



JFE Group CSR Report 2013

Environmental Data Book

This book contains supplemental information and data relating to environmental measures for three JFE group companies, as well as information and data relating to JFE group's recycling business.

Please read this book in conjunction with the "JFE Group CSR Report 2013" to gain a more comprehensive understanding of JFE's environmental initiatives.

Period covered

This book covers the period from April 1, 2012 to March 31, 2013 for environmental data and company profiles. Also to August 31, 2013 for recycling business.

Initiatives by JFE Steel to Reduce Environmental Load

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Initiatives by JFE Engineering to Reduce Environmental Load

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Initiatives by JFE Shoji Trade to Reduce Environmental Load

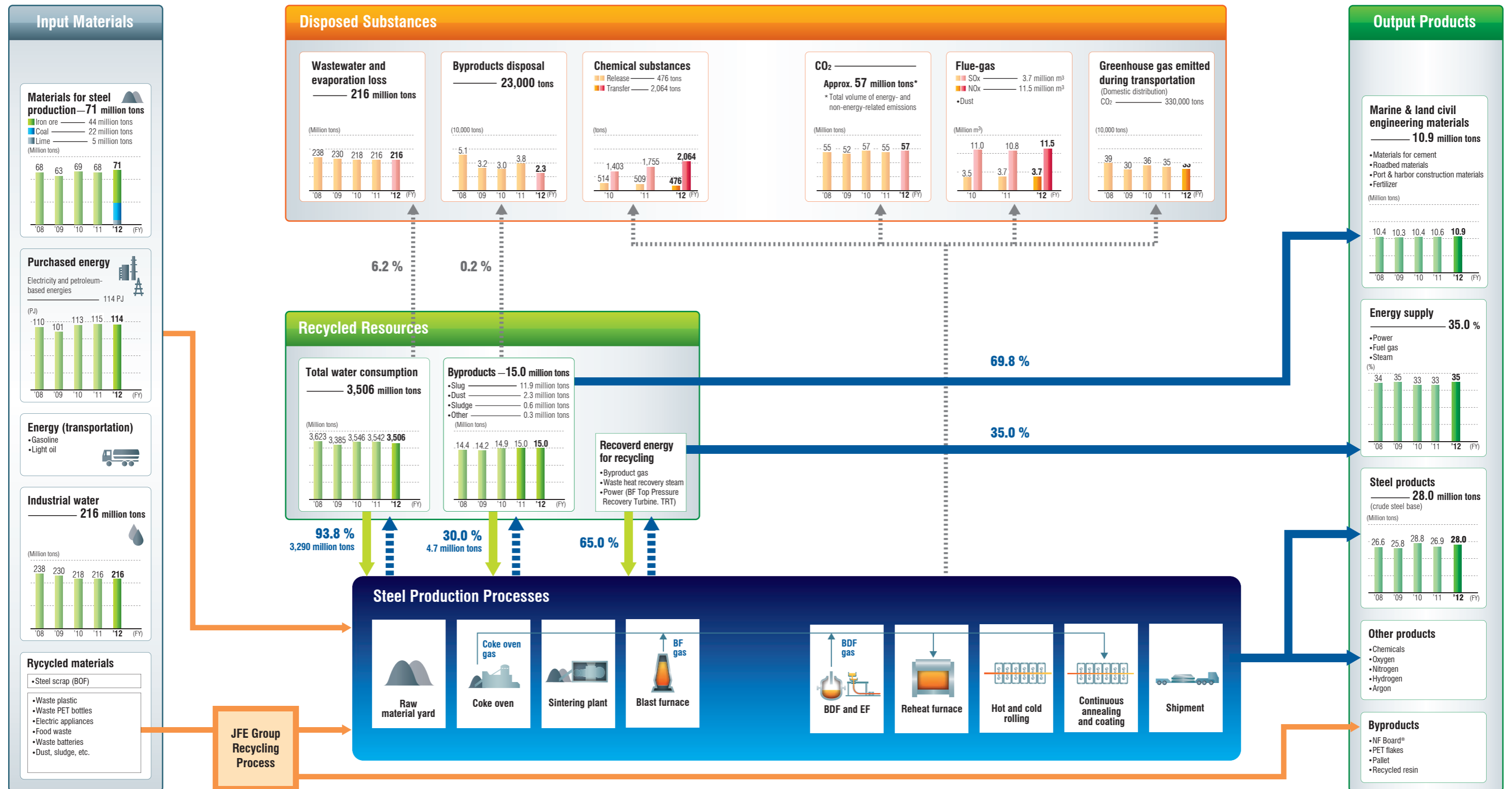
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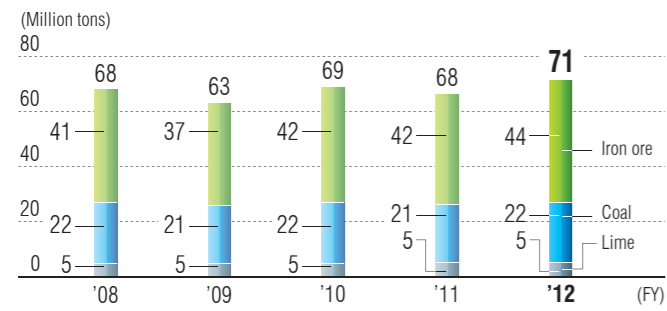
Initiatives by JFE Steel to Reduce Environmental Load

Material Balance

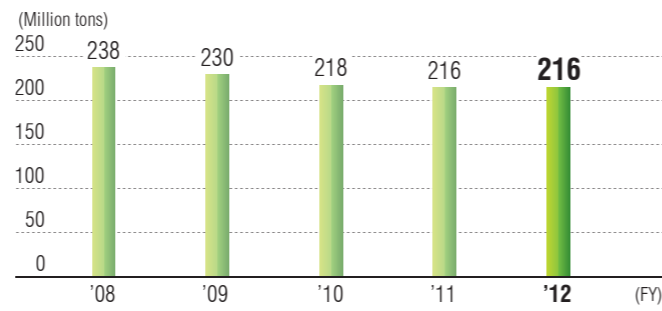


Input Materials

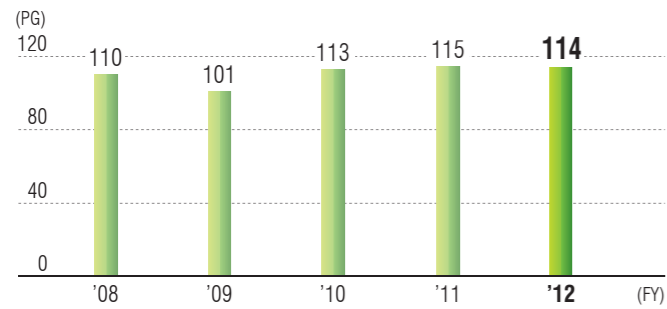
Materials for Steel Production



Industrial Water

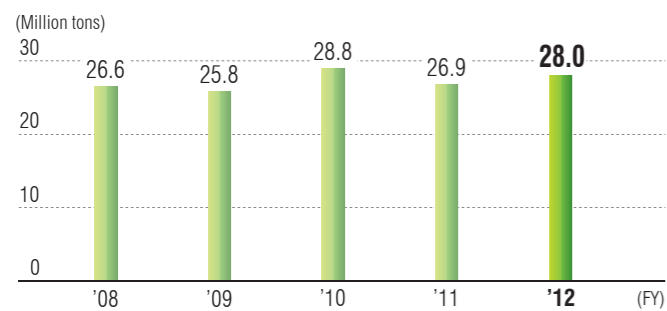


Purchased Energy (Electricity and Petroleum-based Energies)

