



JFE Group CSR REPORT 2016

Environmental Data Book

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JFE Group

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This book contains supplemental information and data relating to environmental measures for three JFE Group companies, as well as information and data relating to the JFE Group's recycling business. Please read this book in conjunction with the "JFE Group CSR Report 2016" to gain a more comprehensive understanding of JFE's environmental initiatives.



■ Scope of Report

Reporting Period

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

Organizations Covered

1. JFE Holdings, Inc. and its operating companies:

- JFE Steel Corporation
- JFE Engineering Corporation
- JFE Shoji Trade Corporation

2. The following items include data from "Major consolidated subsidiaries and equity-method affiliates Included in the Scope of Reporting" listed below.

Environmental data aggregation scope

- Status of ISO 14001 certification
- CO₂ emissions
- Energy consumption (JFE Steel Group, JFE Engineering Group)
- Electricity consumption (JFE Shoji Trade Group)
- SOx, NOx emissions (JFE Steel Group)
- Amount of industrial water received, COD (JFE Steel Group)
- Release or Transfer of PRTR-registered Substances, VOC emissions (JFE Steel Group)

● JFE Steel Group

JFE Steel Corporation and 30 consolidated subsidiaries (Total: 31 companies)

26 domestic companies

JFE Mineral Company, Ltd., Mizushima Ferroalloy Co., Ltd., JFE Material Co., Ltd., Chiba Riverment and Cement Corp., Mizushima Riverment Corp., JFE Precision Co., Ltd., JFE Plastic Resource Corporation, JFE Bars & Shapes Corp., JFE Metal Products & Engineering Inc., JFE Galvanizing & Coating Co., Ltd., JFE Container Co., Ltd., JFE Welded Pipe Manufacturing Co., Ltd., JFE Steel Pipe Co., Ltd., Galvatex Corp., JFE Pipe Fitting Mfg. Co., Ltd., JFE Techno-wire Corp., JFE Kozai Corp., JFE Electrical Steel Co., Ltd., JFE Logistics Corp., JFE Chemical Corporation, JFE Life Corporation, Gecoss Corporation, JFE Rockfiber Corporation, JFE Kenzai Fence Co., Ltd., J-Logitec Co., Ltd., KP Sheet Co., Ltd.

4 overseas companies

Nova Era Silicon, JFE Steel Galvanizing (Thailand) Ltd., Thai Coated Steel Sheet Co., Ltd., Philippine Sinter Corporation

● JFE Engineering Group

JFE Engineering Corporation and 11 domestic consolidated subsidiaries (Total: 12 companies)

Asukasoken Co., Ltd., Japan Pipeline Engineering Corporation, JFE Kankyo Corporation, JAPAN Recycling Corporation, Recycling Management Japan, Inc., JFE Urban Recycle Corporation, Kitanippon Industrial Co., Ltd., JFE Technos Corporation, Fuji Kako Co., Ltd., Tohoku Dock Tekko K.K., JFE Rail Link Co., Ltd.

● JFE Shoji Trade Group

JFE Shoji Trade Corporation and the following domestic and overseas steel processing companies (32 consolidated subsidiaries and 3 equity method affiliates; total: 36 companies)

19 domestic subsidiaries

JFE Shoji Tinplate Center Co., Ltd., JFE Shoji Coil Center Corporation, JFE Shoji Kohnan Steel Center Co., Ltd., Aichi Kanzai Kogyo Corporation, Osaka Steel Corporation, Kita-Kanto Steel Corporation*, Kyusyu-Tech Corporation, Kurashiki Steel Corporation, Shin Nihon Kogyo Corporation, Taisei Kogyo Corporation, Toyo Kinzoku Corporation, Tochigi Shearing Corporation, Naigai Steel Corporation, Nagano Can Corporation, Niigata Steel Corporation, Mizushima Steel Co., Mizushima Metal Products Corporation, Hokuriku Steel Co., Ltd., Hokuriku Kogyo Corporation

16 overseas subsidiaries

Dongguan JFE Shoji Steel Products Co., Ltd., Guangzhou JFE Shoji Steel Products Co., Ltd., Zhejiang JFE Shoji Steel Products Co., Ltd., Jiangsu JFE Shoji Steel Products Co., Ltd., Shanghai Huacang Metal Products Co., Ltd.,* JFE Shoji Steel Philippines, Inc., Central Metals (Thailand) Ltd., Steel Alliance Service Center Co., Ltd., JFE Shoji Steel Vietnam Co., Ltd., JFE Shoji Steel India Private Limited, JFE Shoji Steel Malaysia Sdn. Bhd., Kawarin Enterprise Pte. Ltd.*, P.T. JFE Shoji Steel Indonesia, Vest Inc., JFE Shoji Steel de Mexico, S.A. de C.V., JFE Shoji Steel Hai Phong Co., Ltd.
*Equity method affiliates

Society data aggregation scope

- Rate of lost work-time injuries and severity rate

● JFE Steel

JFE Steel Corporation and its affiliates and contractors

● JFE Engineering

JFE Engineering Corporation and its affiliates and contractors

● JFE Shoji Trade

JFE Shoji Trade Corporation, all 103 consolidated subsidiaries and its affiliates and contractors

Organizational Profile

JFE Steel Company Profile

JFE Steel Corporation

- Head office: 2-2-3 Uchisaiwaicho, Chiyoda-ku, Tokyo 100-0011
- Tel: +81-3-3597-3111
- Net sales (consolidated): 2,445.1 billion yen
- Employees (consolidated): 43,874

Main Works



East Japan Works (Chiba District)

1 Kawasaki-cho, Chuo-ku, Chiba-shi, Chiba 260-0835
Tel: +81-43-262-2024 Fax: +81-43-262-2967

• Main business

Production of hot rolled sheets and strips, cold rolled sheets and strips, stainless steel sheets and strips, coated sheets, UOE pipes, iron powders and solvents.



West Japan Works (Kurashiki District)

1 Mizushima Kawasaki-dori, Kurashiki-shi, Okayama 721-8511

Tel: +81-86-447-2020 (main)

+81-86-447-2102 (visitor center reception desk)

Fax: +81-86-447-2131

• Main business

Production of hot rolled sheets, cold rolled sheets, coated sheets, electrical sheets, plates, sheet piles, H-shapes, rails, bars, wire rods and UOE pipes.



East Japan Works (Keihin District)

1-1 Ohgishima, Kawasaki-ku, Kawasaki-shi, Kanagawa 210-0868

Tel: +81-44-322-1111 Fax: +81-44-322-1500

• Main business

Production of plates, hot rolled sheets, cold rolled sheets, galvanized steel sheets, high-performance steel sheets, seamless steel pipes and welded steel pipes.



West Japan Works (Fukuyama District)

1 Kokan-cho, Fukuyama-shi, Hiroshima 721-8510

Tel: +81-84-945-3118 Fax: +81-84-945-3808

• Main business

Production of hot rolled sheets, cold rolled sheets, coated sheets, electrical sheets, plates, sheet piles, H-shapes, rails, bars, wire rods and UOE pipes.



Chita Works

1-1 Kawasaki-cho, Handa-shi, Aichi 475-8611

Tel (for general): +81-569-24-2101 Fax: +81-569-24-2022

• Main business

Production of machine structural steel pipes, automotive steel pipes, material pipes, general structural steel pipes and steel pipes for plumbing.

JFE Engineering Company Profile

JFE Engineering Corporation

- Tokyo head office: Marunouchi Trust Tower North 19F, 1-8-1 Marunouchi, Chiyoda-ku, Tokyo 100-0005
- Tel: +81-3-6212-0800 (main) Fax: +81-3-6212-0802
- Yokohama head office: 2-1, Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-8611
- Tel: +81-45-505-7435 (main) Fax: +81-45-505-8902 Tel: +81-45-505-8953 (PR)
- Net sales (consolidated): 1,756.4 billion yen
- Employees (consolidated): 8,967

Main Works



Tsurumi Engineering and Manufacturing Center

2-1 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-8611

Tel: +81-45-505-7435 Fax: +81-45-505-8902

• Main business

Production of engines, shield tunneling machines, boilers and turbines, water facilities.



Tsu Works

1 Kumozu-kokan-cho, Tsu-shi, Mie 514-0393

Tel: +81-59-246-2010 Fax: +81-59-246-2781

• Main business

Production of steel structures such as bridges, harbor structures and building steel frames.

JFE Shoji Trade Company Profile

JFE Shoji Trade Corporation

- Tokyo head office: Otemachi Financial City North Tower, 1-9-5 Otemachi, Chiyoda-ku, Tokyo 100-8070
- Tel: +81-3-5203-5053 Fax: +81-3-5203-5289
- Osaka head office: Dojima Avanza, 1-6-20, Dojima, Kita-ku, Osaka 530-8318
- Tel: +81-6-4795-7011 Fax: +81-6-4795-7400
- Net sales (consolidated): 397.5 billion yen
- Employees (consolidated): 6,579



Status of ISO 14001 Certification

All JFE Steel and JFE Engineering production sites and JFE Shoji Trade domestic business offices have received certification. The status of certification for Group companies are as follows.

List of ISO 14001 Certified Companies (includes certification limited to certain sites of a company)

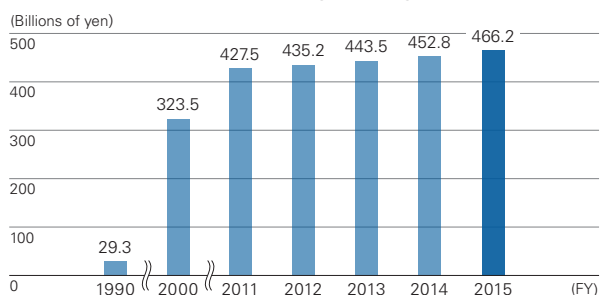
JFE Steel Corporation	JFE Mineral Company, Ltd.	JFE Electrical Steel Co., Ltd.
	Mizushima Ferroalloy Co., Ltd.	Daiwa Kohtai Co.* ¹
	JFE Material Co., Ltd.	JFE Mechanical Co., Ltd.* ¹
	JFE Plastic Resource Corporation	JFE Electrical & Control Systems, Inc.* ¹
	JFE Bars & Shapes Corp.	JFE Logistics Corp.
	JFE Metal Products & Engineering Inc.	JFE Techno-Research Corp.* ¹
	JFE Galvanizing & Coating Co., Ltd.	JFE Chemical Corp.
	JFE Container Co., Ltd.	JFE Metal Construction Inc.* ¹
	JFE Welded Pipe Manufacturing Co., Ltd.	Guangzhou JFE Steel Sheet Company Ltd.* ²
	JFE Pipe Fitting Mfg. Co., Ltd.	Thai Coated Steel Sheet Co., Ltd.
River Steel Co., Ltd.	Philippine Sinter Corporation	
JFE Engineering Corporation	JFE Kankyo Corporation	Fuji Kako Co., Ltd.
	Japan Recycling Corporation	Asukasoken Co., Ltd.
JFE Shoji Trade Corporation	Naigai Steel Corporation	Kawasho Foods Corporation* ¹
	JFE Shoji Kohnan Steel Center Co., Ltd.	K&I Tubular Corporation* ¹
	JFE Shoji Coil Center Corporation	Tohsen Corporation* ¹
	Mizushima Steel Co.	Hoshi Kinzoku Corporation* ¹
	Mizushima Metal Products Corporation	Guangzhou JFE Shoji Steel Products Co., Ltd.
	Toyo Kinzoku Corporation	Dongguan JFE Shoji Steel Products Co., Ltd.
	Taisei Kogyo Corporation	Zhejiang JFE Shoji Steel Products Co., Ltd.
	Hokuriku Steel Co., Ltd.	Jiangsu JFE Shoji Steel Products Co., Ltd.
	JFE Shoji Electronics Corporation* ¹	Central Metals (Thailand) Ltd.
	JFE Shoji Usuitakenzai Corporation* ¹	JFE Shoji Steel Philippines, Inc.
	JFE Shoji Pipe&Fitting Trade Corporation* ¹	P.T. JFE Shoji Steel Indonesia
	JFE Shoji Service Corporation* ¹	JFE Shoji Steel Malaysia Sdn. Bhd.
	JFE Shoji Machinery & Materials Corporation* ¹	JFE Shoji Steel Hai Phong Co., Ltd.
	JFE Shoji Trade Steel Construction Materials Corporation* ¹	JFE Shoji Steel Vietnam Co., Ltd.
	JFE Shoji Terre One Corporation* ¹	JFE Shoji Steel De Mexico, S.A. de C.V.
	JFE Shoji Business Support, Inc.* ¹	Kawarin Enterprise Pte. Ltd.* ²
	JFE Shoji Trade Matech Inc.* ¹	Shanghai Huacang Metal Products Co., Ltd.* ²

