JFE GROUP REPORT 2020

[Integrated Report]

Corporate Vision

The JFE Group will contribute to society with the world's most innovative technology.

Corporate Values

Challenging Spirit, Flexibility & Sincerity

Editorial Policy

The JFE GROUP REPORT 2020 (Integrated Report) has been created and published with the aim of having all stakeholders, including shareholders and investors, understand the medium- to long-term value creation narratives within JFE Group.

While providing a consolidated overview of the medium- to long-term growth strategy together with financial information (such as results and management strategies) and non-financial information such as Environment, Society, and Governance (ESG), we have included special feature articles focused on specific strategic themes, clearly presenting the company's unique initiatives. Through this report, we hope to foster a better understanding of JFE Group's approach toward sustainable enhancement of corporate value.

This report is utilized to communicate comprehensively with all our stakeholders, and our intention is to use your feedback to provide even better content in future reports.

Reporting period	FY 2019 (April 1, 2019, to March 31, 2020). Reports on some activities undertaken outside this period are included.
Organizations covered	The holding company JFE Holdings, Inc. and its three operating companies JFE Steel Corporation, JFE Engineering Corporation and JFE Shoji Corporation. Additionally, some reports may include the equity-method affiliate Japan Marine United Corporation and Group companies under the operating companies (consolidated subsidiaries and equity-method affiliates).

Guidelines

- International Integrated Reporting Council (IIRC) Guidelines: International Integrated Reporting Framework
- Ministry of Economy, Trade and Industry: Guidance for Collaborative Value Creation

価値協創ガイダンス
Guidance for Collaborative Value Creation

- GRI: Sustainability Reporting Guidelines
  GRI Standards
- Financial Stability Board: the final report of the Task Force on Climate-related Financial Disclosures (TCFD)

Publication Date

Online: November 2020; (Next issue (planned): November 2021)

Disclaimer

All current plans, strategies and beliefs published in this report that are not historical facts contain forecasts about future performance, which are subject to risks and uncertainties. Actual results may greatly differ from those forecast due to various factors including future trends in the global and Japanese economies, and in related industries. Accordingly, please note that we do not guarantee the reliability of such forward-looking information.

Tool map

JFE GROUP REPORT (Integrated Report)

Financial Information

- Financial results and investors' meeting documents
- Securities report

● IR Library
https://www.jfe-holdings.co.jp/en/investor/library/index.html

Non-financial Information

- CSR report
- Corporate governance report
- IT REPORT

● CSR Report 2020
https://www.jfe-holdings.co.jp/en/csr/
● Corporate governance report
https://www.jfe-holdings.co.jp/en/company/info/pdf/corporate-governance.pdf
● IT REPORT
https://www.jfe-holdings.co.jp/en/investor/library/itreport/index.html

Standards of Conduct

All JFE Group personnel are required to faithfully adhere to the following Standards of Conduct in all corporate activities. These standards embody the JFE Group's Corporate Vision and go hand-in-hand with its Corporate Values. Senior managers are responsible for communicating these standards to employees of Group companies and their supply chain partners, and creating effective systems and mechanisms to ensure adherence to ethical standards. Senior managers are also responsible for measures to prevent the recurrence of any violation of these standards. Additionally, they must report violations promptly and accurately to internal and external stakeholders, determine the persons of relevant authority and accountability, and resolve matters rigorously.

1. Provide quality products and services 2. Be open to society 3. Work with communities 4.Globalize
5. Exist harmoniously with the global environment 6. Maintain proper relations with governments and political authorities
7. Maintain crisis readiness 8. Respect human rights 9. Provide challenging work environments 10. Comply with laws and ordinances

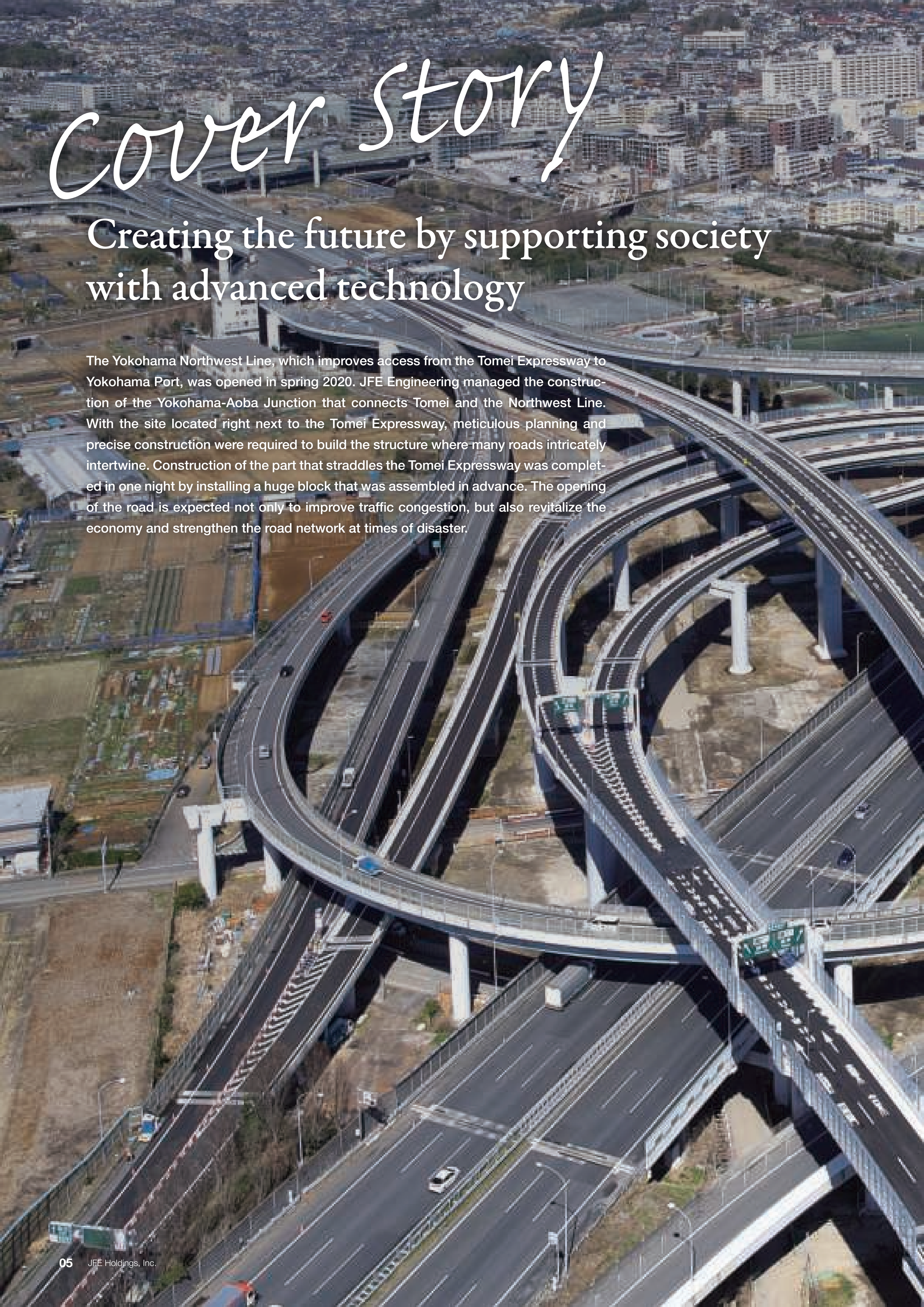
Contents

Cover Story

Restructuring for a new stage of growth

We are transforming the company into a leaner, stronger company through restructuring focused on targeted production systems and product types in response to structural changes in our external environment.
Furthermore, we are establishing a solid revenue base for the future by pursuing growth through three main strategies: strengthen the competitiveness of our domestic manufacturing sites, pursue digital transformation (DX) and expand new revenue bases overseas.

Plate mill in the Keihin district



Cover Story

Creating the future by supporting society with advanced technology

The Yokohama Northwest Line, which improves access from the Tomei Expressway to Yokohama Port, was opened in spring 2020. JFE Engineering managed the construction of the Yokohama-Aoba Junction that connects Tomei and the Northwest Line. With the site located right next to the Tomei Expressway, meticulous planning and precise construction were required to build the structure where many roads intricately intertwine. Construction of the part that straddles the Tomei Expressway was completed in one night by installing a huge block that was assembled in advance. The opening of the road is expected not only to improve traffic congestion, but also revitalize the economy and strengthen the road network at times of disaster.

Yokohama-Aoba Junction


NH 10T

Cover Story

People connect and become power

The global market is constantly changing.
Our business is built upon the connection between people that understands needs of customers, communicates them to manufacturing sites, and speedily responds to them as a team.
JFE Shoji Group's mission is to lead our customers to solutions through capturing the changing needs of society. We will continue to grow by developing new businesses while firmly maintaining our existing businesses.

Photo: Processing center in Vietnam, JFE Shoji Steel Hai Phong Co., Ltd.

Delivery of the final 14,000 TEU type energy-saving container ship

Cover story

Building every ship with heart and soul

The 14,000 TEU type energy-saving container ship ONE CYGNUS, built at the Kure Shipyard of Japan Marine United (JMU), completes the series of 15 vessels.
This vessel adopts YP460, an ultra-thick high-tensile steel developed jointly with JFE Steel, to achieve efficiency in transport through container carrying capacity enhanced to the maximum. In addition, by incorporating unique energy saving devices developed by JMU, such as SURF-BULB™ and ALV-Fin™, the vessel delivers high energy saving performance that achieves the Energy Efficiency Design Index (EEDI) regulation Phase 3 requirement. The high-efficiency, electronically controlled main engine provides fuel efficiency over a wide speed range and allows for flexible operations.

JFE Group *History of Growth*

2001-
History leading to the establishment of JFE

Steel industry in a harsh environment

The Japanese steel industry reached its peak during the high economic growth period of the Izanagi boom (1965-1970), when NKK opened Fukuyama Works in 1965 and Kawasaki Steel lit the No.1 Blast Furnace at Mizushima Works in 1967. However, competitiveness in export dropped sharply due to the Nixon shock of 1971, two oil shocks (1973 and 1979), and the global appreciation of the yen caused by the Plaza Accord of 1985. After that, the situation became more serious after the collapse of the bubble economy in the 1990s.
With the better selection and consolidation of suppliers in the steel user industry after 1999, competition among steel companies intensified, steel prices plummeted, and there was rising fear that the steel industry will collapse unless the industry is restructured.

1896-
Kawasaki Steel

Origin

1912-
NKK
(Nippon Kokan)

Toward integration

There were two other reasons for selecting them as counterparts for the integration in addition to the common historical background of having been private steel companies that were not government-owned.
One was that the product lineups of both companies were similar. With similar product lineups, we thought it possible to maximize the benefits of integration, such as purchasing raw materials in bulk and consolidating logistics.
The other reason was the location and competitiveness of the steelworks. With Kawasaki Steel/Chiba Works and NKK/Keihin Works located in eastern Japan, and the proximity of Kawasaki Steel/Mizushima Works and NKK/Fukuyama Works in western Japan at only an hour's drive by car, it seemed natural to unify management. In addition, we felt that significant benefits could be obtained from integration due to the fact that the core steelworks of both companies, Mizushima and Fukuyama, were the most competitive large-scale steelworks in the world.

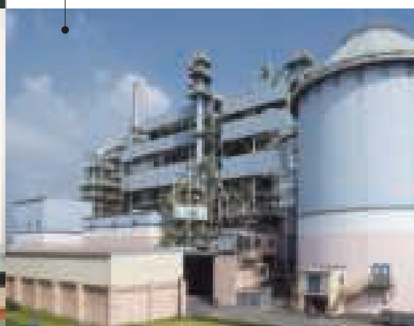
First Medium-term Business Plan 2003-2005

Realizing our merger's full potential

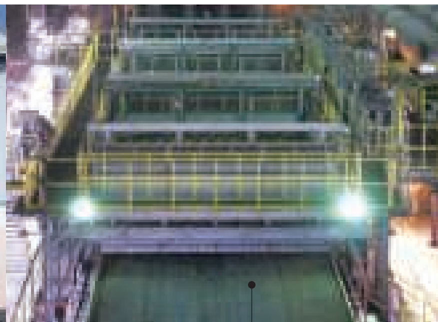
The primary aim behind the establishment of JFE was to secure stable profitability early on and to strengthen its business foundation through active investment and financing.
We consolidated facilities, and reorganized and integrated Group companies to build a strong business structure by strengthening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

- May 2003 ■ The Super-OLAC™ accelerated cooling system, which had been installed in the Fukuyama district (formerly NKK), was installed in the steel plate plant in the Kurashiki district (formerly Kawasaki Steel). The horizontal deployment of proprietary technology realized a significant improvement in productivity.
- March 2004 ■ Developed JAZ™, a hot-dip galvannealed (GA) steel sheet for automobiles excellent in formability during pressing.
- March 2004 ■ Developed UHP 15CR-125 Steel Pipe, a seamless stainless steel pipe for oil well pipes, which has excellent strength and corrosion resistance that can be used in places with high seismic intensity in high temperature and high pressure environments.
- March 2005 ■ Completed system integration across all operational areas by launching the new integrated system J-Smile.

- April 2005 ■ Established an extension of the childcare leave period and shortened working hours for childcare as Measures to Support Next-Generation Child-Rearing.
- June 2004 ■ Introduced JFE COLLEGE, a curriculum for developing young employees.
- April 2004 ■ Started operation of Fukuyama Recycle Power Co., Ltd. and promoted environmentally friendly waste treatment recycling business.



Fukuyama Recycle Power Co., Ltd.



Super-SINTER™

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.

- March 2007 ■ Developed the eco-friendly chromate-free steel sheet ECO FRONTIER™ JM that does not contain any environmental pollutants.
- January 2008 ■ Developed a new product, JFE ECOGAL™, which has corrosion resistance three times greater than that of general galvanized steel sheets.
- June 2007 ■ Developed a high-strength steel sheet with a yield stress of 460MPa as a steel material for super-large container vessels in collaboration with IHIMU (currently JMU).
- September 2007 ■ Developed NANO HITEN™, a 1180MPa-grade ultra-high-strength hot-rolled steel sheet, that achieves both strength and easy processing by controlling the steel's structure at a nano level.

- June 2007 ■ Strengthened the governance system by inviting outside directors to join the company.
- January 2007 ■ Built Advanced Plastic Recycling (APR), a waste plastic pulverization plant, to conserve resources and reduce CO_2.
- August 2007 ■ ■ Acquired the next-generation authorization mark (Kurumin), certifying that a company meets the standards set forth in the Act to Advance Measures to Support Next-Generation Child-Rearing.
- January 2009 ■ Achieved reduction of CO_2 emissions by developing Super-SINTER™, a hydrogen-based gaseous fuel injection technology for sintering machines.

External environment and strategy Technological development ESG initiatives

JFE Holdings JFE Steel JFE Engineering JFE Shoji

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.

- May 2010 Awarded the 42nd Ichimura Prize in Industry for Distinguished Achievement for HBL™385, a steel material used in construction with a thickness 15% less than previous sheets, and excellent weldability.
- January 2011 Contributed to lighter weight vehicles with UNIHITEN™, a 440MPa-grade high-tensile steel sheet developed for automobiles. It was the first 440MPa-grade steel sheet in Japan to be used for door panels.
- December 2010 Developed and commercialized Mighty Seam™, an electric resistance welded steel pipe that can be used as line pipes in harsh environments such as cold regions.