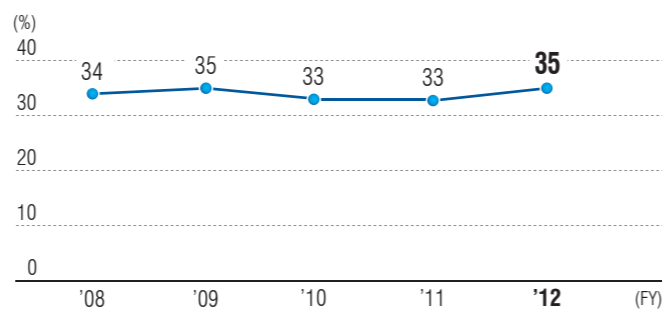


Output Products

Steel Products



Energy Supply



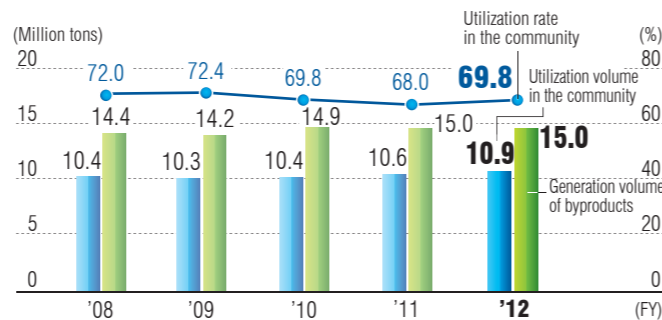
Byproducts

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

Other Products

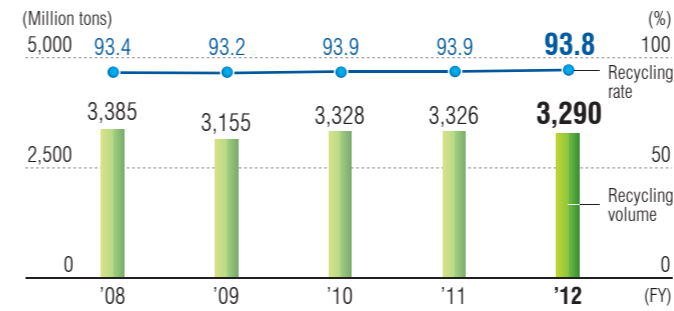
- Chemicals
- Nitrogen
- Argon
- Oxygen
- Hydrogen

Marine & Land Civil Engineering Materials (Usage from Byproducts)

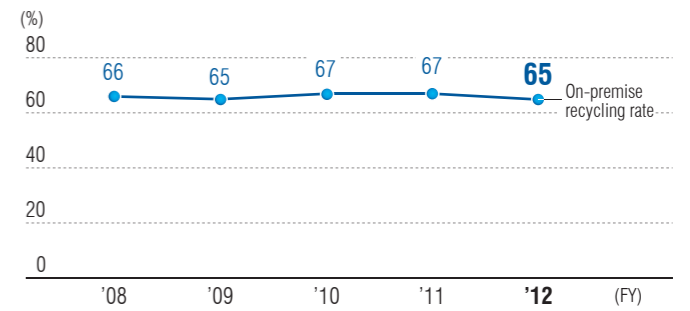


Recycled Resources

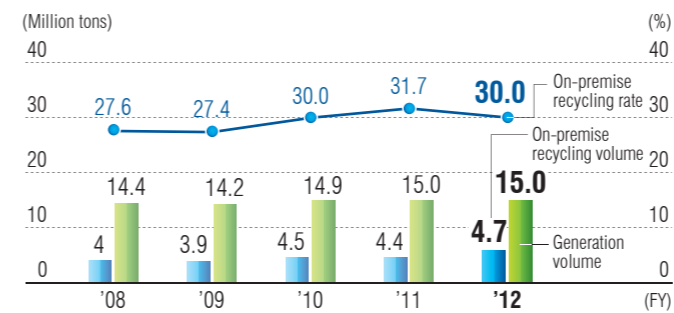
Recycled Water



Recovered Energy for Recycling

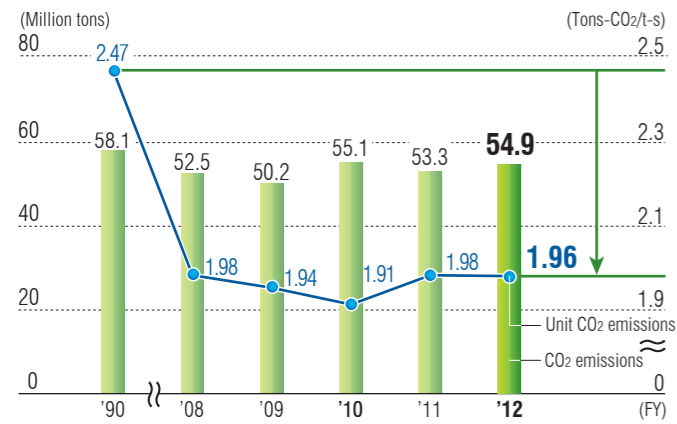


Byproducts

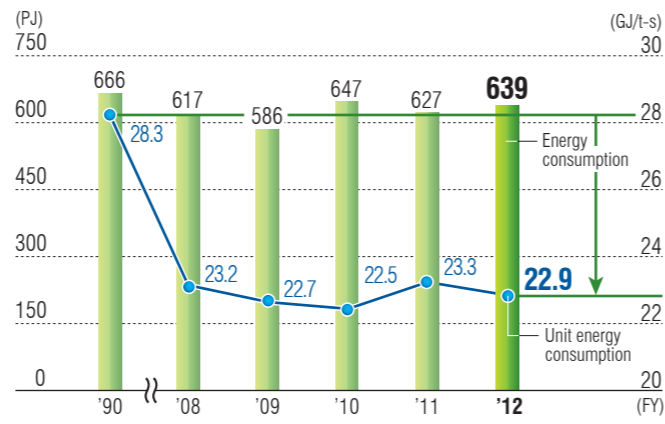


CO₂ Emissions and Energy Consumption

Energy-related CO₂ Emissions and Unit CO₂ Emissions



Energy Consumption and Unit Energy Consumption



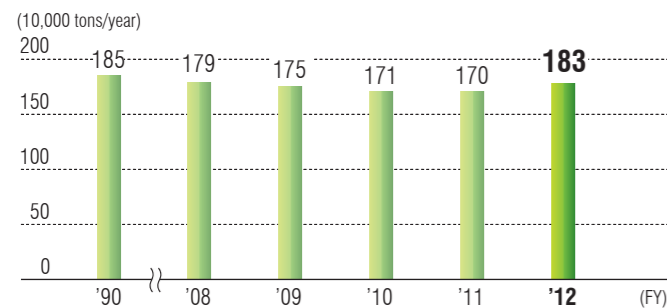
Changes in Unit CO₂ Emissions and Crude Steel Production vs. FY1990

(%)	'08	'09	'10	'11	'12
Unit Emissions	-20	-21	-22	-20	-21
Crude Steel Production	13	10	22	14	19

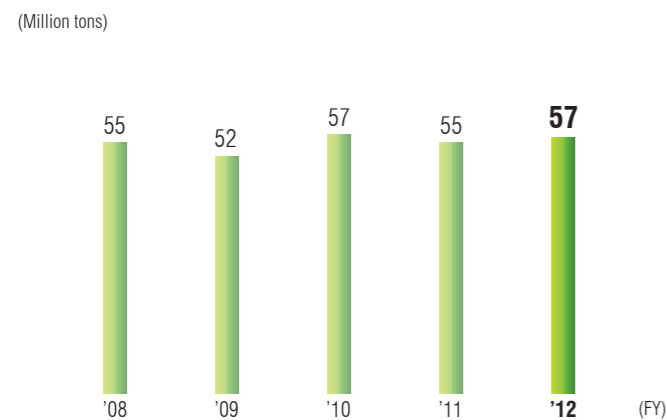
Changes in Unit Energy Consumption and Crude Steel Production vs. FY1990

(%)	'08	'09	'10	'11	'12
Unit Consumption	-18	-20	-21	-18	-19
Crude Steel Production	13	10	22	14	19

JFE Steel's Estimated Non-energy-related CO₂ Emissions

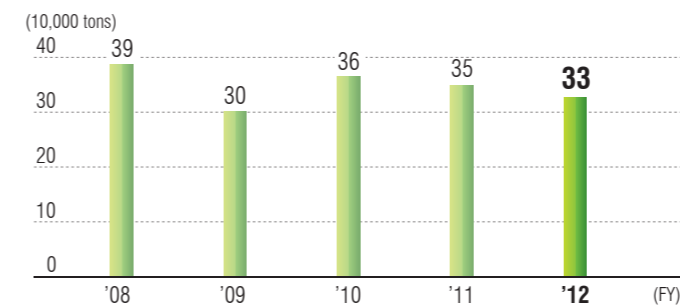


Total CO₂ Emissions

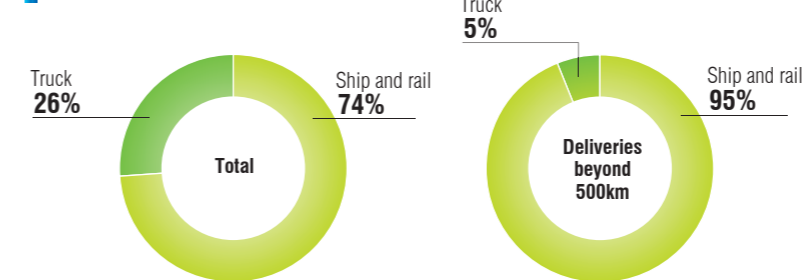


CO₂ Emissions and Energy Consumption

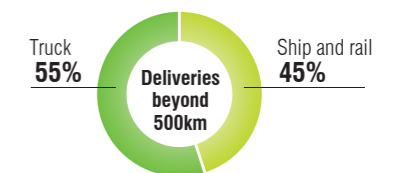
Greenhouse Gas Emitted During Transportation