*¹ Outside the scope of environmental data aggregation *² Equity method affiliates

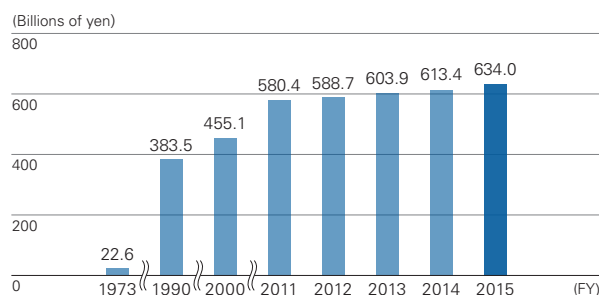
JFE Group's Environmental Accounting

Environmental Accounting

Cumulative Investment in Energy Saving



Cumulative Investment in Environmental Preservation Measures



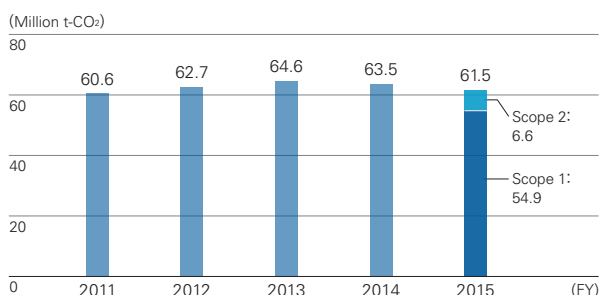
Breakdown of Environmental Costs

Main Items		FY2014		FY2015	
		Investment (billion yen)	Cost (billion yen)	Investment (billion yen)	Cost (billion yen)
Management	Impact monitoring and measurement, EMS expenses and education	0.01	2.4	0.1	2.4
Global warming countermeasures	Energy-saving and efficient use of energy	9.3	37.9	13.4	34.1
Conservation of natural resources	Recycling industrial water	1.8	18.5	0.6	17.8
	Recycling and waste management of internally generated materials, etc.	0.01	5.4	0.04	5.2
Environmental protection	Air pollution countermeasures	6.1	37.3	17.8	38.5
	Water pollution countermeasures	1.5	9.5	2.1	10
	Prevention of soil contamination, noise, vibration and subsidence	0.07	1.1	0.003	0.9
Other	Charges, etc.	–	1.4	–	0.7
R&D	Technologies for protecting the environment, saving energy and preventing global warming	1.5	12.2	1.1	12.9
Societal activities	Support for nature preservation and forestation, information disclosure, exhibitions and public relations	–	0.9	–	0.7
Total		20.3	126.6	35.1	123.2

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

CO₂ Emissions of the JFE Group

CO₂ Emissions of the JFE Group



Note: The scope is corrected retroactively to the past fiscal years to ensure uniformity across all fiscal years.

CO₂ Emission Factor for Purchased Electricity

- JFE Steel uses the emission factor of the Low-Carbon Society Action Plan of the Japan Iron and Steel Federation for energy purchased in FY2015.
- JFE Engineering Group and JFE Shoji Trade Group use the unadjusted emission factors of each electric power company for each fiscal year.
- JFE Steel Group companies, excluding JFE Steel, use the CO₂ equivalent of 0.000579 (t-CO₂/kWh) for the FY2015 unadjusted emission factors of each electric power company.
- Overseas: based on each country's GHG protocol

Scope 3 Emissions of the JFE Group

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

CO₂ Emissions, by Operating Company (FY2015)

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

Scope: Data cover 76 companies, including JFE Steel and 30 major domestic and overseas subsidiaries, JFE Engineering and 11 major domestic subsidiaries, and JFE Shoji Trade and 32 major domestic and overseas subsidiaries.

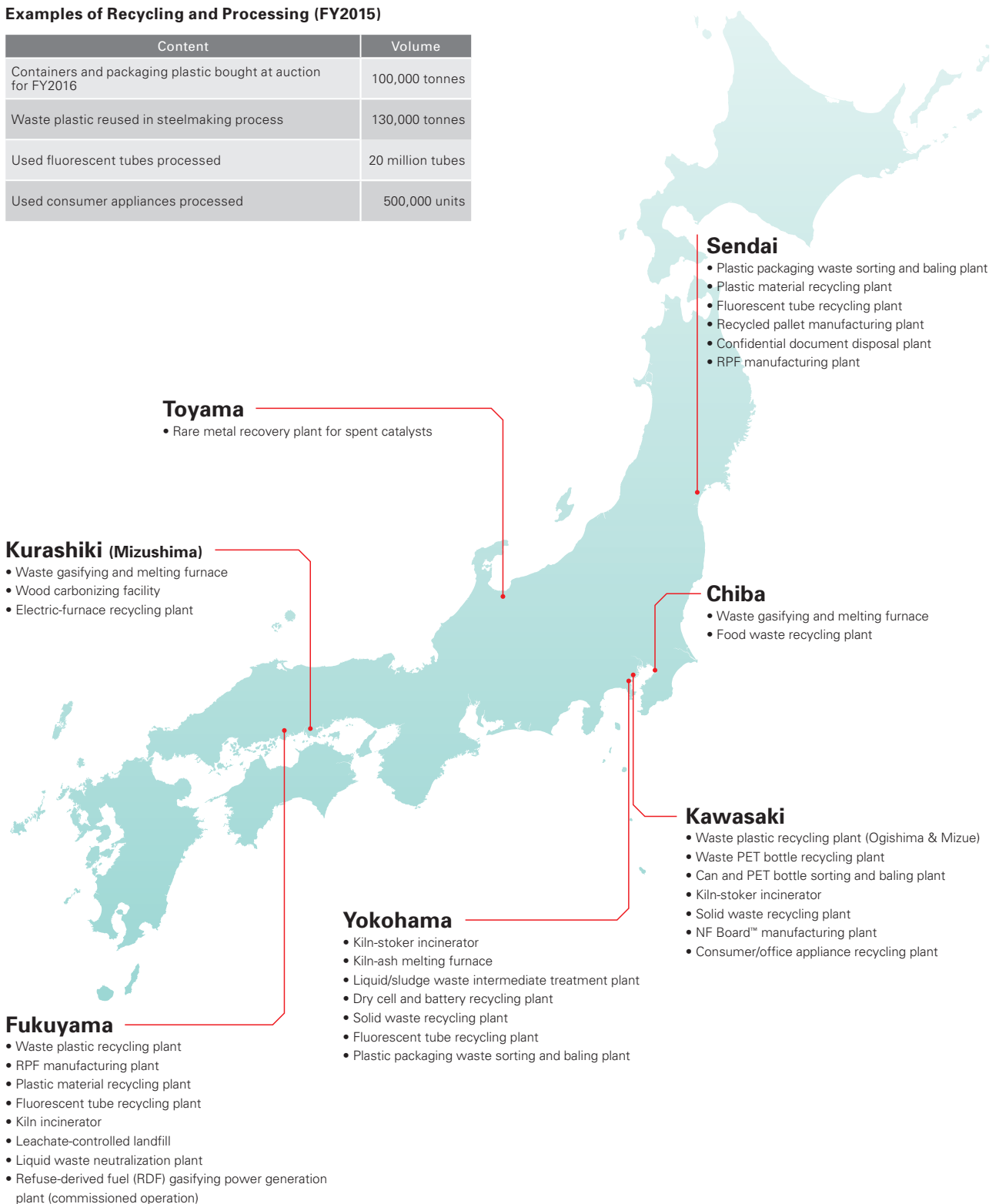
Note: Data for certain fiscal years have been recalculated retroactively for improved accuracy.

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

JFE Group Recycling Businesses

Examples of Recycling and Processing (FY2015)

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



JFE Group's Recycling Business List

JFE Group's Recycling Business List

District	Name of the Companies, Plants and Offices	Facilities	Address
Sendai	Shinko Recycle Corporation Head Office Plant	Plastic packaging waste sorting and baling plant Plastic material recycling plant Fluorescent tube recycling plant Recycled pallet manufacturing plant Confidential document disposal plant RPF manufacturing plant	1-6-1 Minato, Miyagino-ku, Sendai-shi, Miyagi Same as above Same as above Same as above Same as above Same as above 6-5-14 Shirakashi-dai, Rifu-cho, Miyagi-gun, Miyagi
	Rifu Plant		
Chiba	Japan Recycling Corporation Co., Ltd. Chiba Recycle Center Chiba Biogas Center	Waste gasifying and melting furnace Food waste recycling plant	1 Kawasaki-cho, Chuo-ku, Chiba-shi, Chiba Same as above
Kawasaki	JFE Kankyo Corporation Ohgishima Raw Materials Plant	Waste plastic recycling plant	10 Ohgishima, Kawasaki-ku, Kawasaki-shi, Kanagawa
	Kawasaki PET Bottle Recycling Plant	Waste PET bottle recycling plant	5-1 Mizue-cho, Kawasaki-ku, Kawasaki-shi, Kanagawa
	Can and PET Bottle Baling Plant Kawasaki Eco Clean (Incinerator)	Can and PET bottle sorting and baling plant Kiln-stoker type incinerator	Same as above 5-73 Ohgi-machi, Kawasaki-ku, Kawasaki-shi, Kanagawa, and others
		Solid waste recycling plant	Same as above
	JFE Plastic Resource Corporation Mizue recycling plant	Waste plastic recycling plant	699-23 Mizue-cho, Kawasaki-ku, Kawasaki-shi, Kanagawa, and others
	NF Board™ plant	NF Board™ manufacturing plant	5-1 Mizue-cho, Kawasaki-ku, Kawasaki-shi, Kanagawa
	JFE Urban Recycle Corporation Home appliance recycling plant	Consumer/office appliance recycling plant	6-1 Mizue-cho, Kawasaki-ku, Kawasaki-shi, Kanagawa
Yokohama	JFE Kankyo Corporation Yokohama Eco Clean (Incinerator)	Kiln-stoker incinerator	2-1-5 Suehiro-cho, Tsurumi-ku, Yokohama-shi, Kanagawa, and others
	Chemical Plant	Kiln-ash melting furnace Liquid/sludge waste intermediate treatment plant	Same as above 3-1 Benten-cho, Tsurumi-ku, Yokohama-shi, Kanagawa
		Dry cell and battery recycling plant	2-1-8 Suehiro-cho, Tsurumi-ku, Yokohama-shi, Kanagawa
	Yokohama Clean Resource Recycling Plant	Solid waste recycling plant	2-1-5 Suehiro-cho, Tsurumi-ku, Yokohama-shi, Kanagawa
	Fluorescent Lamp/Battery Recycling Plant	Fluorescent tube recycling plant	2-1-8 Suehiro-cho, Tsurumi-ku, Yokohama-shi, Kanagawa
	Yokohama Plastics Recycling Plant Kanazawa Recycling Center	Plastic packaging waste sorting and baling plant Solid waste recycling plant	Same as above 1-14-5 Fukuura, Kanazawa-ku, Yokohama-shi, Kanagawa
Kurashiki (Mizushima)	Mizushima Eco-Works Co., Ltd.	Waste gasifying and melting furnace	1-14-5 Mizushimakawasaki-dori, Kurashiki-shi, Okayama
	Recycling Management Japan, Inc. Kurashiki Plant	Wood carbonizing facility	1-14-1 Mizushimakawasaki-dori, Kurashiki-shi, Okayama
	JFE Bars & Shaps Corporation DC electric arc furnace	Electric-furnace recycling plant	1-5-2 Mizushimakawasaki-dori, Kurashiki-shi, Okayama, and others
Fukuyama	JFE Plastic Resource Corporation Fukuyama recycling plant	Waste plastic recycling plant	113 Minoki-cho, Fukuyama-shi, Hiroshima
	JFE Kankyo Corporation Fukuyama RPF Production Plant Fukuyama Plastic Material Recycling Plant Fukuyama Fluorescent Lamp Recycling Plant Fukuyama Incinerator	RPF manufacturing plant Plastic materials recycling plant Fluorescent tube recycling plant Kiln incinerator Leachate-controlled landfill Liquid waste neutralization plant	115-1 Minoki-cho, Fukuyama-shi, Hiroshima Same as above Same as above 1 Kokan-cho, Fukuyama-shi, Hiroshima Same as above Same as above
	Fukuyama Recycle Power Corporation	Refuse-derived fuel (RDF) gasifying power generation plant (commissioned operation)	107-8 Minoki-cho, Fukuyama-shi, Hiroshima
Toyama	JFE Material Co., Ltd.	Rare metal recovery plant for spent catalysts	2-9-38 Shosei-machi, Imizu-shi, Toyama

