in Japanese only\) →](http://www.jfe-holdings.co.jp/company/h-gaiyo/naiboutousei.pdf)
<http://www.jfe-holdings.co.jp/company/h-gaiyo/naiboutousei.pdf>

Strengthening Internal Controls

Internal Audits

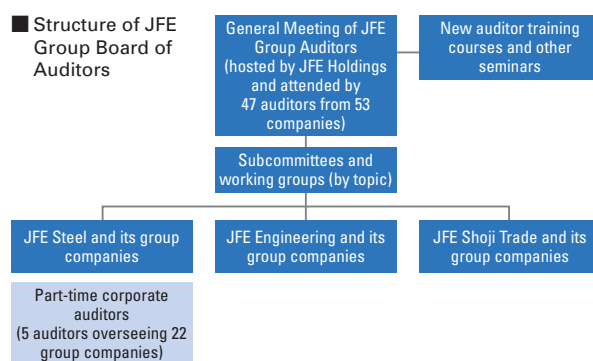
JFE Holdings, its principal operating companies and key Group companies had internal audit organizations comprising 166 people as of April 1, 2017. These organizations share information to enhance overall auditing within the Group. Internal audit managers of operating companies serve concurrently as 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, Group Management Strategy Committee and Management Committee as well as other important meetings. To audit how 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 the Members.

- A total of 47 full-time Audit & Supervisory Board Members have been appointed to 53 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 Members and enhance Group governance. Five absentee Audit & Supervisory Board Members served 22 companies in total.

- The JFE Group Board of Auditors includes both full-time auditors of each Group company and absentee auditors. Subcommittees and working groups created to address specific issues meet autonomously throughout the year to share information, research issues and enhance understanding. The findings are presented at the general meeting of JFE Group Auditors and used for audits.



Cooperation between Audit & Supervisory Board Members and Accounting Auditors

In FY2016, the Audit & Supervisory Board Members held 15 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 a detailed explanation of its quality management system to confirm its validity. In turn, the Audit & Supervisory Board Members explained their own audit plans and other matters to the firm. The two sides also shared opinions on related matters.

Cooperation between Audit & Supervisory Board Members and Internal Auditing Department

In FY2016, 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 or Audit & Supervisory Board Members of 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 and discuss the managerial policies of subsidiaries.

CSR Management

JFE CSR System

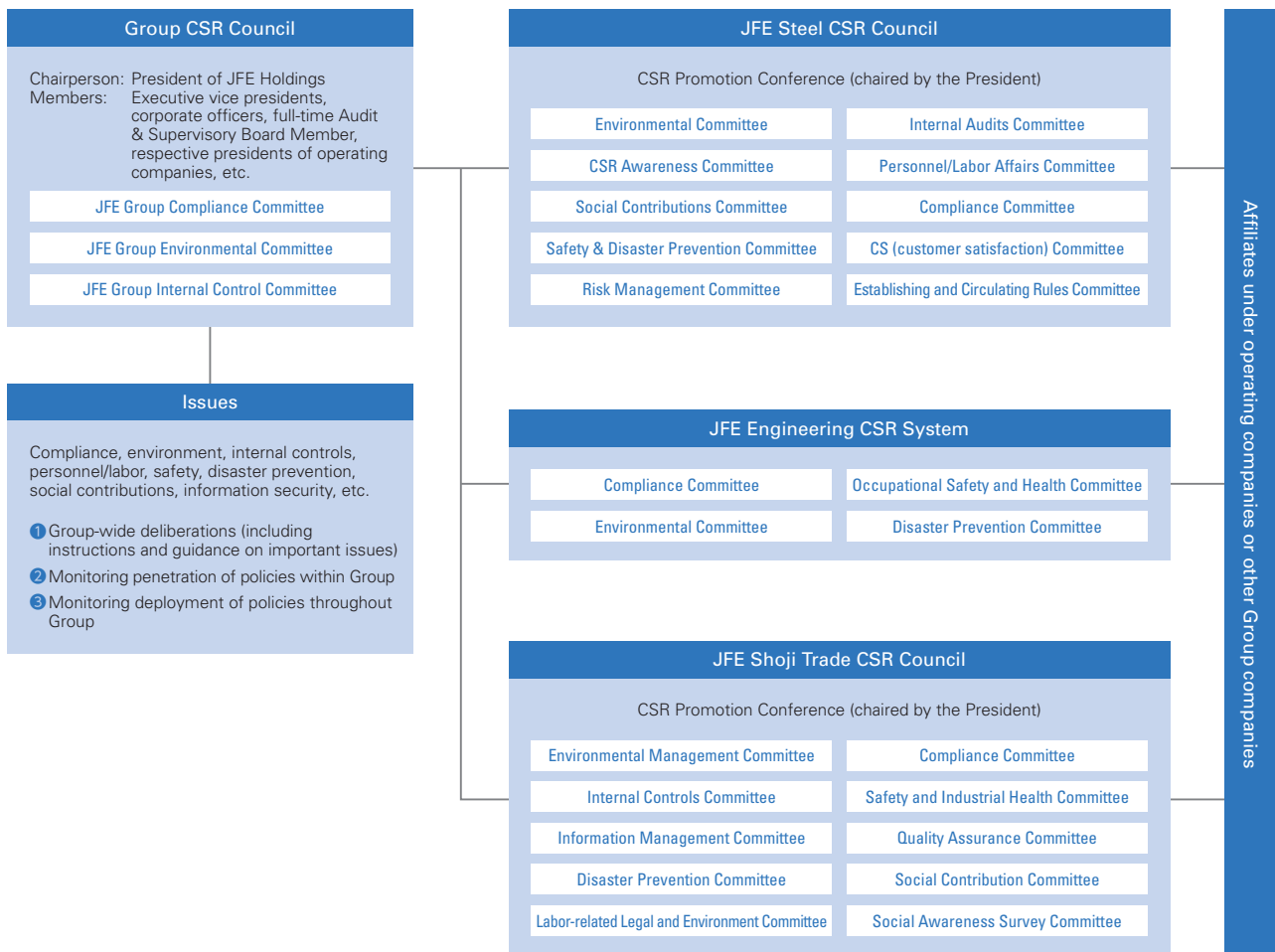
JFE contributes to society as a responsible corporate citizen and has made corporate social responsibility (CSR) increasingly fundamental to its business. The Group CSR Council, which was established by JFE Holdings in October 2005 chaired by the company president convenes quarterly to supervise CSR activities and related issues such as compliance, the environment, human resources, safety, disaster prevention, social contributions and countermeasures against organized crime. The JFE Group Compliance Committee, JFE Group Environmental Committee and

JFE Group Internal Control Committee are among the internal units that report to the Council.

● CSR Audit

To ensure that CSR activities are conducted properly, JFE systematically audits 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 relevant operating companies share information to support the implementation of corrective measures.

■ CSR Structure



Compliance

Basic Policy

Compliance forms part of the underlying foundation upon which JFE is built. Compliance with laws and ethics is vital to maintaining integrity and soundness in business because it helps to ensure that all members of organization deepen their knowledge and awareness ethics and perform their jobs act accordingly every day. To that end, JFE works continuously to strengthen its compliance systems and procedures.

Compliance System

JFE's Standards of Business Conduct and Corporate Vision guide employees in the conduct of their daily activities. They also help to strengthen awareness among all JFE Group executives and employees and ensure adherence to corporate ethics.

The Compliance Committee chaired by the president generally convenes every quarter to deliberate basic policies and issues and then supervise their implementation. Each operating company has a similar in-house system for promoting and supervising compliance. In addition, operating companies have introduced a Corporate Ethics Hotline to ensure that crucial information regarding compliance can be communicated directly from the front lines to top management.

Ensuring Thorough Compliance

● Compliance Guidebook

As part of ongoing efforts to raise compliance awareness, JFE has compiled a Compliance Guidebook for distribution to all employees, including executives. The guidebook also has been reproduced in English and other languages for staffers in overseas offices. It 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. Contents also cover examples of everyday situations that can require employees to make unclear or confusing decisions, and explanations of how to resolve such problems written by relevant departments and reviewed by attorneys to ensure legal compliance. In addition, the Guidebook includes specific case studies that are unique to each operating company.

● Compliance Training

JFE conducts compliance training on the Antimonopoly Act, insider-trading restrictions, security export controls, the Construction Business Act, laws against bribery of public officials. Compliance education also is provided specifically for managers and new hires.

■ Compliance Training at Operating Companies and Subsidiaries in FY2016

Company	Group Training		E-learning
	Courses	Attendees	Participants
JFE Steel	194	4,795	6,949
JFE Engineering	122	4,495	29,506
JFE Shoji Trade	50	1,468	1,936

● Compliance Awareness

Every October, JFE Steel observes its internal Compliance Month by conducting 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 reconfirm that their work practices are compliant of to revise their work practices and/or company rules if required. Throughout the year, efforts to provide updated compliance information include publishing Legal Affairs Department' newsletters every other month and posting training materials on the JFE Steel intranet.

JFE Engineering also provides the latest compliance information via the Legal Affairs Department's newsletter, *Legal News*, and by organizing e-learning programs to deepen employee understanding of the Compliance Guidebook.

JFE Shoji Trade conducts its own biannual Compliance Month, during which employees read internal regulations, other relevant 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. Other Group companies also implement compliance initiatives.

● Key Initiatives by Operating Companies

- Commitments by top management
- Antimonopoly Law training based on actual 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 ensures that its employees are well aware of antimonopoly restrictions. Efforts to maintain awareness include reviewing the operations of each department and conducting surveys regarding membership in organizations.

Basic Policy on Preventing Bribery of Public Officials

The bribery of foreign public servants has emerged as a major business risk in the face of rising international awareness of corruption and increasingly severe charges being filed against violators. To address this issue, JFE issued the Group Basic Policy on Preventing Bribery of Public Officials in February 2015 for dissemination throughout the global Group. Operating companies are also developing their own systems to avoid any bribery of foreign public servants.

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

A survey conducted in FY 2016 at JFE Holdings and each operating company confirmed that while many employees were aware of company policy and ethics and were carrying out tasks with compliance in mind, it also revealed issues that needed to be addressed. Results of the survey were reported to the Board of Directors and the JFE Group CSR Council. Also, feedback presented to each department has been resulting in a variety of practical initiatives.

Whistleblowing System

JFE's Corporate Ethics Hotline helps to ensure that important information regarding compliance can be 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. In addition, development of a support center and multilingual support mechanism are underway to accept reports and requests for advice from overseas Group companies. 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	FY2014	FY2015	FY2016
JFE Holdings and operating companies	57	62	62

Risk Management

Risk Management System

JFE Holdings is responsible for comprehensive risk management in accordance with its Basic Policy for Building Internal Control Systems. The JFE Group CSR Council collects specific information for the purpose of reducing 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 the disclosure of financial reports and information. If potential risks are identified, they are assessed to determine if there is a need for further examination or the deployment of countermeasures.

Response to Risks

● Intellectual Property Management

JFE meticulously manages intellectual property across its diverse business activities. To prevent infringement on third-party intellectual property, JFE constantly monitors the latest information on intellectual property and implements all necessary measures. Training is provided regularly for employees. For proprietary intellectual property, efforts are under way to improve collaboration between business and R&D divisions, ultimately to strengthen the company's overall competitiveness. Also, intellectual property rights are leveraged to protect and build on such achievements.

● Privacy Protection

JFE has established the JFE Group Privacy Statement for managing information including "My Numbers," which are personally identifiable numbers under Japan's social security and tax number systems. To maintain the appropriate protection of personal information, employee trainings on the rules, which have been set in place in accordance with the privacy statement, have been conducted as stipulated in applicable laws and guidelines.

Web [JFE Group Privacy Statement →](http://www.jfe-holdings.co.jp/en/privacy.html)
<http://www.jfe-holdings.co.jp/en/privacy.html>

● Information Security

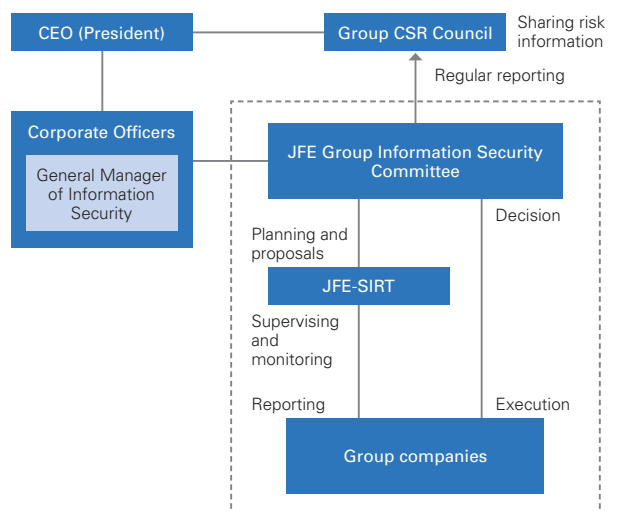
JFE's Information Security Management Regulations help to prevent the improper use or leakage of information within the Group. The regulations are regularly revised and measures are strengthened by drawing on information and examples of external incidents. Implementation is enhanced through guidance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

Key issues related to information security are deliberated by the JFE Group Information Security Committee*¹ to determine Group policy. Based on policies set by the committee, the JFE-Security Integration and Response Team (JFE-SIRT; established in April 2016) formulates and implements information-security measures, performs security audits, offers guidance on responding to incidents and generally enhances Group-wide information-security management.

JFE-SIRT joined the Nippon CSIRT Association, the Japan Electricity Information Sharing and Analysis Center (JE-ISAC)*² and another external organization to share security-related information with other companies and cooperate in the event of incidents.

*¹ Established as the JFE Group IT Committee in June 2015. Current name adopted in April 2016.
 *² Established in March 2016 to enable industry organizations to share security-related information.

■ Information Security Governance System



Major Security Initiatives

Misuse of Information

- ① Authentication measures in JFE's integrated security system
- ② Use of passwords for PC authentication, IC cards, etc.

Information Leaks

Loss or Theft

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

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 (webmail, online bulletin boards, file sharing, etc.)
- ⑤ Preventing access to Group network via unauthorized computers

External Threats

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

Disaster Response

JFE's disaster-response system, part of the company's business continuity planning (BCP), includes steps to assure employee safety, such as 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 additional channels for emergency communication, supported by system-backup mechanisms and emergency contact bases 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.

JFE Engineering has an initial-response plan for dealing with major earthquakes and conducts emergency drills based on the plan. Each division has its own BCP for providing support to help customers maintain facility operations or recover from disasters.

JFE Shoji Trade has a system for continuing to provide products and services to customers even during disasters, but without putting employees in danger. The company has devised emergency communication procedures, strengthened its IT system, stockpiled emergency food and supplies and implemented a system for confirming the safety of each employee. It also provides employee education through activities such as disaster-prevention training and regular drills.

Protecting the Environment

JFE Group CSR Report 2017

Management

Protecting the Environment

Contributing to Societal Development

Creating Sustainable Societies with World-class Technologies

Since its foundation, JFE has utilized its innovative, world-class technologies to address environmental challenges. For example, JFE Steel has been researching technologies to save energy and protect the environment, including through proactive investments. As a result, it has developed some of the most environmentally cutting-edge steelmaking processes in the world. In addition, by advancing the development of high-performance steel materials, it is reducing its environmental impact and constructing key infrastructure.

JFE Engineering, a company that “creates and continues to care for the foundation for life,” is helping to create sustainable societies through a wide variety of technologies and products, such as highly efficient energy solutions, environmental infrastructure, national infrastructure and mechanical systems. Many such initiatives are based on technologies derived from JFE’s steelmaking and shipbuilding businesses.

JFE Shoji Trade is taking advantage of its networks

in Japan and abroad to expand recycling initiatives on a global scale, including its own steel-scrap recycling business, and is creating a stable supply of biomass fuels, which both are supporting the realization of low-carbon societies.

JFE will continue to contribute to the creation of sustainable societies through its three businesses—JFE Steel, JFE Engineering and JFE Shoji Trade—each taking advantage of its specific features.

Reducing Environmental Impact

- E Stoker incinerator
- S TMCP steel plate

- T Full-scale export of recyclable steel-scrap Page 33
- S Grain-oriented electrical steel sheet for high efficiency transformers
- S Martensitic stainless steel pipe
- S Non-oriented electrical steel sheet for high efficiency motors

Infrastructure Construction

- T Terre Armée construction method
- E Underground LNG storage tank

- E Electric-resistance ash melting furnace
- E Methane fermentation facility for sewage sludge
- E Large, deep-shaft human waste treatment facility
- E Bio-Tube (advanced water purification system using micro-organisms)



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- E Biomass power generation (Iwakuni Wood Power)
- S NANOHITEN ultra-high-tensile-strength hot-rolled steel plate 1180 MPa Class
- E JFE Hyper 21 Stoker System



- S Chromate-free steel sheet

- S JFE443CT highly corrosion-resistant chromium stainless steel



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- S Super-SINTER™

- S JAZ™ high-lubrication galvanized steel sheet automobiles

- E Hybrid caisson with seawater exchange function
- E ECOARC™ eco-friendly and economical arc furnace
- E Circulating fluidized bed sewage sludge incinerator
- E Sendai Clean Resource Recycling Plant
- S HBL™ 385 series, 550 N/mm² class steel for building structures
- E PIP technology (steel pipes for water systems)



- E Dual fuel engines for private power generation

- E Construction of sewage treatment facilities outside of Japan

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NKK and Kawasaki Steel

JFE

1970s–90s

Events

- Second oil crisis
- Energy Conservation Act enacted
- Basic Environmental Law and Basic Law for Environmental Pollution Control enacted
- ISO 14001 established
- Law Concerning Special Measures against Dioxins enacted

Social Needs

- National resiliency
- Taking on the challenge of bolstering efforts in energy conservation
- Promoting recycling

2000s

Events

- RoHS Directive took effect
- Basic Law for Establishing the Recycling-based Society established
- Law Concerning Special Measures Against PCB Waste enacted
- Soil Contamination Countermeasures Act enacted
- Law Concerning the Promotion of Measures to Cope with Global Warming enacted
- Various recycling acts enacted

Social Needs

- Zero emissions
- Reducing greenhouse gas emissions
- Measures against the urban heat island effect
- Promotion of environmental protection
- Establishment of an environmental management system



E JFE Ballast Ace™

S UNIHITEN™ 440MPa grade BH steel sheet

S JFE-TF1



Exhaust component using JFE-TF

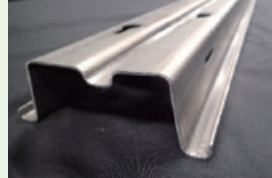


S SP3 highly wear-resistant pearlitic steel rail for heavy haul railways

S Mighty Seam™ HFW line pipe



E Cycle Tree



S UHP™-15CR/17CR next-generation high corrosion resistance stainless steel pipe for oil wells



T Import of palm kernel shell (PKS) biomass fuel

S Super-SINTER™ OXY

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E LNG Re-shipment facility (at Sodeshi base)



E Mega solar power plant

E Hybrid Caissons

E EPP (eco paint peeling) method

Initiatives and Next-Generation Technologies

S COURSE 50



S Ferro-coke

Page 32



E Usage of AI in remote systems for waste power generation plants

Page 32



S Pressure vessel for hydrogen stations

Page 34



E Transportation infrastructure (new construction, maintenance, life extension)

Page 33

Based on the year of publication through press releases.

2010s

Events

- Feed-in Tariff (FIT) Law enacted
- Electric utility deregulation
- Paris climate agreement adopted
- International Ballast Water Management Convention of International Marine Organization (IMO) enacted
- SDGs adopted

Social Needs

- Seeking cleaner energy
- Engaging ESG initiatives
- Initiatives create recycling societies
- Promoting BCPs

During the 1960s, a period of rapid growth in Japan, increasingly frequent reports of pollution became a major social concern and companies were forced to recognize the importance of implementing countermeasures. The need for sustainable development became commonly recognized worldwide following the Declaration of the United Nations Conference on the Human Environment in 1972 and the Rio Declaration in 1992. In recent years, the worldwide norm for assessing a company's long-term growth includes evaluating its environmental, social and governance (ESG) factors. Moreover, companies are expected to play bigger roles in achieving the Sustainable Development Goals (SDGs) adopted at the United Nation Summit.