Modal Shift Rate (FY 2012)



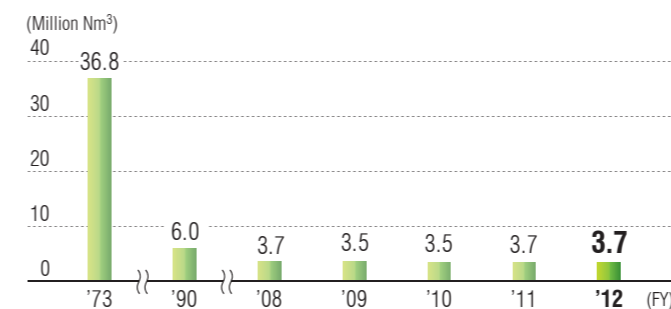
Total Modal Shift Rate in Industry



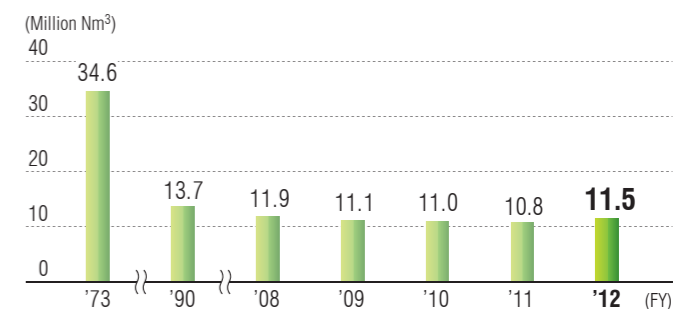
Source: Ministry of Land, Infrastructure, Transport and Tourism

Disposed Substances

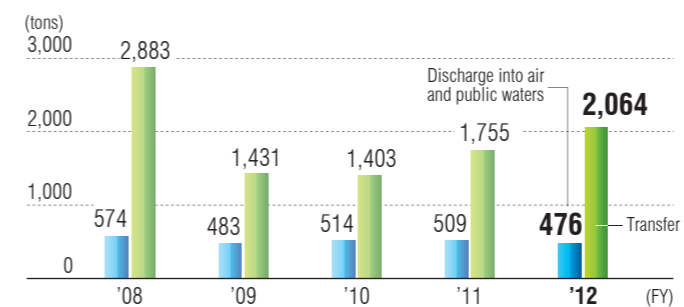
SO_x Emissions



NO_x Emissions



Release and Transfer of Chemical Substances



Substances Reported under PRTR

Whole Company

(Unit: tons/year, 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	7.3	0	0	0	0
15	Acenaphthene	0	0	0	0	0	0
20	2-aminoethanol	3.1	0.5	0	0	0	2.1
31	Antimony and its compounds	0	0.4	0	0	0	15.0
32	Anthracene	0	0	0	0	0	0
33	Asbestos	0	0	0	0	0	0
53	Ethylbenzene	31.0	0	0	0	0	9.3
71	Ferric chloride	0	0	0	0	0	0
80	Xylene	161.2	0	0	0	0	10.7
83	Cumene	1.7	0	0	0	0	0
87	Chromium and chromium(III) compounds	0.03	0.6	0	0	0	615.3
88	Chromium(VI) compounds	0	0.2	0	0	0	1.4
132	Cobalt and its compounds	0	0	0	0	0	0.001
185	Dichloropentafluoropropane; HCFC-225	35.2	0	0	0	0	0
186	Dichloromethane; methylene dichloride	25.2	0	0	0	0	0
188	N,N-dicyclohexylamine	0	0	0	0	0	3.1
240	Styrene	0.3	0	0	0	0	0
242	Selenium and its compounds	0	0.1	0	0	0	1.0
243	Dioxins	8.0	0	0	0	0	0
262	Tetrachloroethylene	16.6	0	0	0	0	0
272	Copper salts (water-soluble, except complex salts)	0	0.08	0	0	0	0
292	Tributylamine	0	0	0	0	0	0
296	1,2,4-trimethylbenzene	3.2	0	0	0	0	0.2
297	1,3,5-trimethylbenzene	8.3	0	0	0	0	0.3
300	Toluene	62.9	0	0	0	0	0.9
302	Naphthalene	1.7	0	0	0	0	0.3
304	Lead	0	0	0	0	0	0
305	Lead compounds	0	0.03	0	0	0	140.0
308	Nickel	0	0	0	0	0	84.0
309	Nickel compounds	0	2.9	0	0	0	34.6
321	Vanadium compounds	0	0	0	0	0	15.0
333	Hydrazine	0	0	0	0	0	0
340	Biphenyl	0	0	0	0	0	0
349	Phenol	1.2	0	0	0	0	0
374	Hydrogen fluoride and its water-soluble salts	0	25.0	0	0	0	50.0
384	1-bromopropane	1.3	0	0	0	0	0
392	N-hexane	0.004	0	0	0	0	0
400	Benzene	21.1	0	0	0	0	0
405	Boron compounds	0	24.1	0	0	0	6.3
406	Polychlorinated biphenyls; PCBs	0	0	0	0	0	2.7
407	Poly(oxyethylene) alkyl ether (alkyl C=12-15)	0	0	0	0	0	2.1
410	Poly(oxyethylene) nonylphenyl ether	0	4.3	0	0	0	0
411	Formaldehyde	0	0	0	0	0	0
412	Manganese and its compounds	0.04	17.8	0	0	0	772.0
438	Methylnaphthalene	0	0	0	0	0	0
448	Methylenebis(4,1-phenylene) diisocyanate	0	0	0	0	0	0
453	Molybdenum and its compounds	0.001	9.7	0	0	0	294.7
460	Tritolyl phosphate	0	0	0	0	0	1.6
461	Triphenyl phosphate	0	0	0	0	0	1.6
Sub total		382	93	0	0	0	2,064
Total		475				2,064	

Substances Reported under PRTR

East Japan Works

Chiba District

(Unit: tons/year, 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	0.2	0	0	0	0
20	2-aminoethanol	0.08	0.5	0	0	0	0
31	Antimony and its compounds	0	0	0	0	0	0
53	Ethylbenzene	0.4	0	0	0	0	0
71	Ferric chloride	0	0	0	0	0	0
80	Xylene	1.3	0	0	0	0	0
87	Chromium and chromium(III) compounds	0.0005	0.6	0	0	0	530.0
88	Chromium(VI) compounds	0	0.2	0	0	0	0
132	Cobalt and its compounds	0	0	0	0	0	0
185	Dichloropentafluoropropane; HCFC-225	34.0	0	0	0	0	0
243	Dioxins	0.3	0	0	0	0	0
272	Copper salts (water-soluble, except complex salts)	0	0.08	0	0	0	0
297	1,3,5-trimethylbenzene	1.2	0	0	0	0	0
300	Toluene	0.4	0	0	0	0	0
308	Nickel	0	0	0	0	0	84.0
309	Nickel compounds	0.002	2.0	0	0	0	0
321	Vanadium compounds	0	0	0	0	0	0
333	Hydrazine	0	0	0	0	0	0
349	Phenol	0	0	0	0	0	0
374	Hydrogen fluoride and its water-soluble salts	0	21.0	0	0	0	50.0
400	Benzene	2.0	0	0	0	0	0
405	Boron compounds	0	8.1	0	0	0	1.1
410	Poly(oxyethylene) nonylphenyl ether	0	4.3	0	0	0	0
412	Manganese and its compounds	0.01	0.8	0	0	0	210.0
453	Molybdenum and its compounds	0	3.2	0	0	0	3.7
Sub total		40	41	0	0	0	879
Total		81				879	

Nishinomiya District

(Unit: tons/year, 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
Sub total		0	0	0	0	0	0
Total		0				0	

Substances Reported under PRTR

Keihin District

(Unit: tons/year, dioxins: g-TEQ/year)

Substance No.	Substance	Volume released				Volume transferred	
		Air	Water area	Soil	On-premise landfill	Sewer	Off-premise
20	2-aminoethanol	0	0	0	0	0	2.1
53	Ethylbenzene	3.5	0	0	0	0	0.7
80	Xylene	6.4	0	0	0	0	1.4
87	Chromium and chromium(III) compounds	0.02	0	0	0	0	39.0
88	Chromium(VI) compounds	0	0	0	0	0	0.6
243	Dioxins	4.8	0	0	0	0	0
262	Tetrachloroethylene	0	0	0	0	0	0
297	1,3,5-trimethylbenzene	1.6	0	0	0	0	0.3
300	Toluene	4.0	0	0	0	0	0.8
308	Nickel	0	0	0	0	0	0
309	Nickel compounds	0.002	0	0	0	0	3.4
333	Hydrazine	0	0	0	0	0	0
349	Phenol	1.2	0	0	0	0	0
400	Benzene	2.1	0	0	0	0	0
405	Boron compounds	0	1.9	0	0	0	0.08
407	Poly(oxyethylene) alkyl ether (alkyl C=12-15)	0	0	0	0	0	2.1
412	Manganese and its compounds	0.01	0.4	0	0	0	350.0
453	Molybdenum and its compounds	0.001	3.3	0	0	0	290.0
460	Tritolyl phosphate	0	0	0	0	0	1.6
461	Triphenyl phosphate	0	0	0	0	0	1.6
Sub total		24	6	0	0	0	694
Total		30				694	