- March 2010 JFE BallastAce™, the highest-performance ballast water management system, received final approval from the IMO to contribute to maintaining the ecosystem.
- May 2011 Coral spawning observed on Marine Blocks™ made by blowing carbon dioxide into iron-steel slag in a demonstration test at Port of Hirara in Miyako Island.
- 2011- Continued CSR activities such as donating desks, chairs and canned food to the Ministries of Education in both Ghana and Nigeria.

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.

- December 2015 Developed a 980MPa-grade high-tensile strength cold-rolled steel sheet with both excellent elongation and hole expansion characteristics, that had been difficult to achieve with ultra-high strength steel.
- January 2017 Developed the world's thickest 100-mm thick YP460MPa-grade crack arrest steel plate that can be used in ultra-large container vessels.
- December 2017 Developed JFE's topology optimization technology, a technology that optimizes the joining location, the first applied to vehicles.

- October 2015 Established the JFE Holdings, Inc. Basic Stance on Corporate Governance with the aim of pursuing and enhancing the best corporate governance.
- January 2016 Decided to establish an onsite childcare facility at the East Japan Works (Chiba district).
- March 2017 Decided to launch a food recycling business using bio-gasification from August 2018 to generate renewable energy for helping to build a low-carbon society.
- February 2018 Selected for the Health & Productivity Stock Selection 2018 for the first time, as a company strategically implementing employee health management from an overall management viewpoint.

Marine Blocks™ where corals thrive

Ferro-coke pilot plant

JFE Sorairo Childcare Center Fukuyama

Global Remote Center

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.

- May 2013 Developed a new precast seawall for early preparedness against tsunamis. Achieved significant reductions in the local procurement of equipment and manpower, and halved the construction period.
- February 2014 Developed the world's first American Petroleum Institute (API) standard X80-grade 1-inch (25.4 mm) electric resistance welded steel pipe.
- May 2014 Developed JFE-SIP™-CC, the world's first high corrosion resistant steel plate that is revolutionary in preventing the corrosion of a coal carrier's cargo hold, used in coal carriers for the first time.
- August 2014 Developed and launched manufacturing for the first time in Japan of Kona-Bijin™, a premixed iron powder for iron coating direct seeded rice.

- April 2013 Carried out long-term test manufacturing of material for blast furnace called ferro-coke, and its trial use at a blast furnace. Ferro-coke has innovative properties for reducing CO_2 emissions.
- June 2012 Introduced a quick charger for electric vehicles at Cosmo Oil's affiliated gas stations, and implemented a demonstration project for gas stations in the EV era.
- March 2014 Selected as a Nadeshiko Brand for the first time in recognition of the creation of a work environment where women can play more active roles.

Sixth Medium-term Business Plan 2018-2020

Boosting competitiveness with advanced technology

Our current focus is 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 our priorities, we are pursuing a number of environmental, social and governance (ESG) initiatives, including environmental protection, development of human resources and establishment of a governance system.

- July 2019 Enhanced and developed an automation system for the automatic combustion control (ACC) system at a waste treatment facility to achieve fully automated operation for the first time in Japan.
- November 2019 Introduced the latest data science (CPS) to all blast furnaces in domestic steelworks to improve the operation of blast furnaces.
- December 2019 Systematized proprietary steel sheet application technology for automobiles as JESOLVA™ to provide a comprehensive solution.

- December 2018 Introduced image recognition technology that uses AI to promote safety at steelworks, a first in the steel industry in Japan.
- February 2019 Established the Raw Materials Purchasing Policy in order to build a sustainable raw material purchasing system that takes into account all risks related to raw material procurement.
- May 2019 Agreed to the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)

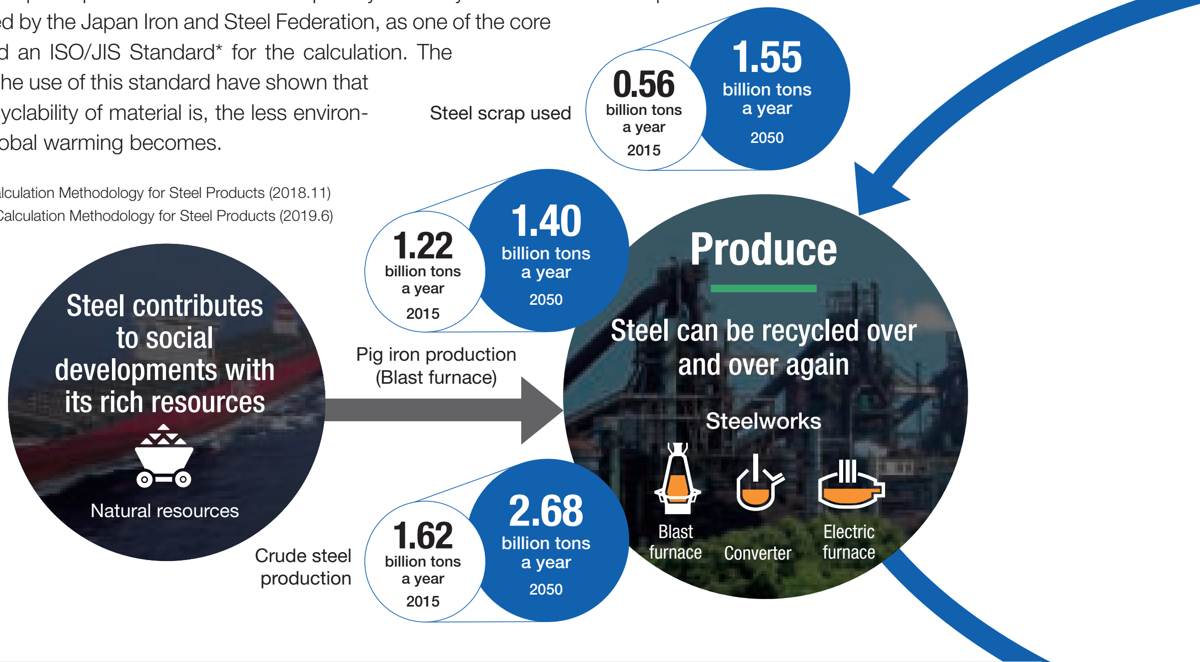
The Value of Steel

Since there are rich reserves of steel, which composes approximately 30% of Earth's mass, it can also be mass produced at low cost. Steel has an extremely low impact on the environment at the manufacturing stage when compared to other materials, and has an excellent recyclability. Steel with the low environmental impact is reborn as anything over and over again (closed-loop recycling), contributing to the sustainable development of our society.

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 lifecycle 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.

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



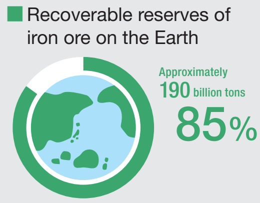
Produce

High economic efficiency and low environmental impact

Earth is a steel planet (rich resources)

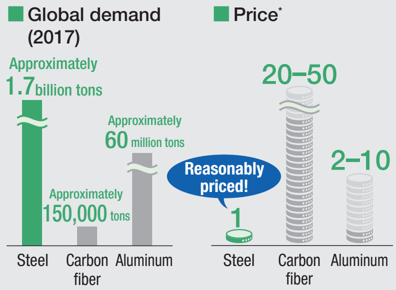
As much as 85% (190 billion tons) of the Earth's metal resources are iron ore.

Source: Mineral Commodity Summaries (2016)



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.

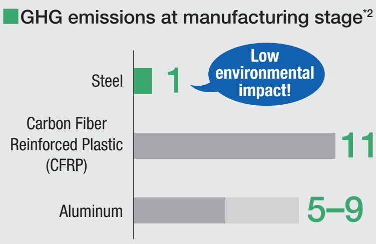


Created by JFE Holdings with documents from Mizuho Bank Industry Research Division and economic forecasts by Fuji Keizai Co., Ltd.

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

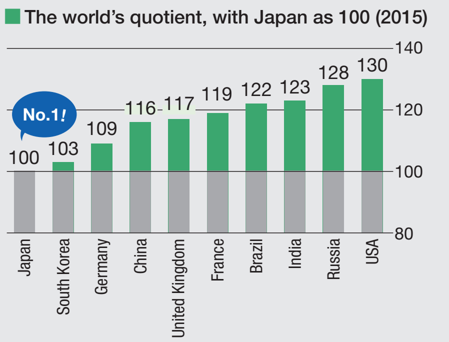
The greenhouse gas (GHG) emission of steel at the manufacturing stage*1 is 1/5 to 1/9 of that of aluminum, and approximately 1/11 of that of carbon fiber.



Source: Steel Recycling Institute
*1 From mining raw materials to factory shipment
*2 Comparisons with other materials' GHG emissions per unit weight, with steel as 1

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

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 towards environmental conservation, including developing and spreading the use of energy-saving technologies.



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

Steel can recycling rate 92% 2018

Source: Japan Steel Can Recycling Association

Recycle Excellent recyclability

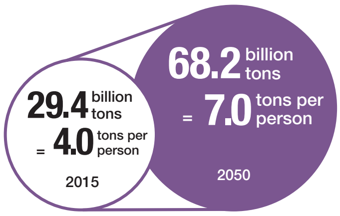
Steel is a material with an excellent recyclability such as its property enabling magnetic separation and retrieval. Even after a final product made of steel ends its life in society, it is reborn over and over again into a high-quality, high-functional product through highly efficient separation and retrieval technologies (closed-loop recycling).

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.

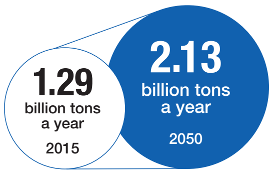
* A limited form of material recycling that involves application of the heat generated from the incineration of materials as well as recycling where the material may deteriorate or change in quality.

Steel can be reborn as anything over and over again

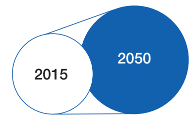


Steel stock

Demand for steel



The world's steel usage



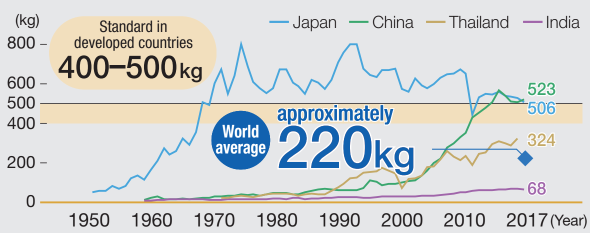
Japan Iron and Steel Federation: Long-term vision for climate-change mitigation

Use Foundation for life and society

The potential to grow on a global level

The world average of the annual consumption of steel currently stands at around 220 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)

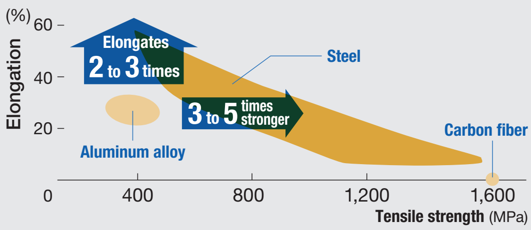


Source: World Steel Association

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. 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

Value Creation

Process of Value Creation

Putting Corporate Vision into Practice

Contributing to Society

Input

Intellectual capital

- Domestic patent publications (FY2019)

World-class technologies that have been developed and accumulated in long-term relationships with our customers

1,051 patents (entire Group)

*Total patents published in Japan and patents published under PCT, designated to be transferred to Japan

- R&D expenses (FY2019)

38.7 billion yen (Group consolidated)

Manufacturing capital

- Consolidated crude steel production (FY2019)

Two major, consolidated and highly efficient steelworks and bases for production and process engineering across the globe

28.09 million tons (consolidated JFE Steel)

- Manufacturing bases (as of April 2020)

111 bases in **23** countries and regions (entire Group)

Natural capital

- Energy consumption intensity (FY2019)

Realizing a recycling-oriented society and reduction of negative environmental impact through leading-edge, energy-saving and resource conservation technologies

Comparison with FY1990

19% reduction (23.2 GJ/t)

- Recycling of water resources (FY2019)

93.4% (steelmaking process)

Social and other related capital

- Number of customers (delivery destinations) (FY2019)

Relationships of trust established over many years with our customers and stakeholders

Approx. **24,000** customers

*Total of JFE Steel, JFE Engineering and JFE Shoji (FY2019)

Human capital

- Number of employees (as of the end of March 2020)

Diverse human resources with abundant experience and a high level of knowledge and expertise that support our wide range of operations

64,009 persons (Group consolidated)

- Annual training hours (FY2019)

0.83 million hours a year (total of operating companies: 40 hours a year per employee)

Financial capital

- Ratio of equity attributable to owners of parent (IFRS) (as of the end of March 2020)

A sound financial base that enables further investment for growth

35.0%

- Total equity (IFRS) (as of the end of March 2020)

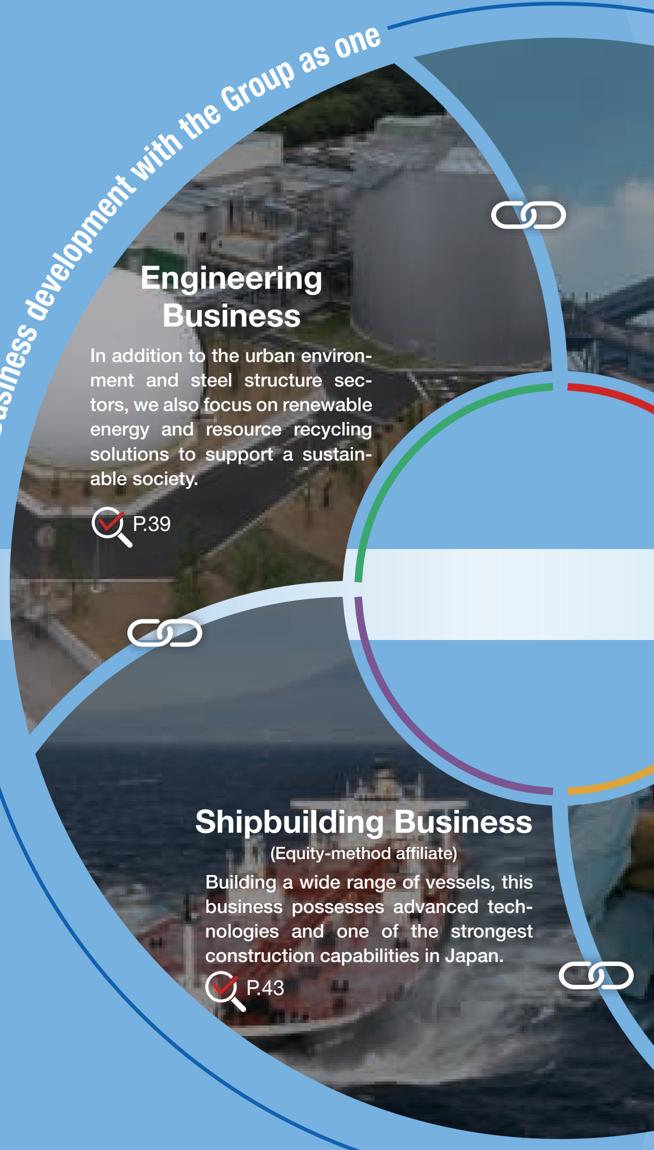
1,706.5 billion yen

Management resources accumulated over time

Business growth drivers

Business model

Business development with the Group as one



Building a foundation for sustainable growth

Foundations supporting our businesses

Compliance P.93 Corporate Governance P.87

with the World's Most Innovative Technology

Output into market

Creating new value by providing solutions that meet the needs of society in general, and also of our customers

Steel Business

We possess two major integrated steelworks in Japan along with global manufacturing and processing bases, which allow us to incorporate world-class technologies to supply products with the high-added value that meets our customers' evolving requirements.