Main Environmental Targets and Results

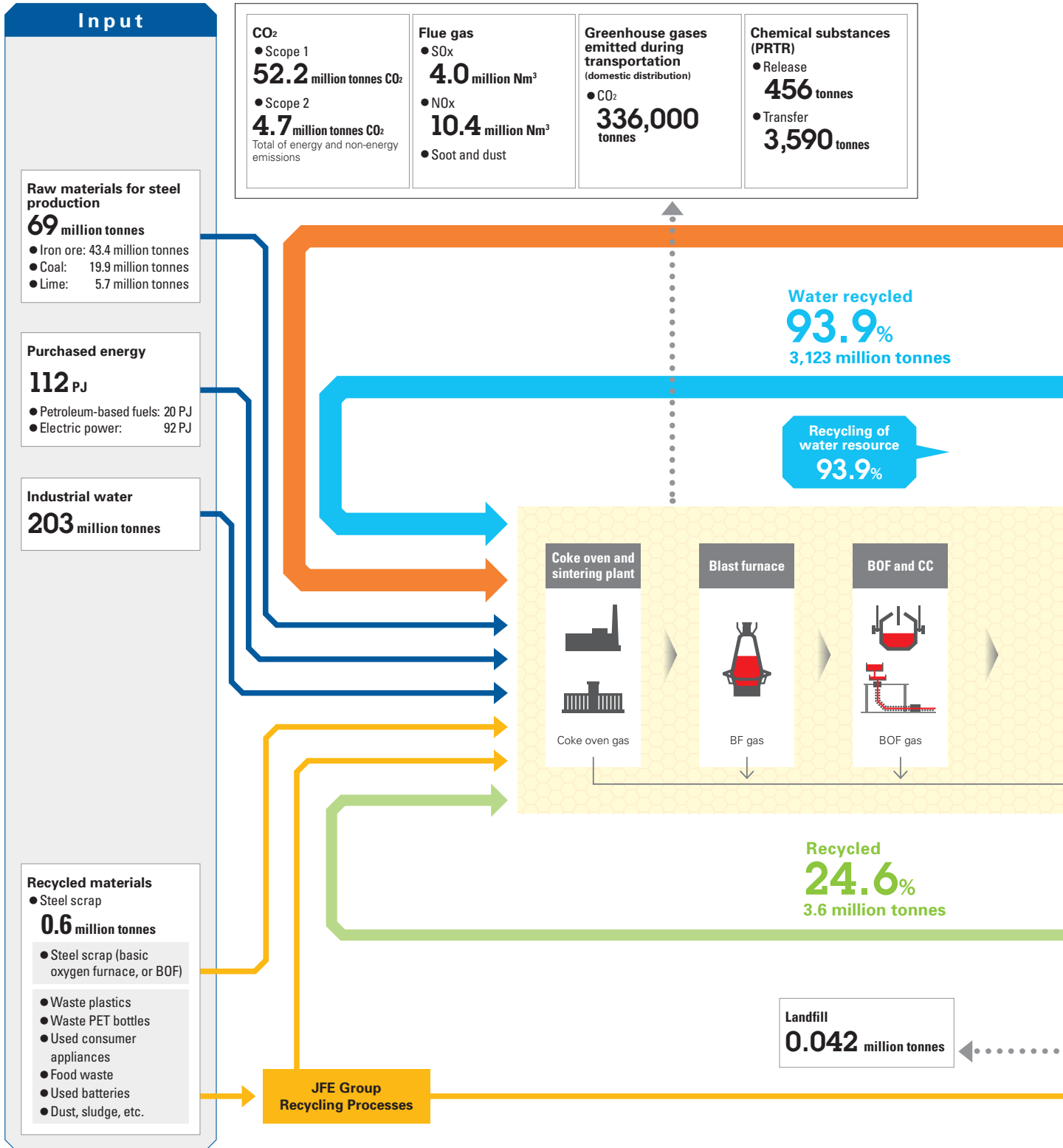
		FY2015 Targets
Management	JFE Steel	<ul style="list-style-type: none"> Continue to improve environmental management systems, including in Group companies
	JFE Steel	<ul style="list-style-type: none"> Voluntary activities for environmental preservation
	JFE Engineering	<ul style="list-style-type: none">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

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

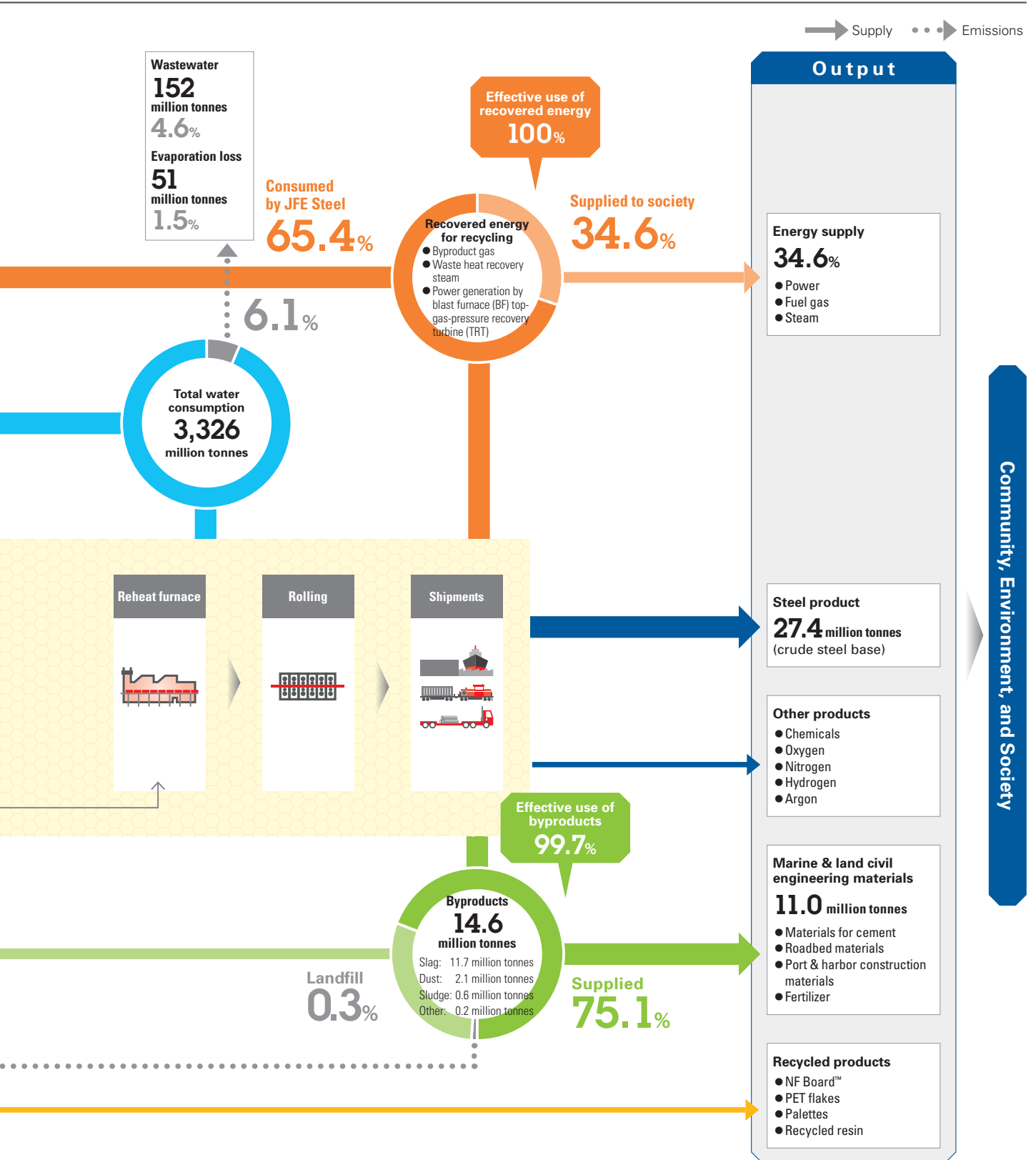
	FY2015 Results	Evaluation	FY2016 Targets
	<ul style="list-style-type: none"> ● Group Liaison Committee met twice to discuss compliance with environmental laws and regulations ● Uniformly confirmed and followed up on legal compliance 	○	<ul style="list-style-type: none"> ● Continue to improve environmental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

JFE Steel

Material Flow

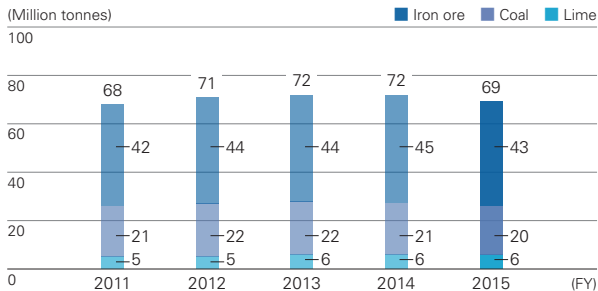


JFE Steel works to reduce the environmental impact its steelmaking processes, including through the effective use of resources. The company recycles 93.9% of the water it uses for production and uses 99.7% of its byproducts, such as iron-steel slag. In addition, 100% of gas byproducts generated during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



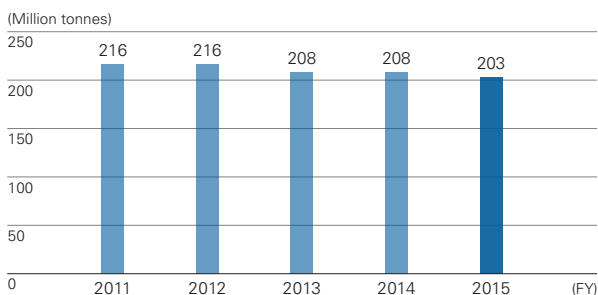
Input Materials

Materials for Steel Production

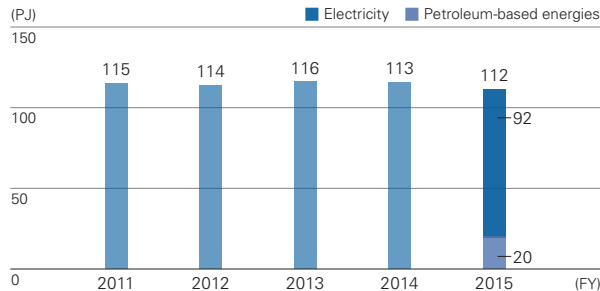


Note: Values for past fiscal years have been recalculated retroactively for improved accuracy.

Industrial Water



Purchased Energy (Electricity and Petroleum-based Energies)



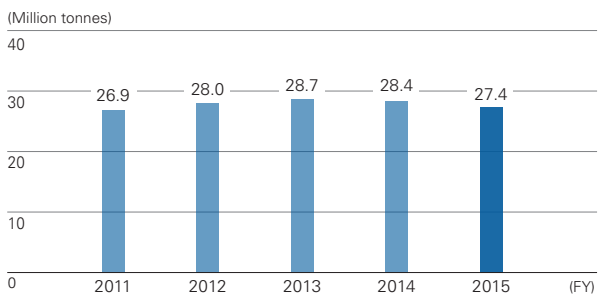
Water Used by JFE Steel Group Subsidiaries

Name of Company	Amount of Water Used (m ³)	Name of Company	Amount of Water Used (m ³)
JFE Chemical Corp.	6,555,238	Gecoss Corporation	70,239
JFE Bars & Shapes Corp.	6,185,896	Galvatex Corporation	34,200
JFE Galvanizing & Coating Co., Ltd.	5,131,093	JFE Welded Pipe Manufacturing Co., Ltd.	26,815
JFE Material Co., Ltd.	5,125,812	KP Sheet Co., Ltd.	26,067
JFE Mineral Company, Ltd.	1,026,734	Mizushima Ferroalloy Co., Ltd.	18,852
JFE Precision Co., Ltd.	850,000	JFE Rockfiber Corporation	15,480
JFE Life Corp.	496,934	JFE Plastic Resource Corporation	13,597
Mizushima Riverment Corp.	203,989	JFE Kozai Corp.	13,294
JFE Container Co., Ltd.	127,667	JFE Pipe Fitting Mfg. Co., Ltd.	12,501
JFE Techno-Wire Corp.	117,704	Chiba Riverment and Cement Corp.	10,812
JFE Logistics Corp.*	116,402	JFE Steel Pipe Co., Ltd.	1,800
JFE Metal Products & Engineering Inc.	113,524	JFE Electrical Steel Co., Ltd.	1,596
JFE Kenzai Fence Co., Ltd.	101,201	Total	26,397,447

* Amount of water used by J-Logitec Co., Ltd. is included in that of JFE Logistics Corp.