Substances Reported under PRTR

West Japan Works

Kurashiki District

(Unit: tons/year, 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	2.5	0	0	0	0
20	2-aminoethanol	0	0	0	0	0	0
31	Antimony and its compounds	0	0.09	0	0	0	0.01
53	Ethylbenzene	3.9	0	0	0	0	0
71	Ferric chloride	0	0	0	0	0	0
80	Xylene	8.0	0	0	0	0	0
87	Chromium and chromium(III) compounds	0.01	0	0	0	0	23.0
88	Chromium(VI) compounds	0	0	0	0	0	0.9
132	Cobalt and its compounds	0	0	0	0	0	0
185	Dichloropentafluoropropane; HCFC-225	1.2	0	0	0	0	0
186	Dichloromethane; methylene dichloride	16.0	0	0	0	0	0
242	Selenium and its compounds	0	0.1	0	0	0	1.0
243	Dioxins	2.0	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	2.6	0	0	0	0	0
292	Tributylamine	0	0	0	0	0	0
296	1,2,4-trimethylbenzene	1.7	0	0	0	0	0
300	Toluene	25.0	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	11.0
400	Benzene	4.0	0	0	0	0	0
405	Boron compounds	0	10.0	0	0	0	0.7
406	Polychlorinated biphenyls; PCBs	0	0	0	0	0	2.7
410	Poly(oxyethylene) nonylphenyl ether	0	0	0	0	0	0
411	Formaldehyde	0	0	0	0	0	0
412	Manganese and its compounds	0.02	9.2	0	0	0	86.0
453	Molybdenum and its compounds	0	1.6	0	0	0	0.9
460	Tritolyl phosphate	0	0	0	0	0	0
Sub total		64	23	0	0	0	126
Total		87				126	

Konan District

(Unit: tons/year, dioxins: g-TEQ/year)

Substance No.	Substance	Volume released				Volume transferred	
		Air	Water area	Soil	On-premise landfill	Sewer	Off-premise
80	Xylene	1.5	0	0	0	0	0
300	Toluene	3.0	0	0	0	0	0
Sub total		5	0	0	0	0	0
Total		5				0	

Substances Reported under PRTR

Fukuyama District

(Unit: tons/year, 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	4.6	0	0	0	0
15	Acenaphthene	0	0	0	0	0	0
20	2-aminoethanol	3.0	0	0	0	0	0
31	Antimony and its compounds	0	0.3	0	0	0	15.0
32	Anthracene	0	0	0	0	0	0
53	Ethylbenzene	17.0	0	0	0	0	8.6
71	Ferric chloride	0	0	0	0	0	0
80	Xylene	67.0	0	0	0	0	9.3
87	Chromium and chromium(III) compounds	0	0	0	0	0	23.0
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	0.001
186	Dichloromethane; methylene dichloride	9.2	0	0	0	0	0
240	Styrene	0.3	0	0	0	0	0
243	Dioxins	0.9	0	0	0	0	0
262	Tetrachloroethylene	14.0	0	0	0	0	0
296	1,2,4-trimethylbenzene	1.3	0	0	0	0	0.2
300	Toluene	22.0	0	0	0	0	0.04
302	Naphthalene	1.7	0	0	0	0	0.3
305	Lead compounds	0	0.03	0	0	0	140.0
308	Nickel	0	0	0	0	0	0
309	Nickel compounds	0	0.9	0	0	0	17.0
321	Vanadium compounds	0	0	0	0	0	15.0
340	Biphenyl	0	0	0	0	0	0
374	Hydrogen fluoride and its water-soluble salts	0	4.0	0	0	0	0
400	Benzene	13.0	0	0	0	0	0
405	Boron compounds	0	1.9	0	0	0	4.5
411	Formaldehyde	0	0	0	0	0	0
412	Manganese and its compounds	0	7.3	0	0	0	110.0
438	Methylnaphthalene	0	0	0	0	0	0
453	Molybdenum and its compounds	0	1.3	0	0	0	0
460	Tritolyl phosphate	0	0	0	0	0	0
461	Triphenyl phosphate	0	0	0	0	0	0
Sub total		149	20	0	0	0	343
Total		169				343	

Substances Reported under PRTR

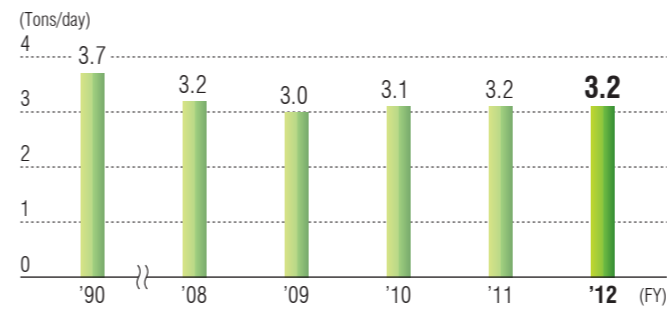
Chita Works

(Unit: tons/year, dioxins: g-TEQ/year)

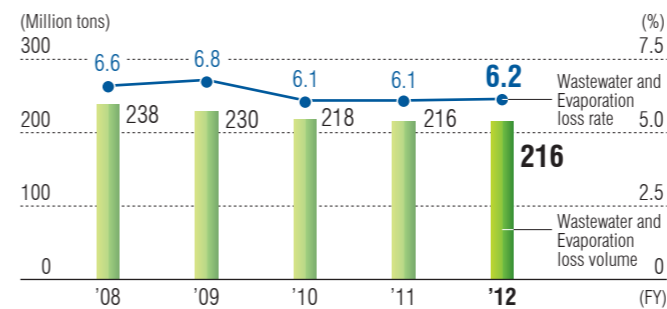
Substance No.	Substance	Volume released				Volume transferred	
		Air	Water area	Soil	On-premise landfill	Sewer	Off-premise
1	Zinc compounds (water-soluble)	0	0.03	0	0	0	0
53	Ethylbenzene	6.2	0	0	0	0	0
80	Xylene	77.0	0	0	0	0	0
83	Cumene	1.7	0	0	0	0	0
87	Chromium and chromium(III) compounds	0	0	0	0	0	0.3
188	N,N-dicyclohexylamine	0	0	0	0	0	3.1
296	1,2,4-trimethylbenzene	0.2	0	0	0	0	0
297	1,3,5-trimethylbenzene	5.5	0	0	0	0	0
300	Toluene	8.5	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	0.1	0	0	0	3.2
384	1-bromopropane	1.3	0	0	0	0	0
392	N-hexane	0.004	0	0	0	0	0
405	Boron compounds	0	2.2	0	0	0	0
412	Manganese and its compounds	0	0.2	0	0	0	16.0
448	Methylenebis(4,1-phenylene) diisocyanate	0	0	0	0	0	0
453	Molybdenum and its compounds	0	0.3	0	0	0	0.1
Sub total		100	3	0	0	0	23
Total		103				23	

Dispised Substances

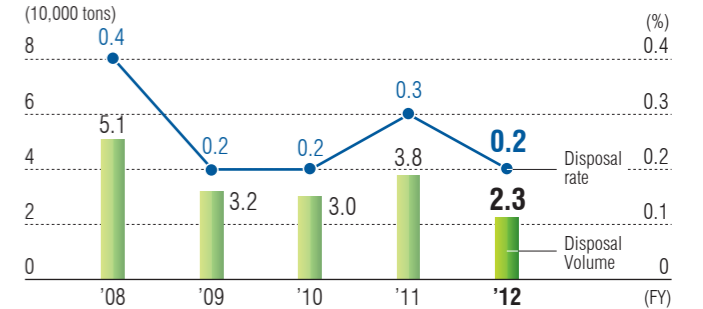
Chemical Oxygen Demand (COD)



Wastewater and Evaporation Loss



Byproducts Disposal



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: 2,499.8 billion yen
- Employees (Consolidated): 42,519

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.

East Japan Works (Keihin District)



1-1 Ohgishima, Kawasaki-ku, Kawasaki-shi, Kanagawa 210-0868
Tel: +81-44-322-1111

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.

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.

West Japan Works (Kurashiki)



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.

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.

