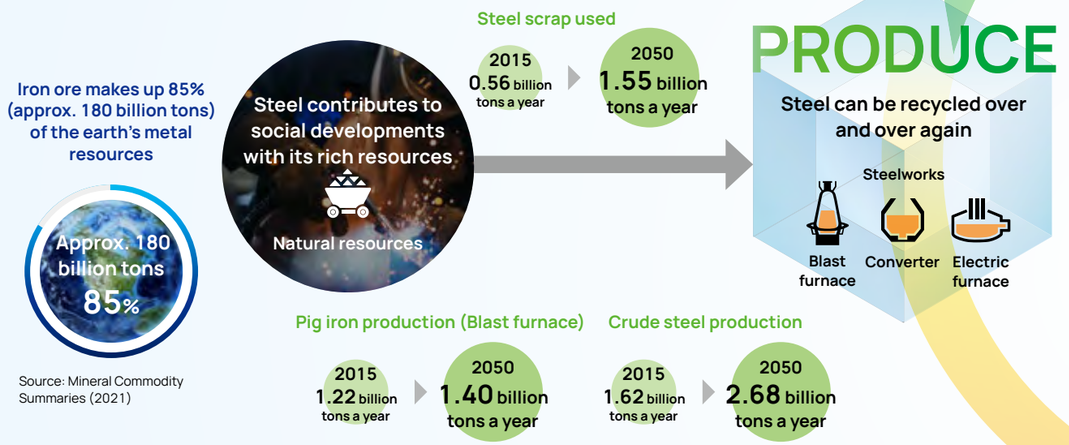
1. JFE Group's Value Creation Story

Steel supports safe and comfortable lives for an abundant world in the future

Steel's Life Cycle Assessment (LCA)

Steel establishes a highly sophisticated value chain of Produce–Use–Recycle thanks to its excellent recyclability, and is reborn as anything over and over again. Therefore, it is important to evaluate steel's environmental impact by encompassing the entire life cycle including recycling. JFE Steel participated in the initiative to quantify the life cycle environmental impact of steel products, which is led by the Japan Iron and Steel Federation, as one of the core members, and developed an ISO/JIS Standard* for the calculation. The results provided through the use of this standard have shown that the more superior the recyclability of material is, the less environmental impact such as global warming becomes. In Japan, there are 15 blast furnace and electric furnace steelmakers, including JFE Steel, that compile and disclose average data for life cycle inventory (LCI) for each steel product.

* ISO 20915: Life Cycle Inventory Calculation Methodology for Steel Products (2018.11)
JISQ 20915: Life Cycle Inventory Calculation Methodology for Steel Products (2019.6)



Source: Mineral Commodity Summaries (2021)

High economic efficiency and low environmental impact

Steel can be reliably produced in large volumes to support our lives and society. Steel is also an environmentally friendly material, emitting far less CO_2 than other materials during production. Steel is an essential material for the safe and comfortable lives of people, and it is key to the sustainable development of society.

Mass production at low cost

Steel is a material with rich reserves and a long history of development. It can be stably mass produced at a reasonable price, contributing to the sustainable development of society.

■ Global demand (2020) ■ Price*

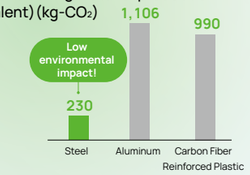
Internal investigation

Internal investigation
* Comparisons with other materials' prices per unit weight, with steel as 1

Extremely low environmental impact at the manufacturing stage when compared to other materials

The functional equivalent of greenhouse gas (GHG) emissions of steel at the manufacturing stage is 1/4 to 1/5 of that of aluminum and carbon fiber.

■ GHG emissions during material production (CO_2 equivalent) (kg-CO_2)



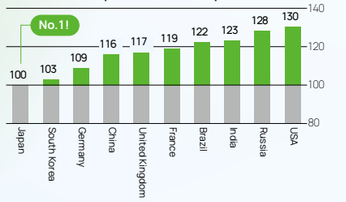
	Steel	Aluminum	CFRP
GHG emissions per unit of weight (CO_2 equivalent) (kg-CO_2/kg)	2.3	16.5	22.0
Functionally equivalent weight (kg)	100	67	45

Source: World Auto Steel data

Japan's steel industry keeps the top energy efficiency in the world

The Japanese steel industry (converter furnace steel) produces steel with the lowest environmental impact when compared to other major countries in the world as a result of its longstanding efforts toward environmental conservation, including developing and spreading the use of energy-saving technologies.