Output Products

Steel Products



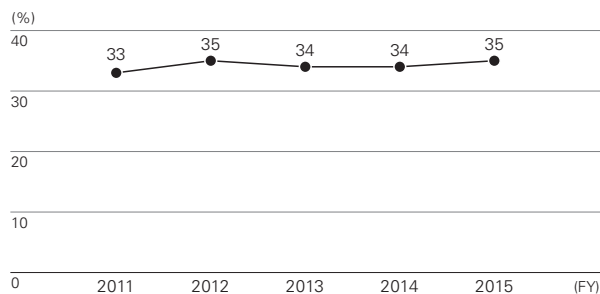
Byproducts

- NF Board™
- PET Flakes
- Pallet
- Recycled Resin

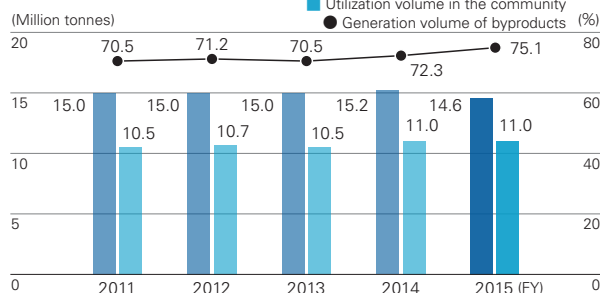
Other Products

- Chemicals
- Nitrogen
- Argon
- Oxygen
- Hydrogen

Energy Supply Rate for Recovered Energy

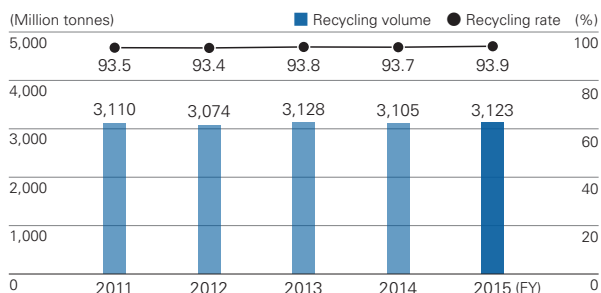


Marine & Land Civil Engineering Materials (Usage from Byproducts)

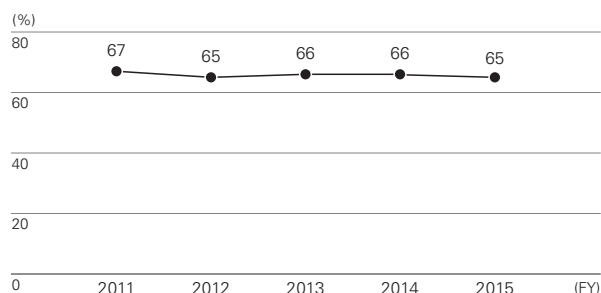


Recycled Resources

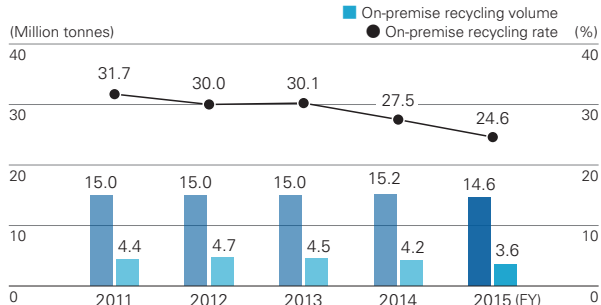
Recycled Water



Recycling Rate for Recovered Energy



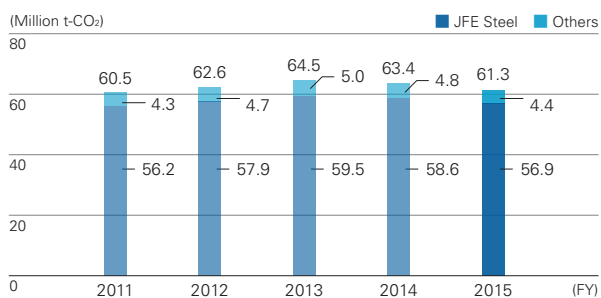
Byproducts



CO₂ Emissions and Energy Consumption

Status of the JFE Steel Group

CO₂ Emissions



Notes: Data cover JFE Steel (energy and non-energy-derived emissions) and 30 domestic and overseas subsidiaries (energy-derived emissions). The scope is expanded and corrected retroactively to the past fiscal years to ensure uniformity across all fiscal years.

CO₂ Emission Factor for Purchased Energy

- JFE Steel uses the emission factor of the Low-Carbon Society Action Plan of the Japan Iron and Steel Federation for energy purchased in FY2015.
- With the exception of JFE Steel, companies use the CO₂ equivalent of 0.000579 (t-CO₂/kWh) for the FY2014 unadjusted emission factors of each electric power company.
- Overseas: based on each country's GHG protocol

CO₂ Emissions of JFE Steel Group Subsidiaries (FY2015)

Name of Company	CO ₂ Emissions (t-CO ₂)
JFE Bars & Shapes Corp.	1,225,426
Mizushima Ferroalloy Co., Ltd.	657,113
JFE Mineral Company, Ltd.	396,335
JFE Chemical Corp.	354,885
JFE Logistics Corporation	178,622
JFE Galvanizing & Coating Co., Ltd.	86,633
JFE Material Co., Ltd.	76,374
JFE Rockfiber Corporation	31,135
JFE Pipe Fitting Mfg. Co., Ltd.	21,912
JFE Plastic Resource Corporation	21,782
JFE Metal Products & Engineering Inc.	20,916
Gecoss Corporation	14,700
Mizushima Riverment Corp.	14,165
JFE Kozai Corp.	13,640
JFE Container Co., Ltd.	11,946
JFE Welded Pipe Manufacturing Co., Ltd.	9,931
JFE Techno-Wire Corp.	9,511
Chiba Riverment and Cement Corp.	9,157
JFE Life Corp.	8,371
JFE Precision Co., Ltd.	7,100
JFE Kenzai Fence Co., Ltd.	6,079
KP Sheet Co., Ltd.	5,050
Galvatex Corp.	4,497
JFE Steel Pipe Co., Ltd.	4,090
JFE Electrical Steel Co., Ltd.	3,914
4 overseas companies	1,286,981
Total	4,480,267

Energy Consumption of JFE Steel Group Subsidiaries (FY2015)

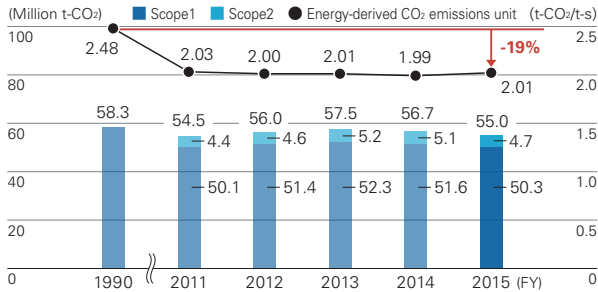
Name of Company	Consumption (GJ)
JFE Bars & Shapes Corp.	19,985,330
JFE Chemical Corp.	6,701,658
Mizushima Ferroalloy Co., Ltd.	6,592,954
JFE Mineral Company, Ltd.	6,324,966
JFE Galvanizing & Coating Co., Ltd.	1,720,855
JFE Material Co., Ltd.	1,279,542
JFE Rockfiber Corporation	526,576
JFE Pipe Fitting Mfg. Co., Ltd.	384,292
JFE Plastic Resource Corporation	379,459
JFE Container Co., Ltd.	221,094
JFE Metal Products & Engineering Inc.	210,520
Mizushima Riverment Corp.	198,612
JFE Techno-Wire Corp.	171,300
Chiba Riverment and Cement Corp.	154,508
JFE Life Corp.	142,914
JFE Welded Pipe Manufacturing Co., Ltd.	128,397
JFE Precision Co., Ltd.	124,020
JFE Kenzai Fence Co., Ltd.	103,606
KP Sheet Co., Ltd.	99,225
Galvatex Corp.	86,732
JFE Steel Pipe Co., Ltd.	69,923
JFE Electrical Steel Co., Ltd.	67,337
JFE Kozai Corp.	64,260
Gecoss Corporation	63,573
JFE Logistics Corporation	59,336
4 overseas companies	6,882,591
Total	52,743,581

*The total does not add up due to rounding.
*CO₂ emissions and energy consumption of J-Logitech Co., Ltd. are included in those of JFE Logistics Corporation.

CO₂ Emissions and Energy Consumption

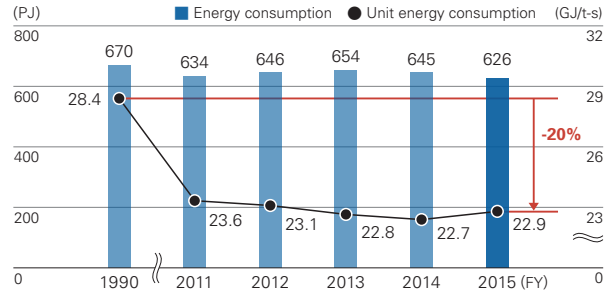
Status of JFE Steel

Energy-derived CO₂ Emissions and Unit CO₂ Emissions



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

Energy Consumption and Unit Energy Consumption



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

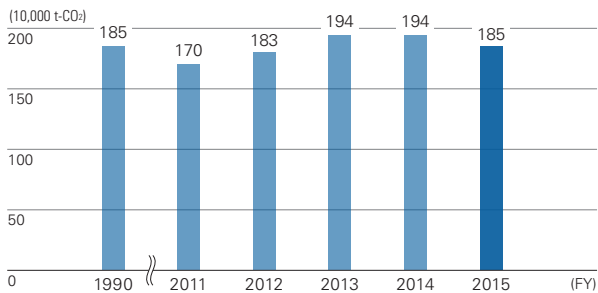
Changes in Unit CO₂ Emissions and Crude Steel Production vs. FY1990 (%)

	2011	2012	2013	2014	2015
Unit Emissions	-20	-21	-19	-19	-19
Crude Steel Production	14	19	22	21	16

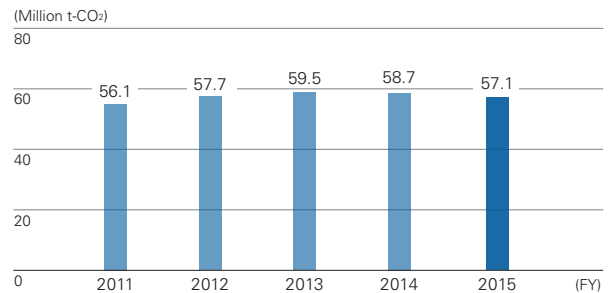
Changes in Unit Energy Consumption and Crude Steel Production vs. FY1990 (%)

	2011	2012	2013	2014	2015
Unit Emissions	-17	-19	-19	-20	-19
Crude Steel Production	14	19	22	21	16

Non-energy-derived CO₂ Emissions of JFE Steel

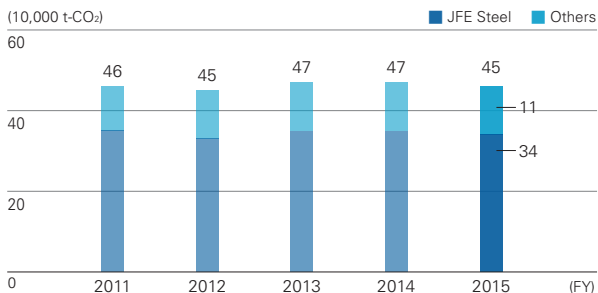


Total CO₂ Emissions (Energy-derived and Non-energy-derived)



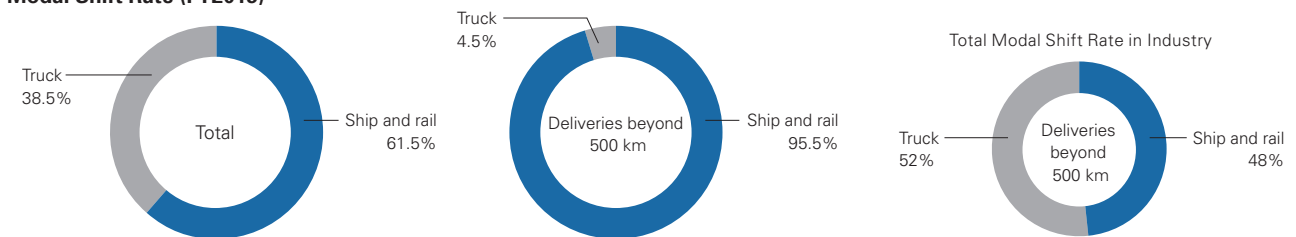
Note: Data for certain fiscal years have been recalculated retroactively for improved accuracy.