Main Group Companies (*: affiliated company accounted for by the equity-method)

Electric Furnaces and Bar/Shape Steel

- JFE Bars & Shapes Corporation

Manufacture and Sale of Processed Steel Products, Raw Materials, etc.

- JFE Chemical Corporation
- JFE Metal Products & Engineering Inc.
- JFE Galvanizing & Coating Co., Ltd.
- JFE Container Co., Ltd.
- JFE Mineral Company, Ltd.
- JFE Steel Pipe Co., Ltd.
- JFE Mizushima Ferroalloy Co., Ltd.
- JFE Pipe Fitting Mfg. Co., Ltd.
- JFE Kozai Corporation
- JFE Material Co., Ltd.
- JFE Precision Co., Ltd.
- River Steel Co., Ltd.
- JFE Electrical Steel Co., Ltd.
- Philippine Sinter Corporation
- Thai Coated Steel Sheet Co., Ltd.
- Shinagawa Refractories Co., Ltd.*
- Nippon Chuzo K.K.*
- Nippon Chutetsukan K.K.*
- Dongkuk Steel Mill Co., Ltd.*
- Guangzhou JFE Steel Sheet Co., Ltd.*
- Thai Cold Rolled Steel Sheet Public Co., Ltd.*
- California Steel Industries, Inc.*

Logistics & Warehousing, Facility Maintenance & Construction and Utilities Supply

- JFE Logistics Corporation
- JFE Civil Engineering & Construction Corp.
- JFE Mechanical Co., Ltd.
- JFE Electrical & Control Systems, Inc.
- Setouchi Joint Thermal Power Co., Ltd.*
- K.K. JFE Sanso Center*

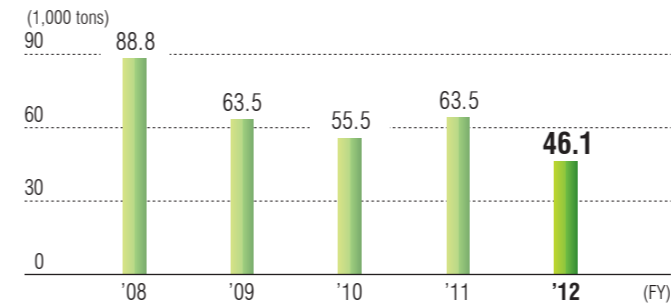
Trading and Other Steel-related Businesses

- JFE Life Corporation
- JFE Systems, Inc.
- JFE Techno-Research Corporation
- JFE Steel Australia Resources Pty Ltd.
- Brazil Japan Iron Ore Corporation*
- Gecoss Corporation*
- Exa Corporation*

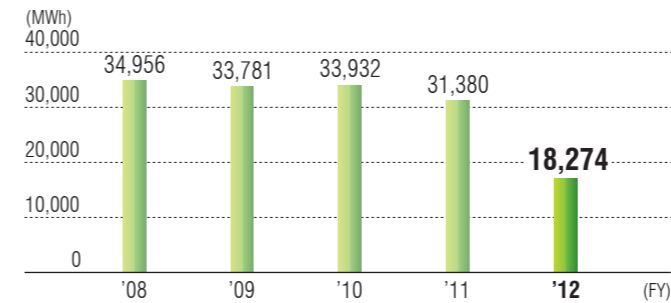
Initiatives by JFE Engineering to Reduce Environmental Load

Input Materials

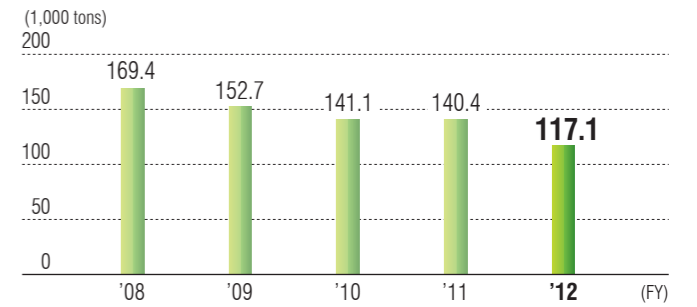
Raw Materials



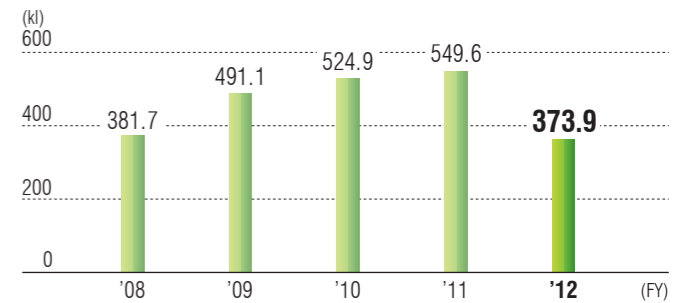
Electricity



Water

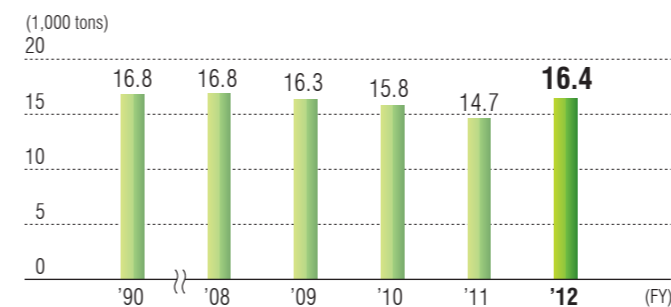


Heavy Oil, Kerosene, Light Oil and Gasoline

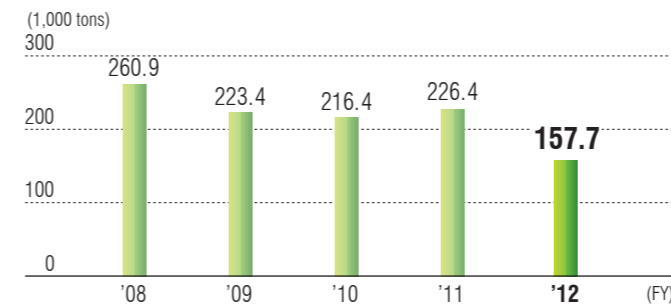


Disposed Substances

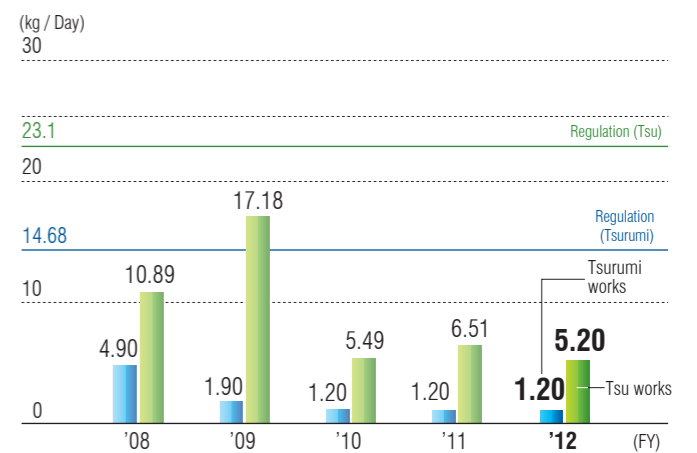
CO₂ Emissions



Wastewater

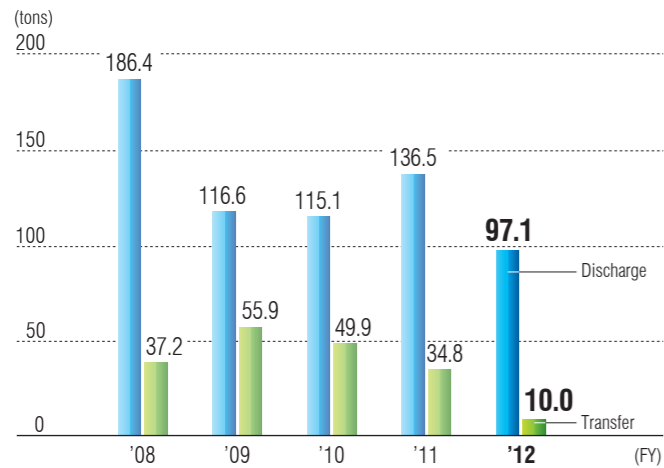


Changed in Chemical Oxygen Demand



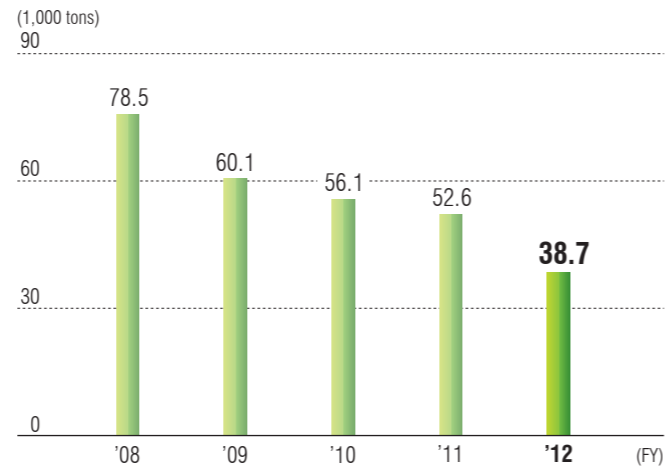
Disposed Substances

Release and Transfer of Substances Reported under PRTR



Output Products

Products



Substances Reported Under PRTR

Whole Company

(Unit: tons/year)