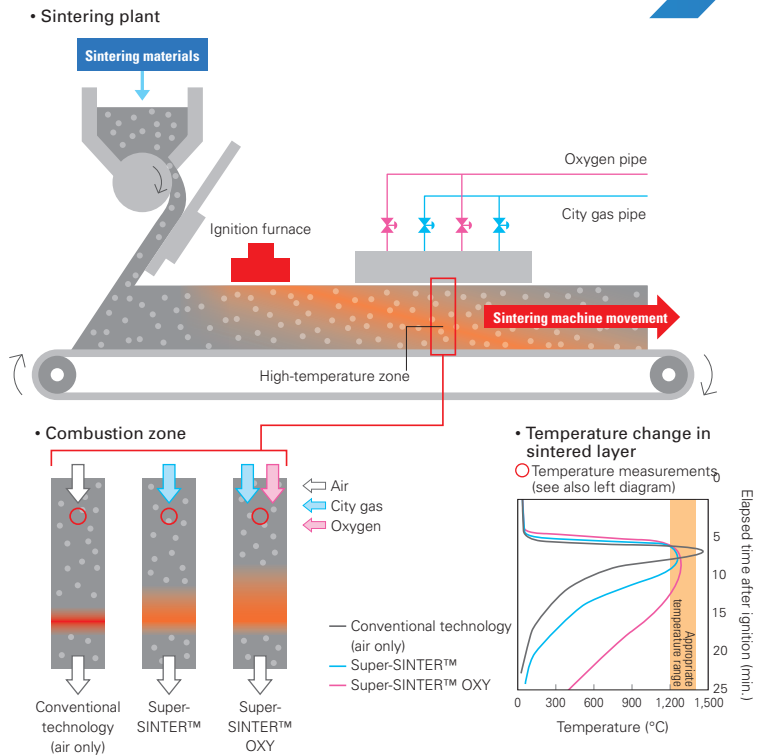
Reducing Environmental Impact

JFE leverages its world-class technologies to reduce the environmental impact of manufacturing processes and it develops products and services that help customers to act with due consideration for the environment. Furthermore, JFE continues to develop next-generation technologies for enhanced environmental protection and more sustainable societies.

Environmental Protection and Recycling

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. It further improves the combustion quality of the breeze and the hydrogenous gases, and by controlling the position of the combustion maintains the calcining reaction at the optimal temperature for more than double the duration of Super-SINTER™. These new technologies make it possible to produce high-quality sintered ore even when using lower grade materials. Moreover, they lower the coke rate of the blast furnace, thereby reducing CO₂ emissions.



Contributions to Society

- Reduce CO₂ emissions by using hydrogenous gas
- Reduce CO₂ emissions by improving energy efficiency

Biomass Power Generation/ Biomass Fuels

Green Energy Tsu



Palm kernel shells (PKS) are a carbon-neutral biomass fuel. JFE Shoji Trade is establishing a system to secure stable supplies of PKS from Malaysia and Indonesia.



E T Biomass power generation utilizing plants or other biological fuels can reduce environmental impact since it uses resources effectively and does not increase atmospheric CO₂. JFE's circulating fluidized bed boiler uses fuel biomass such as wooden pellets and palm kernel shells or preprocessed waste materials. The system efficiently burns these fuels and fluid media by agitating and fluidizing them with high-speed combustion air to generate power.

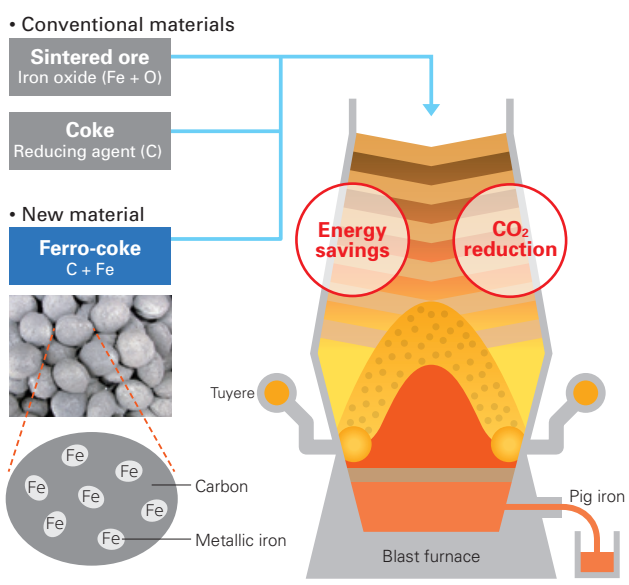
Contributions to Society

- Contribute to local communities by stimulating forestry through the recycling of unused wood
- Provide carbon neutral energy
- Provide a stable energy supply

Next-generation Concept

Strive to dramatically improve energy efficiency of steelmaking process while significantly reducing CO₂ emissions.

Next-generation Technologies and Initiatives



Ferro-coke

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

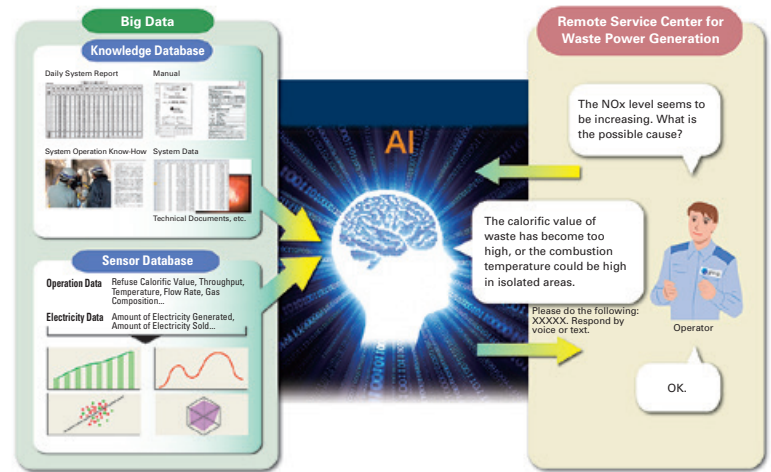
Contributions to Society

- Reduction of CO₂ emissions and efficient use of energy in steelmaking process

AI-controlled Remote Monitoring for Waste Power Generation

E Waste disposal plants are vital for everyday life. Burning waste, however, is not their only function. They also function as an energy resource infrastructure and help to reduce local environmental impact. JFE Engineering's Hyper 21 Stoker System, a waste-power generation system incorporating proprietary combustion technology, realizes top-class efficiency for power-generation facilities. In addition, the JFE Hyper Remote™ system for off-site monitoring of waste-power generation through AI technology contributes to safer, more efficient power generation.

Utilization of AI



Next-generation Concept

Incorporate artificial intelligence in JFE Hyper Remote™ for extra-efficient automation and reduced labor leading to safer and more dependable operation.



Remote Service Center at Yokohama headquarters

Contributions to Society

- Building and managing urban-adapted waste disposal facilities
- Power generation utilizing disposed materials

Infrastructure Construction

JFE technologies are incorporated in all kinds of infrastructure, such as roads, bridges, waste-treatment plants, water and sewage treatment plants, and power-generation and recycling facilities. JFE uses its technologies to responsibly improve safety and reliability in daily life, ultimately for a more promising future.

Building Resilient Infrastructure

Extending the Life of Transportation Infrastructure

E JFE Engineering has constructed bridges and other diverse transportation infrastructure as significant contributions to society's development. Moreover, by extending the service life of such infrastructure through appropriate maintenance, the company is helping to reduce the costs of infrastructure maintenance. JFE Engineering, with its vast experience in bridge construction, carries out repairs and improvements to extend the service life of existing infrastructure and thereby contribute to more sustainable societies.

Contributions to Society

- Enhance sustainability by maintaining and extending the service life of transportation infrastructure



Disaster recovery work on Tokyo Metropolitan Expressway Route 5

High-strength Steel Pipe

S JFE Steel's new high-strength round steel pipe (P-400T, P-500T, P-630T) is 1.23 to 1.94 times stronger than 325N/mm², which is the JIS standard strength for general construction. It also offers excellent toughness for base and welded joints, even though high levels of toughness and strength are difficult to combine in the same product. JFE Steel was the largest supplier of high-strength round steel pipe for the construction of TOKYO SKYTREE™, delivering 8,300 metric tons of this product.

Contributions to Society

- Steel materials that provide both high strength and toughness
- Seismically resilient infrastructure

Large-diameter extra-thick round steel pipe used in the bottom part of TOKYO SKYTREE.



Steel Scrap Recycling on a Global Scale

T Japan is the second largest steel scrap exporter in the world, after the U.S. Because Japanese steel 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 in Japan and other Asian countries, contributing to the expansion of recycling societies on an international. JFE Shoji Trade is exploring more diverse, efficient transportation methods to further this expansion. To that end, JFE Shoji Trade implemented a new container loading system that enables timely shipments of small-lot cargo to any port with container berths.



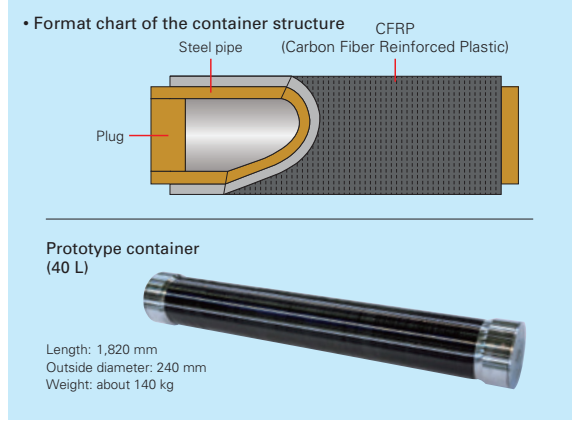
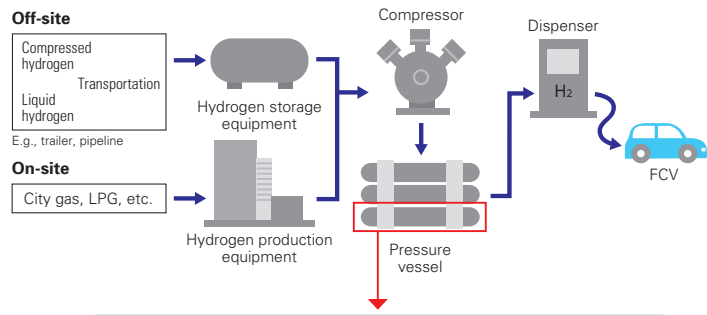
Steel scrap yard

Contributions to Society

- Steel scrap for recycling societies

Next-generation Technologies and Initiatives

■ Scheme for Hydrogen-energy Society



Pressure vessel under development

Pressure Vessel for Hydrogen Stations

S Hydrogen-based energy that does not emit CO₂ will 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.

Contributions to Society

- Reduction of operating costs for hydrogen stations
- Early advancement toward hydrogenous societies

Next-generation Concept

Develop infrastructure for hydrogen fuel, a future clean-energy source, and ensure the safe and affordable supply of hydrogen fuel to fuel cell-powered vehicles, etc.

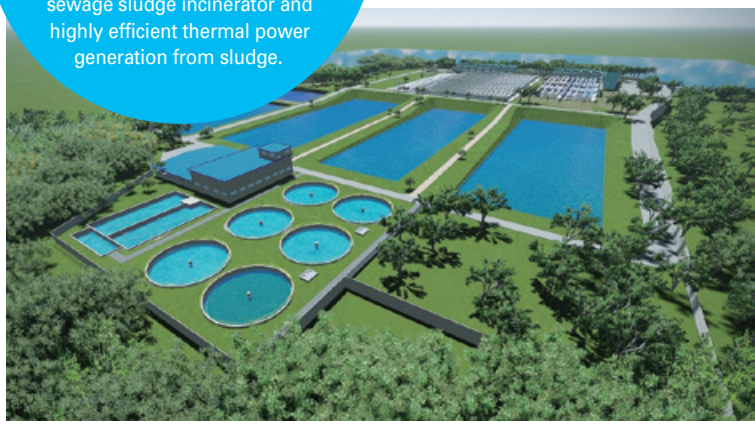
Water and Sewage Treatment Plant

E Clean water is essential for daily life. In many developing countries, however, piped water supply is low, creating a critical need for the stable supply of drinkable water. In addition, sewage systems are vital for preventing domestic waste water from polluting the environment. By building water and sewage treatment plants in Japan and abroad, JFE Engineering is helping to secure stable supplies of clean water and purified sewage in diverse communities, thereby contributing to environmental protection.

Next-generation Concept

JFE is working on new water-treatment technologies to reduce environmental load, including by controlling greenhouse gas emissions from a sewage sludge incinerator and highly efficient thermal power generation from sludge.

Rendering of Water Purification Plant in La Mesa, Philippines (to be completed in 2020)



Contributions to Society

- Supply of clean water
- Environmental protection through sewage purification

Environmental Management

Environmental Philosophy and Strategies

JFE's environmental philosophy and strategies target the development of innovative technologies and international cooperation aimed at 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

Framework for Environmental Management

The JFE Group Environmental Committee, chaired by the president of JFE Holdings and operating under the JFE Group CSR Council, sets goals for environmental protection, monitors the progress of such initiatives and works to improve JFE's overall environmental performance. Specialized committees set up by JFE's operating companies and affiliates implement specific activities.

Environmental Management System



Environmental Management System

Acquisition of ISO 14001 certification is an important part of every JFE company's environmental program. All global production sites of JFE Steel and JFE Engineering and major offices of JFE Shoji Trade have received certification, encompassing 76% of 37,951 employees at 80 companies covered in this report. During the reporting period, there was no material breach of any environmental law or regulation by any operating company, and no environmental protection violation notice was received from any governmental authority.

S JFE Steel has an Environment Management Department at its head office and in each business office, and the Environmental Committee chaired by its president and the Environment Management Committee in each local office. All JFE Steel production sites have obtained ISO 14001 certification, as have 15 of 32 major subsidiaries, for all operations or at least those related to production.

E JFE Engineering's Environmental Management System, which encompasses all employees, works to minimize environmental impact at production sites and branch offices and contribute to environmental protection through all projects and products. The major strategies for 2017 are (1) visualize contributions made to the environment through products and services, (2) comply with energy-efficiency targets mandated by the Energy Saving Act and (3) comply 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. Thereafter, the company secured certification of 16 branch and sub-branch offices and 75 business sites of 21 group companies, including seven manufacturing firms in Japan, to ensure thorough environmental management throughout the JFE Shoji Trade group. Overseas, 11 manufacturing group companies have obtained ISO 14001 certification.

Environmental Auditing

In addition to auditing by ISO 14001 certification organizations, certified operating companies are also inspected by specialized internal auditors who have been trained by external organizations.

S Once a year, JFE Steel's Audit Department and the Environment, Disaster Prevention and Recycling Department conduct an environmental audit at each operational site. Companies are grouped by risk assessments of equipment, etc. using self-checks based on checklists, part of an extensive audit conducted every one to five years. A total of 170 business sites of JFE Steel companies require auditing, of which 28 were audited in FY2016.



Environmental audit of a Group company

E JFE Engineering places a top priority on complying with environmental laws and regulations. It conducts environmental inspections of all construction sites to confirm the legal compliance of its daily operations. In addition, each year about 50 sites—selected from among the Tsurumi and Tsu manufacturing sites, construction sites in Japan and group company sites—are audited by the Safety and Environment Department for compliance with environmental laws and regulations. Under a strengthened environmental management program in 2017, JFE Engineering is conducting stricter inspections and surveillance of industrial waste disposal at construction sites.

T JFE Shoji Trade's Audit Department has an Environmental Management Team to conduct environmental audits of all group companies in Japan, generally on a three-year cycle. The audits primarily focus on confirming legal compliance with noise and vibration regulations at manufacturing sites and waste regulations at sales affiliates.

Environmental Education

JFE actively provides education to foster a corporate culture of environmental protection. Education at operating companies includes training for new recruits and newly promoted employees, and specific environmental-protection education organized by position and job.

S JFE Steel encourages employees to obtain qualifications as pollution-control managers. In FY2016, 101 persons were qualified, bringing the total to 1,418 people since 2005. A training program launched in FY2011 for environmental managers at group companies was held three times in FY2016. In addition, JFE Steel provides employees with annual training to ensure compliance with environmental laws, and it disseminates information about regulatory revisions at its semiannual Environmental Liaison Committee meetings for companies in its group. Brush-up training in waste management skills for on-site personnel is held four times a year.

E JFE Engineering educates all employees about environmental issues to increase their understanding of the company's related policies and initiatives. To ensure proper environmental management, training is often tailored to the specific operations of employees, helping them to enhance their capabilities. Employees engaged in construction are educated about related environmental compliance, including how to confirm that work sites are in regulatory compliance.

T JFE Shoji Trade complies with ISO 14001 requirements by providing all employees with general environmental training and specialized training for internal audit staff on an annual basis. In addition, each company performs a self-check using its own extensive checklist to ensure understanding and rigorous compliance with environmental laws. Also, JFE Shoji Trade provides environmental training to new executives at group companies and information about revised laws and regulations to environmental-management personnel.

Environmental Accounting

● Basic Approach

JFE is saving energy and reducing its environmental impacts by making its production facilities increasingly efficient and introducing more environmentally friendly equipment. Such investments, which are categorized as environmental costs, cover equipment, facilities and related expenditures for environmental protection and impact reduction.

● Environmental Investment and Expenses

Environmental capital investment totaled 44.4 billion yen and expenses amounted to 116.4 billion yen in FY2016. Capital expenditure included 27.2 billion yen for air-pollution countermeasures, 8.8 billion yen for energy savings and other measures to prevent global warming and 4.6 billion yen for water-pollution prevention. Environmental capital investment as a percentage of overall capital investment was roughly 26%.

Expenses for environmental activities included 36.8 billion yen for air-pollution countermeasures, 29.5 billion yen for global-warming countermeasures and 17.4 billion yen for industrial water recycling. Environmental R&D expenses came to 12.6 billion yen.

● Capital Investment

To save energy and reduce environmental impacts stemming from production, JFE invests in environmental technologies for plants and equipment. Cumulative investment in energy savings, totaling 474.9 billion yen since 1990, has enabled the company to achieve energy efficiencies that are among the highest in the world. In total, JFE has invested 668.5 billion yen 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 reduced 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 FY2016 was for facilities to address dust and soot emitted from coke ovens. Investments in dust collection equipment helped to minimize dust and soot from aging coke ovens. The monetary value of energy savings realized through environmental capital investments and expenses in FY2016 is about 600 million yen.

■ Breakdown of Environmental Costs

Main Items		FY2015		FY2016	
		Investment (billion yen)	Cost (billion yen)	Investment (billion yen)	Cost (billion yen)
Management	Impact monitoring and measurement, and EMS expenses and education	0.1	2.4	0.1	2.4
Global warming countermeasures	Saving and efficiently use energy	13.4	34.1	8.8	29.5
Conservation of natural resources	Recycling industrial water	0.6	17.8	2	17.4
	Recycling and waste management of internally generated materials, etc.	0.04	5.2	0.03	5.1
Environmental protection	Air pollution countermeasures	17.8	38.5	27.2	36.8
	Water pollution countermeasures	2.1	10	4.6	9.7
	Prevention of soil contamination, noise, vibration and subsidences	0.003	0.9	0.5	0.8
Other	Charges, etc.	–	0.7	–	1.4
R&D	Technologies for protecting the environment, saving energy and preventing global warming	1.1	12.9	1.2	12.6
Societal activities	Support for nature preservation and forestation, information disclosure, exhibitions and public relations	–	0.7	–	0.7
Total		35.1	123.2	44.4	116.4

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 impacts throughout its supply chains. Also, operating companies work with business partners to reduce their use of materials that impact the environment.

● 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 to 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. The company also helps to reduce emissions by supplying proprietary high-performance steel materials that save energy and develops engineering technologies for renewable energy sources.

With the adoption of the Paris Agreement, environmental efforts for the development of sustainable societies are becoming even more important. Stricter regulation of CO₂ emissions could place certain restrictions on JFE activities centered on steel, but they also present opportunities for growth and heightened competitiveness in increasingly low-carbon societies. JFE Steel achieved a 21% reduction in its energy consumption intensity compared to the FY1990 level. Overall, the JFE Group 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. Also, the transfer and widespread application of proprietary technologies, mainly in developing countries, contribute 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 good balance between 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. Also, the company is 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.