Greenhouse Gas Emitted During Transportation



Aggregation scope: Transportation in Japan

Modal Shift Rate (FY2015)

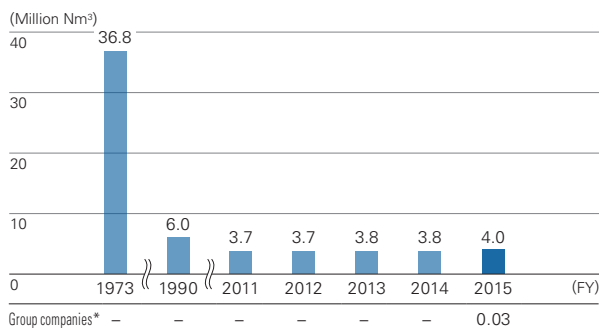


Source: Ministry of Land, Infrastructure, Transport and Tourism

Disposed Substances

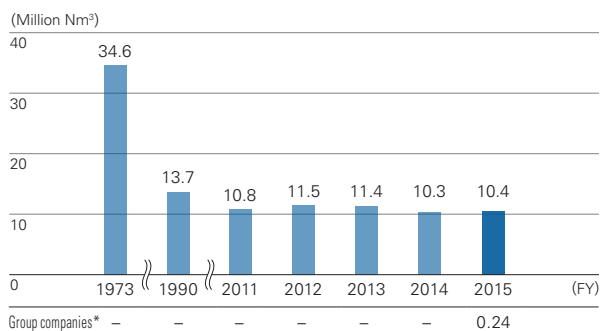
Atmospheric Emissions

SOx Emissions



*10 JFE Steel consolidated subsidiaries in Japan.

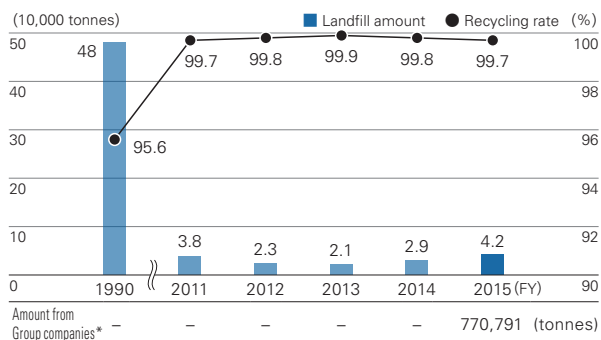
NOx Emissions



*12 domestic consolidated subsidiaries of JFE Steel.

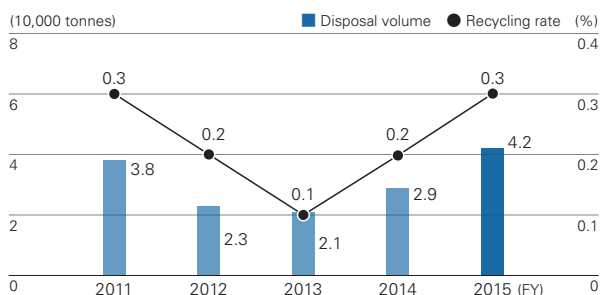
Byproducts Disposal

Generation of Byproducts and Recycling Rates



*26 domestic consolidated subsidiaries of JFE Steel.

Byproduct Disposal



SOx Emissions of JFE Steel Group Subsidiaries

Name of Company	SOx (Nm ³)	Name of Company	SOx (Nm ³)
JFE Material Co., Ltd.	18,787	JFE Container Co., Ltd.	124
JFE Chemical Corp.	8,560	Chiba Riverment and Cement Corp.	94
JFE Galvanizing & Coating Co., Ltd.	2,186	JFE Mineral Company, Ltd.	59
JFE Precision Co., Ltd.	1,752	JFE Plastic Resource Corporation	17
Mizushima Ferroalloy Co., Ltd.	520	JFE Bars & Shapes Corp.	0
		Total	32,099

NOx Emissions of JFE Steel Group Subsidiaries

Name of Company	NOx (Nm ³)	Name of Company	NOx (Nm ³)
JFE Bars & Shapes Corp.	98,131	Chiba Riverment and Cement Corp.	874
JFE Chemical Corp.	63,585	JFE Mineral Company, Ltd.	525.8
Mizushima Ferroalloy Co., Ltd.	29,552	JFE Container Co., Ltd.	255.2
JFE Galvanizing & Coating Co., Ltd.	26,123	JFE Precision Co., Ltd.	131
JFE Material Co., Ltd.	16,375	JFE Pipe Fitting Mfg. Co., Ltd.	3.67
Mizushima Riverment Corp.	1,105	JFE Plastic Resource Corporation	2
		Total	236,663

Byproduct Generation of JFE Steel Group Subsidiaries

Name of Company	Generation Volume (tonnes)	Name of Company	Generation Volume (tonnes)
JFE Bars & Shapes Corp.	401,307	JFE Logistics Corporation*	1,576
Mizushima Ferroalloy Co., Ltd.	104,291	JFE Kenzai Fence Co., Ltd.	864
JFE Material Co., Ltd.	74,874	KP Sheet Co., Ltd.	673
JFE Electrical Steel Co., Ltd.	45,207	JFE Chemical Corp.	655
JFE Galvanizing & Coating Co., Ltd.	40,260	JFE Metal Products & Engineering Inc.	592
JFE Plastic Resource Corporation	21,956	JFE Mineral Company, Ltd.	518
Gecoss Corporation	16,425	JFE Life Corp.	374
JFE Kozai Corp.	16,090	Chiba Riverment and Cement Corp.	342
JFE Rockfiber Corporation	15,533	JFE Steel Pipe Co., Ltd.	328
JFE Welded Pipe Manufacturing Co., Ltd.	13,192	JFE Precision Co., Ltd.	140
JFE Container Co., Ltd.	7,100	JFE Pipe Fitting Mfg. Co., Ltd.	93
Galvatex Corp.	6,690	Mizushima Riverment Corp.	15
JFE Techno-Wire Corp.	1,697	Total	770,791

* Generation volume of J-Logitech Co., Ltd. is included in that of JFE Logistics Corporation.

Substances Reported under PRTR (all Companies)

(tonnes/year, for dioxins: g-TEQ/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
1	Zinc compounds (water-soluble)	0	4.8	0	0	0	0
15	Acenaphthene	0.019	0	0	0	0	0
20	2-aminoethanol	0	0	0	0	0	1.8
31	Antimony and its compounds	0	0.69	0	0	0	26
32	Anthracene	0	0	0	0	0	0
33	Asbestos	0	0	0	0	0	0
53	Ethylbenzene	41	0	0	0	0	12
71	Ferric chloride	0	0	0	0	0	0
74	p-Octylphenol	2.8	0	0	0	0	0
80	Xylene	125	0	0	0	0	15
83	Cumene	1.2	0	0	0	0	0
87	Chromium and chromium(III) compounds	0.03	0.56	0	0	0	2,224
88	Chromium(VI) compounds	0	0.13	0	0	0	1.7
132	Cobalt and its compounds	0	0	0	0	0	0
185	Dichloropentafluoropropane; HCFC-225	49	0	0	0	0	0
186	Dichloromethane; methylene dichloride	14	0	0	0	0	0
188	N,N-dicyclohexylamine	0	0	0	0	0	2.1
207	2,6-di-tert-butyl-4-cresol	0	0	0	0	0	0
240	Styrene	0.52	0	0	0	0	0
242	Selenium and its compounds	0	0.063	0	0	0	1.8
243	Dioxins	3.6	0.0000097	0	0	0	0
262	Tetrachloroethylene	20	0	0	0	0	0
272	Copper salts (water-soluble, except complex salts)	0	0.067	0	0	0	0
292	Tributylamine	1.2	0	0	0	0	0
296	1,2,4-trimethylbenzene	3.7	0	0	0	0	0.075
297	1,3,5-trimethylbenzene	4.5	0	0	0	0	0.29
300	Toluene	73	0	0	0	0	2.6
302	Naphthalene	1.6	0	0	0	0	0.16
304	Lead	0	0	0	0	0	0
305	Lead compounds	0	0	0	0	0	260
308	Nickel	0	0	0	0	0	54
309	Nickel compounds	0.0093	2.7	0	0	0	179
321	Vanadium compounds	0	0	0	0	0	26
333	Hydrazine	0	0	0	0	0	0
340	Biphenyl	0.01	0	0	0	0	0
349	Phenol	0	0	0	0	0	0
353	Diethyl phthalate	1.2	0	0	0	0	0
374	Hydrogen fluoride and its water-soluble salts	0	43	0	0	0	25
384	1-bromopropane	0	0	0	0	0	0
392	N-hexane	0.0054	0	0	0	0	0
400	Benzene	21	0	0	0	0	0
405	Boron compounds	0	19	0	0	0	4.5
406	Polychlorinated biphenyls; PCBs	0	0	0	0	0	50
407	Poly(oxyethylene) alkyl ether (alkyl C=12-15)	0	1.5	0	0	0	1.4
410	Poly(oxyethylene) nonylphenyl ether	0	0	0	0	0	0
411	Formaldehyde	0	0	0	0	0	0
412	Manganese and its compounds	0.042	19	0	0	0	551
438	Methylnaphthalene	0.031	0	0	0	0	0
448	Methylenebis(4,1-phenylene) diisocyanate	0	0	0	0	0	0
453	Molybdenum and its compounds	0.012	5.7	0	0	0	152
460	Tritolyl phosphate	0	0	0	0	0	0
461	Triphenyl phosphate	0	0	0	0	0	0
	Subtotal	359	97	0	0	0	3,590
	Total		456				3,590

Substances Reported under PRTR (East Japan Works), Chiba District

(tonnes/year, for dioxins: g-TEQ/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
1	Zinc compounds (water-soluble)	0	0.14	0	0	0	0
15	Acenaphthene	0.019	0	0	0	0	0
20	2-aminoethanol	0	0	0	0	0	0
31	Antimony and its compounds	0	0	0	0	0	0
32	Anthracene	0	0	0	0	0	0
37	Bisphenol A	0	0	0	0	0	0
53	Ethylbenzene	1.3	0	0	0	0	0
71	Ferric chloride	0	0	0	0	0	0
80	Xylene	2.3	0	0	0	0	0
87	Chromium and chromium(III) compounds	0.0042	0.54	0	0	0	2,100
88	Chromium(VI) compounds	0	0.13	0	0	0	0
132	Cobalt and its compounds	0	0	0	0	0	0
185	Dichloropentafluoropropane; HCFC-225	49	0	0	0	0	0
207	2,6-di-tert-butyl-4-cresol	0	0	0	0	0	0
243	Dioxins	0.3	0.0000097	0	0	0	0
272	Copper salts (water-soluble, except complex salts)	0	0.067	0	0	0	0
297	1,3,5-trimethylbenzene	0	0	0	0	0	0
300	Toluene	0.54	0	0	0	0	0
302	Naphthalene	0.13	0	0	0	0	0
308	Nickel	0	0	0	0	0	54
309	Nickel compounds	0.0021	1.8	0	0	0	140
321	Vanadium compounds	0	0	0	0	0	0
333	Hydrazine	0	0	0	0	0	0
340	Biphenyl	0.01	0	0	0	0	0
349	Phenol	0	0	0	0	0	0
374	Hydrogen fluoride and its water-soluble salts	0	40	0	0	0	25
400	Benzene	1.2	0	0	0	0	0
405	Boron compounds	0	6.8	0	0	0	0.41
406	Polychlorinated biphenyls; PCBs	0	0	0	0	0	14
410	Poly(oxyethylene) nonylphenyl ether	0	0	0	0	0	0
412	Manganese and its compounds	0.0096	0.59	0	0	0	110
438	Methylnaphthalene	0.031	0	0	0	0	0
453	Molybdenum and its compounds	0.011	2.7	0	0	0	1.9
Subtotal		55	53	0	0	0	2,445
Total		108				2,445	

Substances Reported under PRTR (East Japan Works), Nishinomiya District

(tonnes/year, for dioxins: g-TEQ/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
87	Chromium and chromium(III) compounds	0	0	0	0	0	0
Subtotal		0	0	0	0	0	0
Total		0				0	

Substances Reported under PRTR (Keihin District)