P.35

Trading Business

Supplying steel products with added value globally, this business operates in a broad range of sectors, including food and electronics, as well as handling iron and steel raw materials.

P.41

(ESG Management) P.71

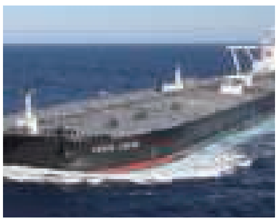

Steel sheets for automobiles


Bridges and steel for bridges


Steel sheets for tableware and kitchenware


Urban environmental plants


Biomass power generation facilities


Very large crude oil carrier (VLCC)

Improving medium- to long-term corporate value

Outcome

Making sustainable efforts to resolve social issues

Using our operations to make progress possible in diverse industries and lifestyles

- Realizing comfortable lifestyles through supply of automobiles, ships, and household appliances with advanced functions
- Constructing a strong infrastructure through development in the civil engineering and construction fields
- Ensuring a stable energy supply and spreading the use of renewable energy toward a sustainable society
- Developing and supplying environmentally friendly products and promoting resource recycling
- Contributing to resolving climate change issues on a global scale through initiatives to reduce CO_2.
- Securing excellent human resources and enhancing job satisfaction
- Creating a prosperous coexistence with local communities

Creating economic value from sustainable growth

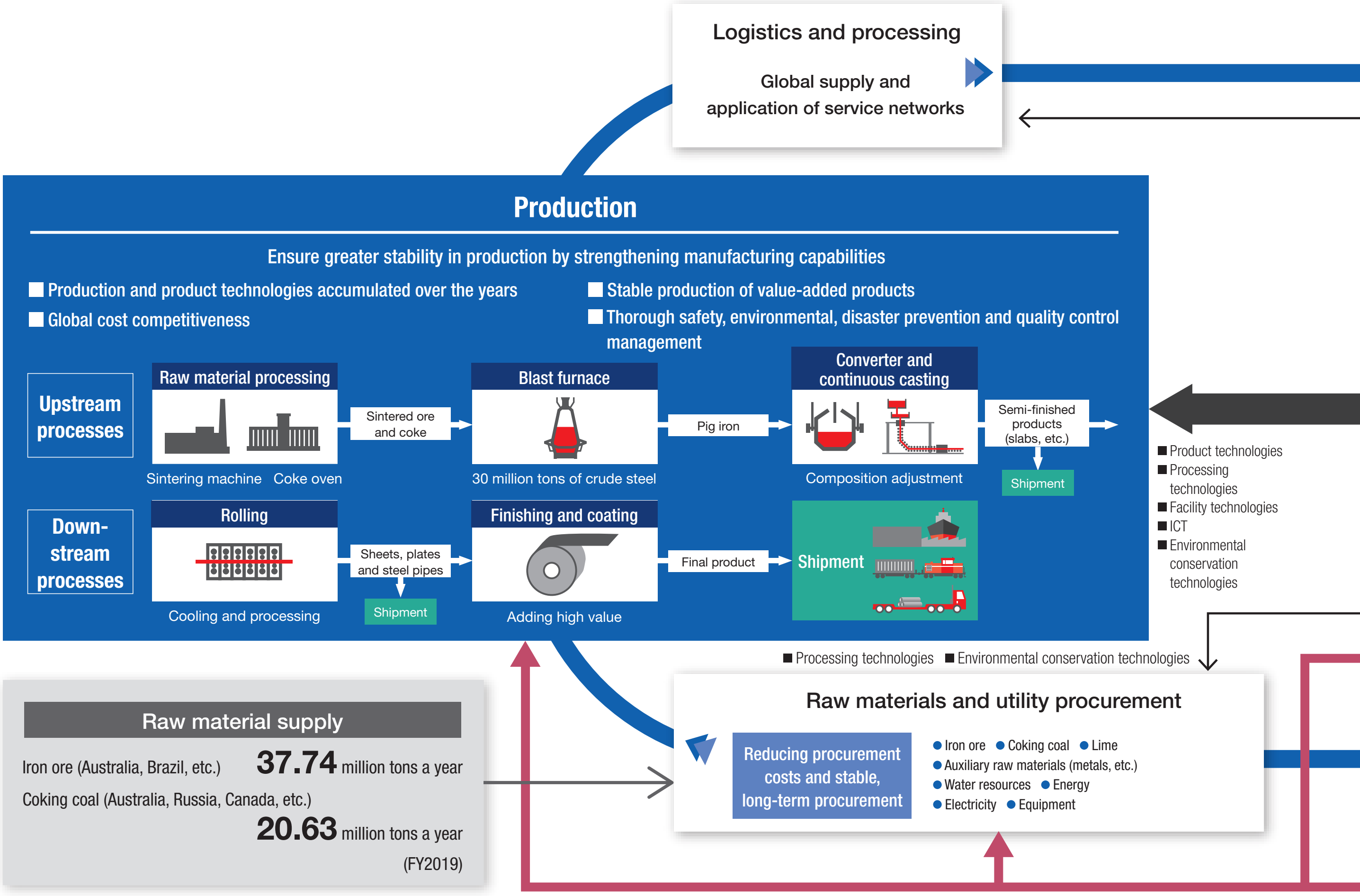
Returning the economic value created through business operations into investments and to shareholders

- Sustainable cash flow growth
- Continued business investment in growth sectors and regions and investment in the development of cutting-edge technology
- Return of profit to shareholders Dividend payout ratio of approximately 30%

Human Resources P.59 Stakeholder Relationships P.83

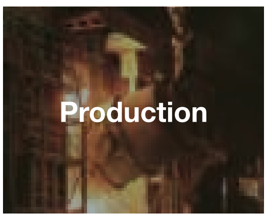
A business model that creates a JFE brand associated with high-added value

The competitive advantages of our steel and trading businesses have three fundamental sources: **(1) leading-edge technological development capabilities mobilized by customer needs, (2) production capabilities constantly developed and enhanced at production sites,** and **(3) sales capabilities underpinned by firm relationships of trust with customers** established over years by JFE Steel and JFE Shoji. We have created new value tailored to customer needs and provided optimized solutions based on these three factors. Our competitive advantages are treasured assets created through many years of effort. They are also the driving force behind our sustainable growth and cannot easily be matched by other companies.



The source of competitive advantages that reinforce our business model

Two major, integrated steelworks with excellent competitive strength



The primary source of our competitive strength in the steel business are two major steelworks located in east and west Japan, both with world-class production scale. West Japan Works boasts a production scale of 20 million tons of steel annually and, by international standards, is among the best in terms of cost, product strength and technological capabilities. In addition, we will carry out a review of the domestic production system in response to changes in the business environment, and develop a lean and resilient system. With leading production technologies, intellectual property, expertise and other strengths accumulated over many years, our production capability is our company's unique source of competitive strength.

See Steel Business Strategy on page 35 for details.

Initiatives and investments for reinforcement

- ■ Establish a robust manufacturing system through restructuring centered on selection and focus to respond to changes in the business environment
- ■ Innovative enhancements in productivity and product quality, and realization of stable production through the proactive introduction of advanced IT and data science
- ■ Utilize solution technologies in the steel business gained through expertise, data and advanced IT accumulated at steelworks in Japan
- ■ Stable procurement of raw materials and cost reduction utilizing technologies for low-cost raw materials and networks, including JFE Shoji

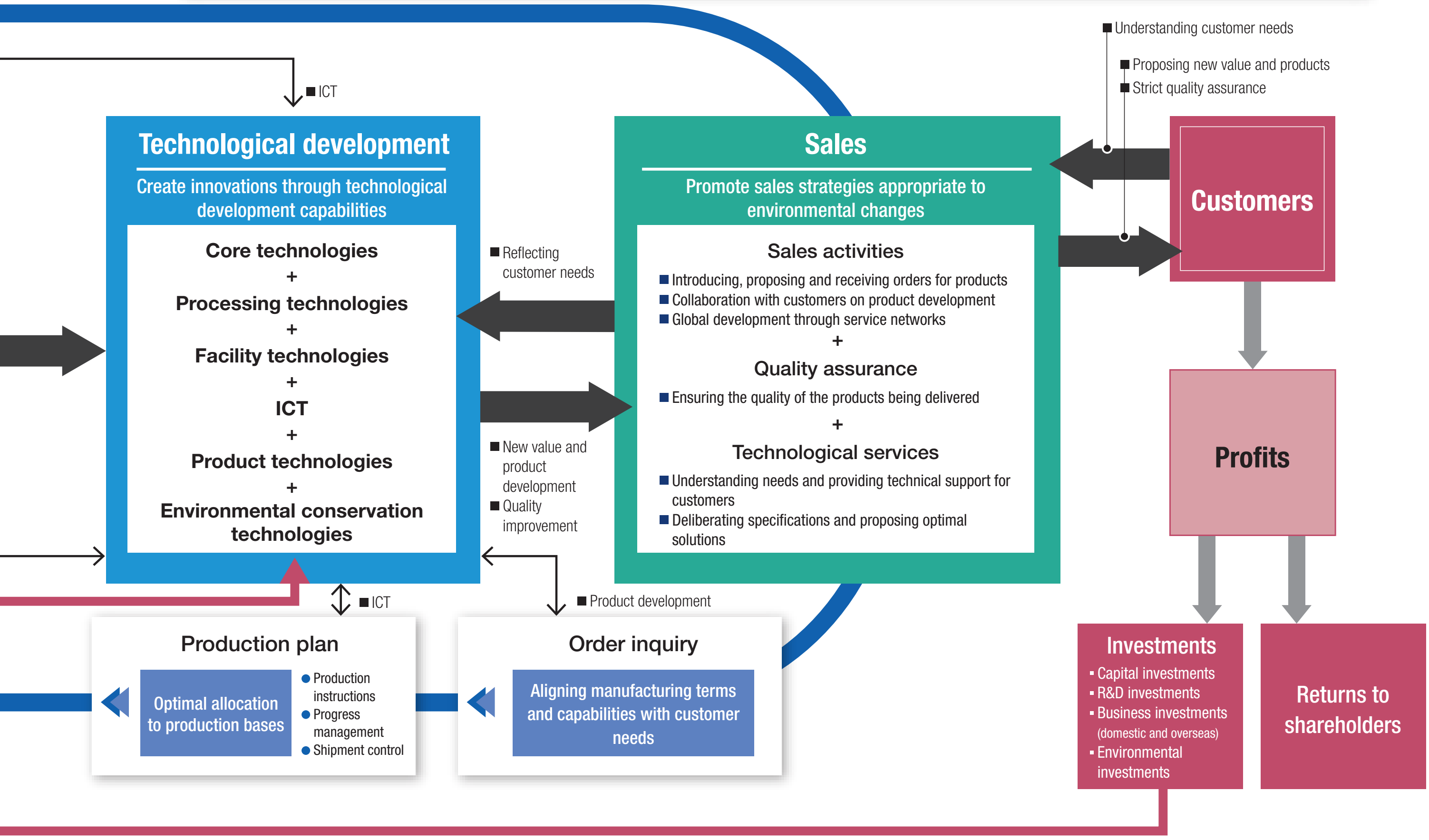
The source of competitive advantages that reinforce our business model

Technological development capabilities that make new value creation a reality

We have fine-tuned and accumulated world-class technological capabilities by responding to the requests of Japanese customers, who are the most demanding in the world in terms of quality standards. Creating new value through the development and supply of high function, quality products and services in a wide array of fields, we contribute to the development of industries and societies around the world and to evolving lifestyles. Our excellent environmental, resource, and energy conservation technologies allow us to manufacture steel with the lowest environmental impact in the world. These technologies are put to use for environmental measures all over the world and are utilized as opportunities for growth.

Initiatives and investments for reinforcement

- Promoting product development and provision of solutions, including for technological innovations for automobiles and according to changes in social needs
- Further global development and evolution of world-class technologies for conservation of energy, reduction of environmental impact and environmentally-friendly products
- Promoting growth strategies and reinforcing competitive strength through proactive application of leading-edge technologies, including advanced IT and innovative production processes



The source of competitive advantages that reinforce our business model

Ability to respond to customer needs and a stable customer base

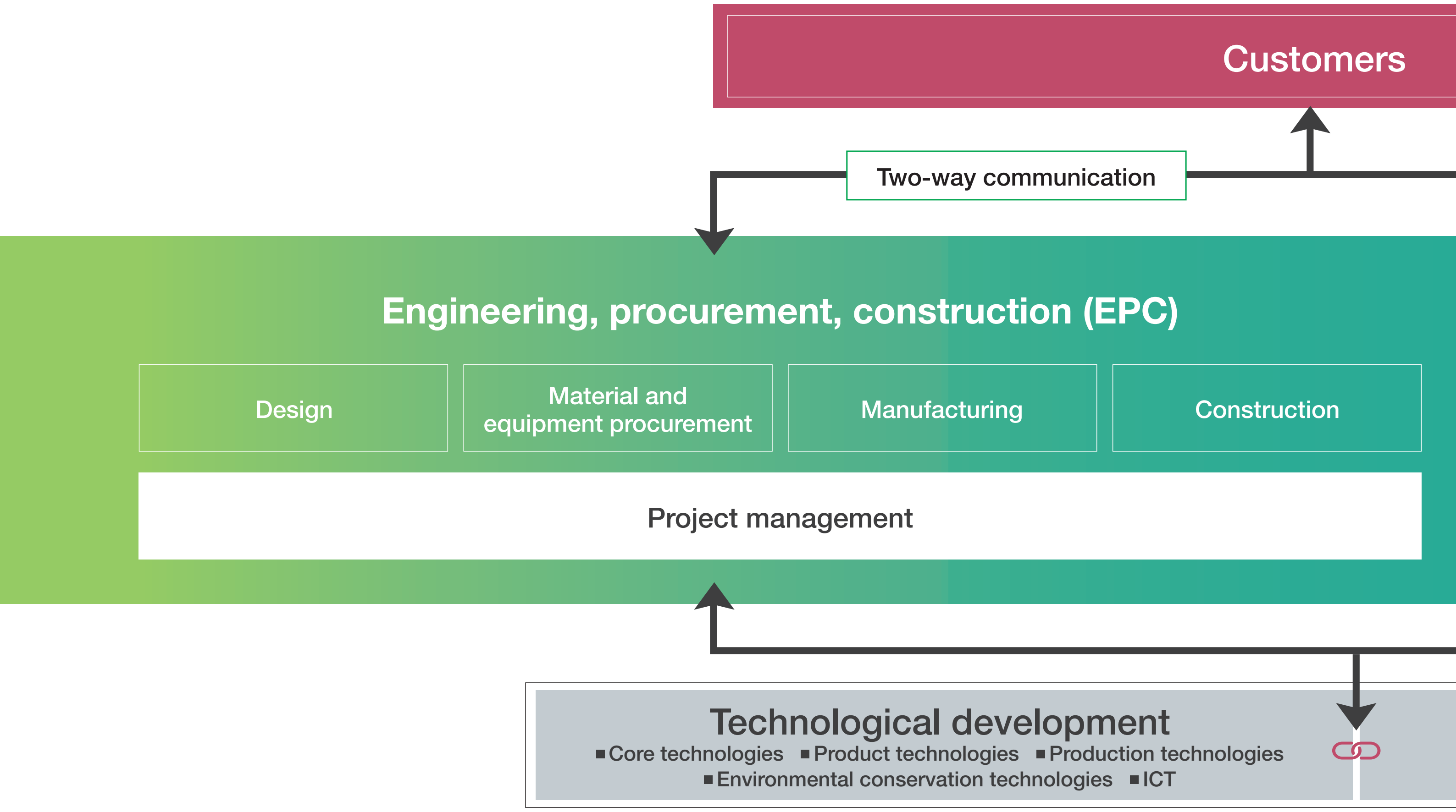
We have established relationships of trust through two-way communications with many customers during our long years in business. We have created new value by closely communicating with customers to accurately meet their evolving requirements and through other activities, including cooperation from the initial development stage which helps us to contribute to the resolution of customer issues. As a result, we have created a solid customer base that cannot be easily or quickly built by other companies and, at the same time, gained global competitive strength (non-price competition).