■ The world's quotient, with Japan as 100 (2015)



Source: Research Institute of Innovative Technology for the Earth (RITE)

RECYCLE

Efficient separation and retrieval of steel using its magnetic property

Dismantle and collect

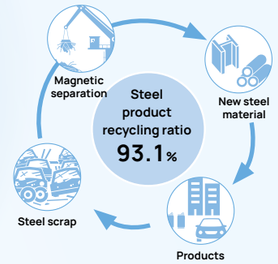
Excellent recyclability

Steel is a material with excellent recyclability, such as its property enabling magnetic separation and retrieval. Even after a final product made of steel ends its life in society, it is reborn over and over again into a high-quality, high-functional product through highly efficient separation and retrieval technologies, thereby reducing environmental load throughout its life cycle.

Closed-loop recycling of steel

Steel can be recycled many times as the raw material of products made in the same steel material while maintaining the original properties of the iron material itself. Closed-loop recycling is superior to open-loop recycling* that recycles other materials in terms of sustainability. This is due to the fact that it is designed to reduce the amount of natural resources being newly introduced, moreover reduce the discharge of environmentally hazardous substances, and reduce waste.

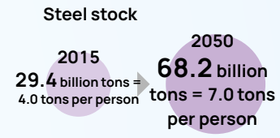
* A limited form of material recycling that involves application of the heat generated from the incineration of materials as well as recycling where the material may deteriorate or change in quality.



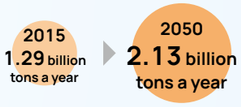
Source: Japan Iron and Steel Federation

Steel can be reborn as anything over and over again

Steel stock



Demand for steel



USE

Contributing to sustainable development of our lives and economy by the world's best energy-saving and environmental technologies

Processing and different manufacturing

Automobiles, construction materials, etc.

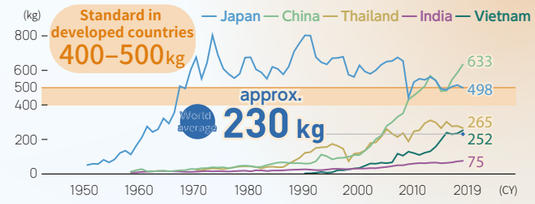
Foundation for life and society

In our lives, steel helps reduce our burden on the environment. For example, by using high-tensile steel (thinned-down steel sheets that keep their strength) in automobiles, automobile weight can be substantially reduced without sacrificing passenger safety during vehicle collisions, thereby contributing to lower CO_2 emissions in society as a whole.

The potential to grow on a global level

The world average of the annual consumption of steel currently stands at approximately 230 kg per capita. Going forward, the long-term global demand for steel is expected to keep growing alongside the economic development of emerging countries.

■ Trends in annual steel consumption per capita by country (kg per capita, year)

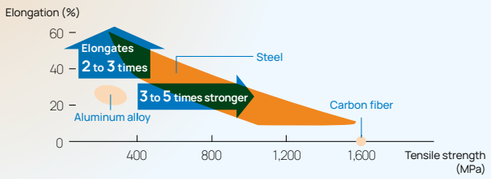


Source: World Steel Association

Potential for evolution

Steel can be elongated two to three times more than aluminum at the same strength, and is three to five times stronger at the same extended rate, making it the optimal material for the world-class structures of the times, such as Tokyo Skytree. Steel still has considerable potential for evolution. The emerging needs of society will make steel evolve, and contribute to a productive future.

■ Comparison of strength and elongation between steel, aluminum, and carbon fiber



Internal investigation

History of Value Creation

JFE Holdings JFE Steel JFE Engineering JFE Shoji Japan Marine United

Seventh Medium-term Business Plan 2021–2024

For details, please refer to page 25.

2002 JFE Group launched — [1896– Kawasaki Steel 1912– NKK (Nippon Kokan)

First Medium-term Business Plan 2003–2005

Realizing our merger's full potential

The primary aim behind the establishment of JFE was to secure stable profitability early on and to strengthen its business foundation through active investment and financing.
We consolidated facilities, and reorganized and integrated Group companies to build a strong business structure by strengthening the competitiveness of our core businesses in steel and engineering.

Second Medium-term Business Plan 2006–2008

Expanding high-value-added products

JFE shifted to establishing a highly profitable business structure based on the production and sale of high-quality, high-value-added products and the provision of sophisticated services. We also invested actively to establish systems for stable production and expanded sales of high-value-added products.

Third Medium-term Business Plan 2009–2011

Targeting future-oriented technological development

Despite a harsh business environment brought on by events including the global financial crisis in 2008 and the Great East Japan Earthquake in 2011, we pursued development of innovative technologies to accelerate our leap forward into the future, with a focus on envisioned developments in the following 10 years. We also reinforced our corporate structure to increase profitability as the No. 1 supplier of high-value-added products.