Substance No.	Substance	Volume released				Volume transferred	
		Air	Public water area	Soil	On-premise landfill	Sewer	Off-premise
53	Ethylbenzene	17.5	0	0	0	0	1.1
80	Xylene	60.0	0	0	0	0	3.7
300	Toluene	19.6	0	0	0	0	2.6
412	Manganese and its compounds	0	0	0	0	0	1.2
448	Methylenebis(4,1-phenylene) diisocyanate	0	0	0	0	0	1.3
Sub total		97.1	0	0	0	0	10.0
Total		97.1				10.0	
Total		107.1					

Tsurumi Works

(Unit: tons/year)

Substance No.	Substance	Volume released				Volume transferred	
		Air	Public water area	Soil	On-premise landfill	Sewer	Off-premise
53	Ethylbenzene	0.9	0	0	0	0	0.1
80	Xylene	3.1	0	0	0	0	0.5
300	Toluene	13.2	0	0	0	0	2.3
412	Manganese and its compounds	0	0	0	0	0	0.8
448	Methylenebis(4,1-phenylene) diisocyanate	0	0	0	0	0	1.3
Sub total		17.1	0	0	0	0	5.0
Total		17.1				5.0	
Total		22.2					

Substances Reported under PRTR

Tsu Works

(Unit: tons/year)

Substance No.	Substance	Volume released				Volume transferred	
		Air	Public water area	Soil	On-premise landfill	Sewer	Off-premise
53	Ethylbenzene	15.6	0	0	0	0	0.8
80	Xylene	52.7	0	0	0	0	2.8
300	Toluene	6.4	0	0	0	0	0.3
412	Manganese and its compounds	0	0	0	0	0	0
448	Methylenebis(4,1-phenylene) diisocyanate	0	0	0	0	0	0
Sub total		74.7	0	0	0	0	3.9
Total		74.7				3.9	
Total		78.6					

Shimizu Works

(Unit: tons/year)

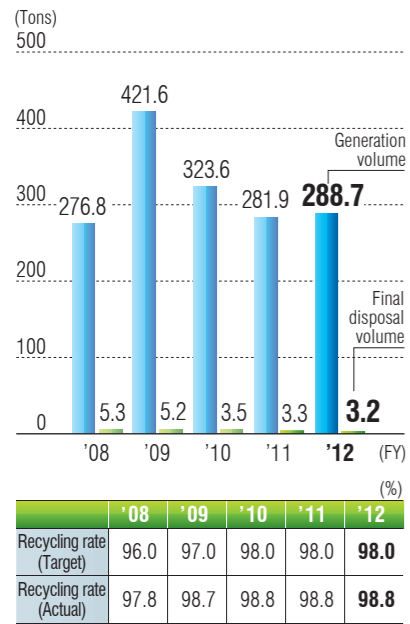
Substance No.	Substance	Volume released				Volume transferred	
		Air	Public water area	Soil	On-premise landfill	Sewer	Off-premise
53	Ethylbenzene	1.1	0	0	0	0	0.1
80	Xylene	4.2	0	0	0	0	0.4
300	Toluene	0	0	0	0	0	0
412	Manganese and its compounds	0	0	0	0	0	0.5
448	Methylenebis(4,1-phenylene) diisocyanate	0	0	0	0	0	0
Sub total		5.3	0	0	0	0	1.0
Total		5.3				1.0	
Total		6.3					

Disposed Substances

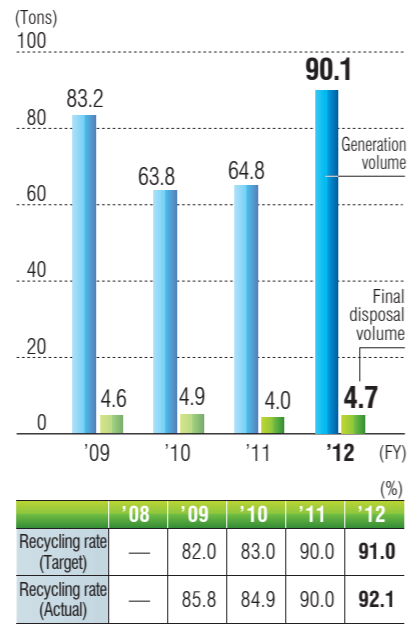
Waste delation in each section and works