In its steel business, JFE has targeted a 10% increase in environmental R&D investment under its Fifth Medium-term Business Plan (FY2015–FY2017) compared to the previous plan. Moreover, the company is continuously developing next-generation steelmaking process technologies and product technologies with a focus on automobiles, energy and infrastructure.

Main Environmental Targets and Results

		Pages	FY2016 Targets	
Management	Management	JFE Steel	35	<ul style="list-style-type: none"> Continue to improve environmental management systems, including in Group companies.
		JFE Steel	35, 36	<ul style="list-style-type: none"> Voluntary activities for environmental protection.
		JFE Engineering	35, 36	<ul style="list-style-type: none"> Conduct environmental inspections at all construction sites. Enhance Group-wide environmental compliance.
		JFE Shoji Trade	35, 36	<ul style="list-style-type: none"> Continue to self-confirm legal compliance.
Global Warming Prevention	Global Warming Prevention	JFE Steel	43–46	<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 per year by 2020 compared to business as usual.
		JFE Engineering	47, 53, 54	<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	47	<ul style="list-style-type: none"> Reduce electricity consumption.
			47	<ul style="list-style-type: none"> 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	Resource Recycling	JFE Steel	51	<ul style="list-style-type: none"> Reduce dust and sludge and promote increased recycling.
		JFE Engineering	51	<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.

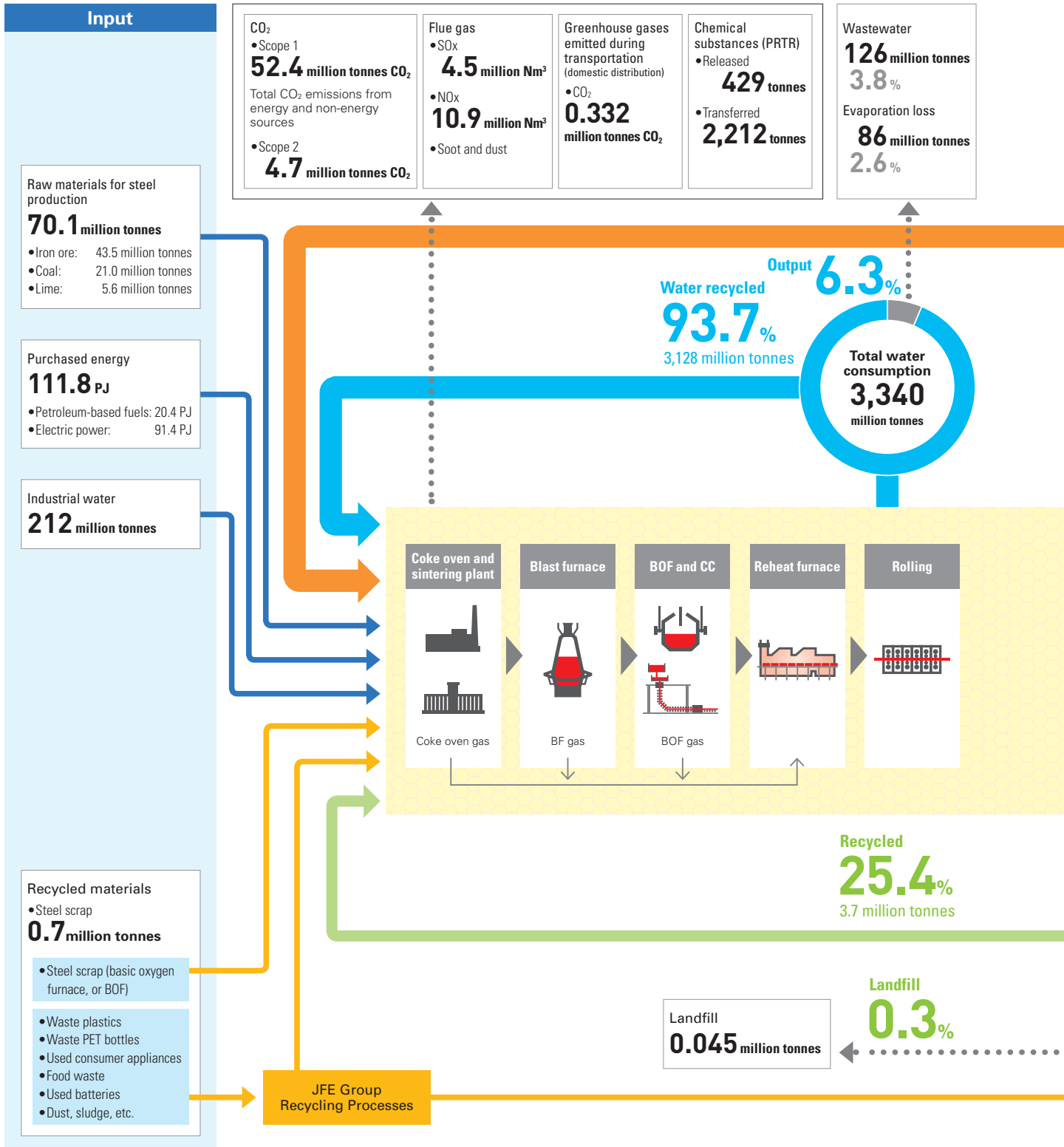
○: Target exceeded △: Target partially achieved ×: Target not achieved

	FY2016 Results	Evaluation	FY2017 Targets
	<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.
	<ul style="list-style-type: none"> Conducted environmental management training for new managers (three times for 58 participants). Conducted environmental auditing at all of JFE Steel's manufacturing sites and 28 offices of Group companies. 	○	<ul style="list-style-type: none"> Voluntary activities for environmental preservation.
	<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"> Enhance Group-wide environmental compliance. <ul style="list-style-type: none"> Promote on-site investigation of industrial waste disposal companies. Conduct more stringent environmental audits.
	<ul style="list-style-type: none"> Self-confirmed legal compliance. Conducted environmental management training for 35 newly appointed officers of Group companies. Conducted environmental audit of Group companies. 	○	<ul style="list-style-type: none"> Continue to self-confirm legal compliance.
	<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 per year by 2020 compared to business as usual.
	<ul style="list-style-type: none"> CO₂ emissions reduced due to renewable energy-related products offered by 2016: 3.17 million tonnes of CO₂ per year. 	○	<ul style="list-style-type: none"> Reduce environmental loads through products and services. <ul style="list-style-type: none"> Reduce CO₂ emissions. Extend the service life of infrastructure. Offer environmentally friendly products. Maintain the S-classification of the Energy Conservation Law at all locations (main office, branch offices, Tsurumi and Tsu manufacturing sites). <ul style="list-style-type: none"> Reduce energy consumption basic unit by an annual average of 1% for five years.
	<ul style="list-style-type: none"> Electricity consumption: 55% reduction compared to 2001. 	○	<ul style="list-style-type: none"> Reduce electricity consumption.
	<ul style="list-style-type: none"> Copy paper consumption: 12% reduction compared to 2001. 	○	<ul style="list-style-type: none"> Reduce copy paper usage.
	<ul style="list-style-type: none"> Average between FY2012 and FY2016: 5.5 g-TEQ per year. 	○	<ul style="list-style-type: none"> Cut dioxins emissions to less than 5.5 g-TEQ per year on average between FY2013 and FY2017 under a new reduction plan in Japan.
	<ul style="list-style-type: none"> Generated byproducts: 14.5 million tonnes. Recycling rate: 99.7% 	○	<ul style="list-style-type: none"> Reduce dust and sludge and promote recycling efforts.
	<p>Achieved all targets for 7 divisions involved in construction work:</p> <ul style="list-style-type: none"> Recycled 99.3% of rubble. Recycled 99.5% of sludge. Recycled 95.0% of other industrial waste. 	△	<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.

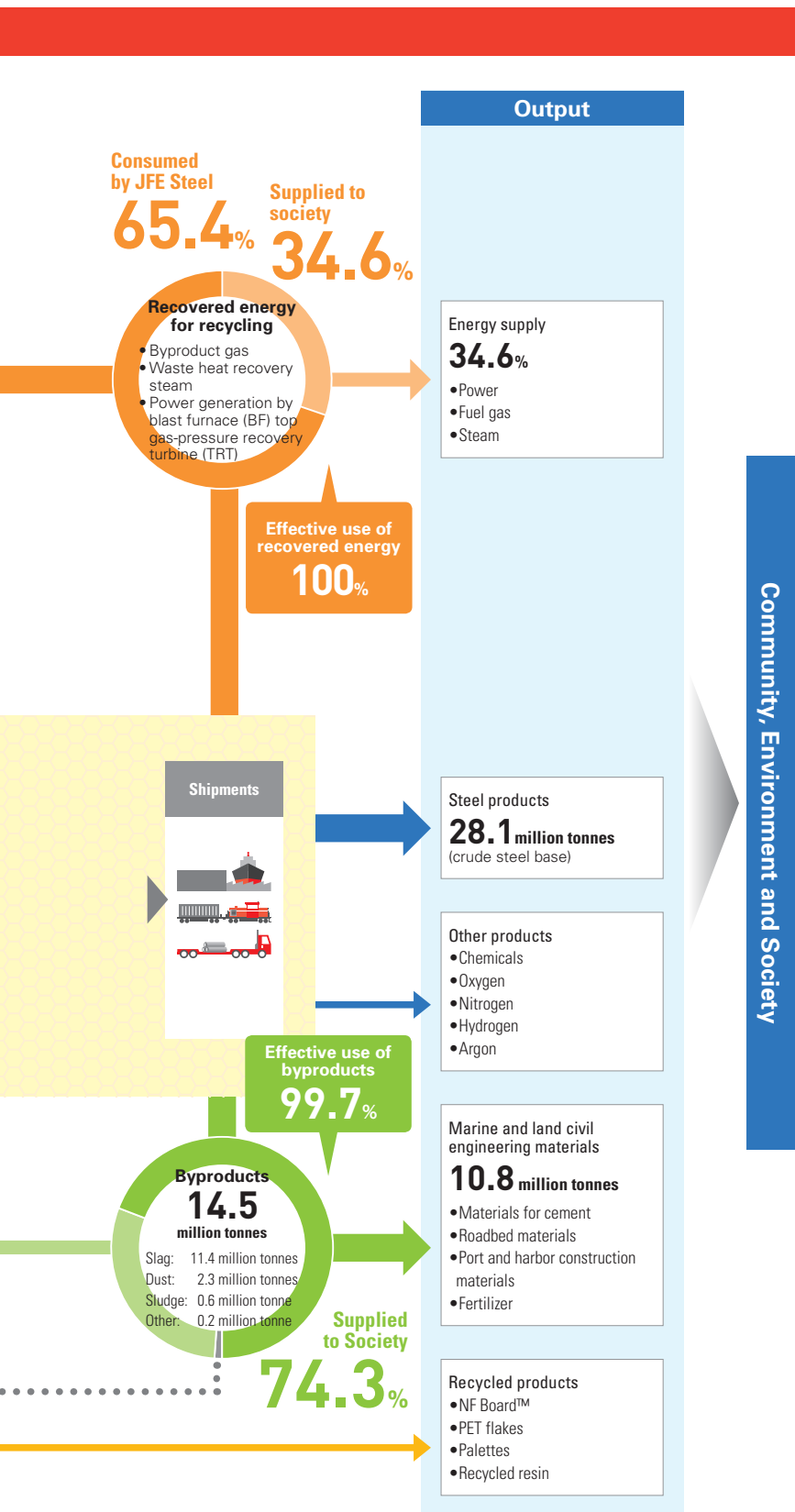
Material Flow

JFE Steel works to reduce the environmental impact of its steelmaking processes, including through the effective use of resources. The company recycles **93.7%** 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.

JFE Steel



→ Supply •••→ Emissions



JFE Engineering (Head Office and Works)

Input	
Steel	39,109 tonnes
Energy	
• Electric power purchased	26.9 GWh
• Class A heavy oil	534.8 kl
• Kerosene	12.9 kl
• Light oil	207.8 kl
• Gasoline	12.8 kl
• City gas	403,346 Nm ³
• LPG	118.5 tonnes
Water	93,983 tonnes

JFE Engineering	
• Tsurumi Works	
• Tsu Works	

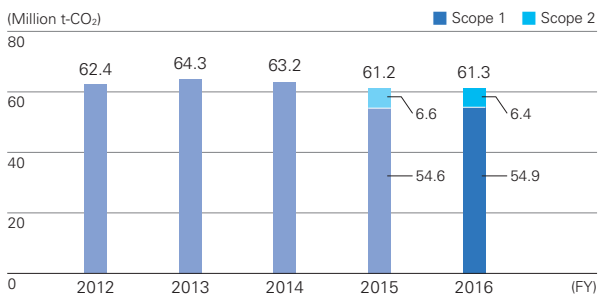
Output and Emissions	
Products	36,134.8 tonnes
CO₂	14,610 tonnes
• Scope 1	3,308 tonnes
• Scope 2	11,302 tonnes
Flue Gas	
• NOx	83.0 ppm
• Soot and dust	0.0050 g/Nm ³
Waste generated	1,487.1 tonnes
Wastewater (ocean only)	147,910.0 tonnes
Others (PRTR)	115.0 tonnes

Global Warming Mitigation

CO₂ Emissions of the JFE Group

JFE's CO₂ emissions are mainly generated by its steel business. However, beyond reducing CO₂ emissions from steel making, each company sets specific targets corresponding with their operations to further save energy and 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 10 major domestic subsidiaries, and JFE Shoji Trade and 33 major domestic and overseas subsidiaries.
- JFE Steel emissions include CO₂ emissions from non-energy sources.
- Data for certain fiscal years have been recalculated retroactively for improved accuracy.

CO₂ Emissions by Operating Company (FY2016)

JFE Steel	JFE Engineering	JFE Shoji Trade
61,209 thousand t-CO ₂	63 thousand t-CO ₂	30.9 thousand t-CO ₂
99.85%	0.10%	0.05%

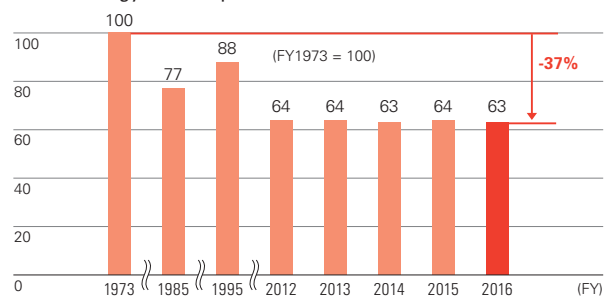
Calculation of Greenhouse Gas Emissions (Scope 3)

The JFE Group began calculating greenhouse gas emissions (Scope 3) in its value chain in FY2015. The calculation for FY2016 covered the eight categories in the table at the bottom of this page, and the scope was broadened to also include Group companies.

Energy Savings and CO₂ Reduction in Steelmaking

S **Initiatives to Save Energy and Reduce CO₂**
 JFE Steel had been pursuing CO₂ reduction and energy savings, including the introduction of energy-saving equipment, since 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 (FY2016)

Category	CO ₂ Emissions (thousand t-CO ₂)	Calculation Method
1 Purchased goods and services	11,019	Purchase prices for materials and outsourced work multiplied by CO ₂ emission unit*
2 Capital goods	840	Capital investment cost multiplied by CO ₂ emission unit*
3 Fuel- and energy-related activities not included in Scope 1 or Scope 2	348	Annual consumption of electricity and steam multiplied by CO ₂ emission unit*
4 Upstream transportation and delivery	647	Transportation distance stated in reports (based on Energy Saving Act) multiplied by CO ₂ emission unit*
5 Waste generated in operations	155	Waste volume (by type) multiplied by CO ₂ emission unit*
6 Business travel	4	Number of employees multiplied by CO ₂ emission unit*
7 Employee commuting	46	Number of employees multiplied by CO ₂ emission unit*
15 Investments	848	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

Coverage: (Categories 1–7) JFE Steel, 26 JFE Steel domestic subsidiaries, JFE Engineering, and JFE Shoji Trade (Category 15) Japan Marine United, and 10 JFE Steel equity-method affiliates (8 domestic and 2 overseas)

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

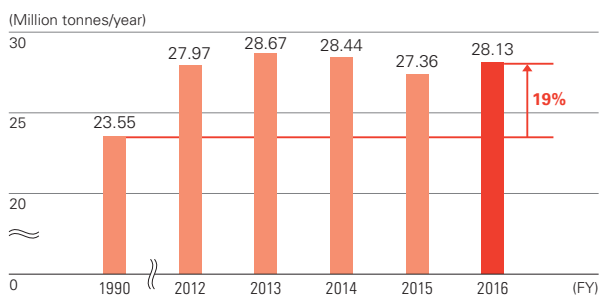
Energy consumption and CO₂ Emissions in FY2016

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 intensity (energy consumption and CO₂ emissions per unit of production) and related energy-conservation activities.

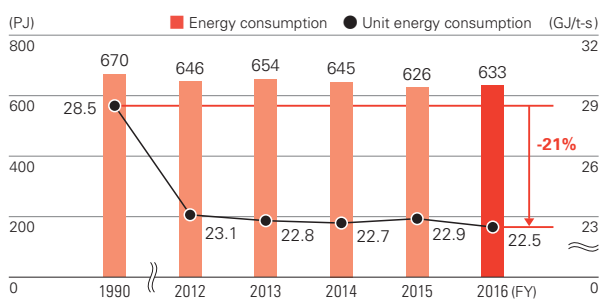
JFE Steel's crude steel production was 28.13 million tonnes in FY2016, up 3% from FY2015 and up 19% from FY1990. However, thanks to ongoing energy-saving activities, energy consumption was down 5% and CO₂ emissions were down 5% from FY1990.

The company's energy consumption intensity in FY2016 was 21% below the FY1990 level at 22.5 GJ/t-steel, while CO₂ emission intensity was down 21% to 1.96 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

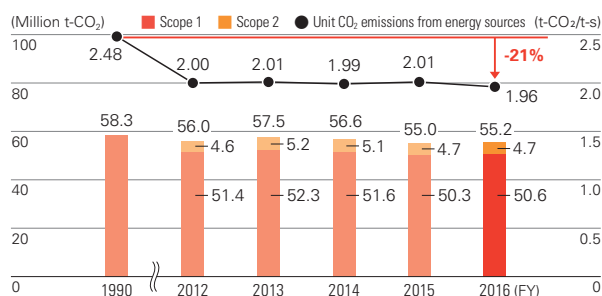


Energy Consumption and Unit Energy Consumption of JFE Steel



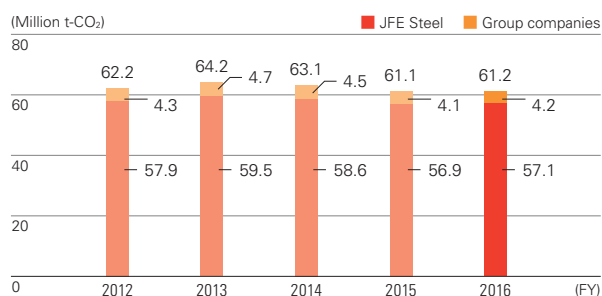
Note: Data for certain fiscal years have been recalculated retroactively for improved accuracy.

CO₂ Emissions from Energy Sources and Unit CO₂ Emissions of JFE Steel



Notes: The CO₂ coefficient for electricity purchased in FY2016 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

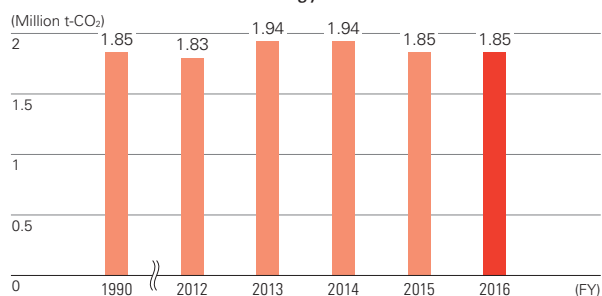


Notes: Data cover JFE Steel (CO₂ emissions from energy and non-energy sources), 26 domestic subsidiaries (CO₂ emissions from energy sources) and 4 overseas subsidiaries (CO₂ emissions from energy sources). Data for certain fiscal years have been recalculated retroactively for improved accuracy.