Fourth Medium-term Business Plan 2012–2014

Expanding into growing markets overseas

We further strengthened our profit base for growth by investing overseas and developing innovative new products. Corporate resources were allocated intensively in emerging markets where significant growth was expected over the medium to long term. We also reinforced production abroad and strengthened overseas sales and technical functions for further growth.

Fifth Medium-term Business Plan 2015–2017

Capturing global demand to the fullest extent

We formulated a manufacturing and sales system to maximize opportunities for capturing demand in Japan stemming from government initiatives to upgrade disaster resilience and prepare for the Olympic and Paralympic Games in 2020. Overseas, we focused on capturing demand related to infrastructure reinforcement in emerging countries and initiatives for energy savings and environmental protection. Also, we continued to invest in new business in fields and geographic regions showing strong potential for future growth.

Sixth Medium-term Business Plan 2018–2020

Boosting competitiveness with advanced technology

Our focus was on strengthening competitiveness through the application of data science and other advanced technologies to meet sophisticated and diversifying needs throughout society. Having made sustainable societies one of our priorities, we pursued a number of environmental, social, and governance (ESG) initiatives, including environmental protection, development of human resources, and establishment of a governance system.

Corporate restructuring and establishment

2002 (Establishment)–

September 2002
- Established JFE Holdings
- Listed on Tokyo Stock Exchange, Osaka Securities Exchange, and Nagoya Stock Exchange

January 2003
- Corporate split agreement for NKK and Kawasaki Steel approved

April 2003
- Established JFE Steel, JFE Engineering, JFE Urban Development, and JFE R&D
- Kawasaki Microelectronics, Inc. became a wholly owned subsidiary

December 2003
- Guangzhou JFE Steel Sheet Co., Ltd. established as joint venture with Guangzhou Iron and Steel Enterprises Holdings Ltd., in China

2005–

March 2008
- Turned Universal Shipbuilding Corporation into a subsidiary through acquisition of shares owned by Hitachi Zosen Corporation and JFE Engineering

November 2008
- Established JFE Steel Galvanizing (Thailand) Ltd.

April 2009
- JFE R&D merged with JFE Steel

2010–

July 2010
- Capital participation in JSW Steel Ltd. in India

April 2011
- Absorption merger with JFE Urban Development

April 2012
- Restructured electric furnace steelmaking operations and launched new JFE Bars & Shapes Corporation

July 2012
- Transferred all shares issued by Kawasaki Microelectronics to MegaChips Corporation

October 2012
- Turned JFE Shoji into a wholly owned subsidiary through share exchange

January 2013
- Established Japan Marine United Corporation through the business integration with IHI Marine United Inc. and Universal Shipbuilding Corporation

May 2013
- Established PT. JFE Steel Galvanizing Indonesia

December 2014
- Acquired Kelly Pipe Co., LLC, a U.S. steel pipe wholesaler

December 2014
- Acquired Standardkessel Power Systems Holding GmbH

April 2015
- Established AL GHARBIA PIPE COMPANY LLC in the United Arab Emirates (UAE)

September 2015
- Capital participation in Formosa Ha Tinh Steel Corporation (FHS) of the Formosa Plastic Group

2020–

March 2020
- Completed acquisition of shares in Mitsui E&S Plant Engineering Inc. (inaugurated JFE Project One Co., Ltd.)
- Started joint venture with Guangdong Shaoguan Iron and Steel Songshan Co., Ltd., an affiliate of the BaoWu Steel Group

January 2021
- Established Nihon Shipyard Co., Ltd. as joint venture with Imabari Shipbuilding

April 2021
- Completed acquisition of shares in Mitsui E&S Environmental Engineering Inc. (inaugurated JFE Environment Technology Co., Ltd.)

Production facilities

2002 (Establishment)–

November 2003
- Fired up No. 2 blast furnace in Kurashiki district

March 2004
- Fired up No. 2 blast furnace in Keihin district

June 2004
- Halted operations at No. 5 blast furnace in Chiba district

2005–

March 2005
- Fired up No. 5 blast furnace in Fukuyama district

March 2006
- Started up No. 5 coke oven (Battery D) in Fukuyama district

April 2006
- Fired up No. 4 blast furnace in Fukuyama district

2010–

February 2010
- Fired up No. 3 blast furnace in Kurashiki district

December 2010
- Started up No. 6 coke oven (Battery B) in Kurashiki district

May 2011
- Fired up No. 3 blast furnace in Fukuyama district

September 2011
- Launched operations of incinerator for earthquake-related waste for Sendai City