Initiatives and investments for reinforcement

- Consolidating product development and sales as well as understanding the needs of customers in an appropriate way and in a timely manner through close communication with them
- Early Vendor Involvement (EVI): Fine-tuning technologies with customers from the initial stage of new product development, to create the finest products possible with the available technologies
- Accurately responding to customer expectations and creating a global network that can deliver products and services in a timely manner

Business models that support society and create the future

The main focus of the engineering business is infrastructure construction that supports people's lives and society, providing products and services based on the Group's comprehensive strengths and advanced technologies.
As long as people in the world long for more comfortable and abundant lives, there will never be an end to our mission.
We will provide optimal solutions for society and strive to realize a sustainable society to create and support the foundations for life.



The source of competitive advantages that reinforce our business model

Proven track record and project execution capabilities enabled by diverse human resources

We have constructed many high-performance, high-quality facilities that meet customer needs in fields such as energy, environment and bridges, from design to completion. Furthermore, we possess Japan's largest steel structure manufacturing plant and other production bases, allowing us to provide high-quality products at low cost. We also have built global engineering structure in overseas bases, centered in Asia, to further reinforce our competitive strength.

Initiatives and investments for reinforcement

- Enhancing quality and productivity through active application of advanced IT at construction and manufacturing sites
- A global engineering structure that enables the supply of optimal products for each country
- Further enhancement of project management systems to ensure projects are thoroughly implemented and earnings is secured

The source of competitive advantages that reinforce our business model

Advanced core technologies and diverse product technological capabilities

We have conducted business in diverse fields such as energy, environment and bridges, taking advantage of our advanced technological capabilities, which were developed by combining and advancing the following technologies; processing and assembly technologies based on our shipbuilding business and the material and combustion technologies based on our steel business. We especially possess many technologies that support society, including those for the creation of next-generation energy and solutions for environmental issues. We will make every possible effort to plan, design and promote new business models and develop new technologies based on these technologies.

Initiatives and investments for reinforcement

- Enhancing existing products with a focus on the energy and environment fields, along with developing new products that meet the needs
- Accelerating the creation and expansion of new businesses by consolidating existing businesses toward a recycling-oriented and sustainable society
- Continued investment and reinforcement of human resources to accelerate the enhancement of products and services, including through application of AI and IoT technologies

Profits

Returns to shareholders

Investments
- Business investment (domestic and overseas)
- R&D investment
- Capital investment

Establishing relationship of trust

Operating business

Maintenance business
- Regular inspections
- Repairs
- Assessment of facilities

Plant operation and maintenance business
- Management of water and sewage facilities
- Management of Waste-to-Energy plants

Energy service business
- Renewable-energy power generation
- Retail sales of electricity
- Energy supply

Recycling business
- Food recycling
- Waste recycling
- Consumer appliances recycling

Business development
- Creating new value
- Resolving social issues

The source of competitive advantages that reinforce our business model

Business management capabilities with strengths in manufacturing expertise

We have nurtured our expertise in operation and maintenance over the years at environmental and water and sewage plants, and conduct various projects collaborating with public and private sectors in the civil service field. Our plants undertake recycling and renewable energy generation businesses for a recycle-oriented and sustainable society. We will strive to further expand our operating business, including public and private sector collaborations and energy service operations, applying our strengths in manufacturing and management expertise.

Initiatives and investments for reinforcement

- Active investment toward expanding operating business, such as public and private sector collaborations in the civil service field, energy services, and recycling
- Establishing a system that provides management solutions with remote monitoring of various plants using AI and IoT technologies
- Active business investment, including collaborations with local overseas partners, to enhance our overseas business

Management Strategies

Message from the CEO

Koji Kakigi

President and CEO
JFE Holdings, Inc.

As we enter our next stage, difficult times are creating promising opportunities.

JFE aims to achieve sustainable growth by restructuring its steel business and strengthening initiatives to mitigate climate change.

COVID-19 continues to exert a huge impact on economic activity and the lives of people worldwide, showing no clear sign of containment. JFE, despite operating in this increasingly unpredictable business environment, continues to push ahead decisively toward sustainable growth, determined to realize the company's future vision.

In addition to providing customers with much-needed solutions, it is also our mission to support industrial and societal development, regardless of the business environment, based on JFE's corporate vision of *Contributing to society with the world's most innovative technology.*

In 2020 we have been restructuring our core steel business to ensure that we can continue to fulfill our mission. Along with our restructuring, we have made this a landmark year for tackling climate change, including initiatives to reduce our CO_2 emissions.

JFE is determined to steadily progress toward its next stage of corporate development for strengthened profitability and sustainable growth, including through environmental, social and governance (ESG) initiatives.

Our role and vision

JFE produces diverse products, technologies and services centered on steel, a basic material that underpins the lives of individuals and contributes to industrial and societal development.

Still-abundant global reserves of iron enable steel to continue to be mass produced at relatively low cost. Steel is strong, easily processed. Moreover, its manufacture has less environmental impact than that of many other materials. It also is very recyclable and maintains its high quality when it is reused in new products. No other material possesses so many excellent qualities.

Long into the future, steel will continue to underpin human life as an indispensable material for industry and society. Moreover, the global demand for steel is expected to grow steadily over the long term as economic development progresses in emerging countries, particularly in Asia.

Given the vast potential of steel, JFE is deeply committed to supporting diverse industries as well as daily life, societal progress and the resolution of critical issues in today's world. To do this, however, JFE must continue to manufacture high-quality steel that combines excellent performance properties with low environmental impact, and then provide such products and solutions stably and sustainably through sales networks built on relationships of trust.

As a globally traded commodity, steel is easily affected by fluctuations in international business and/or raw materials prices. Such factors inevitably impact JFE's earnings. Furthermore, JFE is faced with COVID-19, Japan's low birthrate and aging population, rising protectionism worldwide and mounting environmental risks. Such developments have made it ever more challenging to help resolve pressing issues in the world.

Ultimately, JFE must function as a strong and resilient corporate group to provide sustainable value over the long run, adapting nimbly and strategically to broad change in the current business environment. We are taking all possible steps to contribute to economic sustainability by providing economic value through sustainable growth and to environmental and social sustainability by developing sustainable resolutions for overcoming critical global issues.

Structurally changing industry and COVID-19

Steadily pushing forward with measures to improve earnings

The steel industry is facing an extremely harsh business environment. In the face of rising global protectionism, including U.S.-China trade friction since last year, demand for steel outside China has slumped and steel product prices have fallen, particularly in export markets. At the same time, iron ore prices have remained persistently high worldwide due to increased crude steel production, mainly for public works and other infrastructure in China, which produces around half of the world's crude steel. For the global steel industry, this has resulted in high prices for raw materials and low prices for manufactured products, making it difficult to secure profits.

Faced with such conditions in FY2019, our steel business worked diligently to raise steel prices while reducing costs, but the segment recorded its first loss since the foundation of JFE. Overall, JFE recorded a 197.7 billion yen consolidated loss attributable to owners of the parent. We paid an interim dividend of 20 yen per share, but made the difficult decision not to pay a yearend dividend in light of poor financial results. I again offer my sincere apologies for the considerable inconvenience and concern that this has caused our shareholders and other stakeholders.

At present, economic activity worldwide remains suppressed due to COVID-19, and we are beset by unprecedentedly harsh conditions, including a dramatic slowdown in the global economy as well as in Japan. Levels of steel demand have fallen worldwide and automotive production in Japan, which had remained relatively strong, suffered partial stoppages. Also, construction work experienced delays and demand for construction and industrial machinery declined.

Countries are pushing forward with initiatives to prevent further infections while somehow maintaining socio-economic activity. Ultimately, however, it will be difficult to restore conditions to pre-COVID norms.

Considering that our future performance will be significantly impacted by how well we ride out this year, we are treating FY2020—the final year of our Sixth Medium-term Business Plan—as a time for emergency measures. Accordingly, we are swiftly and decisively implementing necessary measures in a united groupwide effort to overcome these difficult times.

In the steel business, we have minimized operational costs by optimizing production in response to dramatically reduced demand for steel. We temporarily suspended operations at two blast furnaces in Kurashiki and Fukuyama and also suspended work at all other facilities as a temporary measure to protect the job security of our employees. Moreover, we have worked tirelessly to improve cash flow, cutting costs by around 100 billion yen through steps such as reducing fixed costs for repairs, etc. and emergency labor measures, while also further refining capital investments, reducing inventory and selling assets such as strategic shareholdings. Efforts to improve steel product prices remain difficult due to weak demand. We will continue to explain the situation to customers as we work to realize sales prices that appropriately reflect inflationary trends affecting the costs of sub-materials, logistics and outsourcing, and also the value we provide through high-quality development, production and service.

In the engineering field, we don't expect any significant impact on public-sector projects, recycling businesses or operation/maintenance of power-generation plants. Moreover, we will continue to adapt to current conditions, such as formulating flexible construction plans that can be adjusted to deal with unforeseen delays, including in construction projects overseas.

The impact of COVID-19 will not be limited to the short term and is expected to widely transform our economy and society. It is difficult to forecast exactly what sort of society awaits us, or how changes will unfold over time, which is why we are preparing for a range of possible scenarios in our business environment and in our group structure, working to ensure profits under any condition. The first major step is the steady restructuring of our core steel business, as announced this past March.

Meanwhile, we intend to promptly finalize our next medium-term business plan as soon as it becomes possible to reasonably forecast business, economic and societal conditions, most likely when the global pandemic is brought under control.

Assuring that we continue to fulfill our role

Economic value through sustainable growth

Restructuring our steel business for enhanced competitive strength

Over the medium to long term, steel demand in Japan will inevitably decline due to factors including the nation's decreasing population. Overseas, however, steel production capacity will increase in emerging countries as Chinese steelmakers, faced with declining domestic demand, expand into Southeast Asia and increasingly export. Commodities (products), which currently comprise around 30% of steel exports, will be readily manufactured by steel mills in emerging countries. Overall, competition will intensify, making it increasingly difficult to secure profits.

In an industry like steel that utilizes huge manufacturing equipment, substantial investment is needed to periodically replace aged equipment in order to maintain the company's manufacturing base. This highlights the importance of producing products that are profitable enough to overcome these necessary investments and contribute to long-term profitability and growth sustainability.

In order to restructure our steel business, we have thoroughly reviewed our manufacturing systems to strategically focus on areas that can best help us to establish a stable profit base. Domestic operations are being consolidated from eight blast furnaces to seven and crude steel production capacity is being reduced by around four million tons. Our rebuilt production system, including downstream processes, will have an optimal crude production scale of 25 to 26 million tons.

These initiatives will enable us to focus corporate resources on key areas where we are most competitive. I firmly believe that they represent a significant step towards building a strong and resilient business structure.

See Restructuring of the Steel Business on page 35 for details.

Advanced technologies for strengthened manufacturing and DX for enhanced productivity

Boosting competitiveness with advanced technology is vital to ensure that JEF's operating companies maximize their competitive advantages and that JFE harnesses its collective power to overcome global competition.

JFE Steel is implementing sales and product-mix strategies to develop highly value-added and competitive products in the priority fields of automobiles (responding to technological innovations including lighter and electric vehicles), infrastructure materials (for national resilience and high-efficiency construction) and energy (for harsh environments). To expand profitability, the company's sales, manufacturing and research departments are carefully addressing customer needs in an effort to develop products and services that gain greater customer satisfaction. An important part of this effort is investing in steelworks and other facilities in Japan to upgrade their competitiveness in terms of cost advantages, production capabilities, performance and product mix.

JFE's overall competitive advantages are tied directly to its steelworks. At the West Japan Works, JFE's core steelworks, facilities are being constructed or upgraded mainly for upstream processes. A continuous casting machine currently under construction in the Kurashiki district boasts the world's highest technology. Combining high efficiency with high product quality, the new machine will greatly enhance the West Japan Works' competitiveness. Regarding products, our electrical steel sheets were recognized for helping to improve energy savings in electrical devices, earning a Prime Minister's Prize at the 8th Monodzukuri Nippon Grand Awards in January. In view of our electrical steel sheets' demand potential, including for electric vehicle engines, manufacturing facilities are being expanded and enhanced at Kurashiki.

JFE Steel is also pursuing digital transformation (DX) initiatives involving artificial intelligence (AI), the internet of things (IoT), data science such as big data utilization, and robotics. The goal is to realize more innovative productivity, upgrade existing businesses and create new businesses.

Our steel business has introduced cyber-physical systems (CPS) at manufacturing facilities to address issues such as the aging of equipment and the retirement of veteran engineers. The ability to digitally visualize production operations is enabling us to construct systems equipped to prevent various conventional problems. For blast furnaces, the heart of our steelworks, we have installed CPS units that can detect potential problems, reduce stoppage time and swiftly resume operation. In FY2018, we experienced significant lost opportunity due to a prolonged problem in a blast furnace. Since introducing the new CPS units, however, no problem leading to a long stoppage has occurred, so this technology is already starting to help us establish a more stable system of operation. Expanded use of this technology in other manufacturing processes will surely enhance our cost competitiveness and productivity.

CPS is also expected to play a major role in safety management, our highest priority at production sites. At JFE Steel's Chita Works for example, we have installed AI technology to automatically shut down the production line if a person gets too close to equipment in operation. The technology will be installed at other production sites as well.

JFE has been recognized for its efforts to leverage digital technologies for new growth and competitiveness. For six consecutive years, JFE has been selected for inclusion in the Digital Transformation Stock Selection 2020 (DX Stock 2020; previously, Competitive IT Strategy Company Stock Selection) by the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange.

Please see DX Feature on page 45 for details.

Raising the profitability of global manufacturing bases

JFE's continued growth also depends on increasing the company's presence in overseas markets, specifically in Asia, where there is latent growth potential.

The Overseas Business Promotion Center was established by JFE Steel in April not only to help maximize profits in existing overseas businesses, but also to increasingly develop new business in high-growth fields.

In the expanding markets of Asia, we are developing strategic businesses with local partners such as JSW Steel in India and Formosa Ha Tinh Steel Corp. (FHS) in Vietnam, which will support our sourcing of steel materials from overseas. In India, where demand for steel materials is expected to increase substantially in the future, JSW Steel is achieving steady growth and increasing profitability. Despite holding a modest equity stake, JFE Steel is participating actively in FHS's business, including through technology licensing. Going forward, JFE will continue to deepen its involvement in overseas business to meet growing demand for high-grade steel, particularly in Southeast Asian markets.

JFE Steel will pursue growth across global steel markets, leveraging its extensive technologies and strategic investments for new business opportunities. Steel manufacturing technologies featuring the latest AI and IoT will be used to enhance productivity and deliver consistent quality. JFE Steel will also utilize its advanced technologies and expertise to develop technological-solutions businesses overseas.

Groundbreaking ceremony for Nucor-JFE Steel Mexico

Improving profitability of the engineering business through eco initiatives

JFE Engineering's revenue exceeded 500 billion yen for the first time in FY2019, and profit also increased year on year. Business expanded both in Japan and overseas thanks to initiatives targeting engineering, procurement and construction (EPC) opportunities and operation of public infrastructure, such as water, sewage and waste treatment facilities, as well as power-generation and other plants, recycling facilities and more. Revenue from such businesses helps to reduce profit fluctuations by contributing stably to income over the long term.