CO₂ Emissions from non-energy sources

Lime and dolomite, which are used as auxiliary materials in blast furnaces and converters, emit CO₂ when broken down. CO₂ emissions from non-energy sources in FY2016 totaled 1.85 million t-CO₂.

CO₂ Emissions from non-energy sources of JFE Steel



Japanese Steel Industry Initiatives

Low-carbon Society Implementation Plan

The Japan Iron and Steel Federation (JISF) is promoting its Low-Carbon Society Implementation Plan, which focuses on 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 FY2015 emissions by the Japanese steel industry decreased 2.24 million t-CO₂ compared to the BAU* emissions benchmark. Various self-improvement efforts, such as raising the efficiency of coke ovens and generation facilities, started to take effect and thereby reduce emissions. Although the result was better than in the previous year, it fell short of achieving the target of reducing 5 million t-CO₂ compared to the BAU emissions benchmark for FY2020. This was due to such challenges as the deterioration of coke oven bricks, which were not foreseen when the target was established.

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

Eco 1 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) compared to the BAU benchmark.

Eco 2 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.

Eco 3 Eco-Solutions

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

Revolutionary Steelmaking Process Development (COURSE 50)

The Japanese steel industry intends to cut a CO₂ emissions by 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 operational processes to conserve energy further and expand the use of low-rank materials.

Initiatives under a Low-carbon Society Implementation Plan

Energy-saving Equipment

Visualization of the reheat furnace fuel basic unit to promote energy conservation is one achievement attributable to JFE Steel's energy conservation efforts, which generally encompassed the development of new technologies and investment in new equipment. The initiative awarded the 2016 Director-General of the Agency for Natural Resources and Energy Prize in the Energy Conservation Examples at Workplaces Category of the Energy Conservation Grand Prize program which is sponsored by the Energy Conservation Center, Japan.

The fuel (consumption) intensity* is used at steelmaking factories as an index for monitoring operational rates and costs. The fuel basic unit of a reheat furnace is affected by many operational variables, such as temperature and the size of input materials, so it was difficult to pinpoint the causes of a declining fuel basic unit, for example, due to equipment deterioration

or performance degradation. To overcome this, an analytic model was developed to calculate and correct the fuel (consumption) intensity by excluding the effects of operational variables. The model has enabled a reheat furnace's fuel (consumption) intensity to be visualized for earlier detection of equipment deterioration and performance degradation as well as earlier repairs. This initiative is expected to save JFE Steel up to 5,031 kl of energy per year.

* The fuel (consumption) intensity is the calorific value of the fuel required to produce one tonne of steel.

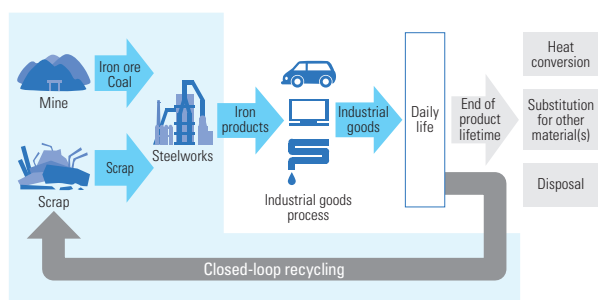
Life Cycle Assessment (LCA)

LCA is a method for quantifying and assessing the environmental impact of products over their life cycles, which covers resource mining, material production, product 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 international standard for LCI calculation methodology for steel products.

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

■ Steel Materials Life Cycle



● Addressing Global Warming

ISO 14404 is an international standard proposed by the Japan Iron and Steel Foundation (JISF) to the International Organization for Standardization (ISO) as a methodology 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 addressing 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 addressing global warming by participating in international activities, such as the Japan-India Public and Private Collaborative Meeting, the Japan-ASEAN Steel Initiative 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.



The 8th convening of Japan-China Advanced Technology for Protecting the Environment and Conserving Energy in the Steelmaking Industry Conference

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 environmental technologies.

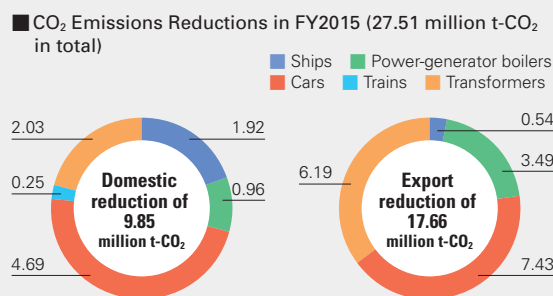
● Energy Saving in Transportation

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 FY2016 was 94.7%.

* 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 estimates the contribution of high-performance steel materials to the reduction of CO₂ emissions. Using provisional calculations by The Institute of Energy Economics, Japan, the federation estimates that the use of major high-performance steel materials (five grades, of which 3.70 million tonnes were used in Japan and 3.54 tonnes were exported, for a total of 7.24 million tonnes) helped to reduce CO₂ emissions by 27.51 million tonnes in FY2015 compared to the FY1990 level.



Source: The Institute of Energy Economics, Japan

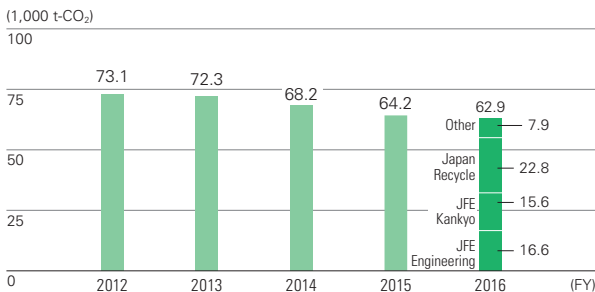
CO₂ Reduction Initiatives

E The head office, branch offices and works of JFE Engineering strive to reduce CO₂ emissions. In 2016, JFE Engineering achieved the reduction target set by the Energy Conservation Law. In addition to reducing CO₂ emissions from its own business, it also helps 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 52 to 54).

JFE Engineering's renewable-energy related plants such as biomass power generation plants and waste power generation plants, including those still in construction in 2016, contributed 3.17 million t-CO₂ in annual CO₂ reductions.

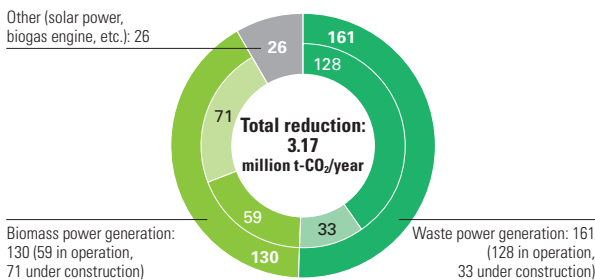
Companies of the JFE Engineering group also work to reduce CO₂ through energy-saving initiatives suited to their respective businesses.

CO₂ Emissions of the JFE Engineering Group



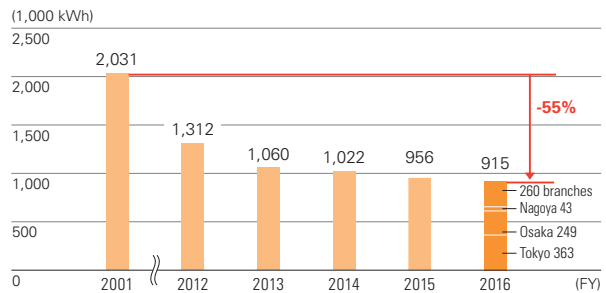
Note: Data cover CO₂ emission by JFE Engineering and 10 domestic subsidiaries. Data for certain fiscal years have been recalculated retroactively for improved accuracy.

Contribution to CO₂ Emission Reductions by Renewable-energy Plants

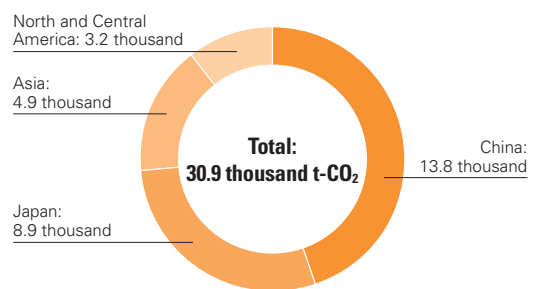


T JFE Shoji Trade offices in Japan, all of which acquired ISO 14001 certification as of 2000, work to reduce their use of energy and paper, as well as strictly manage waste separation. Energy consumption has been lowered significantly by observing days when employees are encouraged to leave work on time, prohibiting night work, introducing pinpoint lighting and relocating the Tokyo head office to a more energy-saving building. In FY2016, 915 thousand kWh of energy was consumed, a 55% 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 33 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

Disclosure of Climate Change Mitigation Measures

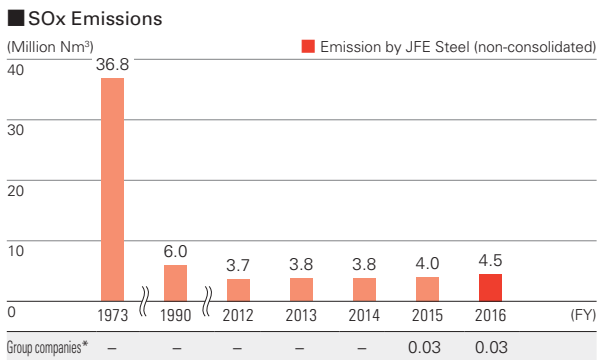
JFE Holdings is responding to requests to disclose its efforts to mitigate climate change and is providing inputs to the Carbon Disclosure Project (CDP)*.

*CDP: an international non-profit organization that works with institutional investors to collect and disclose information from corporations on their greenhouse gas emissions and other climate change risks.

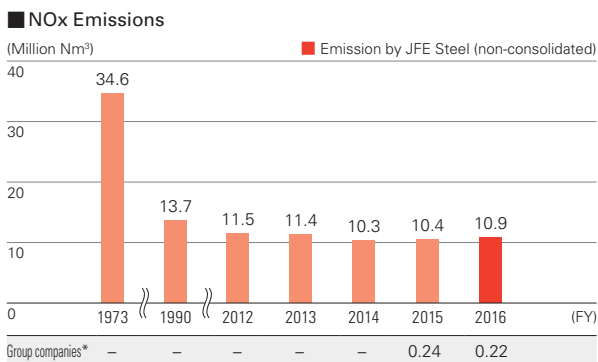
Protecting the Environment

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.



* 13 JFE Steel consolidated subsidiaries in Japan



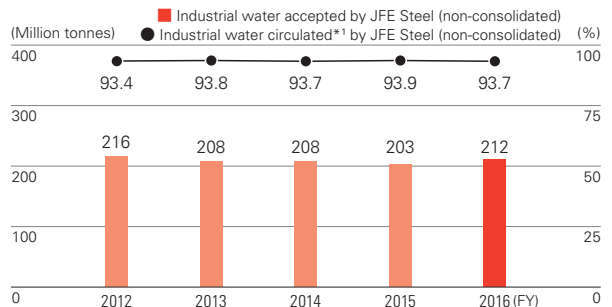
* 14 JFE Steel consolidated subsidiaries in Japan

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. In addition, efforts are being made at construction sites to reduce the environmental impact of construction machinery and on-site vehicles in compliance with the NOx Law and the Off-Road Vehicle Law.

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 actively recycles and cascades this water in thorough purification processes, such as biological and chemical wastewater treatments, which enabled the company to achieve a high recycling rate of 93.7% in FY2016.

Industrial Water Accepted/Circulated



•JFE Steel

	2012	2013	2014	2015	2016 (FY)
Total amount	3,290	3,336	3,313	3,326	3,340
Industrial water accepted	216	208	208	203	212

•Group companies*2

	2012	2013	2014	2015	2016 (FY)
Total amount used	-	-	-	-	339
Amount of industrial water accepted	-	-	-	25	26

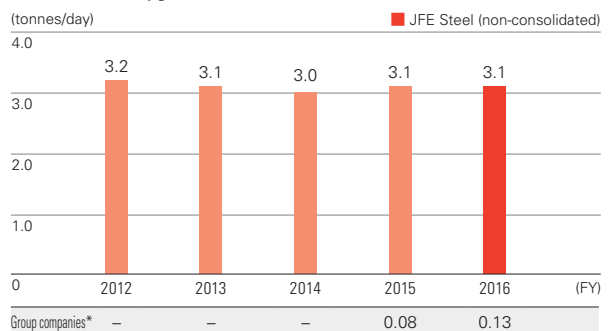
*1 Industrial water circulated (%) = (Total amount - industrial water accepted)/total amount × 100

*2 Data cover 26 domestic consolidated subsidiaries of JFE Steel

Preventing Water Pollution

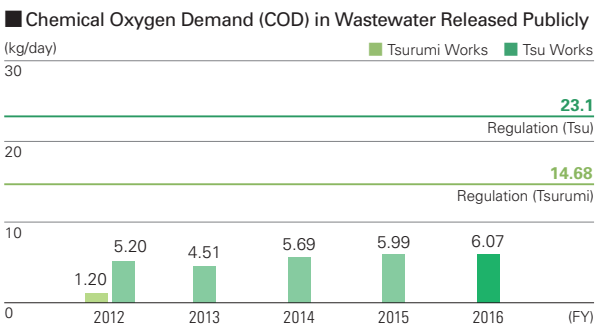
JFE Steel strives to reduce its environmental impact on waterways by thoroughly purifying water used in steelmaking processes before releasing it into public waterways or sewers. Chemical oxygen demand (COD), the water-quality index for wastewater, was 3.1 tonnes per day.

Chemical Oxygen Demand (COD)



* 13 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.

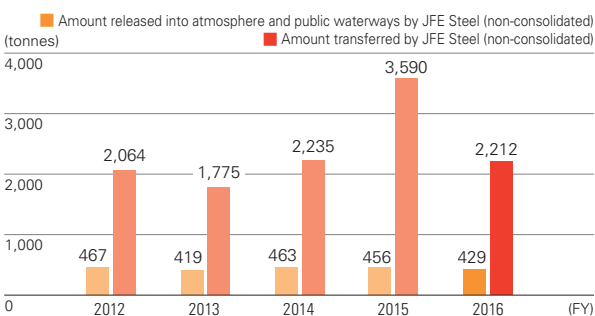


Notes: The Tsurumi Works was connected to the public sewer system in FY2013. This report uses the maximum value of each year.

Management of Chemical Substances

S JFE Steel lowers its environmental impact by voluntarily reducing the chemical substances it releases. In FY2016, chemical substances released into the atmosphere and public waterways totaled 429 tonnes. The Japan Iron and Steel Federation formulated a voluntary action plan to reduce VOC emissions by 30% from FY2000 levels by FY2010. Actual reductions in the industry were significantly better than the levels targeted for FY2020, and follow-up efforts are helping to prevent any increase in emissions. JFE Steel, a member of the federation, has cut its VOC emissions by more than 50% from its FY2000 level.

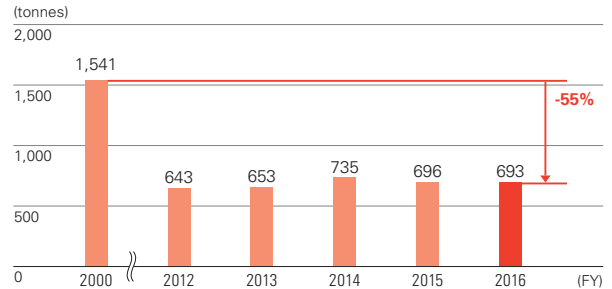
Release and Transfer of PRTR-registered Substances at JFE Steel



Group companies*	Amount released	Amount transferred
	386 (tonnes)	5,048 (tonnes)
	413 (tonnes)	4,835 (tonnes)

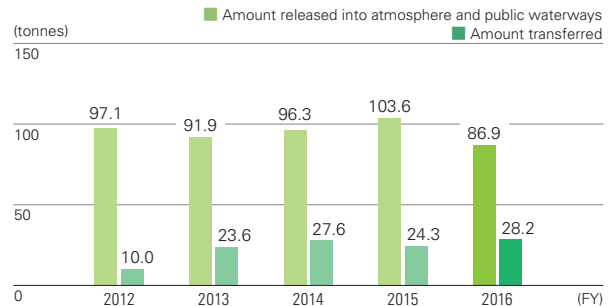
* 18 JFE Steel consolidated subsidiaries in Japan

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 Japan's Law Concerning Pollutant Release and Transfer Register (PRTR Law).

Release and Transfer of PRTR-registered Substances at JFE Engineering Works



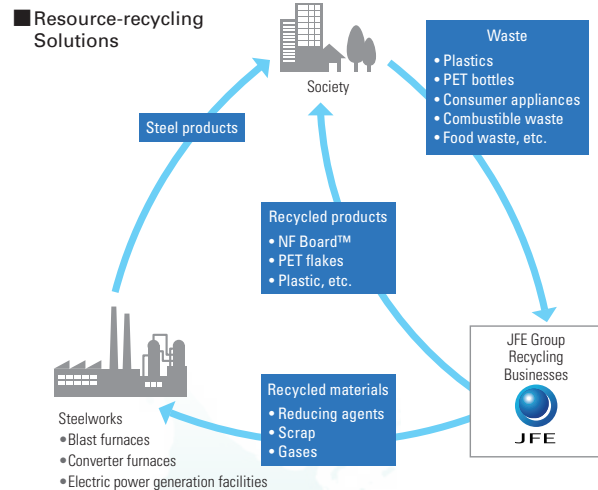
PCB Waste Management at JFE

Polychlorinated biphenyl (PCB) waste is properly stored and managed at JFE facilities. High-concentration PCB waste is treated in accordance with guidelines set by the Japan Environmental Storage & Safety Corporation (JESCO). The Yokohama Eco Clean Plant and Mizushima Eco-Works of JFE Kankyo Corporation treat insulating oil contaminated with slight amounts of PCB, helping to reduce pollutants both in and outside the JFE Group.

Resource Recycling

Resource-recycling Solutions

JFE engages in recycling businesses, such as the re-use of used plastics in materials for blast furnaces, based on recycling technologies developed for its steelworks. In the engineering field, the recycling businesses are closely related 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, and also works to minimize the amount of final disposal.



JFE 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
- 🇪 Refuse paper and plastic (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

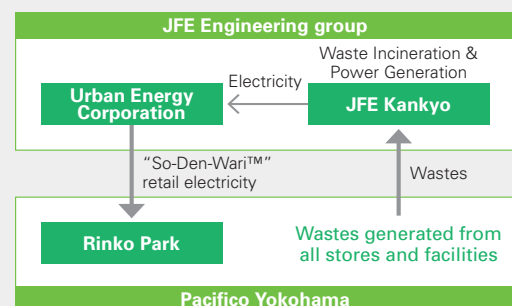
- 🇸 Waste plastic recycling plants (Ogishima & Mizue)
- 🇪 Waste PET bottle recycling plant
- 🇪 Kiln-stoker incinerator
- 🇪 Solid waste recycling plant
- 🇸 NF Board™ manufacturing plant
- 🇪 Consumer/office appliance recycling plant

Examples of Recycling and Processing (FY2016)

Content	Volume
Containers and packaging plastic bought at auction	0.10 million tonnes
Waste plastic reused in steelmaking process	0.12 million tonnes
Used fluorescent tubes processed	20 million tubes
Used consumer appliances processed	0.50 million units

🇪 "So-Den-Wari™" Recycling Wastes to Generate Electricity

Urban Energy Corporation and JFE Kankyo, two JFE Engineering subsidiaries, started the "So-Den-Wari™" retail electricity business using a new scheme of self-sustaining local production/consumption. Using wastes produced by a client, JFE Kankyo generates electricity that Urban Energy Corporation supplies back to the same client at a discounted rate. Since April 2017, the same service has been provided to Rinko Park in Yokohama.