December 2014
- Started up No. 3 converter furnace at No. 3 steelmaking plant in Fukuyama district

July 2015
- Operated No. 2 production facilities for Clean Mix® high-performance steel powder products in Chiba district

May 2017
- Affiliate FHS fired up No. 1 blast furnace

December 2017
- Launched operations of recycled plastic pallet production plant in western Japan

November 2018
- J Bio Food Recycle started operations at food recycling plant

2015–

August 2016
- Established NUCOR-JFE STEEL MEXICO in Mexico
- Established J Bio Food Recycle with the JR East Group

February 2017
- Established joint venture AGRIMECO & JFE STEEL PRODUCTS CO., LTD. with AGRIMECO to sell processed construction materials in Vietnam

March 2017
- Established joint venture in steel powder business with the BaoWu Steel Group in China

September 2019
- Acquired Cogent Power Inc., an electrical steel sheet processor in Canada

November 2019
- Operated No. 3 coke oven (Battery A) in Fukuyama district

December 2019
- Operated No. 3 sintering machine in Fukuyama district

2020–

March 2020
- Decided to restructure and build optimized domestic production system

April 2020
- Banked* No. 4 blast furnace in Kurashiki district (plan to finish upgrade work on blast furnace in December 2022)

June 2020
- Banked* No. 4 blast furnace in Fukuyama district (resumed operations in September 2020)

* Suspend operations in a restart-capable state by stopping air blast flow

June 2021
- Operated No. 7 continuous casting machine in Kurashiki district
- Operated No. 3 coke oven (Battery B) in Fukuyama district

R&D, DX, etc.

2002 (Establishment)–

April 2004
- Launched new integration system (business management)

2005–

August 2005
- Opened Customer Solutions Lab (CSL) at Steel Research Laboratory

November 2005
- Opened THiNK SMART at Steel Research Laboratory

March 2006
- Started operation of new integration system J-Smile

September 2008
- Launched companywide video conference system

2010–

February 2010
- Operated J-Flessa optimal production and sales planning system

October 2014
- Steel Research Laboratory opened Customize Center Fukuyama in Fukuyama district

2015–

August 2016
- Launched system to identify fraudulent inspection certificates for steel products

December 2016
- Launched One JFE® system to integrate shipment and delivery operations in all regions

June 2017
- Launched operations of JFE integrated product database as basis for SCM

March 2018
- Established Global Remote Center (GRC) (integrated monitoring of product plants, including overseas ones)

September 2018
- Introduced J-mAlster® on all production lines as a control failure repair support system that uses IBM Japan's IBM® Watson technology

November 2018
- Developed and started operations of Pla'cello® data analysis tool that does not require expert IT knowledge

December 2018
- Introduced safe behavior support technology using AI image recognition

February 2019
- Opened one of the world's largest centers for evaluating major breakdowns and fatigue in the steel field

July 2019
- Started fully automated operations of waste incinerator

October 2019
- Built a rank-based, systematic education system to train employees into data scientists

November 2019
- Introduced data science technology (blast furnace CPS) at all blast furnaces
- Companywide rollout of J-dscom® system for detecting signs of equipment anomalies

2020–

July 2020
- Opened JFE Digital Transformation Center as base to promote DX

July 2020
- Started to offer BRA-ING fully automated system for operating waste incinerators

October 2020
- Introduced training simulator using mixed reality (MR) technology

ESG (governance structure, climate change, main policies)

2002 (Establishment)–

June 2004
- Opened JFE College as curriculum for training young employees

2005–

March 2006
- Introduced policy for addressing large-scale purchases of the Company's shares
- Established special committee

June 2007
- Appointed two outside directors
- Shortened terms of directors from two years to one year

2010–

2011–
- Started to gift desks, chairs, and canned foods to educational authorities in Ghana and Nigeria

November 2011
- Launched ferro-coke production pilot plant in Keihin district

September 2012
- Opened corporate childcare center at JR Tsurumi station building

March 2014
- Selected as Nadeshiko Brand Stock by Tokyo Stock Exchange

2015–

Fiscal 2015
- Began to evaluate effectiveness of Board of Directors

October 2015
- Formulated JFE Holdings' Basic Policy on Corporate Governance
- Established Nomination Committee and Remuneration Committee

April 2017
- Opened childcare center in Chiba district at East Japan Works (childcare centers were opened in other districts later)

June 2017
- Presidents of JFE Engineering and JFE Shoji appointed as directors
- Increased number of outside directors and outside Audit & Supervisory Board Members by one each