Our environmental engineering businesses include renewable energy such as solar power, geothermal power and biomass power generation, and also PET bottle recycling. Such fields are expected to offer increasing opportunities for business expansion due to growing environmental awareness.

At the same time, business fields that support everyday life, such as water, sewage, waste treatment and power generation, have become the object of renewed attention during the COVID-19 crisis because businesses in these fields must continue to operate under all conditions. JFE Engineering's Global Remote Center is providing 24-hour remote monitoring and operational support for plants around Japan, including waste incinerators and power-generation facilities, which is ideally suited to the current need for non-contact operation. In October 2019, JFE launched Japan's first ever fully automated waste incinerator at a waste-to-energy plant. We will continue to develop technologies for totally automated plants as well as waste incinerators, part of our growing contribution to a more sustainable world.

Leveraging our trading business network to promote the JFE brand

JFE Shoji, JFE's core trading company, is strengthening its capabilities in consulting and information provision, aiming to grow sustainably with customers as a company with a strong market presence.

In Japan, the company is strengthening the functions of its processing and production bases and also reorganizing its corporate structure, both aimed at enhancing the company's capability to capture demand more effectively. This past April, JFE Shoji Steel Construction Materials and JFE Shoji Usuitakenzai were merged to provide one-stop services covering broad information provision and a wide lineup of construction materials products.

Overseas, trading networks are being expanded in coordination with JFE Steel's overseas business development. Secondary and tertiary processing functions are being strengthened further downstream, new business models are being developed and alliances with outstanding partners are being broadened. Cogent, a Canadian electrical steel sheet processing company, was brought into the JFE Group in 2019 to offer world-class processing and distribution functions for transformer iron-core processing using electrical steel sheets. In the automobile field, initiatives to satisfy the diversifying needs of customers worldwide included building a steel materials processing center in Mexico to play a vital role in the supply chain of JFE Steel's joint venture Nucor-JFE Steel Mexico (NJSM).

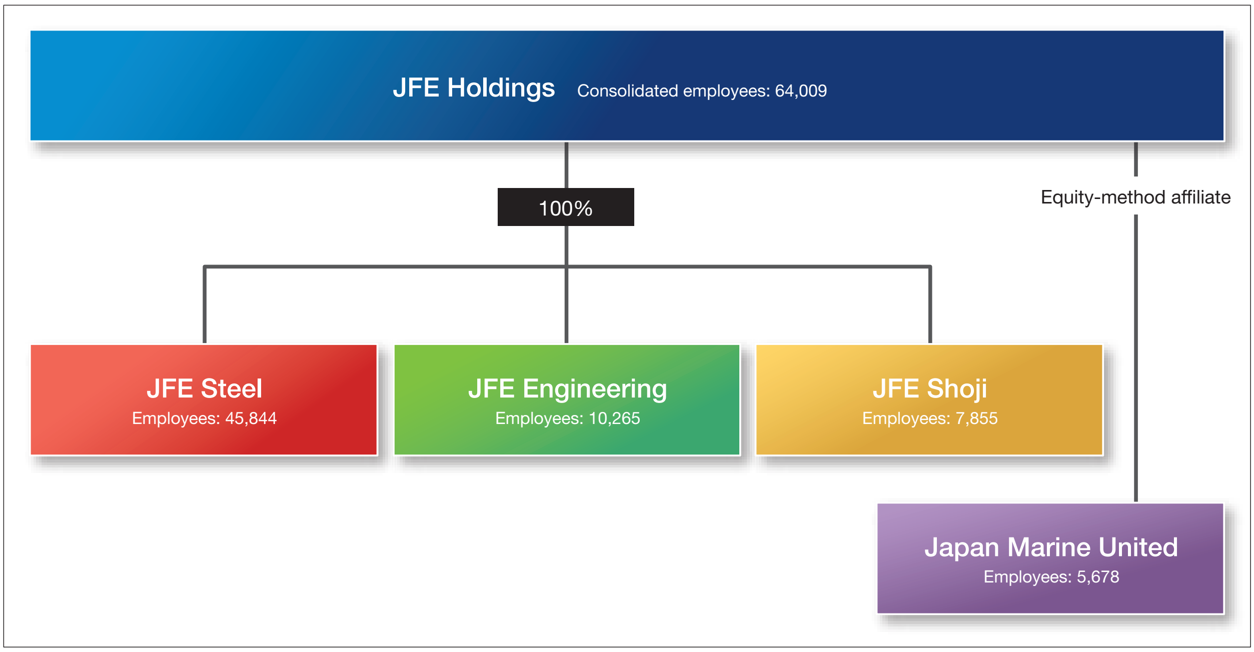
Protracted U.S.-China trade friction and COVID-19 are forcing many companies, particularly multinationals, to diversify their supply chains. This is creating business opportunities for JFE Shoji, which operates an extensive steel-materials supply network organized geographically in Japan, the Americas, China and ASEAN.

JFE Shoji is also sharing strategies more closely with JFE's engineering business, for example, to provide fuel for biomass power plants operated by JFE Engineering. By fully leveraging its global network, JFE Shoji is working to enhance the collective strength of the JFE Group.

Renewing the competitiveness of Japanese shipbuilding

Our equity-method affiliate Japan Marine United has agreed on a capital and business alliance with Imabari Shipbuilding, Japan's largest shipbuilder, to establish a joint venture company for increased international competitiveness. JFE needs the Japanese shipbuilding industry to maintain its vitality, both as a major user of plates for the steel business and as a partner for product development. The new alliance will allow both companies to leverage their mutual strengths for improved profitability.

Structure of JFE Group (as of March 31, 2020)



Addressing pressing ESG issues sustainably

Environment: Reducing CO_2 emissions by 20% or more by FY2030

JFE is strengthening its commitment to environmental, social and governance (ESG) management through initiatives aimed at resolving pressing issues, ultimately to support the development of local communities and realize a more sustainable world. In steelmaking, the largest source of CO_2 emissions in JFE's overall business, global environmental protection is vital for the company's business continuity. JFE continues to reduce its environmental impact through aggressive development and application of resource- and energy-conservation technologies.

Last year, we issued the results of our analysis of climate-related risks and opportunities, which we conducted in accordance with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). We regard this year to be a landmark year to further reinforce our efforts to tackle the issues of climate change, and are actively promoting initiatives for reducing CO_2 emissions.

JFE and the Japanese steel industry as a whole boast world-class technology for reducing environmental impact. The industry is engaged in research and development of super-innovative technologies aimed at realizing Zero-carbon Steel, a 2100 target set by the Japan Iron and Steel Federation.

JFE continues to share the Japan Iron and Steel Federation's commitment and to play an active role. At the same time, we are actively promoting initiatives for reducing CO_2 emissions for an individual company. JFE Steel, in addition to restructuring its operations for optimized production and increased business sustainability, is also working to enhance economic and social sustainability by upgrading its initiatives to address climate change. The strategy is expected to turn JFE into a stronger and more resilient company over the medium and long terms, even when business conditions are especially harsh.

Accordingly, in the steel business, which accounts for most of the JFE Group's CO_2 emissions, we are exploring feasible scenarios with the aim of reducing CO_2 emissions in fiscal 2030 by 20% or more compared to fiscal 2013. We have launched a new project team to reduce our CO_2 emissions, and will start examining various measures to achieve our targets, maximizing the use of the best available technologies and innovations. JFE is carrying out research and development to achieve carbon neutrality within the JFE Group as soon as possible after 2050. Such technologies are expected to be in place to help JFE swiftly achieve this goal in parallel with decarbonization of society as a whole.

In other areas as well, initiatives are being pursued to fight global warming as business opportunities. In engineering, we are actively involved with waste and biomass power generation. Also, through our renewable energy businesses, including solar and geothermal power, we are contributing to a combined annual reduction of CO_2 emissions amounting to around four million tons. We are also accelerating our development of resource recycling businesses, including for PET bottles. In addition, a new team in JFE's trading business is working to strengthen sales of steel materials for the fast-growing field of renewable energy.

Such initiatives are leading to new opportunities both in Japan and in emerging countries. By expanding such businesses, especially in Southeast Asia, JFE hopes to play a major role in protecting the global environment.

Society: New value for an increasingly complicated and diversified world

We make it our mission to use our business centered on steel to support all industries, to underpin daily life, to contribute to social development and to help solve pressing issues that the world faces. It is vital that we stably secure diverse, high-quality skilled human resources and then create work environments where they can demonstrate their full potential. This is one way we plan to ensure our business continuity and continue creating new value for our rapidly changing world.

JFE is energizing its organization by welcoming employees with diverse values, including the active recruitment of midcareer hires and female employees. In addition to utilizing AI and IoT technologies to nurture younger personnel and equip them with veteran skills, we are also upgrading education, training activities and new childcare-support systems to ensure that female employees can more fully contribute to our workplaces.

Safety and disaster prevention are crucial to our business, so in response to the COVID-19 pandemic, we have made it a top priority to protect employee safety and health. Our steel facilities must operate continuously, so we cannot permit our workforce to be overtaken by the spread of disease. Under our business continuity plan (BCP), which is based heavily on lessons learned from the Great East Japan Earthquake as well as the current pandemic, we quickly implemented measures to prevent the spread of COVID-19, which has enabled us to maintain smooth operations up to the present.

For the time being, given no alternative but to live with COVID-19, we will continue to review and implement our BCP to address all risks, including potential changes in social and economic activity and in the perceptions and behavior of individuals.

Governance: Revising our corporation for better outcomes

JFE's eight-person Board of Directors includes three outside directors. The company also has three outside Audit & Supervisory Board members. Together, these six people brought in from outside of the corporation are playing active roles in overseeing JFE's business.

To promote greater diversity, Ms. Yoshiko Ando was named a full-time female Audit & Supervisory Board member in 2019 and then became JFE's first female outside director in June 2020. Ms. Ando, an expert in labor administration, offers deep insight in fields such as female participation in workforces, employment and labor. She is also helping JFE to strengthen its governance.

JFE conducted a survey of all directors and Audit & Supervisory Board members on the effectiveness of the Board of Directors. The board, after carefully considering the results of the survey, determined that its overall effectiveness has been enhanced by the inclusion of several outside directors. At the same time, however, three themes were indicated as areas where the board could strengthen its involvement: ESG activities, group-wide risk supervision and business planning in the event of dramatic changes in the external environment.

Regarding ESG activities, it was suggested that the board be more deeply involved in global environmental initiatives, including CO_2 emissions reduction, considering their importance to JFE overall. Regarding risk supervision and business planning, the board plans to look more deeply at these functions in terms of their impact on specific business, particularly in the event of rapid changes in the external environment as experienced during the COVID-19 pandemic.

To our stakeholders

It has become abundantly clear that COVID-19, more than simply causing a slowdown in the global economy, is bringing about significant changes in global society. It is vital that this situation be addressed with emergency measures. The structure of the world and people's values are undergoing major transformations, and the coming new era may be even more unforeseeable and challenging than the present.

JFE is determined to accurately grasp these structural changes and then respond appropriately in global markets by building a corporate structure that remains strong and resilient in any environment. Our response will be flexible and unconstrained by conventional frameworks.

In fact, we view these adverse conditions, however unfortunate, as opportunities to remake JFE. This is why we have designated 2020 as a landmark year to take on all-new challenges.

Financial Strategies

Message from the CFO

We will respond to changes in the business environment due to COVID-19 by maintaining financial discipline through the generation of cash flow, and strive for a recovery in earnings.

Masashi Terahata

Executive Vice President and CFO,
JFE Holdings, Inc.

Overview of FY2019 results

In FY2019, the steel business recorded its first segment loss ever (8.7 billion yen) in the history of the JFE Group, while the JFE Group's consolidated business profit*1 was 37.8 billion yen. In view of the harsh business environment, JFE Steel decided to restructure the steel business, and the East Japan Works recorded impairment losses. Loss attributable to owners of the parent company after tax and other expenses was 197.7 billion yen.

As for cash flow, the balance of interest-bearing liabilities at the end of March 2020 was 1,814.3 billion yen, an increase of 290.5 billion yen (including a 105.7 billion yen increase in lease obligations at the beginning of the period due to the application of a new accounting standard for leases) compared to the end of the previous year, due to a high level of capital investments in the steel business. As a result, the debt/EBITDA ratio as of the end of March 2020 was 6.7 times, with a D/E ratio of 96%*2.

*1 Business profit is profit before tax excluding financial income and one-time items of materially significant value.
*2 After equity assessment of subordinated loans by a ratings agency

Major financial indicators

	JGAAP (Japanese Generally Accepted Accounting Principles)		IFRS (International Financial Reporting Standards)	
	FY2016	FY2017	FY2018	**FY2019**
ROE (%)	3.7	7.6	8.6	**(11.1)**
Ordinary income / Business profit (billion yen)	84.7	216.3	232.0	**37.8**
Capital investment (billion yen; construction basis)	234.7	257.2	329.5	**391.3**
Debt/EBITDA ratio (times)	4.9	3.4	3.6	**6.7**
D/E ratio (%)	51.4	58.1	68.2	**96.4**

Business forecast for FY2020 and emergency countermeasures

The spread of COVID-19 since the end of the previous fiscal year has brought a dramatic slowdown in the global economy, and the JFE Group faces the most challenging situation in its history. We are currently implementing emergency measures to improve profits and cash flows across the entire Group, in order to ride out this crisis.

As revenue measures, we are proceeding with cost reductions of 100 billion yen in the steel business. In terms of cash flow, we will reduce capital investment in the steel business in Japan under the Sixth Medium-term Business Plan, originally planned at 1 trillion yen over three years, by a total of 130 billion yen, adding another 30 billion yen to the reduction of 100 billion yen decided in the previous fiscal year. Moreover, we will increase the asset reductions of 150 billion yen decided in the previous fiscal year, including the sale of strategic shareholdings, inventory reductions and land sales Group-wide, by a further 20 billion yen. This will generate 170 billion yen in cash by the end of FY2020. Specifically, we will progressively sell our strategic shareholdings based on our policy to not hold such shares, in principle. At the same time, we will also reduce our main raw material inventory to the lowest levels ever, and reduce our product inventories through the optimization of operations.

In the business forecast for FY2020 (announced in August), which incorporates these emergency measures, we regrettably anticipate a business loss of 125 billion yen for the first half of the fiscal year, due to the impact of factors including volume decreases and a decrease in subsidiary companies' profits in the steel business. In the second half of the fiscal year however, we plan for a business profit of 25 billion yen, as the engineering business and trading business contribute to profit in addition to the steel business returning to profitability based on a recovery in the level of activity in customer industries, particularly the automotive sector and the steady implementation of initiatives aimed at improving profits. We forecast a full year business loss of 100 billion yen, and a loss attributable to owners of the parent company of 100 billion yen.

As for fund procurement in FY2020, we have moved up our plans for funds procurement in order to ensure liquidity amid the unclear outlook for the economic and financial environment.

In addition to raising 60 billion yen through the issue of corporate bonds in July, we actively borrow from financial institutions, and have procured total funds of around 300 billion yen by the end of September. The balance of cash and deposits as of September 30, 2020 is forecast to total 130 billion yen, an increase of around 40 billion yen compared to the end of the previous fiscal year, while interest-bearing liabilities are forecast to total 1,950 billion yen, an increase of around 130 billion yen. Interest-bearing liabilities have increased, partly due to the deterioration in performance in FY2019, but we regard the maintenance of financial discipline as a key issue for management, in order to continue investment in sustainable growth for the future. We aim to reduce interest-bearing liabilities through the steady implementation of cash flow measures and recovering profitability.