(tonnes/year, for dioxins: g-TEQ/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
15	Acenaphthene	0	0	0	0	0	0
20	2-aminoethanol	0	0	0	0	0	1.8
53	Ethylbenzene	3.8	0	0	0	0	1.4
71	Ferric chloride	0	0	0	0	0	0
74	p-Octylphenol	2.8	0	0	0	0	0
80	Xylene	6.9	0	0	0	0	2.7
87	Chromium and chromium(III) compounds	0.016	0	0	0	0	57
88	Chromium(VI) compounds	0	0	0	0	0	0.61
240	Styrene	0.18	0	0	0	0	0
243	Dioxins	0.92	0	0	0	0	0
262	Tetrachloroethylene	0	0	0	0	0	0
297	1,3,5-trimethylbenzene	0.77	0	0	0	0	0.29
300	Toluene	11	0	0	0	0	2.5
302	Naphthalene	0.13	0	0	0	0	0
308	Nickel	0	0	0	0	0	0
309	Nickel compounds	0.0022	0	0	0	0	2
333	Hydrazine	0	0	0	0	0	0
340	Biphenyl	0	0	0	0	0	0
349	Phenol	0	0	0	0	0	0
353	Diethyl phthalate	1.2	0	0	0	0	0
400	Benzene	7.2	0	0	0	0	0
405	Boron compounds	0	2.4	0	0	0	0.13
406	Polychlorinated biphenyls; PCBs	0	0	0	0	0	36
407	Poly(oxyethylene) alkyl ether (alkyl C=12-15)	0	0	0	0	0	1.4
412	Manganese and its compounds	0.0096	1	0	0	0	190
438	Methylnaphthalene	0	0	0	0	0	0
453	Molybdenum and its compounds	0.0012	1.2	0	0	0	150
460	Tritolyl phosphate	0	0	0	0	0	0
461	Triphenyl phosphate	0	0	0	0	0	0
Subtotal		34	5	0	0	0	446
Total		39				446	

Substances Reported under PRTR (West Japan Works), Kurashiki District

(tonnes/year, for dioxins: g-TEQ/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
1	Zinc compounds (water-soluble)	0	3	0	0	0	0
20	2-aminoethanol	0	0	0	0	0	0
31	Antimony and its compounds	0	0.11	0	0	0	0
53	Ethylbenzene	3.7	0	0	0	0	0
71	Ferric chloride	0	0	0	0	0	0
80	Xylene	6.2	0	0	0	0	0
87	Chromium and chromium(III) compounds	0.0099	0	0	0	0	27
88	Chromium(VI) compounds	0	0	0	0	0	1.1
132	Cobalt and its compounds	0	0	0	0	0	0
185	Dichloropentafluoropropane; HCFC-225	0	0	0	0	0	0
186	Dichloromethane; methylene dichloride	1.7	0	0	0	0	0
242	Selenium and its compounds	0	0.063	0	0	0	1.8
243	Dioxins	0.83	0	0	0	0	0
258	1,3,5,7-tetraazatricyclo[3.3.1.1 ^{3,7}]decane; hexamethylenetetramine	0	0	0	0	0	0
262	Tetrachloroethylene	2.1	0	0	0	0	0
292	Tributylamine	1.2	0	0	0	0	0
296	1,2,4-trimethylbenzene	1.5	0	0	0	0	0
300	Toluene	28	0	0	0	0	0
302	Naphthalene	0	0	0	0	0	0
305	Lead compounds	0	0	0	0	0	0
308	Nickel	0	0	0	0	0	0
309	Nickel compounds	0.005	0	0	0	0	3.3
400	Benzene	2	0	0	0	0	0
405	Boron compounds	0	7.1	0	0	0	0.8
406	Polychlorinated biphenyls; PCBs	0	0	0	0	0	0
407	Poly(oxyethylene) alkyl ether (alkyl C=12-15)	0	1.5	0	0	0	0
410	Poly(oxyethylene) nonylphenyl ether	0	0	0	0	0	0
411	Formaldehyde	0	0	0	0	0	0
412	Manganese and its compounds	0.023	12	0	0	0	37
453	Molybdenum and its compounds	0	1.6	0	0	0	0
460	Tritolyl phosphate	0	0	0	0	0	0
Subtotal		46	25	0	0	0	71
Total		71				71	

Substances Reported under PRTR (West Japan Works), Konan District

(tonnes/year, for dioxins: g-TEQ/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
80	Xylene	1.1	0	0	0	0	0
300	Toluene	2.2	0	0	0	0	0
Subtotal		3	0	0	0	0	0
Total		3				0	

Substances Reported under PRTR (Fukuyama District)

(tonnes/year, for dioxins: g-TEQ/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
1	Zinc compounds (water-soluble)	0	1.6	0	0	0	0
15	Acenaphthene	0	0	0	0	0	0
20	2-aminoethanol	0	0	0	0	0	0
31	Antimony and its compounds	0	0.58	0	0	0	26
32	Anthracene	0	0	0	0	0	0
53	Ethylbenzene	26	0	0	0	0	11
71	Ferric chloride	0	0	0	0	0	0
74	p-Octylphenol	0	0	0	0	0	0
80	Xylene	73	0	0	0	0	12
87	Chromium and chromium(III) compounds	0	0	0	0	0	40
88	Chromium(VI) compounds	0	0	0	0	0	0
104	Chlorodifluoromethane; HCFC-22	0	0	0	0	0	0
132	Cobalt and its compounds	0	0	0	0	0	0
186	Dichloromethane; methylene dichloride	12	0	0	0	0	0
240	Styrene	0.34	0	0	0	0	0
243	Dioxins	1.5	0	0	0	0	0
262	Tetrachloroethylene	18	0	0	0	0	0
272	Copper salts (water-soluble, except complex salts)	0	0	0	0	0	0
296	1,2,4-trimethylbenzene	2.1	0	0	0	0	0.075
300	Toluene	23	0	0	0	0	0.057
302	Naphthalene	1.3	0	0	0	0	0.16
305	Lead compounds	0	0	0	0	0	260
308	Nickel	0	0	0	0	0	0
309	Nickel compounds	0	0.87	0	0	0	31
321	Vanadium compounds	0	0	0	0	0	26
340	Biphenyl	0	0	0	0	0	0
374	Hydrogen fluoride and its water-soluble salts	0	3.2	0	0	0	0
400	Benzene	11	0	0	0	0	0
405	Boron compounds	0	1.2	0	0	0	3.2
411	Formaldehyde	0	0	0	0	0	0
412	Manganese and its compounds	0	5.2	0	0	0	200
438	Methylnaphthalene	0	0	0	0	0	0
453	Molybdenum and its compounds	0	0	0	0	0	0
460	Tritolyl phosphate	0	0	0	0	0	0
461	Triphenyl phosphate	0	0	0	0	0	0
Subtotal		167	13	0	0	0	609
Total		180				609	

Substances Reported under PRTR (Chita Works)

(tonnes/year, for dioxins: g-TEQ/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
1	Zinc compounds (water-soluble)	0	0.017	0	0	0	0
53	Ethylbenzene	6.1	0	0	0	0	0
80	Xylene	35	0	0	0	0	0
83	Cumene	1.2	0	0	0	0	0
87	Chromium and chromium(III) compounds	0	0.021	0	0	0	0.13
188	N,N-dicyclohexylamine	0	0	0	0	0	2.1
296	1,2,4-trimethylbenzene	0.14	0	0	0	0	0
297	1,3,5-trimethylbenzene	3.7	0	0	0	0	0
300	Toluene	8.1	0	0	0	0	0
305	Lead compounds	0	0	0	0	0	0
308	Nickel	0	0	0	0	0	0
309	Nickel compounds	0	0.021	0	0	0	2.7
384	1-bromopropane	0	0	0	0	0	0
392	N-hexane	0.0054	0	0	0	0	0
405	Boron compounds	0	1.1	0	0	0	0
412	Manganese and its compounds	0	0.077	0	0	0	14
448	Methylenebis(4,1-phenylene) diisocyanate	0	0	0	0	0	0
453	Molybdenum and its compounds	0	0.15	0	0	0	0.086
Subtotal		54	1	0	0	0	19
Total		55				19	

All Substances Reported under PRTR by Group Companies

Substances Reported under PRTR (JFE Rockfiber Corporation)

(tonnes/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
277	Triethylamine	6.3	0	0	0	0	0
411	Formaldehyde	3.0	0	0	0	0	0
Subtotal		9.3	0	0	0	0	0
Total		9.3				0	

Substances Reported under PRTR (Mizushima Ferroalloy Co., Ltd.)

(tonnes/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
405	Boron compounds	0.024	0	0	0	0	3.4
412	Manganese and its compounds	12	0	0	0	0	860
Subtotal		12.024	0	0	0	0	863.4
Total		12.024				863.4	

Substances Reported under PRTR (JFE Material Co., Ltd.)

(tonnes/year, for dioxins: g-TEQ/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
1	Zinc compounds (water-soluble)	0	0.13	0	0	0	0
87	Chromium and chromium(III) compounds	0.31	0.19	0	0	0	330
88	Chromium(VI) compounds	0	0.01	0	0	0	0
242	Selenium and its compounds	0	0.039	0	0	0	0
243	Dioxins	0.0000028	0.000078	0	0	0	0.0017
305	Lead compounds	0	0.0022	0	0	0	0
309	Nickel compounds	0.0087	0.11	0	0	0	6
321	Vanadium compounds	0.02	0.7	0	0	0	15
332	Arsenic and its inorganic compounds	0	0.0035	0	0	0	0
374	Hydrogen fluoride and its water-soluble salts	0	1.9	0	0	0	0
405	Boron compounds	0	0.48	0	0	0	0
412	Manganese and its compounds	0	0.87	0	0	0	0
453	Molybdenum and its compounds	0.026	2	0	0	0	6.4
Subtotal		0.3647	6.4347	0	0	0	357.4
Total		6.7994				357.4	

Substances Reported under PRTR (JFE Precision Co., Ltd.)

(tonnes/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
1	Zinc compounds (water-soluble)	0	0.48	0	0	0	0
87	Chromium and chromium(III) compounds	0	0	0	0	0	0.003
186	Dichloromethane; methylene dichloride	18	0	0	0	0	3.6
308	Nickel	0	0	0	0	0	0.005
453	Molybdenum and its compounds	0	0	0	0	0	0.0006
Subtotal		18	0.48	0	0	0	3.6086
Total		18.48				3.6086	

Substances Reported under PRTR (JFE Bars & Shapes Corp.)

(tonnes/year, for dioxins: g-TEQ/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
87	Chromium and chromium(III) compounds	0	0	0	0	0	51.644
243	Dioxins	0.000024128	0	0	0	0	0
305	Lead compounds	0	0	0	0	0.001	490.226
405	Boron compounds	0	0	0	0	0.018	2.600
412	Manganese and its compounds	0	0.014	0	0	0.002	3,009.078
Subtotal		0	0.014	0	0	0.021	3,553.548
Total		0.014				3553.569	

Substances Reported under PRTR (JFE Metal Products & Engineering Inc.)

(tonnes/year, for dioxins: g-TEQ/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
80	Xylene	7	0	0	0	0	0
300	Toluene	1	0	0	0	0	0
374	Hydrogen fluoride and its water-soluble salts	0	0	0	0	0	1
405	Boron compounds	0	0	0	0	0	5
Subtotal		8	0	0	0	0	6
Total		8				6	

Substances Reported under PRTR (JFE Kenzai Fence Co., Ltd.)

(tonnes/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
1	Zinc compounds (water-soluble)	0	0	0	0	0	1.3
291	1,3,5-tris(2,3-epoxypropyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione	0	0	0	0	0	1.78
Subtotal		0	0	0	0	0	3.08
Total		0				3.08	

Substances Reported under PRTR (JFE Kozai Corp.)

(tonnes/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
51	2-ethylhexanoic acid	0.01	0	0	0	0	0.02
53	Ethylbenzene	4.4	0	0	0	0	1.9
80	Xylene	4.8	0	0	0	0	15.4
83	Cumene	0.003	0	0	0	0	0.006
87	Chromium and chromium(III) compounds	0	0	0	0	0	1.9
88	Chromium(VI) compounds	0	0.001	0	0	0	2.1
296	1,2,4-trimethylbenzene	0.8	0	0	0	0	1.3
297	1,3,5-trimethylbenzene	0.8	0	0	0	0	0.6
300	Toluene	0.2	0	0	0	0	31.6
302	Naphthalene	0.2	0	0	0	0	0.3
305	Lead compounds	0	0	0	0	0	0.02
309	Nickel compounds	0.06	0	0	0	0	0.01
354	Di-n-butyl phthalate	0.06	0	0	0	0	0.04
411	Formaldehyde	0.08	0	0	0	0	0.13
Subtotal		11.39	0.001	0	0	0	55.21
Total		11.39				55.21	

Substances Reported under PRTR (JFE Container Co., Ltd.)