April 2018
- Formulated JFE Group's Human Rights Basic Policy

August 2018
- Formulated JFE Group's Declaration of Cybersecurity Management

November 2018
- Obtained qualification for DBJ Employees' Health Management Rated Loan Program from the Development Bank of Japan

February 2019
- Formulated the Raw Materials Purchasing Policy and Action Guidelines

May 2019
- Declared agreement with Task Force on Climate-related Financial Disclosures (TCFD) recommendations

June 2019
- Appointed first female Audit & Supervisory Board Member

2020–

June 2020
- Appointed first female outside director

July 2020
- Initially selected for inclusion in FTSE4Good Index Series and FTSE Blossom Japan Index, leading indexes for ESG investment

September 2020
- Disclosed JFE Group's targets for reducing CO_2 emissions

October 2020
- Commenced testing of medium-size facilities for producing ferro coke in Fukuyama district

February 2021
- Signed memorandum of understanding with BHP about initiatives to reduce carbon in steelmaking processes

May 2021
- Formulated JFE Group Environmental Vision for 2050

May 2021
- Discontinued policy to prevent large-scale purchases of the Company's shares (anti-takeover measures)

Outline of the JFE Group

JFE Holdings

JFE Steel

Steel business

JFE Steel provides high-value-added products that meet the diverse needs of its customers with its world-class technologies and product development capabilities, backed by a highly internationally competitive system based on two major integrated steelworks in Japan.

JFE Engineering

Engineering business

JFE Engineering provides technologies to effectively utilize diverse resources as green energy in the environmental and energy fields, and proactively engages in plant operation as well. It globally operates social infrastructure business, such as constructing bridges.

JFE Shoji

Trading business

JFE Shoji operates globally through supply chain networks across Japan and the world, handling a wide range of products with a focus on steel products, including steel raw materials, nonferrous metals, chemicals, fuel, equipment, ships, foods, and electronics.

Japan Marine United(equity-method affiliate)

Shipbuilding business

Backed by its top-class capabilities in construction and technologies in Japan, Japan Marine United manufactures large-scale ships including tankers, containerships, and dry bulkers, in addition to merchant ships and defense ships, such as escort ships, mine sweepers, and naval ice breakers.

Overview of External Conditions and Initiatives at Operating Companies

Steel business and Trading business

Competition with rivals has heated up in product markets and regional markets. Domestic sales of steel are for a broad range of demand fields, including building construction, civil engineering, automobiles, industrial machinery, and electrical machinery, with diverse coverage of sales formats. With a shrinking domestic market due to a falling birthrate and an aging population, and given global economic conditions in Japan and Asia, trends in the supply–demand balance for steel in Japan and around the world may have an impact on the sales volume and prices for steel produced by the JFE Group. In overseas markets, competition might intensify as a result of structural changes, namely an increase in exports as domestic demand declines in China and expansion in steel production capacity in emerging countries.

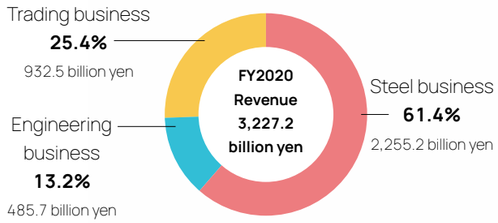
In the steel business, JFE aims to optimize production volume to match changes in the balance of supply and demand for steel products within and outside Japan, and to create an optimal production structure through the integration of facilities with an eye on long-term trends in supply–demand conditions for steel. JFE Steel will strategically invest in the West Japan Works, its core steelworks, to increase cost competitiveness and put in place a structure able to generate profits in a changing market environment. The Company aims to stabilize the earnings foundation by increasing the sales ratio of technologically advanced products to counter steel mills in emerging countries. By producing more steel locally through investments in overseas steelmakers and a vertically integrated structure overseas, JFE is keen to establish a global supply structure able to flexibly adapt to changes in international market conditions.

In the trading business, we are strengthening our sales capabilities in Japan through a restructuring of distribution functions, and making timely upgrades to equipment necessary to reinforce the foundation. Overseas, we are aggressively moving to strengthen distribution and processing functions in our four-pronged global structure, and to increase sales of JFE Steel's products in high-value-added fields. Furthermore, we aim to maintain and enhance our presence with customers overseas by utilizing products made by the JFE Group (including alliances) and other suppliers.