Results for FY2019 and business forecast for FY2020

(Billions of yen)

	FY2019 results	FY2020 forecast (announced in August)		
	Full-year	First half	Second half	Full-year
Business profit	37.8	(125.0)	25.0	(100.0)
Steel business	(8.7)	(145.0)	0.0	(145.0)
Engineering business	23.1	6.0	15.0	21.0
Trading business	27.0	5.5	6.5	12.0
Adjustment	(15.9)	1.5	(4.5)	(3.0)
Total segment profit	25.3	(132.0)	17.0	(115.0)
Profit attributable to owners of the parent company	(197.7)	(110.0)	10.0	(100.0)

*Impairment losses of 238.8 billion yen were disclosed as a one-time item of a materially significant value for FY2019

Urgent revenue and cash flow measures

1 Steel business: cost reduction
100 billion yen reduction: Cumulative reduction of 100 billion yen absorbing cost increases due to lower production

2 Steel business: reduction in capital investment in Japan (cf. 1 trillion yen over 3 years in the Sixth Medium-term Business Plan)
130 billion yen reduction: A further 30 billion yen in addition to the 100 billion yen reduction announced in November 2019

3 JFE Group asset reductions (inventory reductions, reduction of strategic shareholdings, etc.)
170 billion yen reduction: A further 20 billion yen in addition to the 150 billion yen reduction announced in November 2019

Initiatives to return to profit in FY2021

The restructuring of the steel business, decided in the previous fiscal year, entails a review of production systems in FY2023 to reduce annual fixed costs by 60 billion yen and annual depreciation expense by 25 billion yen with the aim of building a lean, strong and resilient structure to continue to maintain our competitive strength into the future. Currently however, we are experiencing a harsh business environment due the sudden slowdown in the world economy, and face the huge challenge of riding out these conditions until our strategy brings results.

JFE Steel is already engaged in measures to ensure a return to profitability in FY2021. The business environment next fiscal year is difficult to predict at present, but assuming a crude steel production level equivalent to the second half of FY2020 (24 million tons per year) in the steel business, the launch of the new upstream processing facility at the West Japan Works will surely reduce production costs, in addition to the effects of increased production volumes. Even with the recent dramatic decrease in production, JFE Steel's manufacturing capabilities are steadily improving, thanks to a range of initiatives to control variable costs, and a return to profit is fully achievable through the continuation of thorough cost reductions. We do anticipate some risk of lower than expected production volumes, but we will ensure the return to profit through initiatives to continue improvement in sales price levels and further reductions in fixed costs.

In the engineering business, the volume of orders received has grown due to an increase in large scale projects, primarily public works including environmental and social infrastructure vital for life in society, and we expect to continue to secure stable profits. Additionally, we expect an increase in profit in the trading business, with a recovery in the demand for steel.

The spread of COVID-19 has made it extremely difficult to forecast economic trends. We are responding to these changes in the environment however, and striving to achieve a recovery in profits in FY2021. At the same time, we are considering moving up the implementation of restructuring at JFE Steel and study ways to achieve results earlier. We will reinforce our revenue base, and structure our finances to prepare for investment in future growth.

Returns to shareholders

In FY2019, we paid an interim dividend of 20 yen per share, but made the regrettable decision not to pay a year-end dividend, in view of the substantial deterioration in financial results. In light of the current profit/loss status, we decided not to pay an interim dividend in FY2020 (announced in August). The year-end dividend is yet to be determined, and we will make a decision by closely observing trends in business performance in the second half of FY2020 and the next fiscal year.

Trends in dividend payout

	FY2016	FY2017	FY2018	FY2019
Profit per share (yen/share)	117.8	250.9	283.8	(343.4)
Dividend per share (yen/share)	30.0	80.0	95.0	20.0
Dividend payout ratio (%)	25.5	31.9	33.5	–

Financial Highlights

The JFE Group adopted International Financial Reporting Standards (IFRS) from FY2018, in place of the generally accepted accounting principles in Japan (JGAAP).

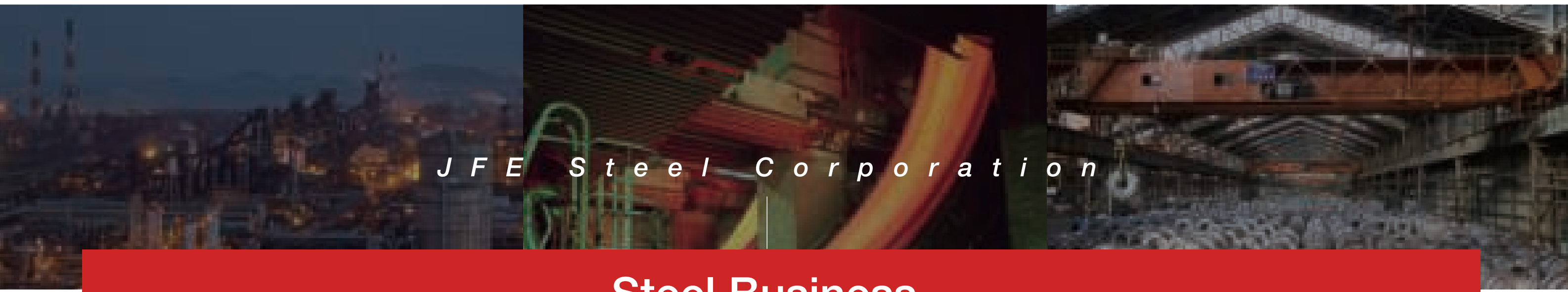
	JGAAP				
	FY2009	FY2010	FY2011	FY2012	FY2013
Operating results					
Net sales (JGAAP) / Revenue (IFRS)	2,844	3,195	3,166	3,189	3,666
Ordinary income (JGAAP) / Business profit*1 (IFRS)	69	165	52	52	173
Income before income taxes (JGAAP) / Profit before tax (IFRS)	70	115	(71)	75	160
EBITDA*2 (JGAAP) / EBITDA*3 (IFRS)	337	428	306	260	368
Profit attributable to owners of parent	45	58	(36)	39	102
Capital expenditures (construction basis)	225	180	197	179	175
Depreciation and amortization	248	246	238	194	181
Research and development expenses	36	33	34	33	31
Financial position					
Total assets	3,918	3,976	4,007	4,107	4,241
Property, plant and equipment	1,800	1,712	1,644	1,606	1,599
Shareholders' equity (JGAAP)/ Equity attributable to owners of parent (IFRS)	1,422	1,437	1,414	1,558	1,702
Net assets (JGAAP) / Equity (IFRS)	1,465	1,478	1,456	1,596	1,745
Debt outstanding (JGAAP)/ Interest-bearing debt outstanding (IFRS)	1,468	1,496	1,593	1,596	1,534
Cash flows					
Cash flows from operating activities	389	302	110	287	254
Cash flows from investing activities	(236)	(302)	(205)	(163)	(164)
Free cash flow*4	152	0	(95)	123	90
Cash flows from financing activities	(321)	23	96	(147)	(105)
Per share data					
Profit attributable to owners of parent (yen/share)	86	111	(69)	71	177
Net assets (JGAAP)/ Equity attributable to owners of parent (IFRS) (yen/share)	2,690	2,709	2,628	2,701	2,951
Dividends (yen/share)	20	35	20	20	40
Payout ratio (%)	23.2	31.6	—	28.1	22.5
Financial indicators					
Debt/EBITDA ratio*5 (JGAAP) / Debt/EBITDA ratio*6 (IFRS) (times)	4.4	3.5	5.2	6.1	4.2
ROE*7 (JGAAP) / ROE*8 (IFRS) (%)	3.3	4.1	(2.6)	2.7	6.3
ROA*9 (JGAAP) / ROA*10 (IFRS) (%)	2.2	4.6	1.7	1.6	4.5
Equity ratio (%)	36.3	36.2	35.3	37.9	40.1
D/E ratio*11 (JGAAP) / D/E ratio*12 (IFRS) (%)	75.5	76.5	83.5	76.9	67.9
Year-end share price (yen/share)	3,765	2,434	1,778	1,767	1,943
Segment information					
Net sales (JGAAP) / Revenue (IFRS)					
Steel	2,281	2,747	2,714	2,499	2,691
Engineering	294	265	278	267	284
Trading				785	1,781
Ordinary income (JGAAP) / Segment profit*13 (IFRS)					
Steel	32	134	25	15	126
Engineering	13	12	14	16	18
Trading				7	21
Others					
Crude steel production (JFE Steel on a non-consolidated basis) (million t)	25.83	28.80	26.90	27.97	28.67
Crude steel production (JFE Steel on a consolidated basis) (million t)	28.35	31.47	29.24	30.69	31.58
Shipment (JFE Steel on a non-consolidated basis) (million t)	23.18	26.25	24.67	25.23	25.52
Average selling price (JFE Steel on a non-consolidated basis) (thousand yen/t)	70.2	77.9	82.0	70.6	75.7
Export ratio on a value basis (JFE Steel on a non-consolidated basis) (%)	45.6	46.5	45.0	49.9	48.4
Employees (JFE Holdings on a consolidated basis) (persons)	53,892	54,400	54,133	57,044	57,210

*1 Business profit: Profit before tax excluding finance income and one-time items of a materially significant value
*2 EBITDA (JGAAP): Ordinary income + Interest expenses + Depreciation and amortization
*3 EBITDA (IFRS): Business profit + Depreciation and amortization
*4 Free cash flow: Cash flows from operating activities + Cash flows from investing activities
*5 Debt/EBITDA ratio (JGAAP): Debt outstanding / EBITDA
*6 Debt/EBITDA ratio (IFRS): Interest-bearing debt outstanding / EBITDA
*7 ROE (JGAAP): Profit attributable to owners of parent / Shareholders' equity

(Billions of yen)

					IFRS	
FY2014	FY2015	FY2016	FY2017	FY2018	FY2018	FY2019
3,850	3,431	3,308	3,678	3,961	3,873	3,729
231	64	84	216	221	232	37
226	74	105	213	209	209	(213)
421	254	279	388	405	428	269
139	33	67	144	164	163	(197)
225	212	234	257	287	329	391
176	177	182	159	172	196	231
32	35	35	34	37	37	38
4,639	4,234	4,336	4,440	4,648	4,709	4,646
1,629	1,627	1,650	1,702	1,782	1,835	1,717
1,938	1,804	1,865	1,949	2,012	1,926	1,627
1,990	1,857	1,921	2,009	2,079	1,991	1,706
1,501	1,379	1,375	1,330	1,449	1,523	1,814
297	267	185	298	235	268	261
(216)	(137)	(163)	(194)	(284)	(313)	(358)
81	129	21	103	(48)	(45)	(97)
(78)	(144)	(18)	(90)	56	51	103
242	58	118	251	285	284	(343)
3,362	3,128	3,236	3,382	3,495	3,345	2,826
60	30	30	80	95	95	20
24.8	51.4	25.5	31.9	33.3	33.5	—
3.6	5.4	4.9	3.4	3.6	3.6	6.7
7.7	1.8	3.7	7.6	8.3	8.6	(11.1)
5.5	1.7	2.3	5.2	5.1	5.0	0.8
41.8	42.6	43.0	43.9	43.3	40.9	35.0
59.0	56.9	51.4	58.1	62.0	68.2	96.4
2,654	1,516	1,909	2,144	1,879	1,879	703
2,873	2,445	2,349	2,715	2,808	2,830	2,681
367	397	426	391	485	485	512
1,934	1,756	1,671	1,907	2,060	1,125	1,084
188	27	40	198	164	161	(8)
18	20	26	19	20	20	23
24	15	21	33	35	35	27
28.44	27.36	28.14	28.46	26.31	26.31	26.73
31.04	29.75	30.41	30.06	27.88	27.88	28.09
26.07	25.39	25.70	25.30	23.78	23.78	23.47
77.1	66.8	62.8	75.3	81.5	81.5	78.8
48.1	45.8	44.0	44.4	41.7	41.7	41.5
58,856	59,460	60,439	61,234	62,076	62,083	64,009

*8 ROE (IFRS): Profit attributable to owners of parent / Equity attributable to owners of parent
*9 ROA (JGAAP): (Ordinary income + Interest expenses) / Total assets (average)
*10 ROA (IFRS): Business profit / Total assets
*11 D/E ratio (JGAAP): Debt outstanding / Shareholders' equity
For debt having a capital component, a portion of its issue price is deemed to be capital, as assessed by rating agencies.
*12 D/E ratio (IFRS): Interest-bearing debt outstanding / Equity attributable to owners of parent
For debt having a capital component, a portion of its issue price is deemed to be capital, as assessed by rating agencies.
*13 Segment profit: Profit including finance income in business profit



Steel Business

Sustainable growth through restructuring and climate-change initiatives

JFE Steel is establishing a more optimal production system and new growth strategies in Japan in response to structural changes in the external environment. Simultaneously, the company is also tackling environmental issues through measures such as CO_2 emissions reduction to grow sustainably as a company valued by society.

Yoshihisa Kitano
President and CEO
JFE Steel Corporation

Envisioned business opportunities

- Increasing demand for high-grade steel due to the shift to lighter cars and electric vehicles
- Increasing demand to upgrade infrastructure in Japan for strengthened national resilience, primarily through disaster prevention/mitigation and renewal of aging facilities
- New demand for steel materials in restructured supply chains once manufacturing in Japan recovers
- Increasing demand for steel materials due to medium- and long-term growth in emerging countries
- Demand for operational-support technologies from steelmakers in emerging countries

Urgent issues to address

- Implement COVID-19 countermeasures and then recover profitability in FY2021
- Optimize production systems in Japan through restructuring
- Enhance capabilities for developing world-class technologies
- Pursue digital transformation for greater productivity, more stable production and enhanced technology-development capabilities
- Establish steel-technology solutions business by combining existing technologies and deepening expertise in both AI and the IoT
- Further develop low-carbon and decarbonization technologies

Responding to the COVID-19 pandemic

In FY2020, the COVID-19 global pandemic brought a sudden slowdown in the global economy as well as a stagnation of economic activity in Japan, including a dramatic and substantial decline in demand. In response, JFE Steel has implemented emergency cost-reduction measures in an effort to maintain earnings and overall financial soundness. In addition to efforts to steadily lower repair costs and reduce labor, we have stabilized operations and production by leveraging our experience and advanced technologies, including AI and IoT. Renovation work on the No. 4 blast furnace in the Kurashiki district was accelerated, the No. 4 blast furnace in the Fukuyama district was banked (temporarily shut down) and our total number of blast furnaces in operation was reduced temporarily from eight to six. Thanks to such initiatives, we are establishing a more efficient production system, from upstream to downstream processes, in line with existing demand. As a result, we expect to achieve our goal of cost reductions amounting to 100 billion yen.

I believe that these initiatives to control variable costs in the context of a dramatic drop in production are steadily enhancing JFE Steel's manufacturing capabilities and will contribute to stronger future earnings.

Under our Sixth Medium-term Business Plan, we intend to reduce domestic capital investment, previously set at 1 trillion yen, by a further 30 billion yen on top of a planned reduction of 100 billion yen, for a total reduction of 130 billion yen. Nevertheless, we will still proceed with investment required to fulfill our corporate social responsibility commitments to safety, the environment and disaster prevention, as well as to further advance our strategic data-science capabilities.