(tonnes/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
1	Zinc compounds (water-soluble)	0	0.02	0	0	0	0.38
53	Ethylbenzene	57	0	0	0	0	11
71	Ferric chloride	0	0	0	0	0	0
80	Xylene	115	0	0	0	0	21.6
277	Triethylamine	0.5	0	0	0	0	0.002
296	1,2,4-trimethylbenzene	24.7	0	0	0	0	3.3
297	1,3,5-trimethylbenzene	4.7	0	0	0	0	0.63
300	Toluene	56.7	0	0	0	0	22.1
411	Formaldehyde	2.6	0	0	0	0	0.52
Subtotal		261.1	0.02	0	0	0	59.0
Total		261.1				59.0	

Substances Reported under PRTR (JFE Welded Pipe Manufacturing Co., Ltd.)

(tonnes/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
188	N,N-dicyclohexylamine	2.7	0	0	0	0	0
262	Tetrachloroethylene	1.4	0	0	0	0	0
Subtotal		4.1	0	0	0	0	0
Total		4.1				0	

Substances Reported under PRTR (JFE Steel Pipe Co., Ltd.)

(tonnes/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
53	Ethylbenzene	0.5	0	0	0	0	0
80	Xylene	0.6	0	0	0	0	0
300	Toluene	3.3	0	0	0	0	0
448	Methylenebis(4,1-phenylene) diisocyanate	1.7	0	0	0	0	0
Subtotal		6.1	0	0	0	0	0
Total		6.1				0	

Substances Reported under PRTR (Galvatex Corp.)

(tonnes/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
1	Zinc compounds (water-soluble)	0.46	0.04	0	0	0	125
75	Cadmium and its compounds	0.10	0	0	0	0	0.07
305	Lead compounds	0.03	0	0	0	0	0.69
Subtotal		0.59	0.04	0	0	0	125.76
Total		0.63				125.76	

Substances Reported under PRTR (JFE Pipe Fitting Mfg. Co., Ltd.)

(tonnes/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
80	Xylene	3.4	0	0	0	0	0
281	Trichloroethylene	24	0	0	0	0	0
Subtotal		27.4	0	0	0	0	0
Total		27.4				0	

Substances Reported under PRTR (JFE Techno-Wire Corp.)

(tonnes/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
304	Lead	0	0.14	0	0	0	0
Subtotal		0	0.14	0	0	0	0
Total		0.14				0	

Substances Reported under PRTR (Gecoss Corporation)

(tonnes/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
240	Styrene	4.58	0	0	0	0	0.0232
412	Manganese and its compounds	0.156	0	0	0	0	0.935
Subtotal		4.736	0	0	0	0	0.9582
Total		4.736				0.9582	

Substances Reported under PRTR (JFE Chemical Corp.)

(tonnes/year, for dioxins: g-TEQ/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
15	Acenaphthene	0.007	0	0	0	0	0
20	2-aminoethanol	0.000	0	0	0	0	0
32	Anthracene	0.000	0	0	0	0	0
53	Ethylbenzene	0.50	0	0	0	0	0
71	Ferric chloride	0.000	0	0	0	0	0
80	Xylene	1.2	0	0	0	0	0
81	Quinoline	0.004	0	0	0	0	0
86	Cresol	0.1	0	0	0	0	0
190	Dicyclopentadiene	0.02	0	0	0	0	0
240	Styrene	0.5	0	0	0	0	0
243	Dioxins	0.000	0	0	0	0	0
296	1,2,4-trimethylbenzene	0.001	0	0	0	0	0
300	Toluene	1.6	0	0	0	0	0
302	Naphthalene	1.3	0	0	0	0	0
321	Vanadium compounds	0.000	0	0	0	0	0.34
340	Biphenyl	0.02	0	0	0	0	0
349	Phenol	0.1	0	0	0	0	0
400	Benzene	3.4	0	0	0	0	0
413	Phthalic anhydride	0.00	0	0	0	0	0
438	Methylnaphthalene	0.05	0	0	0	0	0
453	Molybdenum and its compounds	0.00	0	0	0	0	0.06
Subtotal		8.831	0	0	0	0	0.400
Total		8.831				0.4	

Substances Reported under PRTR (JFE Mineral Company, Ltd.)

(tonnes/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
71	Ferric chloride	0	0	0	0	0	0
80	Xylene	1.1	0	0	0	0	0
132	Cobalt and its compounds	0	0	0	0	0	0.033
300	Toluene	1.8	0	0	0	0	0
308	Nickel	0	0	0	0	0	19
309	Nickel compounds	0	0	0	0	0	0.13
438	Methylnaphthalene	2	0	0	0	0	0
Subtotal		4.9	0	0	0	0	19.163
Total		4.9				19.163	

Substances Reported under PRTR (KP Sheet Co., Ltd.)

(tonnes/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
30	n-alkylbenzenesulfonic acid and its salts	0	0.1	0	0	0	0
Subtotal		0	0.1	0	0	0	0
Total		0.1				0	

Substances Reported under PRTR (JFE Life Corp.)

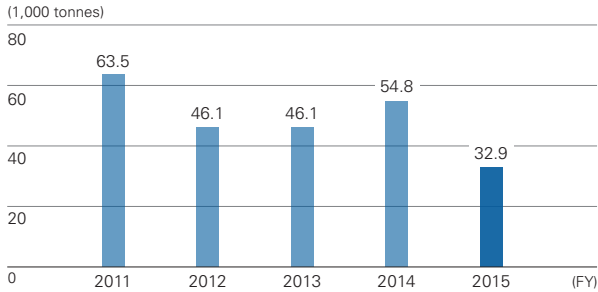
(tonnes/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
300	Toluene	1.7	0	0	0	0	0.3
Subtotal		1.7	0	0	0	0	0.3
Total		1.7				0.3	

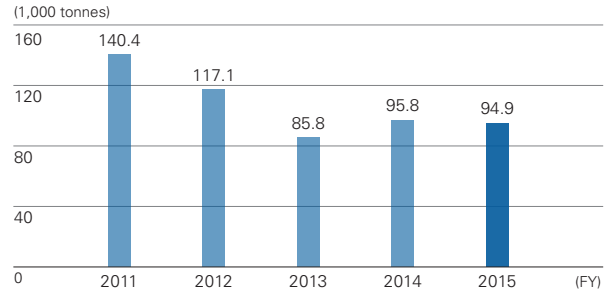
JFE Engineering

Input Materials

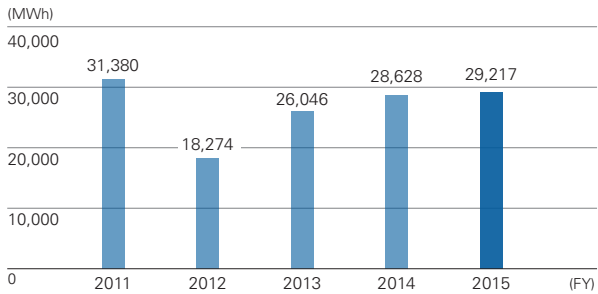
Raw Materials



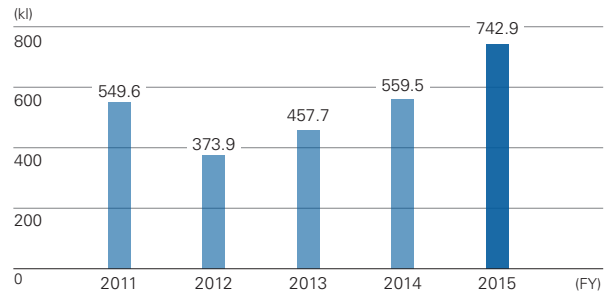
Water



Electricity

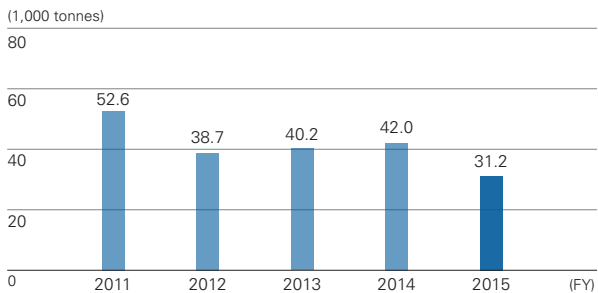


Heavy Oil, Kerosene, Light Oil and Gasoline



Output Products

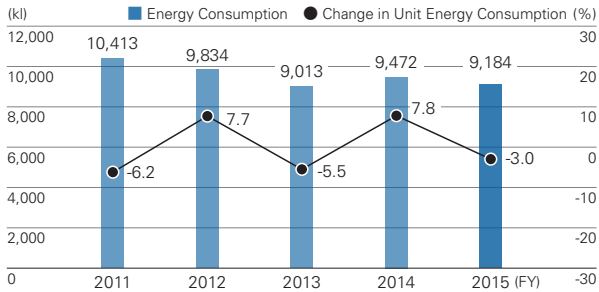
Products



CO₂ Emissions

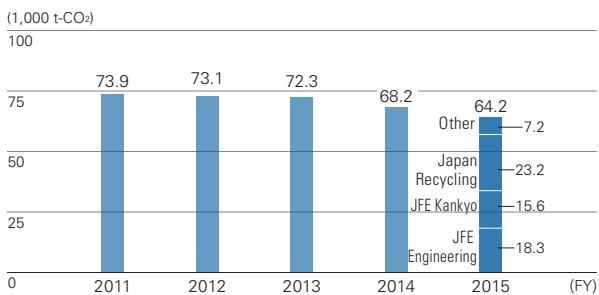
Status on Non-consolidated Basis

Energy Consumption and Change in Unit Energy Consumption



Status as a Group

CO₂ Emissions



Notes: The graph shows energy-derived CO₂ emissions for JFE Engineering and 11 domestic consolidated affiliates. Data for certain fiscal years have been recalculated retroactively for improved accuracy.

CO₂ Emissions of JFE Engineering Group Subsidiaries (FY2015)

(t-CO₂)

Name of Company	CO ₂ Emissions
Japan Recycling Corporation	23,166
JFE Engineering Corporation	18,285
JFE Kankyo Corporation	15,571
Fuji Kako Co., Ltd.	1,799
JFE Urban Recycle Corporation	1,271
Tohoku Dock Tekko K.K.	1,149
Kitanippon Industrial Co., Ltd.	927
Asukasoken Co., Ltd.	758
Recycling Management Japan, Inc.	734
Japan Pipeline Engineering Corporation	412
JFE Technos Corporation	139
Total	64,213

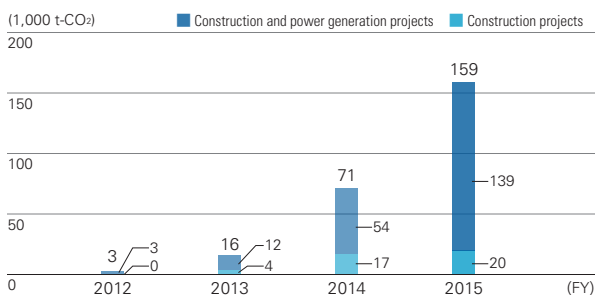
Energy Consumption of JFE Engineering Group Subsidiaries (FY2015)

(GJ)

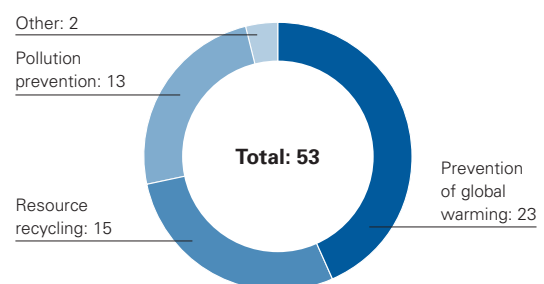
Name of Company	Energy Consumption
Japan Recycling Corporation	448,094
JFE Engineering Corporation	356,167
JFE Kankyo Corporation	260,190
Fuji Kako Co., Ltd.	33,810
JFE Urban Recycle Corporation	20,900
Tohoku Dock Tekko K.K.	19,465
Kitanippon Industrial Co., Ltd.	14,933
Asukasoken Co., Ltd.	12,343
Recycling Management Japan, Inc.	10,539
Japan Pipeline Engineering Corporation	6,297
JFE Technos Corporation	2,256
Total	1,184,994

Technologies to Reduce Environmental Load

CO₂ Emissions Reduced due to Construction of Solar Power Plants



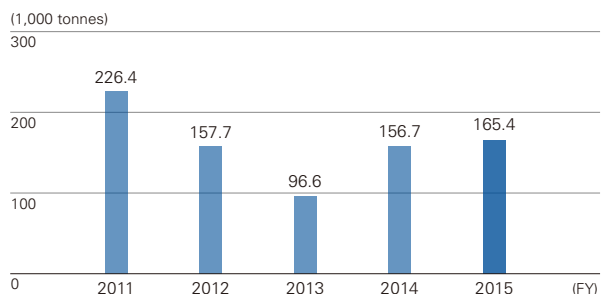
Reduction of Environmental Loads (FY2015)