Engineering business

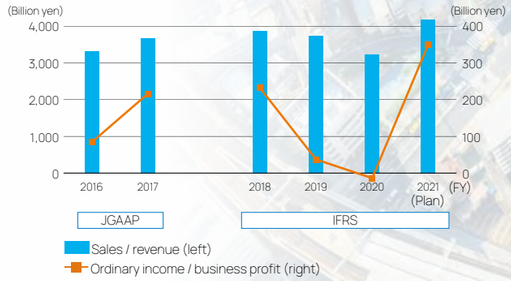
In the engineering business, JFE engages in engineering, procurement, and construction (EPC) projects for equipment, centered on bridges and environmental facilities, such as energy plants and waste incinerators. We also take on operation and maintenance contracts for facilities in design, build, and operate (DBO) projects, and operate our own recycling, power generation, and electricity retail sales businesses. The portfolio in this business is dominated by public infrastructure projects, such as waste incinerators and bridges. We aim to stabilize earnings and reinforce self-managed businesses as long-term sources of reliable earnings, due to the possibility of orders being influenced by domestic economic conditions, and the aims and policies of national and local governments.

Revenue



* Revenue of 3,227.2 billion yen includes adjustments of −446.1 billion yen

Revenue / business profit



Strength 1. Competitiveness of steelworks: Large-scale consolidated steelworks

Main bases of JFE Steel

West Japan Works

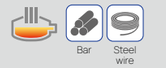
The West Japan Works is situated on roughly 25.1 million square meters of land as JFE Steel's core steelworks, one of the largest steelworks in the world. We aim for it to be the best steelworks in the world in terms of both quality and quantity, with advanced technological capabilities and highly efficient production.

Fukuyama district

Kurashiki district

Sendai Works

The Sendai Works specializes in bar and steel wire. With an integrated production system from steelmaking to rolling, the Sendai Works provides high-quality products thanks to thorough quality and process management.



Steel Research Laboratory

This laboratory conducts research in basic technology that supports all of our production bases, while also developing production processes and products.

Joint development facilities with customers

Chiba district

Customer Solutions Lab (CSL)

Early vendor involvement (EVI) base for customers in the automobile field

Keihin district

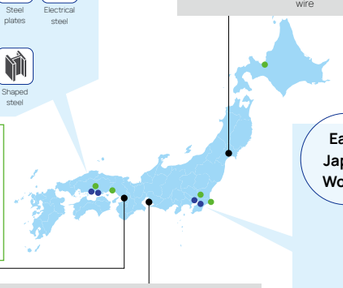
Steel Structural Materials Solutions Center (THiNK SMART)

Joint research with customers, universities, and corporate research institutions in the structural steel field

Fukuyama district

Customer Center Fukuyama (CCF)

EVI base for customers in the automobile and steel materials fields



JFE Bars & Shapes Corporation

JFE Bars & Shapes recycles steel products from steel scrap by utilizing the steelmaking process of electric furnaces at five domestic steelworks.

● Production bases of JFE Bars & Shapes

Nishinomiya Plant (East Japan Works)

Chita Works

The Chita Works is one of a few steelworks in the world that specializes in the production of steel pipes. It boasts the best product lineup in the world for a single steelworks, producing a wide variety and sizes of steel pipe products.

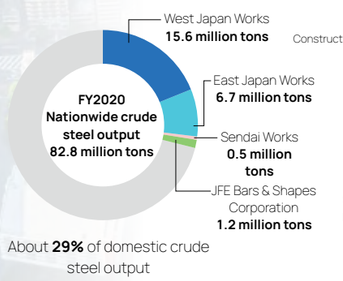
East Japan Works

The East Japan Works sits on approximately 15.98 million square meters of land located near the Tokyo metropolitan area. It consists of the Keihin district, where Japan's first private-sector steelworks was built, and the Chiba district, where Japan's first integrated steelworks was constructed after the end of World War II. The Nishinomiya plant produces stainless steel products with the Chiba district.

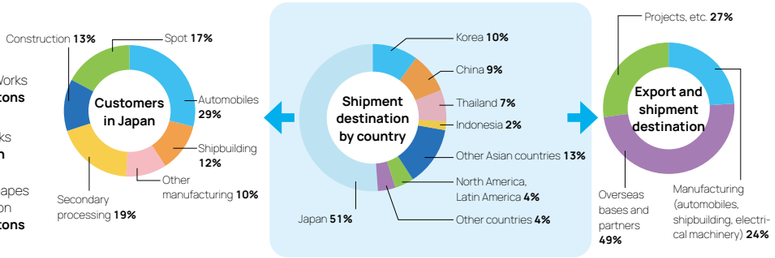
Keihin district

Chiba district

Domestic production volume



Strength 2. Stable customer base



Process of Value Creation

External conditions

- Climate change
- Labor shortages due to falling birthrate and aging population
- Population growth in emerging countries
- Stronger demand for resources and energy
- Aging of infrastructure and equipment
- Advances in AI and IoT
- Transition to a mobility society