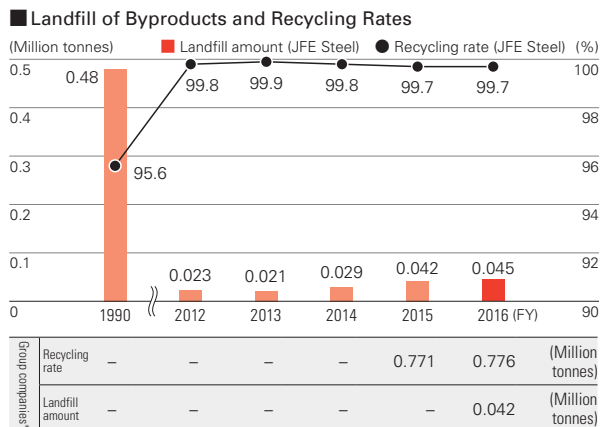


Resource Recycling

Each operating company of JFE carries out resource recycling suited to its particular business. JFE continues to pursue increasingly efficient uses of resources 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 carefully controls the occurrence/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 new applications as an environmental material are being promoted. As a result of such efforts, JFE achieved a 99.7% recycling rate for slag, dust and sludge in FY2016.



* 26 JFE Steel consolidated subsidiaries in Japan

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. Shaped like a natural rock or block and performing as well as concrete construction material, Marine Rocks™ is a recycled product with low environmental impact that has been used in large quantities to reconstruct harbor seawalls after a major earthquake.



Recycled slag providing shoreline protection

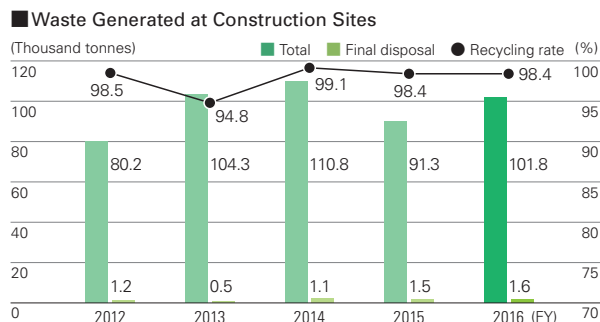
Promoting Recycling

E JFE Engineering's industrial waste is largely rubble and sludge generated at construction sites. By separating these wastes on-site and then employing disposal companies known for achieving high recycling rates, the construction department limited its industrial waste to 101.8 thousand tonnes, or a recycling rate of 98.4%, in FY2016.

Company production sites focus on improving recycling rates by meticulously separating valuable byproducts and waste. In FY2016, the Tsurumi Works recycled 78.9% of 443.4 tonnes of waste and the Tsu Works recycled 32.5% of 529.8 tonnes.

The city of Yokohama has named JFE Engineering's Yokohama head office as a Workplace with Excellent 3R Activities for four consecutive years beginning in FY2012 to recognize its waste reduction, reuse and recycling activities.

JFE Engineering departments establish targets for such efforts as part of their environmental management systems. In addition, one of the company's other resource-recycling solutions is the construction of biomass power-generation plants.



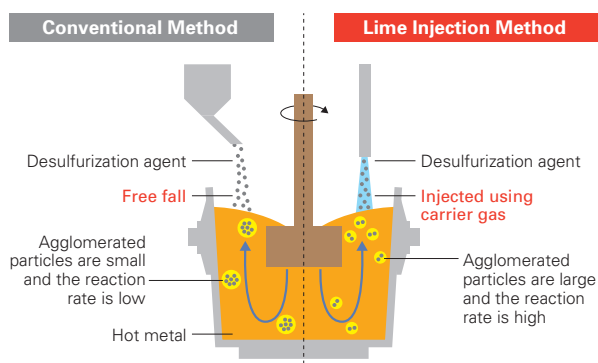
T Every JFE Shoji Trade office reduces and recycles waste by using waste paper and thoroughly separating waste. The company's recycling business for steel and aluminum scrap includes the export of steel scrap to Asian countries, where it is sold for both offshore and domestic trading. Steel scrap exported from Japan is mainly transported by bulk carriers but due to the container loading system introduced by JFE Shoji Trade, timely shipments of small lots now contribute to emerging recycling societies in Asia.

Eco-friendly Products and Technologies

JFE Steel

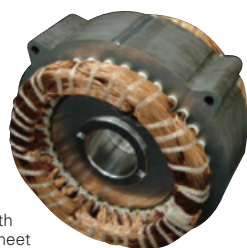
● Hot Metal Desulfurization Technology

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.



● JNP™ Series Electrical Steel Sheet

JNP™ Series non-oriented electrical steel sheet is used for electric motors that drive hybrid vehicles and electric vehicles and help to reduce CO₂ emissions. Using non-oriented electrical steel sheets as core materials in these motors improves motor efficiency as iron loss decreases and torque increases with magnetic flux density. JNP™ Series achieves high magnetic flux density and low iron loss and has further improved magnetic flux density compared to conventional products. This helps to deliver higher power and efficiency to motors. Various grades with different iron loss levels are available to suit a wide range of motors. JNP™ was awarded the 34th Technological Development Prize from The Japan Institute of Metals in 2011.



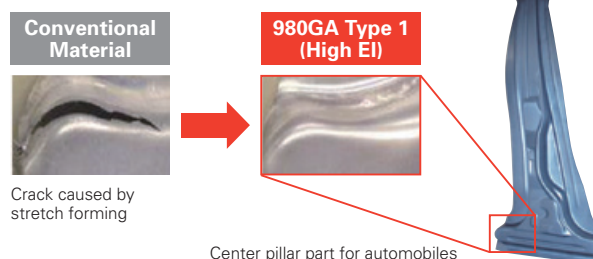
Hybrid vehicle motor made with JNP™ Series electrical steel sheet

● JEFORMA™ Series Excellent Formable High Strength Steel Sheet

The JEFORMA™ (JFE Excellent FORMAbility)

series is Japanese industry's first high-strength steel sheets with excellent formability. Ever-increasing expectations have been placed on automotive high-strength steel sheets to improve fuel consumption and crashworthiness. However, higher strength steel sheets generally exhibit lower formability, placing limits on parts for which these materials can be used. To overcome this, JFE Steel looked into the possibility of enabling users to select the optimum steel sheet for specific part shapes and forming methods. The outcome is this series, which offers different grades of strength and formability. It enables satisfactory forming, for example with 980GA Type 1 (High EI), even for the bag-shaped bottom part of the center pillar, which requires severe stretch-formability.

HITEN, a 1,470 MPa-grade cold-rolled steel sheet offering the world's highest tensile strength, received the Economy, Trade and Industry Minister's Prize in the 13th Eco-Products Awards in recognition of its environmental contributions. The sheet reduces energy loss during production because it is cold pressed, and it reduces vehicle CO₂ emissions by virtue of its light weight.



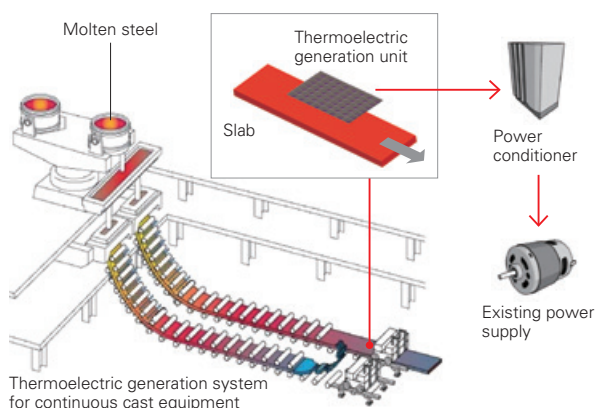
● Resource-saving and Highly Heat-resistant Stainless Steel JFE-TF1

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) was conventionally used to improve heat resistance. But molybdenum is an expensive and rare metal, and the industry was looking for a new method not requiring Mo. In response, JFE Steel developed JFE-TF1, which uses Cu and Al to realize equal 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.

JFE Steel

● 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. As a means for effectively utilizing untapped waste heat at ironworks, JFE Steel installed a thermoelectric generation system for the continuous cast equipment at 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). Further work is underway to reduce the cost of this power generation method for practical use.



● Improving Marine Environments with Marine Stones™

JFE Steel is using its steel slag products, including Marine Stones™, in a joint research project* with the city of Yokohama to restore the marine ecosystem and life-supporting marine environment along the shores of Yokohama's Yamashita Park. The project confirmed that these products provide sea organisms with a base for nurture and growth while facilitating the natural cleansing of seabeds and seawater. The technology for improving marine environments using Marine Stone won an award at the 2016 (26th) Nikkei Global Environmental Technology Awards.

* Joint research related to research on "Techniques to improve a marine life environment and facilitate the natural cleansing ability of seawater near the shores of Yamashita Park."



Marine Stones™ 30 (grain size: 10 to 30 mm)

JFE Engineering

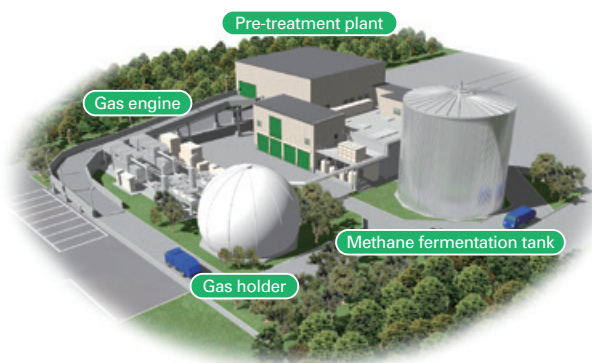
● Recycling Food Waste

JFE Engineering and the JR East Japan Group are jointly setting up a new company, "J Bio Food Recycle," to engage in food-waste recycling, including waste gasification, in August 2018.

A biogas power generation plant to be built in the city of Yokohama will consume 80 tonnes of food waste daily to ferment methane as fuel for generating power. The electricity will be sold to Urban Energy Corporation, a newly established subsidiary of JFE Engineering, under Japan's Feed-in Tariff policy. The output from this biogas power generation plant will be 1,800 kW and annual output is expected to reach about 11,000 MWh, enough to serve about 3,000 households.

JFE Engineering will be responsible for designing and constructing the power plant, while JFE Kankyo will be tasked with collecting and transporting food waste generated by the food industry.

By participating in the initiative, JR East Japan and East Japan Eco Access look forward to making practical use of food waste from stores at train stations and adjacent buildings run by the JR East Japan railway group.



Rendering of biogas power generation facility (operation scheduled from 2018)

● Expanding Use of Liquefied Natural Gas (LNG)

LNG is an environmentally friendly fuel that emits less greenhouse gases, such as CO₂ and NO_x, and other air pollution substances compared to coal and oil. JFE Engineering is helping to expand LNG use through the construction of LNG facilities and gas pipelines, thereby contributing to environmental protection.

LNG Reshipment Facility

JFE Engineering built Japan's largest LNG reshipment facility to loading the LNG from a base to a ship. In addition to supplying natural gas via pipelines, the facility has become an LNG supply base, contributing to the economical use of existing LNG facilities and the reduction of procurement costs.

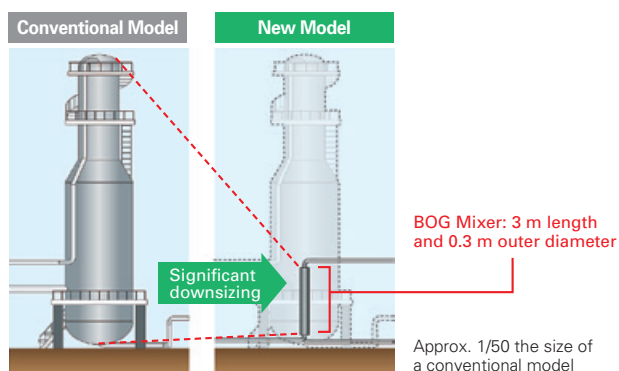


LNG base in Sodeshi, Japan

BOG Re-liquefaction System

LNG is natural gas cooled to -162°C and condensed into a liquid form. Partial gasification due to natural heat input from the outside cannot be avoided at LNG facilities. The gas, called boil-off gas (BOG), is re-liquefied by JFE Engineering for reuse.

The conventional method for BOG re-liquefaction required a significant amount of electricity. However, JFE Engineering and Toho Gas developed a re-liquefaction system that directly combines LNG and BOG using a special mixer. This innovative process has considerably downsized the re-liquefaction system and thereby reduced the amount of required energy as well as eliminated maintenance needs.



JFE Shoji Trade

Biomass Fuels

Power generation using biotic resources (biomass fuel) as carbon-neutral renewable energy is an effective use of waste materials. Palm kernel shells (PKS) are a residual product of palm oil extraction and have been processed as waste, partly for fuel, but their calorific value is as high as 70% of coal, so JFE Shoji Trade looked into using PKS as a full-fledged biomass fuel. Consequently, it became the first Japanese trading company to establish a cargo yard for PKS in Malaysia in 2010, and then in 2013 it established a local company to operate the cargo yard and increase its supply of PKS. The company assures PKS quality management by stabilizing moisture content through proper storage and removing foreign objects with sifters and magnetic separators. In response to rising demand, the company is working to ensure stable PKS supplies going forward by providing technical advice on establishing partner yards in Indonesia.



Palm kernel shells (PKS)



Covered yard to keep shells dry



Sifter and magnetic separator to remove foreign objects



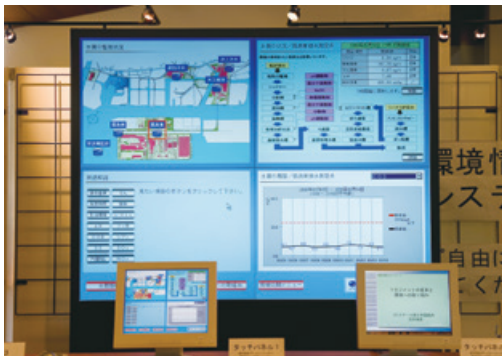
Loading PKS onto a ship

Environmental Communication

The JFE Group gives utmost priority to communicating 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 the first-floor lobby of the Keihin Building in the Keihin District.



Environmental data display in 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 June 2017, JFE was a sponsor of a symposium hosted by ecobeing, entitled “Our Future—Life in Harmony with Earth.”



Symposium

Web [ecobeing \(Japanese only\) → http://www.ecobeing.net](http://www.ecobeing.net)

Sponsoring “Midori no Komichi” Environmental Diary

JFE 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 related to ecology.

Web [“Midori no Komichi” Environmental Diary \(Japanese only\) → http://www.midorinokomichi.net/](http://www.midorinokomichi.net/)

Environmental Exhibition—EcoPro 2016

JFE exhibited its environmentally friendly products and technologies at EcoPro 2016, Japan’s largest environmental exhibition, in December 2016. The JFE booth theme was “JFE is kind to the Earth, supports your life, and is close to you.” In addition, the company supported Green Cross Japan by running tours for children, called the “EcoPro EcoKids Tour.”



JFE’s exhibition booth

Award Received at Eco-Products International Fair 2017

JFE participated in the 11th Eco Products International Fair, an environmental trade show held in Southeast Asia to promote recycling, green products and services and environmental businesses, in May 2017. This year it was held in Ho Chi Minh City under the theme “Green Technologies and Products—Actions for the Future.” JFE earned an award for a second-consecutive year, receiving the Eco Products International Fair 2017 Certificate of VEA for promoting sustainable development, green industries and green supply chains.



Awards ceremony

Contributing to Societal Development

JFE Group CSR Report 2017

Management

Protecting the Environment

Contributing to Societal Development



Workplaces that Provide Dignity and Job Satisfaction for All

Workstyle Reform

Management of JFE recognizes that creating workplaces to provide dignity and job satisfaction for all is essential for maximizing the potential of individuals. The JFE Group carefully recruits and nurtures human resources to support sustainable growth and is advancing reforms to realize more flexible workstyles for everyone.

In April 2015, the JFE Group's Basic Policy on Human Resource Management was introduced to create work environments where each employee can demonstrate their full potential. This was followed by the introduction of the JFE Group Health Declaration in September 2016 to ensure that workplaces are geared toward employee safety and health as well as job satisfaction.



JFE Group's Basic Policy on Human Resource Management

- 1 Respect Human Rights and Facilitate Fair Management of Human Resources**
 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 a 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.

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 to creating a health culture in which each employee takes personal responsibility.

Changing Workstyles

Creating workplaces that provide dignity and job satisfaction to each employee is absolutely essential. This requires a fundamental review of conventional workstyles and application of productivity best-practices to enhance the creation of new value. JFE works to ensure that its work environments enable diverse human resources to achieve their full potential with the help of flexible workstyles.

• JFE Steel

Kick-off Year for Workstyle Reform

FY2017 is the kick-off year for workstyle reform. To help drive initiatives such as strengthening manufacturing base and expanding overseas, JFE Steel is striving to enhance productivity and adopt more diverse workstyles. Specific initiatives have been implemented to improve employee awareness and cultivate an organizational climate in which everyone can maximize their abilities. These include designating days in which employees are encouraged to leave work on time, conducting pilot programs in which a specific number of hours must separate clock-out and clock-in times, setting up work-at-home systems and encouraging employees to take paid leave.



Employees arrange their own schedules and choose the day when they will leave on time automatically.

• JFE Engineering

Nurturing a Corporate Culture of Coming Early and Leaving Early

JFE Engineering aims to nurture 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. Other initiatives include planning work and vacation schedules through discussions between employees and their supervisors and designating days when employees are encouraged to take paid leave or leave work on time. Telecommuting has been implemented to facilitate flexibility in workstyles in addition to setting up satellite offices in Shin-Yokohama and at the Tokyo head office. JFE Engineering intends to adopt such reforms in its construction operations where it is more difficult for employees to take days off compared to other departments.

• JFE Shoji Trade

Change of Work Time

Under the slogan “Change of Work Time,” initiatives have been implemented to reduce work hours, such as designating Wednesdays as the day to encourage everyone to leave on time, prohibit all work after 10 pm, and also encourage taking paid leave. To support more diverse workstyles, JFE Shoji Trade changed our flexible working hour program in April 2016 by setting the core worktime between 11 am to 2 pm, and by introducing trial programs such as working at home for employees pressed for time due to childrearing or nursing duties.

TOPIC Flexible Workstyles by Cutting Commute Times—Shin-Yokohama Satellite Office

In March 2017, JFE Engineering opened a satellite office in front of Shin-Yokohama Station, south of Tokyo. Having the same facilities as the main office, including multifunction copiers and a LAN, the office helps to reduce commute times for employees who must travel a long way to work. The satellite office creates more private time in the lives of these employees and simultaneously increases their labor productivity through more diverse workstyles. Many users praised the usefulness of the satellite office, which prompted JFE Engineering to set up a satellite office at the Tokyo head office in June 2017. The initiative is planned to be expanded in other regions.



Shin-Yokohama satellite office

Operational Reforms

We are promoting operational reforms centered on the systemization and utilization of information communication technology (ICT) to fundamentally review current workstyles. The resulting increase in productivity is expected to contribute to more sustainable social growth and place us on a firmer footing to take on the challenges of creating new value.

• JFE Steel
Upgrading Mission-critical Systems

Since FY2016, JFE Steel has been upgrading mission-critical systems at each steelworks. The systems are being standardized to streamline processes from order acceptance to production and delivery. Integrating the databases of all production sites will lead to better coordination between steelworks. Further, more unified steelworks will optimize company-wide production planning and execution for faster and more flexible responses to customer needs.

• JFE Engineering
Super Shape Up

In August 2014, a company-wide project called “Super Shape Up” was launched to increase productivity in response to increased workloads in the wake of business expansion. Operational processes and tools were reviewed, the introduction of IT was accelerated by providing each employee with a smartphone, and a document utilization system was introduced to raise productivity. ICT, such as the use of web conferencing systems and three-dimensional drawings, has been introduced at project sites to shorten construction periods and boost construction efficiency.



Web conference

• JFE Shoji Trade
J-SLIM

Since October 2008, the JFE Shoji Trade Group Strategic Lean Innovation Movement (J-SLIM) has been driving operational reforms in four areas: systems, company-wide management, work environments and line work. A team was set up to increase efficiency and performance in each area based on the PDCA cycle. JFE Shoji Trade reviews work processes without preconceived notions, working to reform its corporate culture by changing the mindsets of both directors and employees.

TOPIC Utilizing ICT for Operational Reforms

JFE Steel is unifying companywide operational processes by upgrading mission-critical systems as well as operational efficiency with new information communication technologies such as IoT and data science based on big data. Its efforts have been received recognition and in a program managed jointly by the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange, JFE has been chosen for three consecutive years as a Competitive IT Strategy Company that leverages IT to enhance medium- to long-term corporate value and competitiveness.