Offices

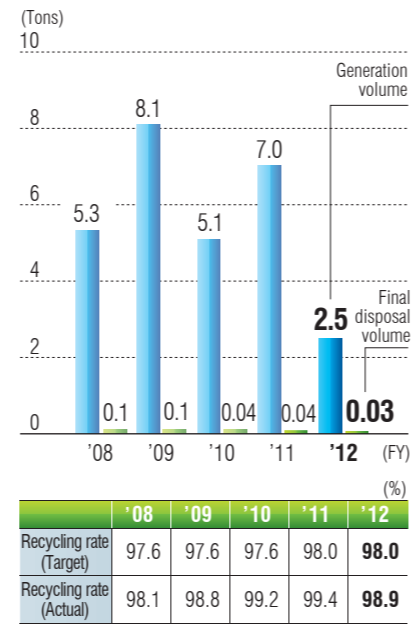
Tsurumi Works



Tsu Works

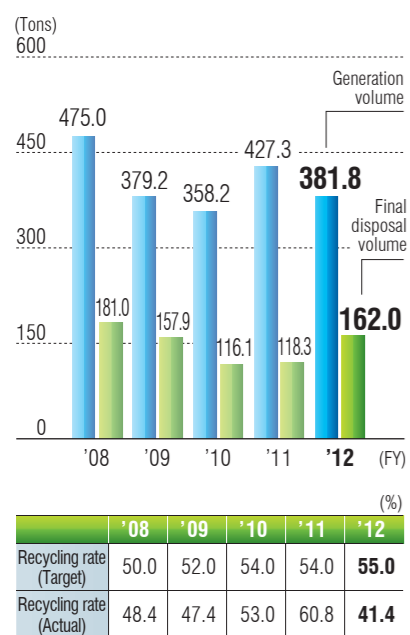


Shimizu Works

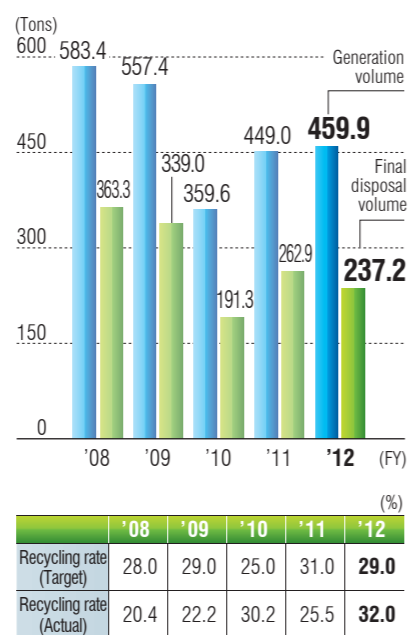


Plants

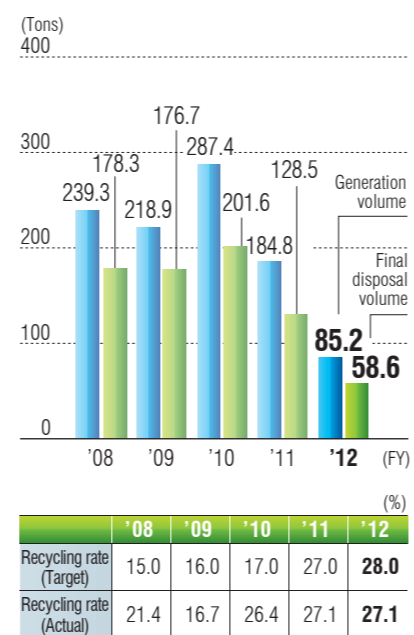
Tsurumi Works



Tsu Works



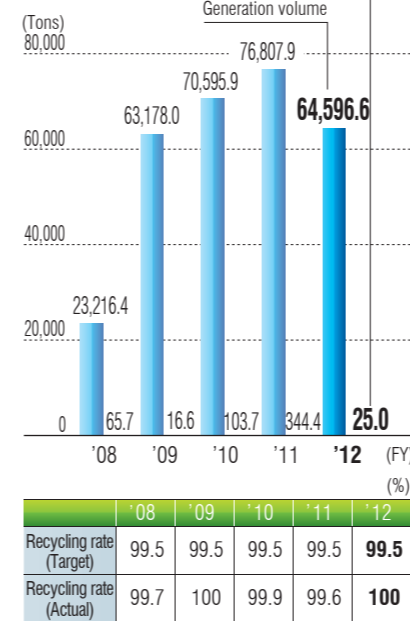
Shimizu Works



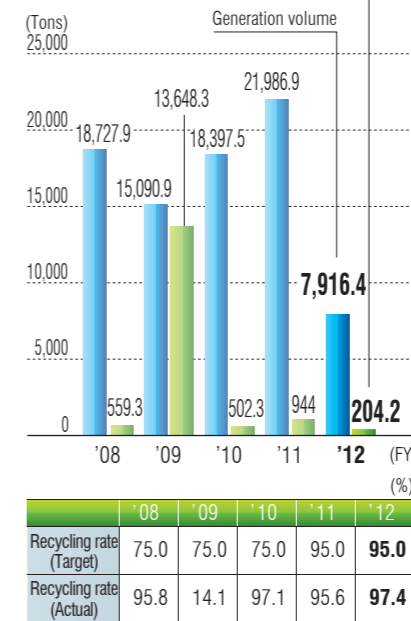
Disposed Substances

Construction sites

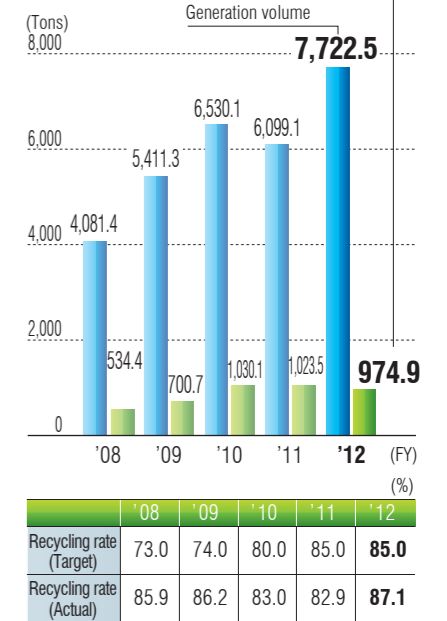
Rubble



Sludge



Industrial Wastes, Excluding Rubble and Sludge



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: 267.5 billion yen • Employees: 7,379

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, conveyance machines, boilers and turbines, walter facilities, iron manufacture 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.

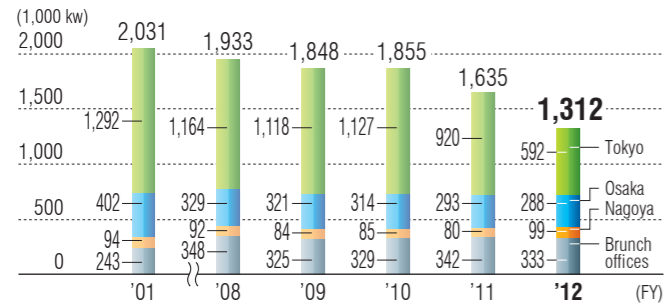
Group Companies (*: affiliated company accounted for by the equity-method)

- JFE Kankyo Corporation
- JFE Technos Corporation
- Japan Tunnel Systems Cororation*
- JP Steel Plantech Co.*
- JFE Environmental Service Corporation
- Asuka Soken Co., Ltd.
- TenarisNKK Tubes*

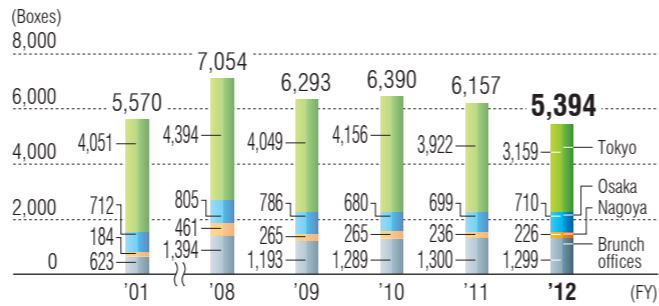
Initiatives by JFE Shoji Trade to Reduce Environmental Load

Input Materials

Electricity



Papers (Copier papers)



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: 785.6 billion yen (For the half year) • Employees: 5,980

Main Group Companies

Steel Products

- JFE Shoji Ibaraki-Tec Corporation
- JFE Shoji Usuitenkai Corporation
- JFE Shoji Osaka Tinplate Center Corporation
- JFE Shoji Coil Center Corporation
- JFE Shoji Pipe & Fitting Trade Corporation
- JFE Shoji Kohnan Steel Center Co., Ltd.
- JFE Shoji Jutaku Shizai Corporation
- JFE Shoji Wire Trade Co., Ltd.
- JFE Shoji Zosen Kako Corporation
- JFE Shoji Trade Steel Construction Materials Corporation
- Aichi Kanzai Kogyo Corporation
- Osaka Steel Corporation
- Kadoda Kozai Corporation
- Kyushu-Tech Corporation
- Kita-Kanto Steel Corporation
- K&I Tubular Corporation
- Shin Nihon Kogyo Corporation
- Taisei Kogyo Corporation
- Tohsen Corporation
- Toyo Kinzoku Corporation
- Tochigi Shearing Corporation
- Naigai Steel Corporation
- Nagano Can Corporation
- Niigata Steel Corporation
- Hanwa Kozai Co., Ltd.
- Hokuriku Steel Co., Ltd.
- Hoshi Kinzoku Corporation
- Mizushima Steel Co.
- Mizushima Metal Products Corporation
- Meridian Capital Limited
- 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.
- Qingdao JFE Shoji Steel Products Co., Ltd.
- Shanghai Huacang Metal Products Co., Ltd.
- Kuo Gee Industrial Co., Ltd.
- JFE Shoji Steel Philippines, Inc.
- Central Metals (Thailand) Ltd.
- Steel Alliance Service Center Co., Ltd.
- New Bangpoo Manufacturing Co., Ltd.
- JFE Shoji Steel Vietnam Co., Ltd.
- JFE Shoji Steel Malaysia Sdn.Bhd.
- Kawarin Enterprise Pte. Ltd.
- P.T. JFE Shoji Steel Indonesia
- JFE Shoji Steel India Private Limited
- Colombo Power (Private) Ltd.
- Vest Inc.
- JFE Shoji Steel America Inc.
- JFE Shoji Steel De Mexico, S.A.DE C.V.

Terre armée

- JFE Shoji Terre One Corporation

Raw Material & Material Business and the Others

- JFE Shoji Service Corporation
- JFE Shoji Oil Co., Ltd.
- JFE Shoji Business Support, Inc.
- JFE Shoji Trade Matech Inc.
- JFE Shoji Machinery & Materials Corporation

Food

- Kawasho Foods Corporation
- Kawasho (Dailian) Co., Ltd.
- Kawasho Foods (Thailand) Co., Ltd.
- Kawasho Foods (Gulf) Fze

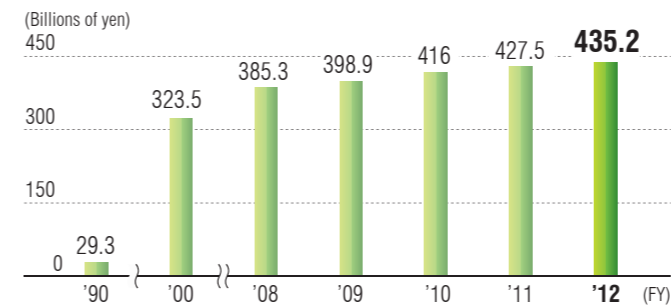
Electronics

- JFE Shoji Electronics
- JFE Shoji Electronics Hong Kong Limited
- JFE Shoji Electronics Malaysia Sdn.Bhd.
- JFE Shoji Electronics Shanghai Corp.
- JFE Shoji Electronics (Thailand) Limited