To be essential to society's sustainable development and to create safe, comfortable lives for people everywhere

Our Vision

Creation of social value

- Become carbon neutral
- Contribute to safe and comfortable lives
- Secure excellent human resources and enhance job satisfaction
- Create a prosperous coexistence with local communities

Creation of economic value

- Increase cash flow
- Achieve world-class earnings power
- Ongoing investment in technological development
- Return value to stakeholders
- Establish a robust financial foundation

Input

Intellectual capital

- R&D expenses (FY2020)
36.2 billion yen
- Number of registered patents (as of September 2021)
14,173 patents

* Number of domestic patents registered to the JFE Group

Social and other related capital

- Number of customers (delivery destinations) (FY2020)
Approx. **24,000** customers

* Total of JFE Steel, JFE Engineering, and JFE Shoji (FY2020)

Manufacturing capital

- Number of blast furnaces (as of April 2021)
West Japan Works: **6**
East Japan Works: **2**
- Number of bases (as of April 2021)
109 locations in **22** countries and regions (Group total)

Human capital

- Number of employees (as of the end of March 2021)
64,371 persons (Group consolidated)
- Annual training hours (FY2020)
Approx. **0.67** million hours a year (total of operating companies: approx. 32 hours a year per employee)

Natural capital

- Steel raw materials (FY2020)
58.7 million tons (iron ore, coal, and limestone)
- Recycled raw materials (FY2020)
0.8 million tons (steel scrap)

Financial capital

- Total equity (IFRS) (as of the end of March 2021)
1,760.1 billion yen

Business model

JFE Comprehensive strengths backed by

Holdings created in each business, world-class technologies

- **Steel Business** (JFE Steel)
- **Engineering Business** (JFE Engineering)
- **Trading Business** (JFE Shoji)
- **Shipbuilding Business** (Japan Marine United) (equity-method affiliate)

A business model that creates a JFE brand associated with high-added value (Steel Business, Trading Business) ▶P.35

Business model that strongly supports the lives of people (Engineering Business) ▶P.37

Growth strategy

Seventh Medium-term Business Plan ▶P.25

Sustainability of the environment and society

Establish economic sustainability

JFE Group Environmental Vision for 2050 ▶P.29

Important management issues (materiality) ▶P.15, 57

Basics of business activities

Compliance ▶P.77
Respect for human rights ▶P.75
Corporate governance ▶P.78

Promotion of materiality

Output

Output into market (FY2020 revenue: 3,227.2 billion yen)


Steel sheets for automobiles


Steel sheets for tableware and kitchenware


Biomass power generation facilities


Bridges and steel for bridges


Urban environmental plants


Very large crude oil carrier (VLCC)

FY2020 results

Contributions to resolving climate change

JFE Steel
Reductions in CO_2 emissions:
10.8 million tons (comparison with FY2013)

JFE Engineering
Contribution of CO_2 emissions reductions:
9.65 million tons

JFE Steel
Recycled water resource usage:
93.0%

Increase competitiveness with DX

JFE Steel
Data scientists: **350 employees**

World-class technological capabilities that meet customer needs

Domestic patent publications:
1,113 patents

* Total patents published in Japan and patents published under Patent Cooperation Treaty, designated to be transferred to Japan

Ratio of high-value-added products:
Approx. 40%

Emergency measures during the pandemic

Cost reductions: **100 billion yen**
Asset reductions: **180 billion yen**

JFE GROUP REPORT 2021

Material Issues of JFE Group Corporate Management

Identification of material issues of corporate management

The JFE Group has identified material issues and set KPIs to address these issues with the objective of maximizing the creation of social value and minimizing its negative impact on society as Group capital is deployed to satisfy the needs of diverse stakeholders. The material CSR issues that we identified in 2016 were comprehensively selected from 35 CSR-related issues in light of the expectations of society, while considering the unique nature of the Group's operations. Priorities were assigned to the identified material issues based on (1) the expectations of stakeholders and (2) correlation with operations (impact on society). We identified 13 issues in five focus areas.

In fiscal 2021, we formulated the Seventh Medium-term Business Plan, recognizing that ensuring environmental and social sustainability (helping to solve critical issues) and establishing economic sustainability (stable earnings power) are key to the JFE Group's sustainable development. Accordingly, we reorganized our materiality by adding economic issues to our existing CSR issues to identify all **our material issues of corporate management**. We will demonstrate the Group's vision of "contributing to society with the world's most innovative technology" by working in concert to address these issues.