TOPIC J-SLIM Presentation

The Eighth J-SLIM presentation was held at JFE Shoji Trade Tokyo Head Office from November 7 to 8, 2016. Twelve teams from JFE Shoji Trade, two other companies in Japan and five companies overseas presented their workplace activities. Afterwards, employees in attendance asked about applying best practices in their own workplaces for document management and efficient acceptance and documentation of orders.

J-SLIM Presentation



Work-Life Balance

JFE encourages work-life balance and engaging in childcare and nursing care while remaining active at work. JFE Steel's president issued a declaration as a member of the Kanagawa Women's Active Roles Support Team to enhance opportunities for women in the steel industry. In addition, male employees have been encouraged to participate in childrearing by the heads of the Chiba and Fukuyama districts, who released the "Ikuboss declaration" to show their support for fathering.

JFE Engineering opened a company childcare facility at the Yokohama Office in September 2012. JFE Steel also opened one in the Chiba District in April 2017 and plans to open additional facilities in the Kurashiki and Fukuyama districts in April 2018. Meanwhile, JFE Shoji Trade continues to hold "J-Mom

Sharing information about returning to work



Preschool at JFE Children's Forest

■ JFE Programs for Work-Life Balance

Category	Statutory Requirement	Company	Details	
Childcare	Childcare leave period	S E T	Up to 3 years old	
			Up to 2 years old	
	Shortened working hours	S E T	2 hours per day until child finishes elementary school	
			2 hours per day until child finishes third grade	
	Childcare subsidies	Not stipulated	S	Partial subsidy for nonregistered nursery schools and daycare facilities for sick children; and set up company childcare facilities
			E	Set up a company childcare facility offering reduced rates
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	S E T	Maximum total of 3 years	
			Maximum of 1 year	
	Shortened working hours	Maximum 93 days per person	S	Maximum total of 3 years
E T			Maximum total of 5 years Required period for nursing care	
Other	Career Support/Reemployment Program	Not stipulated	S T	Reemployment of those who left for childbirth, childcare, nursing care or spousal relocation
			Telecommuting	Not stipulated

Meeting" for employees taking childcare leave. Such approaches illustrate how each operating company is striving to create work environments in which employees can maximize their work performance while simultaneously taking care of their children.

The JFE Group has nursing care programs that exceed statutory requirements, nursing care seminars led by outside speakers at each operating company and a consultation desk for nursing care at JFE Engineering. By providing information to raise awareness, JFE is developing work environments where employees can work without worrying about nursing care for their loved ones.

■ Applicants for Childcare and Nursing Leave

Category	Company	FY2013	FY2014	FY2015	FY2016
Childcare leave	S	23(1)	27(5)	28(5)	31(4)
	E	21(0)	20(3)	27(4)	34(3)
	T	32(0)	39(6)	37(2)	44(2)
Nursing leave	S	5(1)	8(2)	9(3)	4(1)
	E	2(2)	1(1)	0(0)	0(0)
	T	0(0)	1(1)	1(0)	0(0)

Note: Figures in parentheses are males.

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

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 the national standards of relevant foreign countries.

To meet customer quality needs, the company established a quality assurance system that includes advanced sensors for process monitoring and high-precision equipment for product testing. JFE Steel also develops advanced manufacturing technologies that help to improve quality.

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

E JFE Engineering develops quality-management manuals based on the specific characteristics of each product. In addition, ISO 9001 certification has been received for each product category. Going forward, JFE Engineering will continue to steadfastly implement 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 quality management. Its processing centers in Japan and abroad are systematizing and automating processing sites to eliminate manual procedures due to human error.

In addition, employee awareness initiatives help to prevent human error at every stage, including receiving orders, issuing work orders and shipping. The company also continues to strengthen quality education for employees, including by introducing 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. Also, JFE provides education on export security controls and related measures for the employees of Group companies involved in trading.

Improving Customer Satisfaction

S Sharing Shipping and Delivery Information with Customers in Real Time

One JFE™ is a system for shipping and delivering thin steel sheets and thick steel sheets that JFE steelworks began adopting in December 2016. Customers can access this networked system to confirm orders, products, shipping and deliveries or to request deliveries in real time. The Sales Department swiftly receives requests from customers registered in the system for improved delivery services. In addition, since June 2017, when the full-fledged operation of the system was launched, it has been linked to the JFE Integrated Database for Supply Chain Management, a company-wide database that provides customers with detailed information on items in stock.

E Collaboration with Customers on Product Development

JFE Steel collaborates with customers for research and development. The Customers' Solutions Lab (CSL) for auto industry customers and the Steel Structural Materials Solutions Center (THiNK SMART) for infrastructure-related customers are in eastern

Japan, and Customer Center Fukuyama (CCF), which develops materials and conducts applied technology research, is in western Japan. Using these facilities to strengthen early vendor involvement (EVI)* enables the company to develop products that reflect a close understanding of customer needs, cutting-edge evaluation techniques and innovative production processes.

*Customer participation product development from an early stage to facilitate innovative new methods, functions, processes and evaluations for new steel materials.



Customers' Solutions Lab (CSL)

● 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, sectors, 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, according to their work experience, targeting sales managers from the headquarters and branch offices (i.e., newly appointed sales employees, mid-rank sales employees and office heads). The department also provides group training in Japan for regional employees of overseas offices to enhance job performance. Training goals include developing abilities in areas such as engaging in technical conversations, picking up clues from customer relations and using them in product development, offering suggestions to improve logistics and distribution, and analyzing financial indicators and costs.

E ● Company Assessments Based on Customer Evaluations

JFE Engineering uses customer surveys, interviews and construction evaluation forms to collect and assess the company's construction management, product quality, advanced technologies and innovation. Each division analyzes this information and uses it for quality improvement, new product development and overall strengthening of after-sales service, ultimately for enhanced customer satisfaction.

T ● Meeting Customer Needs

In order to respond quickly to diversifying markets and customer requests, JFE Shoji Trade is strengthening its supply chain for materials procurement, processing and distribution. In addition, employees receive skill to upgrade their abilities to present sophisticated proposals to customers. Moreover, selected regional employees of overseas offices are provided group training in Japan to strengthen customer satisfaction overseas.

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.

S ● Basic Policy on Procurement

JFE Steel upholds its Basic Policy on Procurement to conduct purchasing activities with fairness and sincerity and thereby continue earning supplier trust as a good business partner.

Web [Purchasing and Procurement Policies \(Japanese only\) →
http://www.jfe-steel.co.jp/company/purchase_policy/index.html](http://www.jfe-steel.co.jp/company/purchase_policy/index.html)

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 that 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, viewing its suppliers as key partners in achieving mutual growth, strives to nurture mutual trust and reinforce partnership relationships. The company collaborates with suppliers on CSR initiatives and upholds its Purchasing and Procurement Policies as a standard for fair and transparent procurement activities.

Web [Purchasing and Procurement Policies \(Japanese only\) →](http://www.jfe-eng.co.jp/information/procurement.html)
<http://www.jfe-eng.co.jp/information/procurement.html>

JFE Engineering requests that suppliers implement the following measures.

JFE Engineering's Requests to Suppliers Regarding CSR Initiatives

- 1 Comply with laws, regulations and social norms
- 2 Implement thorough information management
- 3 Provide safe and competitive products and services
- 4 Observe human rights, work environments and occupational health and safety
- 5 Respect the global environment
- 6 Develop a system for promoting CSR

Ensuring a Safe, Fair Supply Chain

Corporate social responsibility (CSR) is a pivotal element in JFE Shoji Trade's supply chain for the provision of products, functions and services through its global business. Customer demand for CSR-based procurement is increasing every year. In addition to existing initiatives for quality, stable supply, safety and reasonable prices, the company is enhancing support for the global environment, human rights and occupational safety and health.

Internal Awards

The following technical and product developments were awarded in FY2016.

	Prizes/Awards	Awarded Items	Awarded Departments
JFE Steel	Excellence Award, JFE Steel President's Awards	Development of hot-rolling skin-pass mill controlled by a highly productive intelligent system to achieve the world's fastest rolling	Hot Rolling Department, West Japan Works (Fukuyama District) and others
	Gold Prize, New Product Development Awards	High-performance heavy thick steel plate for mega container carriers	Steel Products Research Department of the Steel Research Laboratory and others
JFE Engineering	Grand Prize, JFE Engineering President's Awards	Completion of first stoker furnace incorporating a counter flow combustion technology (stoker furnace with reduced NOx emissions)	Design Center, Environmental Solutions Sector, Research Center of Engineering Innovation, Business Strategy and Development Sector

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 positions returns on shareholder investment as one of its top priorities. Profits are basically returned in the form of dividends. The company's basic policy under its Fifth Medium-term Business Plan is to maintain its payout ratio at between 25% and 30% based on an 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 the Ordinary General Meeting of Shareholders are provided in English for overseas investors.

Web [Disclosure Policy \(Japanese only\) →
https://www.jfe-holdings.co.jp/investor/disclosure-policy.html](https://www.jfe-holdings.co.jp/investor/disclosure-policy.html)

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. 1,200 in 15 briefings

Web [Information for Shareholders and Investors →
Japanese: http://www.jfe-holdings.co.jp/investor
English: http://www.jfe-holdings.co.jp/en/investor](http://www.jfe-holdings.co.jp/investor)

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. The collection and dissemination of integrated information is being enhanced to provide management with more useful information for constructive dialogues with shareholders, including individual investors as well as domestic and foreign institutional investors. General meetings of shareholders are opportunities for dialogue with shareholders, so JFE sends invitations at the earliest possible date to maximize attendance and avoid overlapping with the shareholder meetings of other companies.

For shareholders who are unable to 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. Also, plant tours and company briefing sessions are organized to foster shareholder understanding of JFE. In FY2016, workplaces of JFE Steel, JFE Engineering and Japan Marine United held such events for about 2,150 shareholders. In FY2017, such activities will continue along with direct communication with shareholders to deepening their understanding of JFE.

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

The JFE 21st Century Foundation was founded in 1990 through a donation from the JFE Group (the former Kawasaki Steel) to operate as a public-service corporation that contributes to society. It engages in various public services, such as supporting research at universities and cultural development.

Web [JFE 21st Century Foundation →
http://www.jfe-21st-cf.or.jp/eng/](http://www.jfe-21st-cf.or.jp/eng/)

Support for Technology Research

The foundation has been highly acclaimed by many universities for its support of technology research since FY1991. In FY2016 it fielded 157 grant requests and provided a total of 50 million yen in the form of grants valued at two million yen each for 12 projects involving iron and steel technologies and 13 projects related to environmental technologies, including those designed to mitigate global warming.



Presentation ceremony for university research subsidies in FY2016

Support for Asian History Studies

The foundation began awarding grants in support of Asian history studies at Japanese universities in FY2005. In FY2016, 61 applications were received and 10 grants worth 1.5 million yen each were awarded.

Grants: Cumulative Number and Value

Field	Number	Value
Technology Research	555	1,117.8 million yen
Asian History Studies	99	148.5 million yen

Support for Regional Activities

The foundation financially sponsors community cultural activities including music, art, traditional events, community revitalization, community activities and the conservation of cultural property. In FY2016 it sponsored events in cities across Japan and overseas, including Chiba, Kawasaki, Kurashiki and Fukuyama as well as Jiaxing in Zhejiang Province, China.

Supporting the Japan Overseas Educational Services Writing Contest and Anthology Donation

Since FY1991, the foundation has been sponsoring JFE 21st Century Foundation prizes for essay and poetry contests, including *tanka* and *haiku* poetry. The contests are conducted by the Japan Overseas Educational Services for Japanese students attending elementary and middle schools overseas. A total of 835 copies of *Chikyu ni Manabu* ("Learn from the Earth"), a collection of the winning entries in FY2016, were presented to 674 elementary and middle schools and 74 public libraries.

Local Activities

Host Communities

Every year, JFE opens its manufacturing facilities to residents in local host communities for demonstrations, tours and other events.

On-site Events in FY2016

Location	Event	Date	Attendees
East Japan Works, Chiba	JFE Chiba Festival	October 23	46,000
East Japan Works, Keihin	Keihin Community Festival	May 29	47,000
West Japan Works, Kurashiki	JFE West Japan Festival in Kurashiki	November 3	80,000
West Japan Works, Fukuyama	JFE West Japan Festival in Fukuyama	May 8	80,000
Chita Works	Handa Community Industrial Festival	November 12	21,000

(Approx.)



JFE West Japan Festival in Fukuyama

In addition, on-site recreational facilities are made available for community sports such as soccer, baseball, volleyball and basketball as well as 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.

S ● **Tours of Steelworks**

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 each steelworks in conjunction with festivals and other events.

● **Education at Elementary Schools**

JFE Steel East Japan Works conducts plant tours for students at nearby elementary schools. In addition, company employees visit schools to give lectures on steelmaking processes, the features of steelworks, environmental initiatives and other topics to deepen understanding of the steel industry. These lectures started in FY2012, and so far they have been given to over 100 classes.



Visiting lecturer at Miyazaki Elementary School in Chiba City

S **E** ● **Initiatives to Preserve Biodiversity**

JFE engages with members of the community in activities to preserve biodiversity.

JFE Steel has opened its Environment Pond at the Chita Works to the community for a firefly festival every year since 2014. Children at the event have the opportunity to release fireflies.

JFE Engineering regularly holds events for observing and studying the natural environment, including the behavior and habitats of aquatic life, after

inviting children and their parents to capture water creatures in a biotope along the JFE Dragonfly Path in the Tsurumi Works.



Observing aquatic life

Support for External Organizations

● **UN World Food Programme**

JFE supports activities of the Japan Association for the World Food Programme, an NPO-accredited supporter of the UN World Food Programme (WFP), which works to eliminate hunger.

● **Supporting Training for Foreign Medical Professionals**

Toranomon Hospital in Tokyo, with the assistance of private corporations including JFE, manages the Japanese Council for Medical Training to provide training opportunities to 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. This also fosters stronger relationships between those nations and Japan.

● **Japanese Foundation for Cancer Research**

Since its establishment in 1908, the Japanese Foundation for Cancer Research has upheld its basic philosophy of aiming to improve the well-being of people everywhere by achieving better cancer control. The foundation, which is supported by JFE, has played a leading role in research and treatment as well as human resource development in Japan.

Support for Youth Development

Japanese Language Speech Contest

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



Contest help to build friendships between Japan and China

High School Essay Contest

The Japan Science & Engineering Challenge is a national science-paper contest for high school and technical college students. Launched in 2003 under the sponsorship of the Asahi Shimbun newspaper, the contest has been supported by JFE Steel since 2006 to nurture future scientists and engineers.



2016 JFE Steel Award recipients Rika Uenishi (left) and Chie Tayama (right) of Sakura High School in Chiba

Career Education for Students

As part of career education for high school and junior high school students, JFE Steel and Kawasho Foods Corporation, a member company of the JFE Shoji Trade group, cooperate with the the School Support Center, a specified Nonprofit Corporation, to invite students for training. The participants learn how society is supported by specific kinds of work as well as the products and services related to such work.

JFE Steel held a career education session for high school students in FY2016. It was carried out as a problem-solving event focused on the theme

of “developing promotions to encourage people to work at JFE Steel.” In addition, JFE Steel and JFE Engineering held a plant tour for female junior high, high school and university students to encourage them to pursue careers in science and technology.



Career education for junior high and high school students

FY2016 Internship Achievements

The JFE Group annually hosts many trainees and interns from overseas to help them gain practical experience at plants as well as design and construction sites. They also participate in group work.

Number of Interns Accepted by Each Operating Company

JFE Steel	JFE Engineering	JFE Shoji Trade
Approx. 290	Approx. 60	Approx. 260

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 FY2016, 700 sets of desks and chairs, 17,000 notebooks and 12,500 cans of food were donated.



Naosuke Oda, president of JFE Shoji Trade, with students at an elementary school in Ghana

Supporting School Meals in Developing Countries

JFE Shoji Trade participates in an activity led by TABLE FOR TWO International, a specified Nonprofit Corporation, under which employees donate 20 yen for each designated meal purchased at the company's cafeteria. The donations help pay for school meals in developing countries.

Employees

JFE Group's Basic Policy on Human Resource Management

→ Please see the feature article on page 57.

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 Group 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 Business Plan (FY2015–FY2017):
Between **1,200** and **1,300** people

FY2017 Results: 1,269 people

- Women in positions with prospects for promotion: 20% (79 out of 404)
Of the above, those in white-collar positions: 35% (46 out of 133)
- Mid-career and year-round recruits: 20% (250 out of 1,269)
Of the above, recruits in positions with prospects for promotion: 20% (80 out of 404)
Of the above, mid-career recruits in on-site positions at steelworks: 20% (170 out of 845)

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

Recruitment Results (Three Operating Companies, Excluding their Subsidiaries) in FY2017

	Career-track positions			On-site and clerical positions	Total
	White-collar	Technical	Total		
Male	87	238	325	758	1,083
Female	46	33	79	107	186
Total	133	271	404	865	1,269
Ratio of women	34.6	12.2	19.6	12.4	14.7

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 position	At least 20%
	Production/construction positions (technical)	At least 5%
JFE Shoji Trade	Career-track position	At least 25%

Employee Data (Consolidated)

As of March 31, 2017

Category	JFE Steel	JFE Engineering	JFE Shoji Trade
Employees	44,395	9,166	6,838
Male	39,171	8,039	4,949
Female	5,224	1,127	1,889
Management Positions	11,050	2,756	1,617
Male	10,544	2,654	1,411
Female	506	102	206
Ratio of women in management positions (%)	4.6	3.7	12.7

Scope: Consolidated subsidiaries (JFE Steel: 159, JFE Engineering: 57, JFE Shoji Trade: 99)

Employee Data (Non-consolidated)

Category	JFE Steel	JFE Engineering	JFE Shoji Trade
Employees	14,980	3,841	961
Male	13,841	3,366	625
Female	1,139	475	336
Management positions	2,685	2,125	605
Male	2,592	2,031	571
Female	93	94	34
Women in management positions (%)	3.5	4.4	5.6
Recruits	1,070	134	65
Male	937	111	35
Female	133	23	30
New graduates	880	79	60
Mid-career	190	55	5
Years employed	17.5	13.6	14.8
Male	17.3	13.60	14.8
Female	19.4	13.65	14.8
Job turnover rate (%)	1.35	1.36	1.8
Rehired employees	1,153	318	28
Average annual leave taken (days per year)	14.8	16.2	11.2
Average overtime (hours per month)	27.4	25.6	26.6
Employees working shorter hours for childcare (aggregated)	145	58	45

*1 As of March 31, 2017. Other figures are as of FY2016.

*2 Management positions at JFE Engineering and JFE Shoji Trade include employees on loan.

Human Resource Development and Skill Transfer

JFE actively nurtures the capacities of each employee and facilitates the transfer of their skills to counter the significant generational changeover as baby-boomer personnel retire.

S Using Skill Data based on Updated Evaluations

The company updated the evaluation system it uses at manufacturing sites to quantitatively analyze the skill level of each employee. By focusing on infrequent or irregular tasks involving relatively low skill levels, the training program is linked organically to accumulated skill data, backed by practical guidance from full-time instructors (technical experts) who possess advanced skills.

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

Each employee is provided with a planning sheet that clearly defines their individual training points and goals. Also, the IT Literacy Training program helps employees learn how to assess the businesses they are engaged in and devise new ideas.

Developing Global Personnel

In addition to hiring and developing non-Japanese for career-track positions in Japan and hiring more local personnel 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	Overseas Program
S T	Short-term overseas language training
S T	Overseas assignments for younger employees
S E T	Dispatching engineers to international conferences
S	Dispatching engineers to international conferences
S E T	Training for regional employees of overseas offices
S E	Internship for international students

Workforce Diversity

By designating workforce diversity as a key business objective, the JFE Group is promoting efforts to maximize the potential of employees regardless of gender, nationality, creed, lifestyle or family background.