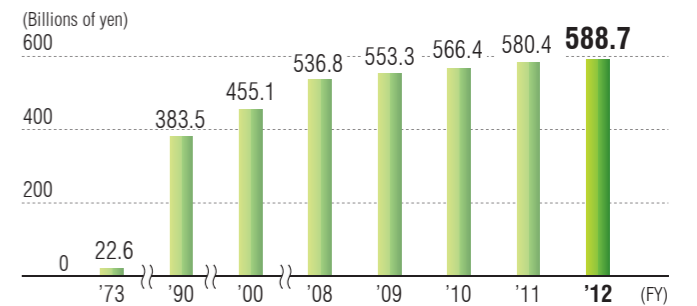
JFE Group's Environmental Accounting

Environmental Accounting

Cumulative Investment in Energy Saving



Cumulative Investment in Environmental Preservation Measures



Breakdown of Environmental Preservation Costs

Description	FY2011		FY2012	
	Investment (Billions of yen)	Expenses (Billions of yen)	Investment (Billions of yen)	Expenses (Billions of yen)
Management	0.3	2.3	0.3	2.3
Prevention of global warming	11.5	37.3	7.6	37.5
Effective use of resources	1.6	17	0.3	17.3
	0.3	4.4	0.3	4.7
Environmental protection	6.7	33.2	6.4	29.6
	4.6	8.8	0.9	9.3
	0.5	2.2	0	1.8
Miscellaneous	-	1.5	-	1.3
Research & development	1.4	18.7	5.8	13.8
Societal activities	-	0.6	-	0.7
Total	30.6	108.5	21.6	118.3

JFE Group's Recycling business

Recycling Business

Toyama

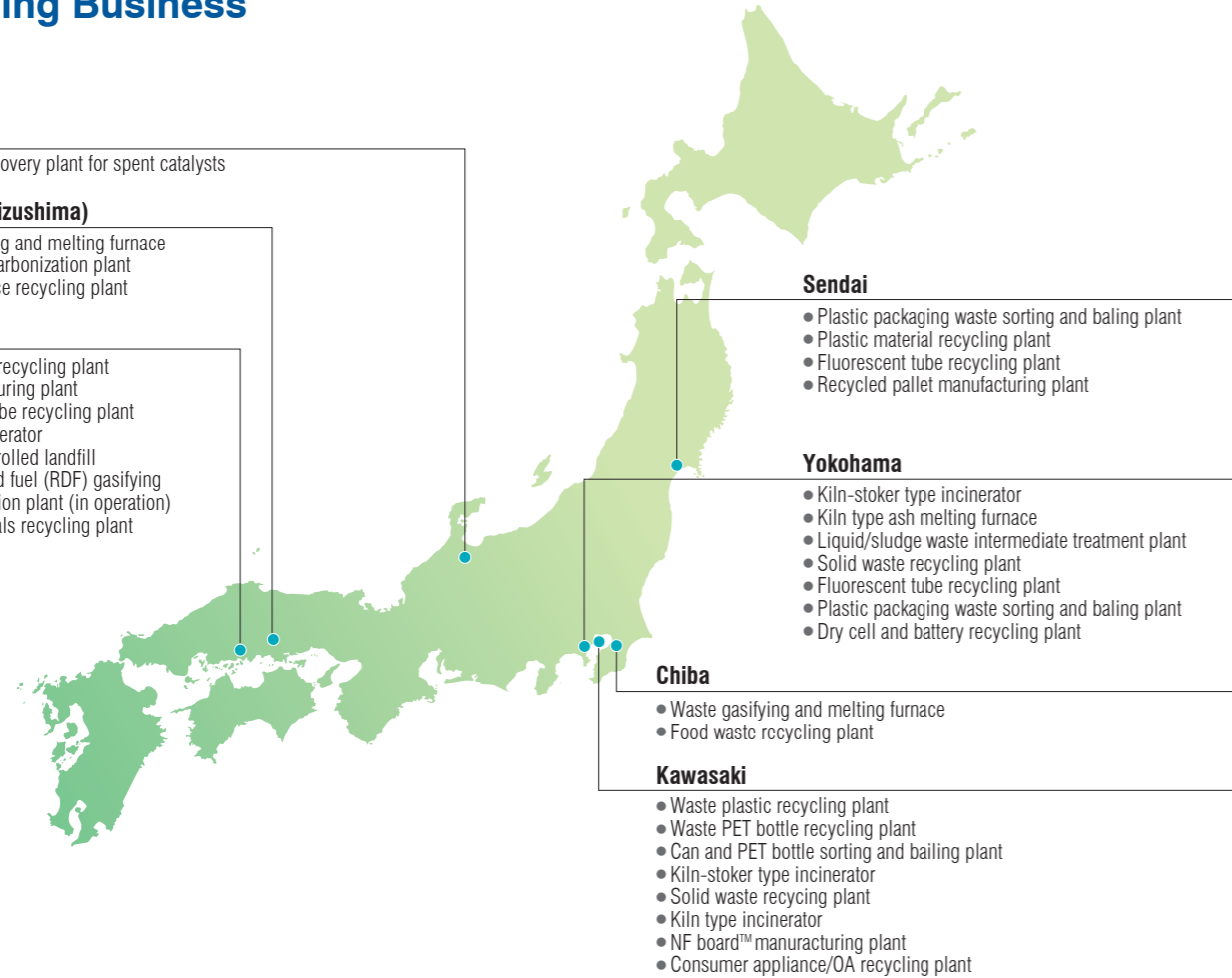
- Rare metal recovery plant for spent catalysts

Kurashiki (Mizushima)

- Waste gasifying and melting furnace
- Waste wood carbonization plant
- Electric-furnace recycling plant

Fukuyama

- Waste plastic recycling plant
- RPF manufacturing plant
- Fluorescent tube recycling plant
- Kiln type incinerator
- Leachate controlled landfill
- Refuse-derived fuel (RDF) gasifying power generation plant (in operation)
- Plastic materials recycling plant



JFE Group's Recycling Business List

District	Name of the companies, plants and offices	Facilities	Address
Sendai	Shinko Recycle Corporation	Plastic packaging waste sorting and baling plant Plastic material recycling plant Fluorescent tube recycling plant Recycled pallet manufacturing plant	1-20-5 Minato, Miyagino-ku, Sendai-shi, Miyagi
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 Kawasaki PET Bottle Recycling Plant Kawasaki Can and PET Bottle Baling Plant Kawasaki Eco Clean (Incinerator)	Waste plastic recycling plant Waste PET bottle recycling plant Can and PET bottle sorting and baling plant Kiln-stoker type incinerator Solid waste recycling plant	10 Ohgishima, Kawasaki-ku, Kawasaki-shi, Kanagawa 699-38 Mizue-cho, Kawasaki-ku, Kawasaki-shi, Kanagawa 699-58 Mizue-cho, Kawasaki-ku, Kawasaki-shi, Kanagawa 5-73 Ohgi-machi, Kawasaki-ku, Kawasaki-shi, Kanagawa, and others Same as above
	JFE Plastic Resource Corporation Mizue recycling plant NF Board® plant	Waste plastic recycling plant NF board® manufacturing plant	679-23 Mizue-cho, Kawasaki-ku, Kawasaki-shi, Kanagawa, and others 5-1 Mizue-cho, Kawasaki-ku, Kawasaki-shi, Kanagawa
	JFE Urban Recycle Corporation Home appliance recycling plant	Consumer appliance/OA recycling plant	6-1 Mizue-cho, Kawasaki-ku, Kawasaki-shi, Kanagawa
Yokohama	JFE Kankyo Corporation Yokohama Eco Clean (Incinerator)	Kiln-stoker type incinerator Kiln type ash melting furnace Liquid/sludge waste intermediate treatment plant	2-1 Suehiro-cho, Tsurumi-ku, Yokohama-shi, Kanagawa, and others Same as above
	Chemical Plant Yokohama Clean Resource Recycling Plant Fluorescent Lamp/Battery Recycling Plant Yokohama Plastics Recycling Plant Suehiro Plant	Solid waste recycling plant Fluorescent tube recycling plant Plastic packaging waste sorting and baling plant Dry cell and battery recycling plant	3-1 Bente-cho, Tsurumi-ku, Yokohama-shi, Kanagawa 2-1-5 Suehiro-cho, Tsurumi-ku, Yokohama-shi, Kanagawa 2-1-8 Suehiro-cho, Tsurumi-ku, Yokohama-shi, Kanagawa 2-1-8 Suehiro-cho, Tsurumi-ku, Yokohama-shi, Kanagawa 2-1-8 Suehiro-cho, Tsurumi-ku, Yokohama-shi, Kanagawa
	JFE Kankyo Logitech Corporation Kanazawa Recycling Center	Solid waste recycling plant	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 Okayama Wood Carbonization Facilities	Waste wood carbonization plant	1-14-1 Mizushimakawasaki-dori, Kurashiki-shi, Okayama
Fukuyama	JFE Plastic Resource Corporation Fukuyama recycling plant	Waste plastic recycling plant	113 Minoki-cho, Fukuyama-shi, Hiroshima, and others
	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 type incinerator Leachate controlled landfill	115-1 Minoki-cho, Fukuyama-shi, Hiroshima Same as above Same as above 1 Kokan-cho, Fukuyama-shi, Hiroshima 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



JFE Holdings, Inc.

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www.jfe-holdings.co.jp/en