Material CSR issues

+

Material economic issues

Material issues of corporate management

Process for identifying material issues

FY2016: Identifying material CSR issues

STEP 1 Identification

By measuring the businesses of the JFE Group against the following yardsticks, we have identified 35 core issues for our CSR initiatives:

- GRI G4 Sustainability Reporting Guidelines
- ISO 26000
- Sustainable Development Goals (SDGs)
- ESG survey via external assessment
- Internal documents on employee satisfaction surveys, etc.
- Benchmark surveys on the three business areas

STEP 2 Prioritization (Groupwide Meeting)

We prioritized the above 35 issues in two ways: stakeholder expectations and relevance to business societal impact, and identified 13 issues in five focus areas.

▶ Groupwide meeting

Managers from each operating company discussed the prioritization from the perspectives of group management and their respective operating companies' interests.

STEP 3 Validation

The following process validated the material CSR issues identified:

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

* Participants included the President of JFE Holdings (chairperson), executive vice president, Corporate Officers, full-time Audit & Supervisory Board Members, and the presidents of operating companies, etc.

FY2021: Identifying material issues of corporate management

STEP 1 Reevaluate existing material CSR issues

The material CSR issues identified in 2016 were reassessed for their importance in terms of relating to current operations, stakeholder expectations, and achievement of KPIs.

STEP 2 Set material economic issues

Based on discussions at each operating company, major strategies in the Seventh Medium-term Business Plan were grouped together with sources of competitive advantages in the JFE Group's business model, and economic-related issues were clarified for the economic sustainability of the Group.

▶ Sources of competitive advantages

Steel and trading businesses: Production, sales, and technological development

Engineering business: Engineering, procurement, construction, sales, and technological development

STEP 3 Select 20 material issue candidates

Economic-related issues were added to the list of reassessed material CSR issues, and their appropriateness as issues for the JFE Group was deliberated by the Group Management Strategy Committee, screening out 20 material issue candidates.

STEP 4 Identify the 13 most important material issues

The Group Management Strategy Committee and the Board of Directors discussed the 20 material issue candidates, and narrowed them down by identifying the most important for the JFE Group, as 13 material issues of corporate management.

KPIs for material issues

The JFE Group has set and worked toward achieving KPIs in initiatives for the identified material issues. In fiscal 2020, we evaluated the results in the previous fiscal year, revised KPIs based on these results and the opinions of stakeholders, and undertook fresh initiatives to address issues. The KPIs for **material issues of corporate management** that we identified for fiscal 2021 were set following examination by operating companies, discussion at management meetings, and deliberations by the Group Management Strategy Committee and Board of Directors.

▶ Please see page 57 for information about our initiatives in fiscal 2020 and KPIs for fiscal 2021.

	Areas of Focus	Details	Material Issues	Relevant SDGs
Activity	Contribute to resolving climate change issues (initiatives for achieving carbon neutrality by 2050) → P.29, 65	● Initiatives for achieving carbon neutrality by 2050 • Reduce the JFE Group's CO_2 emissions • Contribute to reduction of CO_2 emissions in society	• Reduce the JFE Group's CO_2 emissions • Contribute to reduction of CO_2 emissions across the society	
	Ensure occupational safety and health →P.71	● Prioritize safety first ● Maintain the physical and mental health of employees and their families	• Prevent workplace accidents • Ensure the health of employees and their families	
	Recruit and nurture diverse human resources → P.73	● Maintain work environments where all personnel can maximize their abilities ● Accumulate and hand down technologies and skills	• Pursue diversity and inclusion • Strengthen human resources development • Create workplaces that motivate employees	
	Reinforce resilience of production and engineering capabilities (realize world-class earnings power through DX and other measures)	● Pursue world-class earnings power ● Promote DX and other measures to improve production efficiency, yields, and labor productivity • Shift focus of steel business from quantity to quality (structural reform) • Reduce costs to strengthen cost competitiveness and ensure quality competitiveness	• Increase efficiency and enhance cost competitiveness in production and engineering • Raise quality of products and services and ensure reliable supply	
	Strengthen competitiveness of products and services (promote the growth strategy by providing high-value-added solutions)	● Improve margins and ensure stable earnings power • Increase ratio of high-value-added products and services • Ensure stable earnings power based on the sales strategy, including technological solutions and expansion of growth businesses	• Expand business by increasing value added in products and services with advanced technologies • Sales strategies for realizing sustainable growth	
Basis of activity	Thoroughly enforce compliance → P.77		• Ensure adherence to corporate ethical standards and compliance	
	Respect human rights → P.75		• Respect human rights across the supply chain	

Please see page 57 for KPIs for each priority issue.

Improvement in ROE by achieving KPIs