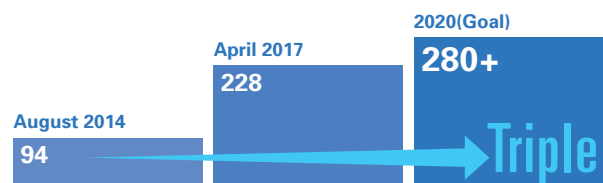
Company Policy Explained by the President

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. JFE has set a target to triple its number of women in managerial positions by 2020. As of the end of August 2014, there were 94 female managers, or 1.8% of all managerial positions, at JFE Holdings and its three operating companies. By April 2017, the figure had more than doubled to 228, or 4.2%.

JFE Female Managers: Actual and Target



JFE formulated an action plan to support women in their professional development in compliance with the Act on Promotion of Women's Participation and Advancement in the Workplace (enforced in April 2016), based on which the company discloses relevant information. In recognition of its efforts to encourage the empowerment of women, JFE Holdings was selected as a "Nadeshiko Brand" in fiscal 2016.



The Nadeshiko Brand represents a joint initiative by the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange. It recognizes exemplary efforts by companies to encourage women to play active roles and continue working long-term. The targets are representative companies from business sectors listed on the TSE first section.

● Activities by Diversity Promotion Sections

To ensure the consistent promotion of diversity, each operating company has a Diversity Promotion Section to organize educational activities, such as rank-based training and women's exchange meetings, and to share and implement best practices across the Group.

● Key Initiatives

S JFE Steel provides career support and management training for managers and other employees to expand their potential fields of assignment and cultivate a culture in which diverse human resources can demonstrate their full potential. At its steelworks, which employ more than 250 females working on-site, the company offers female-friendly environments, working conditions and tools. In April 2017 a company-operated childcare facility was opened in the Chiba district, which will be followed by comparable facilities in the Kurashiki and Fukuyama districts in April 2018.

E JFE Engineering actively hires personnel with diverse characteristics and values, as well as people from other business sectors. 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 is expanding opportunities for female employees by promoting them to managerial positions, expanding clerical 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 increased interaction. The company is creating increasingly friendly working environments by experimenting with working at home, expanding nursing care support, encouraging employees to take paid leaves and other efforts.

● Employment of People with Disabilities

JFE has 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.

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

	2013	2014	2015	2016	2017
JFE Steel	2.06	2.16	2.25	2.24	2.34
JFE Engineering	1.90	1.81	2.01	1.59	2.01
JFE Shoji Trade	1.90	2.30	2.25	2.11	1.86

(%)

● 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 Act on Stabilization of Employment of Elderly Persons, JFE has created a system for all employees to work until the age of 65. As of April 2017, 1,499 elderly employees, about 8% of the total, are working at JFE Steel, JFE Engineering and JFE Shoji Trade.

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

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

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

● Respect for Sexual Minorities (LGBT)

Under the Diversify Human Resources section of its Basic Policy on Human Resource Management, the JFE Group is cultivating a corporate culture that accepts diversity, including sexual minorities, through training to deepen awareness of human rights as well as position-specific curriculums. In addition, the Group recently included sexual minorities in the compliance guidebook it distributes to all employees as a means of promoting common understanding.

Employee Health and Safety

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

Lost-work Injuries and Severity (Rates)

		FY2012	FY2013	FY2014	FY2015	FY2016
JFE Steel	Lost-work injuries	0.23	0.06	0.15	0.15	0.21
	Severity	0.48	0.01	0.09	0.16	0.15
JFE Engineering	Lost-work injuries	0.17	0.73	0.42	0.28	0.19
	Severity	0.01	0.03	0.40	0.01	0.3
JFE Shoji Trade Group	Lost-work injuries	0.52	0.26	0.72	0.67	1.16
	Severity	0.01	0.08	0.06	1.02	0.41
Manufacturing industry average	Lost-work injuries	1.00	0.94	1.06	1.06	1.15
	Severity	0.10	0.10	0.09	0.06	0.07

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 follows three basic strategies: promote the autonomous resolution of issues, strengthen health and safety at business associates and Group companies and develop activities in line with the Group's Health Declaration. By adopting specialized safety know-how 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, is encouraged to act 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 strives to eliminate accidents at its construction and operating sites and manufacturing plants. By establishing "priority items to be shared across the company" to which all employees and all members of associated companies adhere and promoting "identification of sources of danger and safety measures based on risk assessments" in accordance with each operation, the company is committed to disaster elimination. Additionally, driving efforts such as "physical and mental health promotion"

and "creation of comfortable working environments" help to ensure the health of employees and raise the level of occupational health. As a result of these efforts, the company obtained OHSAS 18001 certification, an international standard for occupational health and safety management systems, in 2016.

T All JFE Shoji Trade employees participate in health and safety activities under the slogan "Pursue Higher Objectives and Build Working Environment of "Absolute-Zero" Industrial Accident." The goals are independent health and safety activities and no severe accident or other such mishap. The company offers safe working environments by (1) distributing a self-evaluation sheet to individuals to strengthen their understanding of and proactive response to potential problems, (2) ensuring the intrinsic safety of operations, and (3) eradicating disaster risks by carefully analyzing accidents and then applying the knowledge elsewhere.

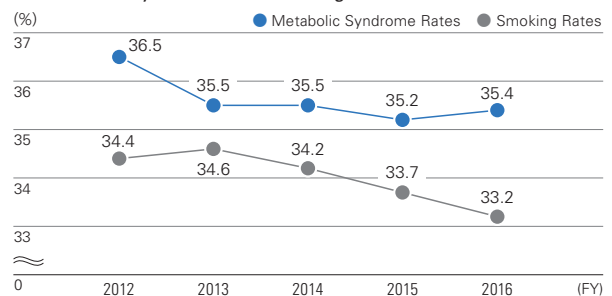
Employee Health

JFE collaborates with its health insurance union and industrial health staff to strengthen employee health so that everyone can work with vigor.

Physical Health Initiatives

- Ensure the implementation of regular physical examinations and strengthen cancer screenings.
- Prevent lifestyle diseases by conducting metabolic syndrome checkups and offering health guidance.
- Encourage participation in sports by supporting club activities and using the Powering Up Health Care program of the health insurance union.
- Promote non-smoking areas and maintain separate areas for smokers and non-smokers in buildings. Provide guidance to help employees quit smoking through industrial physicians and public health nurses.

Metabolic Syndrome and Smoking Rates



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

● Maintaining and Promoting the Health of Employees' Families

JFE strengthens the health of employees and their families by, for example, encouraging spouses to undergo health examinations. The rate of health examinations for dependents (age 40 or older) increased to 42.1% in FY2016, up 8.3 points from 33.8% in FY2011.

● Active Exercise

JFE Steel business sites offer the Active Exercise program, which the West Japan Works designed to help people increase their physical strength and prevent injuries due to falling. The program's effectiveness in preventing occupational accidents and improving health has even attracted attention outside the company, so it is being shared as a contribution to society.

● Mental Healthcare

JFE conducts four basic initiatives to maintain the mental health of employees: "self-care" for workers who strive to remain aware of stress and take preventive measures; "care by management supervisors" who provide advice to subordinates; "care by industrial health staff" who support employees, managers and supervisors; and "care by human resources outside workplaces," including specialist clinics and individuals. JFE's health insurance union also provides mental health counseling, including a 24-hour hotline for employees and their families.

Developing Dynamic Work Environments

● Sound Labor-management Relations

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.

JFE Engineering strives to ensure sound labor-management relations. In addition to Central Labor-Management committees, which are regularly convened for the company's president and other executives and executives to share views with representatives of its labor union, a labor-management committee on work-life balance helps to maintain friendly working environments.

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 representatives of its labor union.

● Invigorating Workplaces through Small Group Activities

JFE Steel has approximately 1,500 small groups that 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 incentives.

* Designed to turn JFE into an excellent company and propel it to the number one position in its industry (called JE1 Activities at JFE Engineering).

JFE Engineering has about 160 teams and 1,400 employees, including those of group companies worldwide, involved in JE1 Activities. The results of these activities are showcased at a company-wide competition held at the end of the fiscal year. Activities focused on topics such as quality, efficiency, safety or costs contribute significantly to workplace vitality and corporate performance.

Since 2008, JFE Shoji Trade has implemented its J-SLIM operational reform program to examine and measure systems and improve management, work environments and line work.

➔ More information is provided on page 59 under the title, "Feature 3."

External Awards

MSCI Japan Empowering Women Index (WIN)

As of June 2017, JFE Holdings has been included in the MSCI Japan Empowering Women Index operated by U.S.-based MSCI. To be included, a company must be selected for the MSCI Japan IMI Top 500 brands for its environmental, social and governance (ESG) performance and then ranked in the top half of its industry based on a multilateral gender-diversity score. The Government Pension Investment Fund (GPIF) for Japan, one of the world's largest pension funds, has selected this index as a benchmark for its ESG investment strategy.



Euronext Vigeo Index World 120

As of June 2017, JFE Holdings was selected for the Euronext Vigeo Index World 120, a representative index for socially responsible investment. NYSE Euronext, which operates a large number of stock exchanges in North America and Europe, and Vigeo Eiris, an ESG research company, selects the top 120 companies in ESG performance in Europe, North America and Asia Pacific to comprise the index. Japan has 15 companies in the index.



SNAM Sustainability Index

JFE Holdings has been chosen as a constituent of the SNAM Sustainability Index, which was launched by Sompo Japan Nipponkoa Asset Management (SNAM) in August 2012. The index, which encompasses companies with highly evaluated ESG ratings, contributes to investor asset formation by evaluating corporate value from a long-term perspective.



Nadeshiko Brand

JFE Holdings has been selected for the third time as a Nadeshiko Brand by the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange. The project was launched in FY2012 to select listed companies in acknowledgement of their efforts to promote active roles for women in the workplace and to introduce as attractive brands for investors who place importance on enhancing medium- to long-term corporate value. Up to three companies can be selected for each industry based on their promotion of women in the workplace and financial indicators.



DBJ Environmentally Rated Loan Program

The DBJ Environmentally Rated Loan Program utilizes a screening (rating) system developed by DBJ to evaluate environmental management and then assign a corresponding interest rate from three levels. This was the world's first loan program to incorporate environmental ratings in its financing menus. In March 2016, JFE Holdings was rated as a top-ranking company that pursues excellent and advanced environmental initiatives resulting in outstanding environmental-management performance, based on which the company secured a loan under the program.



JFE was rated as a company pursuing excellent and advanced environmental initiatives

Caterpillar Quality Assurance Certification

In February 2017, JFE Steel West Japan Work (Kurashiki District) and JFE Shoji Trade were named as Gold Level SQEP suppliers for the Supplier Quality Excellence Process, a quality certification of the U.S.-based construction equipment manufacturer Caterpillar Inc. The program ranks suppliers for compliance with ISO 9001 standards and Caterpillar's own specifications and certifies the top firms as Platinum, Gold, Silver or Bronze. Only a few companies in Japan have received Gold Level certification, and JFE Steel is the world's first blast furnace company to be certified.



Receiving the Gold certification plaque

Competitive IT Strategy Company Stock Selection

As of June 2017, JFE Holdings was selected for inclusion in the Competitive IT Strategy Company Stock Selection for the third consecutive year by the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange. The program, which recognizes companies that actively implement competitive IT, deepens investor understanding of the strategic utilization of IT to boost medium- to long-term corporate value and competitiveness.



JFE's Utilization of IT

Innovative Maintenance of Steel Production Facilities

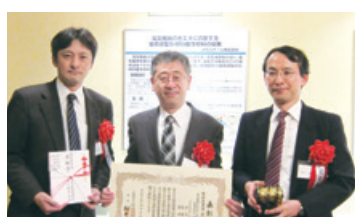
The steel industry's use of huge equipment requires sophisticated production-management and operational technologies as well as outstanding maintenance of such facilities. When JFE Steel renovated its maintenance management system in FY2015, it adopted IT, sensing, AI and other advanced technologies for on-site equipment inspection and abnormality prediction. Through such efforts, the company is establishing a highly precise and innovative equipment-management cycle to ensure equipment safety and boost operating rates and efficiency.

Safe, Stable Operation of Waste Power-generation Facilities

JFE Engineering utilizes of AI technologies to achieve optimal operational, automation and labor-saving performance at its waste power-generation facilities. To maintain the efficient, safe and stable operation of its facilities in the long term, operations are supported with remote monitoring systems and big-data analysis. Going forward, the company will continue to optimize operations by fortifying its AI capabilities with information about operational and maintenance techniques, operator expertise and other supportive data.

Awards for Technologies and Products

	Prize/Award	Distinction	Sponsor
JFE Steel	National Invention Award of the Minister of Education, Culture, Sports, Science and Technology	Invention of an ultrasonic continuous inspection technology for quality assurance of weld seam of electric resistance welded tubes	Japan Institute of Invention and Innovation
	49th Ichimura Prize in Industry for Distinguished Achievement	Development of the resource-saving Silicon gradient steel sheet, which bolsters to energy-saving electrical equipment	New Technology Development Foundation
	13th Eco-Products Awards – Minister's Prize, the Ministry of Economy, Trade and Industry	Automotive cold-pressed parts of the world's highest strength: 1.5 GPa-grade cold-rolled high strength steel sheet	Eco-Products Promotion Council
	14th Japan Society for the Promotion of Machine Industry Chairman's Prize	Non-contact control device of steel strip passing position and shape for surface-treated steel sheets	Japan Society for the Promotion of Machine Industry
JFE Engineering	2016 CSJ Award for Outstanding Technological Development	Development of a low NOx stoker-type incinerator with counter flow combustion	Combustion Society of Japan
	Engineering Commendation Award of ENAA 2016	- Container crane at Minamihonmoku MC-3 Berth of the Yokohama Port - Construction of Noi Bai International Airport Terminal 2 - Construction of Kurashiki and Namikata national oil stockpiling bases	Engineering Advancement Association of Japan
		Construction of the overall CCS system in Tomakomai	Engineering Advancement Association of Japan
	2016 The JGA's Technology Grand Prize	"AtoMS™", a novel calorific value adjustment system for city gas production	The Japan Gas Association
	2016 The JGA's Technology Award	Micro Regulating Module for High Pressure Use "MiReMo™"	The Japan Gas Association



49th Ichimura Prize in Industry for Distinguished Achievement



National Invention Award of the Minister of Education, Culture, Sports, Science and Technology



2016 The JGA's Technology Award

Financial Highlights

(100 million yen)

	FY2012	FY2013	FY2014	FY2015	FY2016
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Operating Results

Net sales	31,891	36,668	38,503	34,317	33,089
Operating profit	398	1,533	2,225	906	967
Ordinary profit before interest expenses*1	665	1,876	2,455	765	973
Ordinary profit	522	1,736	2,310	642	847
Profit attributable to owners of parent	395	1,023	1,393	336	679

Cash Flow

Cash flows from operating activities	2,870	2,548	2,973	2,671	1,854
Cash flows from investing activities	△1,636	△1,640	△2,163	△1,373	△1,637
Free cash flow*2	1,234	907	810	1,297	217
Cash flows from financing activities	△1,475	△1,055	△782	△1,445	△181

Financial Position (Fiscal Year-end)

Total assets	41,075	42,417	46,394	42,348	43,360
Total property, plant and equipment	16,068	15,991	16,295	16,271	16,508
Net assets	15,967	17,459	19,900	18,579	19,218
Debt outstanding	15,963	15,340	15,017	13,793	13,754

Capital Investment and Others

Capital investment	1,796	1,757	2,259	2,125	2,347
Depreciation	1,940	1,813	1,760	1,779	1,826
R&D expenses	336	311	324	351	355
Crude steel production (10,000 tonnes)	3,068	3,158	3,104	2,975	3,041
Number of employees (consolidated)	57,044	57,210	58,856	59,460	60,439

Consolidated Financial Indices

Return on sales (ROS)*3	1.6%	4.7%	6.0%	1.9%	2.6%
Return on assets (ROA)*4	1.6%	4.5%	5.5%	1.7%	2.3%
Return on equity (ROE)*5	2.7%	6.3%	7.7%	1.8%	3.7%
Shareholders' equity	37.9%	40.1%	41.8%	42.6%	43.0%
D/E ratio*6	76.9%	67.9%	59.0%	56.9%	51.4%

Per-share Information

Net income per share (yen)	71.20	177.44	241.60	58.36	177.81
Net assets per share (yen)	2,700.83	2,950.61	3,362.22	3,128.36	3,235.88
Dividend payout (yen)	20	40	60	30	30

*1 Ordinary profit before interest expenses: Ordinary profit + Interest expenses

*2 Free cash flow: Cash flows from operating activities + Cash flows from investing activities

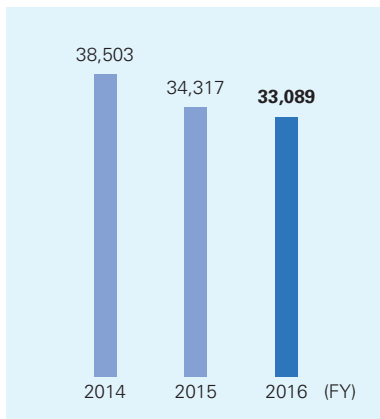
*3 Return on sales (ROS): Ordinary profit / Net sales × 100

*4 Return on assets (ROA): Ordinary profit + Interest expenses / Average total assets during period × 100

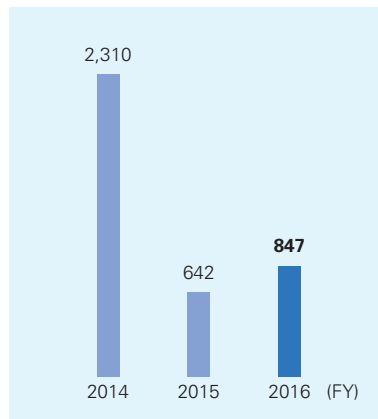
*5 Return on equity (ROE): Profit attributable to owners of parent / Shareholders' equity × 100

*6 D/E ratio: Debt outstanding / Shareholders' equity. For debt having a capital component, a portion of its issue price is deemed to be capital, as assessed by rating agencies.