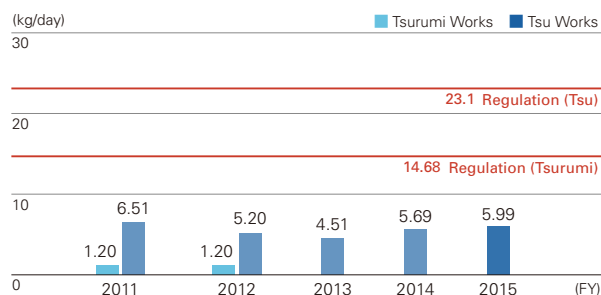
Disposed Substances

Release into Water Area

Wastewater



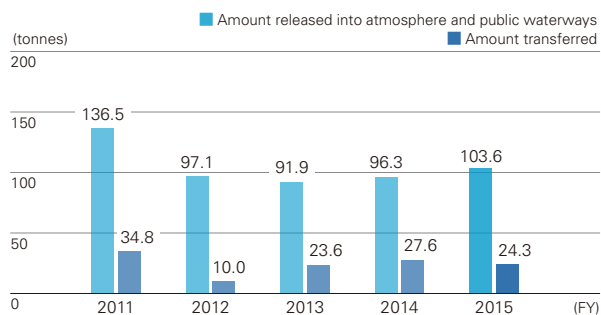
Chemical Oxygen Demand (COD) in Wastewater Released Publicly



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

Management of Chemical Substances

Release and Transfer of PRTR-Registered Substances



Substances Reported under PRTR (all Companies)

(tonnes/year, for dioxins: g-TEQ/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
53	Ethylbenzene	17.9	0	0	0	0	0.98
80	Xylene	48.0	0	0	0	0	2.7
87	Chromium and chromium(III) compounds	0.399	0	0	0	0	0.021
243	Dioxins	0	0	0	0	0	0.0011
296	1,2,4-trimethylbenzene	1.8	0	0	0	0	0.093
297	1,3,5-trimethylbenzene	0.96	0	0	0	0	0.050
300	Toluene	34.6	0	0	0	0	2.6
309	Nickel compounds	0	0	0	0	0	1.2
412	Manganese and its compounds	0	0	0	0	0	15.8
440	1-Methyl-1-phenylethyl hydroperoxide	0	0	0	0	0	0.16
448	Methylenebis(4,1-phenylene) diisocyanate	0	0	0	0	0	0.71
Total		103.6	0	0	0	0	24.3
		103.6				24.3	
		127.9					

The total does not include dioxins.

Substances Reported under PRTR (Yokohama Head Office (former Tsurumi Works))

(tonnes/year, for dioxins: g-TEQ/year)

Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
53	Ethylbenzene	1.1	0	0	0	0	0.096
80	Xylene	4.1	0	0	0	0	0.37
243	Dioxins	0.0000033	0	0	0	0	0.0011
300	Toluene	21.0	0	0	0	0	1.9
412	Manganese and its compounds	0	0	0	0	0	0.98
440	1-Methyl-1-phenylethyl hydroperoxide	0	0	0	0	0	0.16
448	Methylenebis(4,1-phenylene) diisocyanate	0	0	0	0	0	0.71
Total		26.2	0	0	0	0	4.2
		26.2				4.2	
		30.4					

The total does not include dioxins.

Substances Reported under PRTR (Tsu Works)

(tonnes/year)

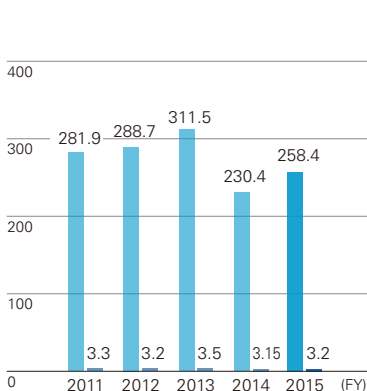
Substance No.	Substance	Volume Released				Volume Transferred	
		Air	Water Area	Soil	On-premise Landfill	Sewer	Off-premise
53	Ethylbenzene	16.8	0	0	0	0	0.88
80	Xylene	43.9	0	0	0	0	2.3
87	Chromium and chromium(III) compounds	0.399	0	0	0	0	0.021
296	1,2,4-trimethylbenzene	1.8	0	0	0	0	0.093
297	1,3,5-trimethylbenzene	0.96	0	0	0	0	0.05
300	Toluene	13.6	0	0	0	0	0.72
309	Nickel compounds	0	0	0	0	0	1.2
412	Manganese and its compounds	0	0	0	0	0	14.8
Total		77.4	0	0	0	0	20.1
		77.4				20.1	
		97.5					

Waste Disposal in Each Section and Works

Offices

Yokohama Head Office

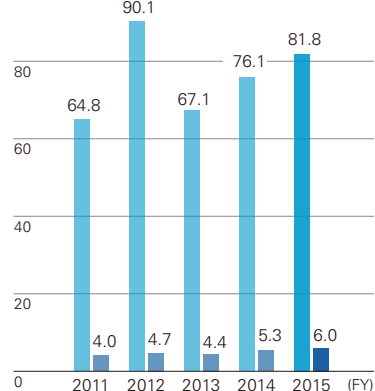
(tonnes) ■ Generation volume ■ Final disposal volume



	2011	2012	2013	2014	2015
Recycling rate (target)	98.0	98.0	98.0	98.0	98.0
Recycling rate (result)	98.8	98.8	98.8	98.5	98.7

Tsu Works

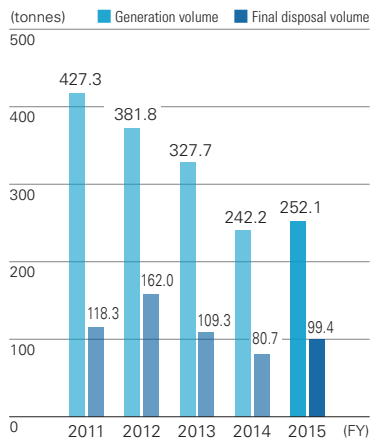
(tonnes) ■ Generation volume ■ Final disposal volume



	2011	2012	2013	2014	2015
Recycling rate (target)	90.0	91.0	92.0	92.0	92.0
Recycling rate (result)	90.0	92.1	88.1	87.4	91.5

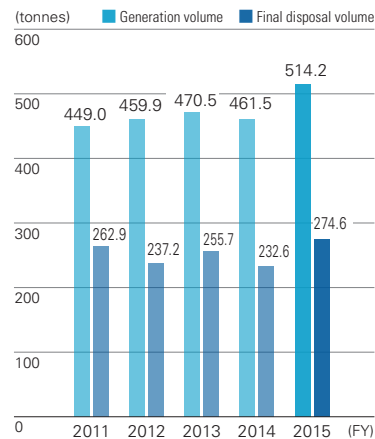
Plants

Tsurumi Works



(%)	2011	2012	2013	2014	2015
Recycling rate (target)	54.0	55.0	56.0	58.0	58.0
Recycling rate (result)	60.8	41.4	53.6	57.5	49.8

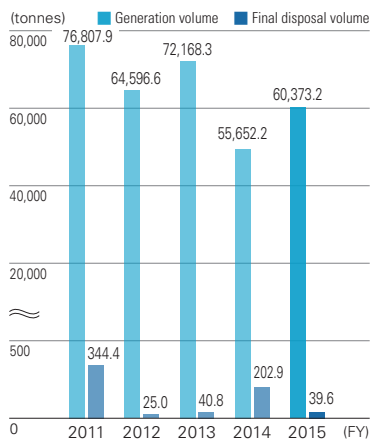
Tsu Works



(%)	2011	2012	2013	2014	2015
Recycling rate (target)	31.0	29.0	30.0	30.0	31.0
Recycling rate (result)	25.5	32.0	30.1	33.9	34.0

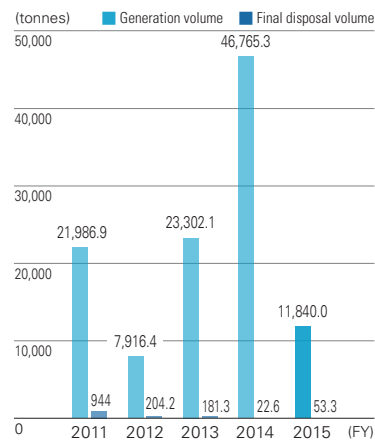
Construction Sites

Rubble



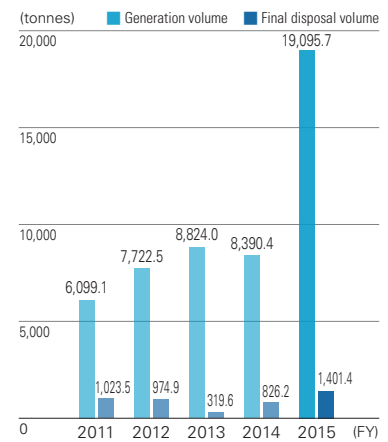
(%)	2011	2012	2013	2014	2015
Recycling rate (target)	99.5	99.5	99.5	99.5	99.5
Recycling rate (result)	99.6	100	99.9	99.6	99.9

Sludge



(%)	2011	2012	2013	2014	2015
Recycling rate (target)	95.0	95.0	95.0	95.0	95.0
Recycling rate (result)	95.6	97.4	99.2	99.95	99.5

Industrial Wastes, Excluding Rubble and Sludge

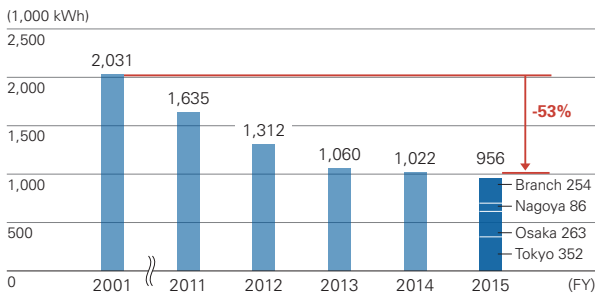


(%)	2011	2012	2013	2014	2015
Recycling rate (target)	85.0	85.0	85.0	85.0	85.0
Recycling rate (result)	82.9	87.1	96.2	93.3	91.7

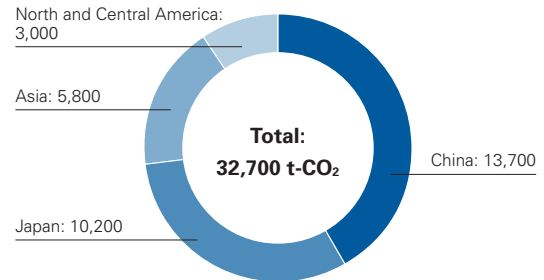
JFE Shoji Trade

Electricity Consumption and CO₂ Emissions

Electric Power Consumption



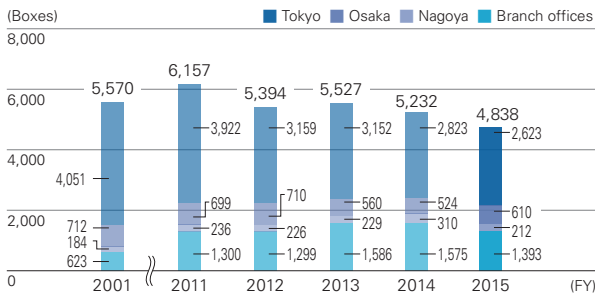
CO₂ Emissions of the JFE Shoji Trade Group



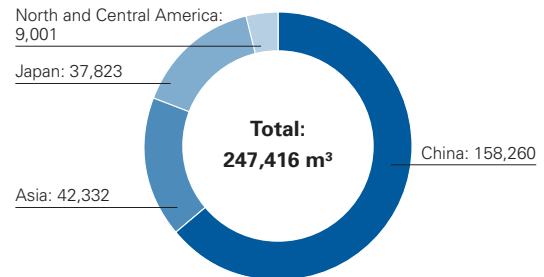
Note: The graph shows CO₂ emissions from electric power consumption by JFE Shoji Trade and 32 domestic and overseas consolidated subsidiaries (steel-processing companies).
 CO₂ Emission Factor for Purchased Energy
 Japan: unadjusted emission factors of each electric power company
 Overseas: based on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

Input Materials

Paper Used (Copier Papers)



Water Use of the JFE Shoji Trade Group (m³)



Aggregation scope: JFE Shoji Trade and 35 domestic and overseas steel-processing companies (32 consolidated subsidiaries and 3 equity method affiliates).

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

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

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

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

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

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



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