While it is difficult to forecast the FY2021 business environment, in view of the potential risk of further downturns we will work to ensure that JFE Steel returns to profitability by fine-tuning our flexible manufacturing systems in line with demand, while also steadily implementing cost reductions, including those achieved through new capital investment.

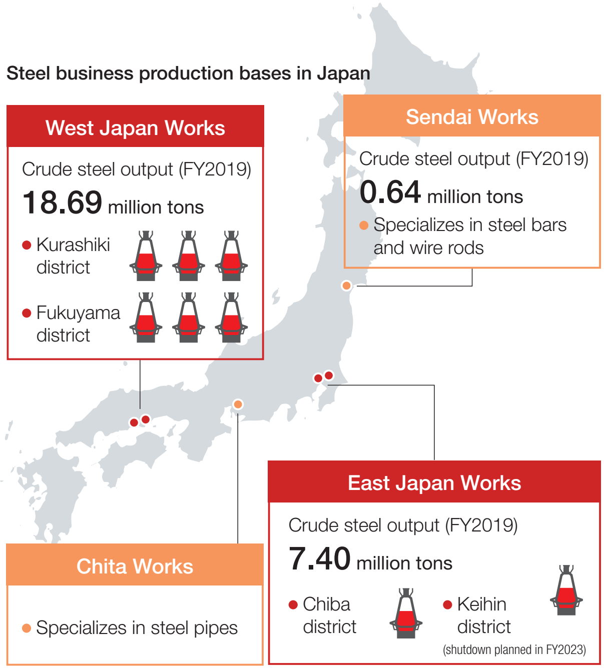
Commitment to restructuring

The steel industry has been facing an extremely harsh environment. In FY2019, JFE's steel business recorded a segment loss for the first time in the company's history, the result of unprecedented increases in raw-material prices and declines in finished-product prices due to factors including a slump in steel demand resulting from U.S.-China trade friction and increased crude steel production in China.

Both external and internal risks are envisioned in the future. The external risks include expanding production capacity in emerging countries, intensifying competition in overseas markets due to China shifting to exports amid declining domestic demand, and weakening demand in Japan. Internally, the biggest risk is large-scale investments required to upgrade facilities as they age over the long term, which we must continue to do under our Medium-term Business Plan to realize an ever stronger and more resilient manufacturing base in Japan.

In view of the structural changes in our external environment, we determined that JFE Steel must be restructured to focus on strategic production systems and product types that will help to ensure the company's long-term survival and growth.

Steel business production bases in Japan



Restructuring

JFE Steel manufactures high-grade steel, such as steel sheets for automobiles, middle-grade value-added products, and various general-purpose products. Our high-grade steel is very competitive in international markets but our general-purpose products are facing stiff competition. To reinforce our presence on the world stage under these conditions, we have begun to refocus our corporate resources on high-grade steel and high-value-added products, primarily in the three sectors of automobiles, infrastructure materials, and energy.

Based on this strategy, we assessed that production capacity in Japan comprising eight blast furnaces was excessive. Accordingly, we will shut down one furnace to help transform JFE Steel into a leaner, stronger and more resilient company by focusing on products that offer the greatest competitive advantages. Specifically, by around FY2023, we will suspend upstream processes (pig iron making and steelmaking) and hot-rolling steel plants at our East Japan Works (Keihin) and consolidate thin steel sheet production at our East Japan Works in the Chiba district, except for certain product types (pickling and specialty steels). We expect the reduction in fixed costs attributable to these shutdowns will improve earnings by around 60 billion yen per year. In addition, these shutdowns will enable us to suppress around 200 billion yen in investments in aging facilities that otherwise would have had to be upgraded over the next decade or so.

Restructuring is a companywide issue for JFE Steel. On April 1, we established the Special Initiatives Headquarters, which I am heading as president, to ensure swift and efficient implementation of plans as we steadily forge ahead with our restructuring. Under the Special Initiatives Headquarters, we are working to further utilize sophisticated IT and data science to enhance

Evolving production in Japan based on restructuring and related measures

		FY2019	FY2020	FY2021	FY2022	FY2023
Keihin district	Pig iron making and steelmaking	→	→	→	→	● Shutdown
	Hot-rolling	→	→	→	→	● Shutdown
	Cold-rolling and surface treatment	→ ● Shutdown of PLTCM and 3CGL				
Chiba district	Blast furnace					☆ Renovation of No. 6 blast furnace
	Steel sheets for cans	→ ● Shutdown of No. 2 ETL and No. 2 CAL	→	→	● Shutdown of manufacturing facility for steel sheets for cans	
Kurashiki district	Blast furnace			☆ Renovation of No.4 blast furnace	☆ Upgrading of blast furnace blower	
	Continuous casting machine		☆ Launch of new continuous casting machine (No. 7 continuous casting machine)			
	Electrical steel sheets					☆ Enhancement of production facility for electrical steel sheets
Fukuyama district	Coke oven	★ Launch of No. 3 coke oven (Battery A)		☆ Launch of No. 3 coke oven (Battery B)		
	Sintering facilities	★ Launch of new sintering facility (No. 3 Sintering Machine)				

● Shutdown completed/planned ★ Launch/execution completed ☆ Launch/execution planned operational efficiency and productivity. We are also steadily streamlining our organization and systems across the company, including head office divisions, to transform JFE Steel into a lean, strong and resilient company. Going forward, we will carefully explain the details of our restructuring to all stakeholders who may be affected, including customers, suppliers, employees, local communities, authorities, shareholders and investors, to gain their understanding.

Future growth strategy

Based on the restructuring plans described above, JFE Steel is pursuing a three-pillar growth strategy to achieve sustainable growth: strengthen the competitiveness of domestic manufacturing sites, carry out digital transformation (DX) and expand new revenue bases overseas.

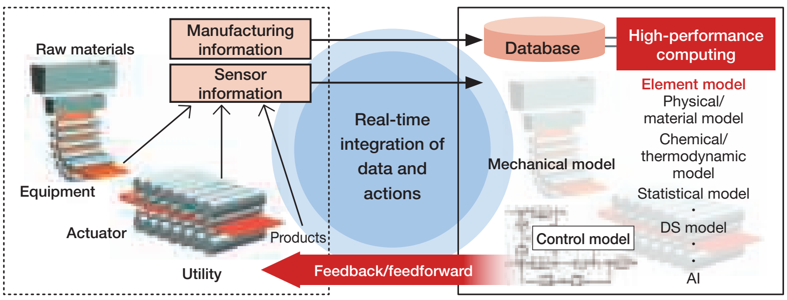
For our production bases in Japan, we have systematically executed investment in targeted facilities, such as upgrading the No. 3 sintering machine and No. 3 coke oven in the Fukuyama district and constructing the No. 7 continuous casting machine and renovating the No. 4 blast furnace in the Kurashiki district. We will continue to execute carefully selected investment, primarily to strengthen the manufacturing base of the West Japan Works, our core steelworks, as well as renovate the No. 6 blast furnace in the Chiba district and enhance the electrical steel sheet manufacturing facility in the Kurashiki district. In addition to capturing the growing demand for high-grade steel, we will thoroughly enhance our competitive strength in middle-grade products.

Regarding DX, we will push ahead with technological innovation and our utilization of data resources by actively introducing technologies such as the latest IoT, AI and data science. Compared to steelmakers overseas, JFE Steel has an abundant accumulation of data that it can digitize to drive its competitive strength, including in fields such as manufacturing, quality control and detection of problems in equipment and operations.

We established the JFE Digital Transformation Center (JDXC™) at the head office to make full use of abundant data across the company. JDXC™ will serve as a base for accelerating our development of advanced technologies, primarily cyber-physical systems (CPS), aimed at realizing innovatively enhanced productivity, improved quality and more stable operations.

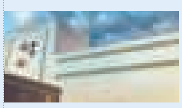
Overseas, we are implementing initiatives to develop and grow new revenue bases. So far, we have captured demand in overseas markets mainly by supplying raw plates from Japan to, for example, our overseas manufacturing bases for the production of automotive steel sheets for markets in China, Thailand, Indonesia and Mexico. We are also raising the profitability of our overseas business by providing advice and assistance regarding value enhancement to alliance partners and operating companies in growth markets. Examples of these firms are our

Cyber-physical system (CPS)



Status of overseas business initiatives

	FY2018	FY2019	FY2020
Overall			● Established Overseas Business Promotion Center
Automobiles		● China (steel powder): BJCMX commenced sales and production ● China (specialty steel bars and wire rods): BJSS concluded joint venture agreement ● Mexico (steel sheets for automobiles): NJSM commenced production	◆ China (battery material): Anode material business commenced production
Infrastructure materials		● Myanmar (thin steel sheets for construction material): JMM commenced sales and production of color steel sheets	
Energy		● UAE (large-diameter welded steel pipes): AGPC commenced sales and production	
Overseas steel sources / Other	● Vietnam: FSH ignited No. 2 blast furnace ● Australia (coking coal): Byerwen Coal commenced deliveries		◆ India: Finishing expansion of JSW Dolvi steelworks


NJSM plant


JMM plant

● Completed ◆ Planned (in progress)

●BJCMX: Shanghai Baowu JFE Clean Iron Powder Co., Ltd. ●BJSS: Baosteel Special Steel Shaoguan Co., Ltd. ●FHS: Formosa Ha Tinh (Cayman) Limited
●JMM: JFE MERANTI MYANMAR Co., Ltd. ●NJSM: NUCOR-JFE STEEL MEXICO ●AGPC: AL GHARBIA PIPE COMPANY

long-term strategic alliance with JSW Steel in India, our specialty bar steel joint venture business with China BaoWu Steel Group Corporation Limited in China, and our construction-use thin steel sheet joint venture in Myanmar. We also will provide steel technology solutions that combine JFE Steel's data and expertise with advanced AI and IoT technologies, turning these solutions into key new sources of earnings overseas. Centered on our newly established Overseas Business Promotion Center, we are determined to pursue initiatives that accurately grasp opportunities for new overseas businesses while continuing to maximize revenue from existing overseas businesses.

Initiatives aimed at reducing CO_2 emissions

The Japanese steel industry, and JFE Steel in particular, have achieved world-class energy efficiency through ongoing efforts to continually expand energy savings. Furthermore, we have been transferring our energy-saving technologies to emerging countries. Moreover, our high-tensile steel sheets and other high-function products are helping to lower automobile body weights and enhance fuel efficiency. Combined, these achievements are contributing to measurable reductions in CO_2 emissions. Looking ahead, however, further CO_2 reductions will be necessary on a global scale, so even more aggressive initiatives are envisioned. So far, we have participated in the Japan Iron and Steel Federation's "challenge towards zero-carbon steel" for the year 2100, and have engaged in the development of hydrogen-reduction ironmaking, carbon capture and storage (CCS), and carbon capture and utilization (CCU) technologies that enable zero emissions, based on the insight gained from the development of COURSE50 and ferro-coke. Additionally, we aim to reduce CO_2 emissions in FY2030 by 20% or more compared to FY2013 on a non-consolidated basis. We have launched a new project team, and will start examining various measures to achieve our targets. In addition to engaging in the development of aforementioned decarbonization technologies, we intend to further reduce CO_2 emissions by in existing manufacturing processes. We are promoting the development of a range of low-carbon technologies and measures, including technologies to further utilize scrap and reduce CO_2 emissions by expanding high-heat-efficiency hot metal pretreatment process through converter enhancements. Over the long term, we will promote the development of decarbonization technologies, in line with the social transformation to establish carbon-free infrastructure, soon after 2050, we will contribute to the JFE Group's achievement of carbon neutral status.

See the Climate Change Feature on page 53 for details.

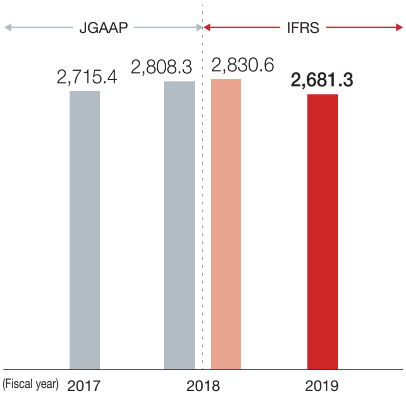
Through the power of steel

Steel is a material that has supported the development of civilization with its unparalleled advantages, including relatively low manufacturing costs, suitability for mass production, tremendous strength, easy processing and ready recycling. Going forward, we believe that expectations for steel will increase as the world undergoes further dramatic changes.

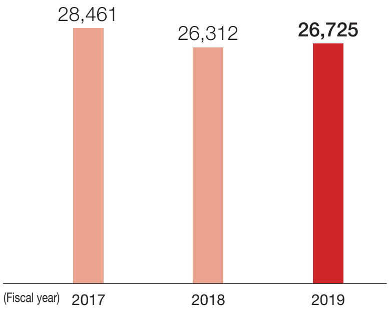
Today, JFE Steel is confronted with a business environment more uncertain and challenging than any it has faced in its history. Nevertheless, we are pushing forward with our restructuring and growth strategies to transform JFE Steel into a lean, strong and resilient company that can grow its corporate value. Through the power of steel, we will provide new value and respond flexibly to ever-changing needs with products and technologies that leverage steel's infinite potential.

FY2019 results

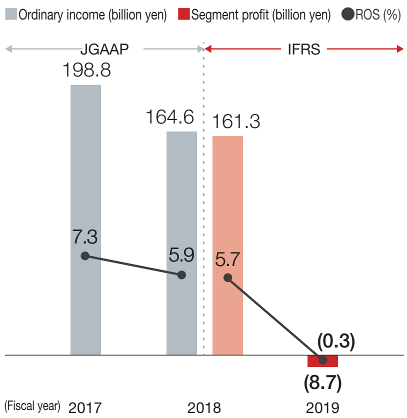
Net sales / Revenue (billion yen)



Non-consolidated crude steel output (1,000 tons)



Ordinary income / Segment profit (billion yen) **and Return on Sales (ROS)** (%)



Note: From FY2018, JFE Group adopted the International Financial Reporting Standards (IFRS) in place of the Japanese generally accepted accounting principles (JGAAP).

Engineering Business

As an engineering company, our goal is to actively promote and further the Sustainable Development Goals (SDGs) through the Foundations of Life.

Expanding our operating businesses, and developing new products and services were key initiatives under our Sixth Medium-term Business Plan. In addition to pushing forward with these initiatives, we have sown the seeds of new businesses for the future.

Hajime Oshita

President and CEO
JFE Engineering Corporation

Envisioned business opportunities

- The aging of infrastructure
- Privatization of public services
- Changes in the structure of society and industry
- Social demands to realize a sustainable society

Urgent issues to address

- Promote operating businesses
- Increase demand for infrastructure upgrades and service life extension
- Develop new technologies and invest in new business models
- Promote the SDGs through business activities

Medium- to long-term strategies

We have expanded our operating businesses to support the Foundations of Life, through traditional Engineering, Procurement and Construction (EPC) as well as Public-Private Partnership (PPP), recycling business, and power generation and electric power businesses. These businesses provide the infrastructure and services essential for modern day society, and we have kept it up amid the COVID-19 crisis.

In our EPC businesses, we will continue to fine-tune the technologies that are our specialty, such as waste-to-energy plants, pipelines and bridges, and contribute to society through businesses that create the Foundations of Life. In our operating businesses, we have a long list of achievements in the environmental and aqua fields, including in the biomass Private Finance Initiative (PFI) business and the aqua (water treatment) concession business. We have also established five regional power producers and suppliers in the electricity field to promote the local production and consumption of electric power. J&T Recycling Corporation, which is responsible for our recycling business, boasts one of the largest industrial waste processing capacities in Greater Tokyo, and is involved in the bottle-to-bottle recycling business that transforms used PET bottles into clear PET material. Our operating businesses now account for around 40% of the company's sales. We aim to increase this proportion to 50%, and firmly establish a robust portfolio to ensure that our performance is not dependent on the success of receiving orders for individual projects.