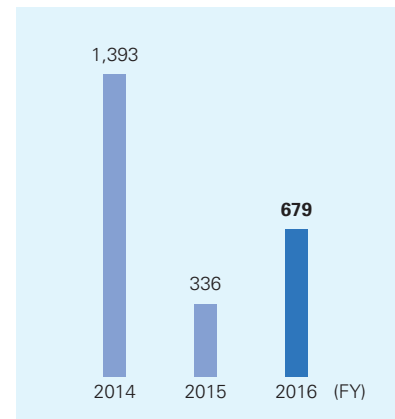
● Net sales (100 million yen)



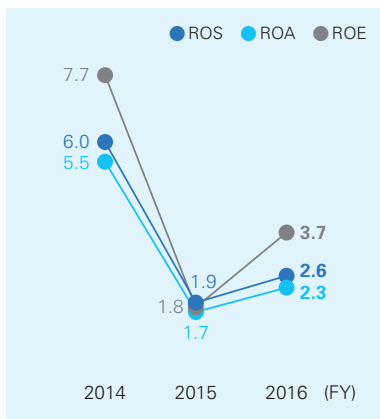
● Ordinary profit (100 million yen)



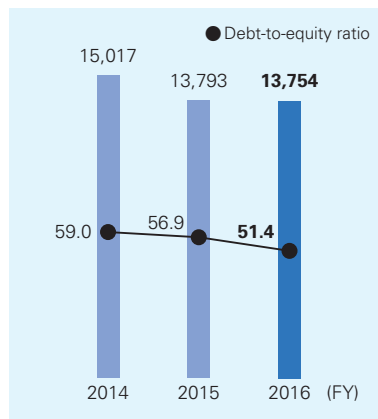
● Profit attributable to owners of parent (100 million yen)



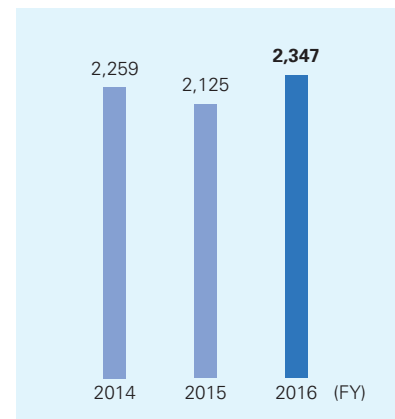
● ROS/ROA/ROE (%)



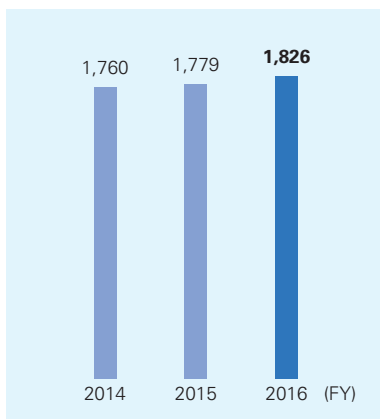
● Debt outstanding (100 million yen)/ Debt-to-equity ratio (%)



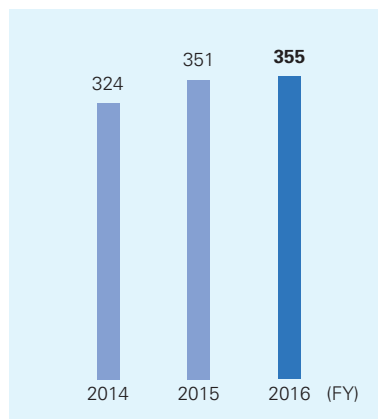
● Capital investment (100 million yen)



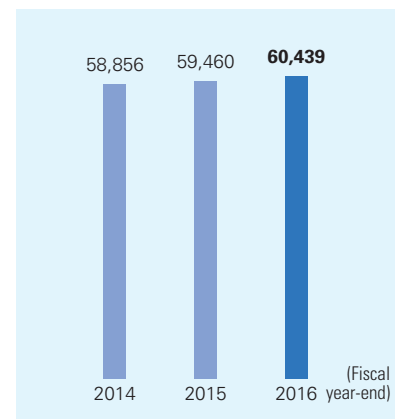
● Depreciation and amortization (100 million yen)



● R&D expenses (100 million yen)



● Number of employees (consolidated)



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, 7-11, 13-18, 29-34	-
Organizational Profile			
G4-3	*Name of the organization.	5-6	-
G4-4	*Primary brands, products, and services.	5-6, 29-34, 52-54	-
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, 68	-
G4-10	*Total number of employees by employment contract and gender. *Total number of permanent employees by employment type and gender. *Total workforce by employees and supervised workers and by gender. *Total workforce by region and gender. *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. *Significant variations in employment numbers (such as seasonal variations in employment in the tourism or agricultural industries).	68	-
G4-12	*A description of organization's supply chain.	5-6, 63	-
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.	25	-
G4-15	*Externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses.	45-46, 66	-
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 	46	-
Identified Material Aspects and Boundaries			
G4-17	*Operational structure of the organization. <ul style="list-style-type: none"> All entities included in the organization's consolidated financial statements or equivalent documents Any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report 	1	1
G4-18	*Process for defining the report content and the Aspect Boundaries. *How the organization has implemented the Reporting Principles for Defining Report Content.	1	1
G4-19	*Material aspects identified in the process for defining report content.	7-11	-
G4-20	*Aspect Boundary for each material Aspect within the organization, as follows: <ul style="list-style-type: none"> Whether the Aspect is material within the organization If the Aspect is not material for all entities within the organization (as described in G4-17), <ul style="list-style-type: none"> List of entities or groups of entities included in G4-17 for which the Aspect is not material or List of entities or groups of entities included in G4-17 for which the Aspect is material Specific limitations regarding the Aspect Boundary within the organization 	7-11	-
G4-21	*Aspect Boundary outside the organization for each material Aspect, including: <ul style="list-style-type: none"> Whether the Aspect is material outside of the organization If the Aspect is material outside of the organization, identification of the entities, groups of entities or elements for which the Aspect is material. In addition, description of the geographical location where the Aspect is material for the entities identified Specific limitations regarding the Aspect Boundary outside the organization 	7-11	-
G4-22	*Explanation of the effect of any restatements of information provided in previous reports, and the reasons for such restatements.	43-44, 47	4, 11-13
G4-23	*Significant changes from previous reporting periods in the Scope and Aspect Boundaries.	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	-
G4-30	*Reporting cycle (such as annual, biennial).	1	-
G4-31	*Contact point for questions regarding the report or its contents.	Back cover	Back cover
G4-32	*"In accordance" option has been chosen by the organization. *GRI Content Index for the chosen option (see tables below). *Reference to the External Assurance Report, if the report has been externally assured.	Reference 77-79	-
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.	13-19	-
G4-35	*Process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees.	19, 23	-
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.	19, 23	-
G4-37	*Processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics.	19, 23	-
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 	19, 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 	19-20, Corporate Governance Report, Securities Report	-

General Standard Disclosures Report		Pages	Environmental Data Book Pages
G4-41	<ul style="list-style-type: none"> 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 	19-22	-
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.	19-20, 23	-
G4-44	<ul style="list-style-type: none"> 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. 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. 	23	-
G4-45	<ul style="list-style-type: none"> Highest governance body's role in the identification and management of economic, environmental and societal impacts, risks, and opportunities. Whether stakeholder consultation is used to support the highest governance body's identification and management of economic, environmental and social impacts, risks, and opportunities. 	7-8, 25, 55, 64	-
G4-46	*Highest governance body's role in reviewing the effectiveness of the organization's risk management processes for economic, environmental and social topics.	13-18, 26	-
G4-47	*Frequency of the highest governance body's review of economic, environmental and social impacts, risks and opportunities.	22, 23	-
G4-48	*Highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material Aspects are covered.	23	-
G4-49	*Process for communicating critical concerns to the highest governance body.	19	-
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.	19-22	-
G4-51	<ul style="list-style-type: none"> 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 Performance criteria in the remuneration policy related to the highest governance body's and senior executives' economic, environmental and social objectives. 	20-21, 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.	13-14, 20, 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	-
G4-57	*Internal and external mechanisms for seeking advice on ethical and lawful behavior, and matters related to organizational integrity.	23	-
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.	25	-

Specific Standard Disclosures Report		Pages	Environmental Data Book Pages
Disclosures on Management Approach			
G4-DMA	<ul style="list-style-type: none"> Why the Aspect is material. Report the impacts that make this Aspect material. How the organization manages the material Aspect or its impacts. 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 	11, 23-25, 27, 29-38, 43-55, 57-60, 61-63, 65-72	-
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.	37-38	-
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.	37, 65-67	-
G4-EC8	Significant indirect economic impacts, including the extent of impacts.	3-4, 9-11	-
Environmental			
Materials			
G4-EN1	Materials use by weight or volume.	41-42	9-10, 11, 25, 30
G4-EN2	Percentage of materials used that are recycled input materials.	41-42, 50-54	9-10, 12
Energy			
G4-EN3	Energy consumption within the organization.	41-42, 43-44, 47	9-10, 13, 26, 30
G4-EN4	Energy consumption outside of the organization.	41-42	-
G4-EN5	Energy intensity ratio for the organization.	43-44	13
G4-EN6	Reduction of energy consumption.	43-44	11-13, 26, 30
G4-EN7	Reductions in energy requirements of products and services.	46	-
Water			
G4-EN8	Total water withdrawal by source.	48	9-10, 11
G4-EN10	Percentage and total volume of water recycled and reused.	41-42, 48	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.	53	-
Emissions			
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1).	41-44	4, 9-10, 13, 26
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2).	41-44	4, 9-10, 12-13, 26, 30
G4-EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3).	43	4
G4-EN18	Greenhouse gas (GHG) emissions intensity.	44	13
G4-EN19	Reduction of greenhouse gas (GHG) emissions.	43-44, 47	13
G4-EN21	NOx, SOx, and other significant air emissions.	41-42, 48	9-10, 14
Effluents and Waste			
G4-EN22	Total water discharge by quality and destination.	41-42, 48-49	9-10, 15, 27
G4-EN23	Total weight of waste by type and disposal method.	41-42, 51	9-10, 15, 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.	29-34, 38, 45-47, 51-54	7-8
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category.	41-42, 51	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	-

Specific Standard Disclosures Report		Pages	Environmental Data Book Pages
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.	41-42, 43, 44	4, 9-10, 13
Overall			
G4-EN31	Total environmental protection expenditures and investments by type.	37	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.	68	-
G4-LA3	Return to work and retention rates after parental leave, by gender.	60	-
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.	72	-
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.	71	-
G4-LA8	Health and safety topics covered in formal agreements with trade unions.	60, 72	-
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.	69	-
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.	19-22, 68	-
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.	68	-
Society			
Local Communities			
G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs.	65-67	-
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.	25	-
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.	61	-
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.	61	-
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	Pages	Content	CSR Report			Environmental Data Book Pages
			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	-	Editorial Policy				-
(3) Reporting policies	1	Editorial Policy	○	○	○	-
	77-79	GRI Content Index	○	○	○	-
(4) Policies for selecting a type of report	1	Editorial Policy	○	○	○	-
		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) Overview of KPI trends	-	-				-
(3) Summary of activities to address an individual environmental issue	39-40	Main Environmental Targets and Results	○	○	○	7-8
4. Material Balance						
	41-42	Materials Flow	○	○		9-10

Information and Indicators on How Environmentally Focused Management Including Environmental Management is Working						
Item	Pages	Content	CSR Report			Environmental Data Book Pages
			JFE Steel	JFE Engineering	JFE Shoji Trade	
1. Environmental Policies, Visions and Business Strategies						
(1) Environmental policies	2	Standards of Business Conduct	○	○	○	-
	35	Environmental Philosophy and Strategies	○	○	○	-
	3-4	Message from the CEO	○	○	○	-
(2) Material issues, visions and business strategies	7-11	Material CSR Issues of the JFE Group	○	○	○	-
	38	Environmental Risks and Opportunities	○	○	○	-
2. Organizational Systems and Governance						
(1) Organizational systems for environmentally focused management	35-36	Environmental Management	○	○	○	3
	81-82	Third-party Comments				-
(2) Environmental risk management system	35-38	Environmental Management	○	○	○	-
(3) Compliance with environmental regulations	36	Environmental Auditing	○	○	○	-
	48-49	Protecting the Environment	○	○		-

3. Responsiveness of Stakeholder Issues						
(1) Responsiveness to stakeholder issues	35	Environmental Philosophy and Strategies	○	○	○	-
	38	Environmental Risks and Opportunities	○	○	○	-
(2) Philanthropy related to the environment	45	Initiatives by the Japanese Steel Industry	○			-
	55	Environmental Communication	○	○	○	-
4. Environmental Initiatives in the Value Chain						
(1) Strategies and environmental policies in the value chain	38	Value Chain Initiatives	○	○	○	-
	38	Environmental Risks and Opportunities	○	○	○	-
	43	Calculation of Greenhouse Gas Emissions (Scope 3)	○	○	○	4
	46	CO ₂ Reduction in Value Chain	○			13
(2) Green purchasing and procurement	38	Value Chain Initiatives	○	○	○	-
(3) Products and services designed for mitigating environmental impacts	29-34	Addressing Environmental Issues with Innovative World-class Technology	○	○	○	-
	46	CO ₂ Reduction in Value Chain	○			13
	50-51	Resource Recycling	○	○	○	5-6
	52-54	Eco-friendly Products and Technologies	○	○	○	-
(4) New environmental technologies and research and development	29-34	Addressing Environmental Issues with Innovative World-class Technology	○	○	○	-
	37	Environmental Accounting	○	○		3-4
	45	Initiatives by the Japanese Steel Industry	○			-
	52-54	Eco-friendly Products and Technologies	○	○	○	-
(5) Environmentally sound transportation	46	CO ₂ Reduction in Value Chain	○			13
(6) Resource exploitations and real estate development/investment with less environmental impacts	37	Environmental Accounting	○	○		3-4
(7) Waste management and recycling	39-40	Main Environmental Targets and Results	○	○	○	7-8
	50-51	Resource Recycling	○	○	○	5-6, 12, 15, 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	31-32	Reducing Environmental Impact	○	○	○	-
	39-40	Main Environmental Targets and Results	○	○		7-8
	41-42	Materials Flow	○	○		9-10
	43-44	Energy Savings and CO ₂ Reduction in Steelmaking	○			11-13
(2) Total materials used and initiatives to reduce them	47	CO ₂ Reduction Initiatives		○	○	26, 30
	31-32	Reducing Environmental Impact	○	○	○	-
	39-40	Main Environmental Targets and Results	○	○	○	7-8
	41-42	Materials Flow	○	○		9-10
(3) Water withdrawal and initiatives to reduce it	41-42	Materials Flow	○	○		9-10
	48-49	Efficient Use of Water and Prevention of Contamination	○	○		11-12
2. Recycled Input Resources (within the organizational boundary)						
	31-32	Reducing Environmental Impact	○	○	○	-
	39-40	Main Environmental Targets and Results	○	○		7-8
	41-42	Materials Flow	○	○		9-10
	48-49	Efficient Use of Water and Prevention of Contamination	○	○		12
	51	Resource Recycling	○	○	○	15, 28-29
3. Products and Services and Environmental Impacts Arising from Production						
(1) Total products manufactured or goods sold	41-42	Materials Flow	○	○		9-10, 11, 25
(2) Greenhouse gas emissions and initiatives to reduce them	31-32	Addressing Environmental Issues with Innovative World-class Technology	○	○	○	-
	39-40	Main Environmental Targets and Results	○	○	○	7-8
	41-42	Materials Flow	○	○		9-10
	43-47	Global Warming Mitigation	○	○	○	4, 12-13, 26, 30
(3) Total water discharge and initiatives to reduce it	41-42	Materials Flow	○	○		9-10
	48-49	Efficient Use of Water and Prevention of Contamination	○	○		12
(4) Effluents and nuisance, and initiatives to reduce them	41-42	Materials Flow	○	○		9-10
	48	Controlling Air Emissions	○	○		14
(5) Release and transfer of chemical substances and initiatives to reduce them	41-42	Materials Flow	○	○		9-10
	49	Management of Chemical Substances	○	○		16-24, 27-28
(6) Total weight of waste generated, waste disposed by land filling or incineration and initiatives to reduce them	39-40	Main Environmental Targets and Results	○	○		7-8
	41-42	Materials Flow	○	○		9-10
	50-51	Resource Recycling	○	○	○	5-6, 15, 28-29
(7) Significant spills of hazardous substances and measures taken for preventing them	49	Management of Chemical Substances	○	○		16-24, 27-28
4. Conservation of Biological Diversity and the Sustainable Use of its Components						
	52-54	Eco-friendly Products and Technologies	○	○		-
	55	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	37	Environmental Accounting	○	○		3-4
	38	Environmental Risks and Opportunities	○	○	○	-
(2) Economic contexts in society	38	Environmental Risks and Opportunities	○	○	○	-
2. Social Contexts of Environmentally Focused Management						
	23	Management	○	○	○	-
	65-67	Local Communities	○	○	○	-

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
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1. Further Reform of the Governance System

Based on the evaluation of the effectiveness of your Board of Directors, which started in FY2015, the system of the Board of Directors and Audit & Supervisory Board was revised in June 2017 to establish a highly capable governance system under the organizational design of a company with an Audit & Supervisory Board. Supervision of the Board of Directors has already been enhanced by setting up the Nomination Committee and the Remuneration Committee, in which Outside Executives have a majority. The newly added Outside Director and Outside Audit & Supervisory Board Member have increased the ratio of Outside Executives to 46% of the Board of Directors, and Outside Audit & Supervisory Board Members represent a majority of the Audit & Supervisory Board. These measures are expected to substantially separate the supervisory functions from the business execution functions of the Board of Directors. As switching over to a sustainable society will take a long time, I deeply appreciate your self-reformation efforts toward establishing a sound decision-making system to support this shift.

2. Identification of Material CSR Issues

Disclosure of the detailed process for identifying material CSR issues is another major point of this fiscal year's evaluation. Above all, the prioritization of issues identified in this process at meetings across the Group, and multilevel monitoring of effectiveness by each operating company and the Group CSR Council meeting, clearly show that the JFE Group's CSR management is truly an organization-wide effort. Looking ahead, I hope you will consider incorporating stakeholder engagement into this process.

3. Influential External Recognition

The high quality of your CSR management has been confirmed by influential external recognition. Particularly noteworthy is the positive and objective evaluation of your advanced efforts to address gender issues, as evidenced by your selection for a third time as a 2017 Nadeshiko Brand and your inclusion in the MSCI Japan Empowering Women Index. The excellence of your organizational performance in terms of ESG is also proven by your inclusion in the Euronext Vigeo Index World 120.

4. Challenges for the Future

Although completely shifting the scope of your report to a consolidated basis remains a challenge for the future, the scope of your report has expanded almost every year. I hope that you will continue this effort. Moreover, since respect for and awareness of human rights are prerequisites for the identification of material CSR issues, stronger efforts are needed in the materials-procurement stage of your supply chain, where the risk of human rights violations is relatively high. In terms of environmental challenges, the fact that purchased products and services account for nearly 80% of your Scope 3 emissions calls for risk management in this field as well.

Third-party Comments



Mariko Kawaguchi

Chief Researcher
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While preparing my comments, I had the opportunity to visit your plants in the Keihin District, which dramatically altered my view of the steel industry. At a time when Western industrial and financial worlds are moving toward a carbon-free society, the Japanese government and heavy industries appear to be acting conservatively. However, when I learned that your technologies for controlling blast furnaces support temperatures as hot as one thousand and several hundred degrees Celsius, I was reminded about the history of the Industrial Revolution, which started with iron and coal. Although the steel industry's climate-change strategies are under scrutiny because of its high environmental load due to coal, civilization cannot exist without coal and steel.

You are steadily stepping up efforts to develop cutting-edge technologies to reduce environmental impacts and improve quality in this field, while also striving to strengthen public communications by, for example, publishing a photo album of blast furnace workplaces, which most people are unfamiliar with. Also, you have created green zones that resemble tropical resorts. In reality, however, very few people are aware of these efforts, so I consider this report as a tool for conveying such messages from an ESG viewpoint.

The report's most impressive message is management's commitment to governance. Due in part to the fact that the report was compiled just after you implemented systemic changes, I view President Hayashida's message as the outcome of your carefully considering governance optimization from the perspective of Group management. Comments by the Outside Director and Outside Audit & Supervisory Board Member, accompanied by their photos, demonstrate that your new governance system is substantial and effective, and that you are hardly a perfunctory organization.

In respect to the environment, the JFE Group is a critically important player in both climate change and the circulation of resources. Feature 2 introduces your solution-oriented technologies, including Super-SINTER, Ferro-coke and the introduction of an AI-controlled

remote-monitoring system for a waste power-generation plant. However, for people who do not possess the same basic knowledge that I acquired during my plant tour, it would be difficult to get a clear picture of these advances in terms of their societal and environmental significance and impact on corporate value. Although estimates of Scope 3 CO₂ emissions are disclosed, their significance in terms of business is vague. I believe that it would be clearer to show CO₂ emission trends across the entire value chain based on the total impact of scopes 1 and 2, and to explain how your technologies contribute to these reductions. It would also help to present your company's views on such issues.

I understand that the JFE Group significantly contributes to resource recycling, including iron scrap, waste plants, waste power generation and the effective use of iron, steel slag and other byproducts. Why not also present a schematic model of the recycling society that the Group is striving to create, along with the solutions that the Group provides for that purpose?

From the perspective of society, I focused on the message from the CEO regarding CSR materiality based on governance and human rights. Progress can be seen, particularly in diversity, as evidenced by the company being chosen as a Nadeshiko Brand for a third time. However, I have the impression that the scope of disclosure concerning society is essentially limited to domestic businesses. Ideally, in the future I would like to see you also focus on human rights throughout your supply chain, since the mining of iron ore and coal considerably impacts the environment and human rights in surrounding communities, which is why investors are interested in the ESG risks of supply chains.

Considering the current global situation, the shift in climate-change strategies from low-carbon to carbon-free, trends toward a circular economy and the impact of human rights issues, including the status of refugees, are emerging as deeper challenges for all of humanity. Accordingly, interest in SDGs as a framework for solutions is growing. The JFE Group, which supports infrastructure as the foundation of a resilient society, including iron, road networks, water and sewer services, and waste treatment, clearly presents its relationships with SDGs that are indispensable for modern society in the table on page 11.

Since you now have a governance system capable of powerful decision making, I hope that you will develop a long-term strategy and vision to enhance your corporate value from the perspectives of the environment and society and will strive to communicate these strategies in a way that is easy to understand.



JFE

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