We will also strive to develop new technologies, and explore new business models. We are gradually realizing the fully automated operation of waste-to-energy plants by utilizing our vast accumulation of operational data and AI technology. We are also actively engaged in exploring new technologies and business models. In addition to building a foothold to enter the petrochemical plant EPC business by launching JFE Project One through M&A in March this year, we are engaged in activities including acquiring an AI startup company that detects abnormalities in water quality, and enhancing our in-house venture business program. Moreover, we are building systems to facilitate swift investment in future businesses. Last year we established an investment vehicle together with Tokyo Century, to make long-term investments eyeing businesses five or 10 years in the future. We will continue to accelerate these initiatives to expand our portfolio and further improve our competitiveness on the market.

Many of the businesses developed by JFE Engineering, including our energy and environment businesses, are related to the 17 Sustainable Development Goals (SDGs). We aim to be a company that actively strives to promote the SDGs through these business activities.

Business overview

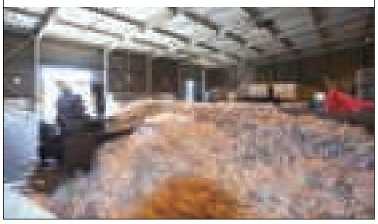
Our core business is the construction of essential infrastructure, including waste-to-energy plants, water treatment plants and bridges. By focusing on these business fields, we propose integrated services that include business planning, and operating business covering from EPC to the operation and maintenance (O&M) stage.

Environment

- Waste-to-energy plants
- Industrial waste processing

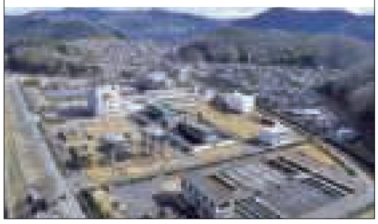
Recycling

- Food-waste recycling
- Home appliance recycling
- PET bottle recycling



Aqua

- Water and sewage treatment plants
- Water and sewerage pipelines



Energy

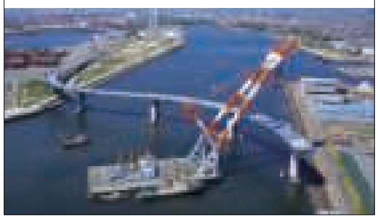
- Natural gas treatment plants
- LNG terminals
- Oil and gas pipelines
- Chemical plants

Power generation and retail

- Electricity retailing
- Renewable-energy power generation
- Energy service provider

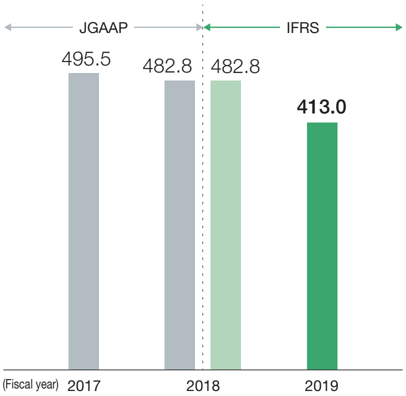
Steel Structures and Industrial Machinery

- Bridges, ports and harbor facilities
- Seawalls and breakwaters
- Cranes and steam turbines

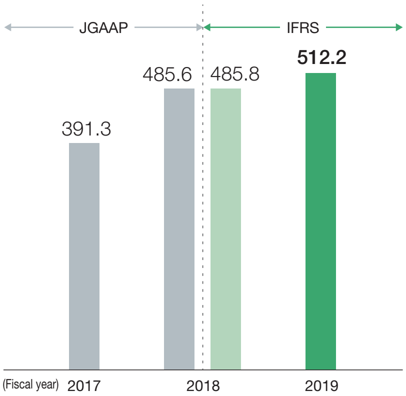


FY2019 results

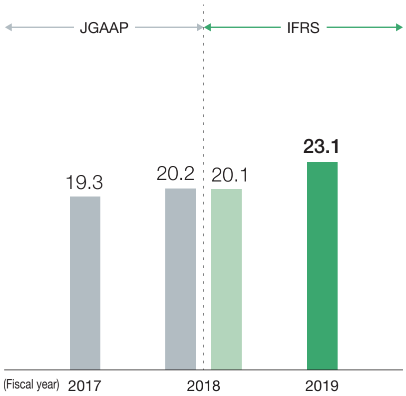
Orders received (billion yen)



Net sales / Revenue (billion yen)



Ordinary income / Segment profit (billion yen)



*From FY2018, the JFE Group adopted the International Financial Reporting Standards (IFRS) in place of the generally accepted accounting principles (JGAAP) adopted previously.

Trading Business

Increasing our abilities to offer proposals and convey information, aiming to be a trading company with presence

As the JFE Group's core trading company, we constantly consider the overall optimum, sharing strategies with other Group companies to work on strengthening functions. Furthermore, we seek to increase our abilities to offer proposals and convey information, growing sustainably with our customers to be a company with strong market presence.

Naosuke Oda
President & CEO
JFE Shoji Corporation

Envisioned business opportunities

- Revision of customers' supply chains and procurement strategies, in line with changes in the external environment, such as US-China trade friction and the impact of COVID-19
- Increasing awareness of environmental and social issues, primarily in response to ESG and the SDGs
- Accelerated growth in markets for eco-friendly products that can contribute to CO_2 reductions and energy savings

Urgent issues to address

- Firmly establish a stable revenue base through both trading and business
- Maintain and expand the JFE Group's competitive strength through even stronger coordination with JFE Steel and JFE Engineering
- Strengthen initiatives in the renewable energy field

Medium- to long-term strategies

Global four-pillar network

JFE Shoji will build a stable management base across its four-pillar system, further strengthening management through a system of area business headquarters, deepening coordination between our overseas bases, and expanding trading income and business income. Through global supply chain management in each region in strategic coordination with JFE Steel, we will provide JFE brand products, including steel products manufactured by JFE Steel in Japan and overseas, and products manufactured by JFE Group alliance partners, together with high-quality services, to customers around the world. We will arrange systems to provide steel material products that have already undergone slitting and other cut processing, secondary or tertiary processing, which are closer to the finished product, in line with customer needs.

As the JFE Group's core trading company

We maximize our contribution to customer value by anticipating customer needs in rapidly-changing global markets, through our trading and business operations in close coordination with JFE Steel and JFE Engineering. Through a trading business model that pursues unique, Group-wide optimization, we will maintain and expand the competitive advantages of the entire Group across global markets.

ESG initiatives

JFE Shoji provides eco-friendly products such as steel products capable of contributing to climate change solutions (ultra-high-strength steel sheets, electrical steel sheets) and scrap, to meet the needs of customers in Japan and overseas.

For renewable energy, a growth market, we are focusing our efforts on providing customers with optimal steel materials in the steel business field, while in the raw materials business field we provide palm kernel shells (PKS) and wooden pellets for use as fuel in biomass power generation.

We thus contribute to realizing a sustainable society through such a broad range of initiatives.

Business overview

The JFE Shoji Group is engaged in a broad range of businesses, from steel materials, machinery, non-ferrous metals, chemicals and ships to food and electronics, with our focus on steel products. The company provides services that add value to supply chain operations with a global network encompassing 97 companies.


Steel products


Food


Steel raw materials


Electronics


Machinery & materials

Global four-pillar system
(Japan, the Americas, China and ASEAN)

Trading

Sales and procurement
- General steel products
- Steel raw materials and machinery & materials
- Foods and electronics

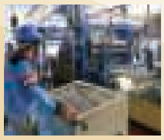
...and more

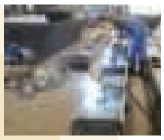
×

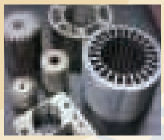
Business

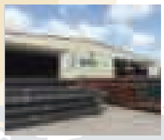
Processing and distribution
- Coil center business
- Motor core production
- Shipbuilding block processing
- Steel-materials sales companies

...and more

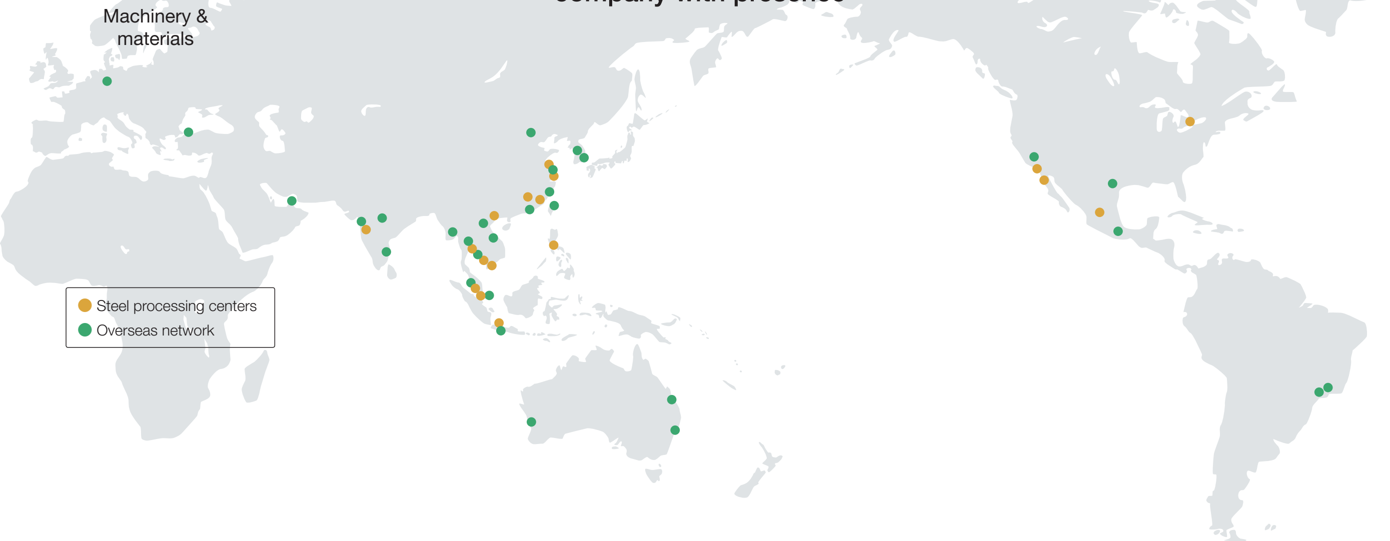

Coil center business


Shipbuilding block processing


Motor core production

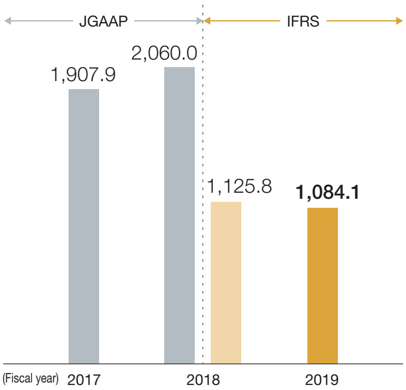

Steel-materials sales companies

Growing sustainably with customers as a company with presence

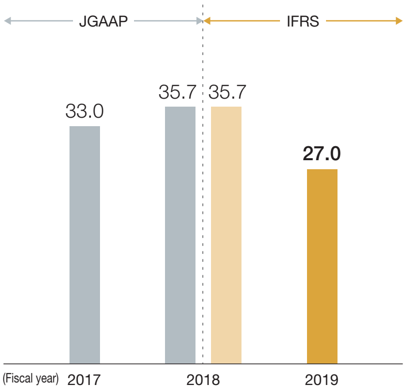


FY2019 results

Net sales / Revenue (billion yen)

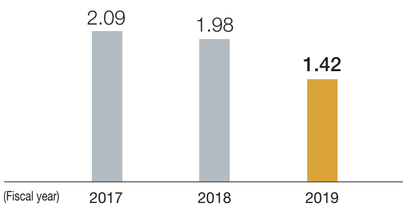


Ordinary income / Segment profit (billion yen)



Ratio of consolidated income to non-consolidated income (times)

(Consolidated ordinary income / Non-consolidated ordinary income)
Group company contributions to consolidated ordinary income



*From FY2018, the JFE Group adopted the International Financial Reporting Standards (IFRS) in place of the generally accepted accounting principles (JGAAP) adopted previously.

Shipbuilding Business (equity-method affiliate)

Contributing to the ship and offshore field with the finest products and services

As a leading company in Japan's shipbuilding industry, we leverage our world-class environmental and energy conservation technologies in the fields of merchant vessels, naval ships and other offshore undertakings, with the aim of being the most powerful shipyard capable of meeting every need.

Kotaro Chiba
President & CEO,
Japan Marine United Corporation

Envisioned business opportunities

- Expanding demand for ships that save energy and reduce environmental impact
- Expansion in renewable energy-related businesses

Urgent issues to address

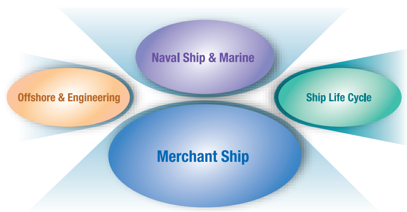
- Contribution to stable energy seaborne trade
- Strengthen international competitiveness in terms of both product performance and costs

Medium- to long-term strategies

Through our capital and business alliance with IMABARI SHIPBUILDING, we will leverage IMABARI SHIPBUILDING's strengths, including scale and construction capacity, together with JMU's abundant human resources that have technical expertise and advanced technology, and cooperate with each other to boost competitiveness in terms of both product performance and costs, enhancing the marketability of merchant vessels such as tankers, bulk carriers, and container ships. We will also take up the challenge of new fields in offshore construction business, such as offshore wind power.

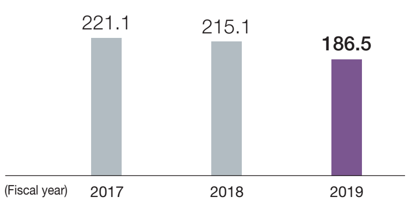
Business overview

Japan Marine United was created in 2013 by integration of two companies, Universal Shipbuilding and IHI Marine United, which leaded the shipbuilding industry in Japan. JMU is targeting business development in 4 core businesses, merchant ships, naval ships, offshore & engineering, and ship life cycle business.

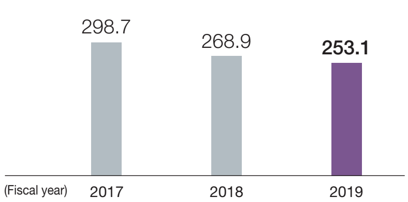


FY2019 results

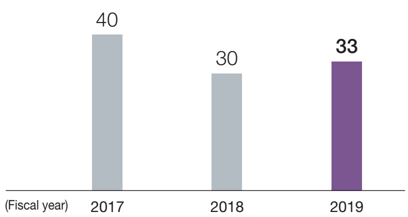
Orders received (billion yen)



Net sales (billion yen)



Vessels built (vessels)



JFE Group's Response to the COVID-19 Pandemic

We will engage in the measures necessary at present to prevent the spread of COVID-19 and ensure the continuation of business activities.

Operational response

Steel business

Implement minimum-cost operation by optimizing production through the shutdown (renovation) and banking* of blast furnaces

- No. 4 Blast Furnace at the West Japan Works (Kurashiki district)—shut down at the end of April, and commenced blast furnace renovation works
- No. 4 Blast Furnace at the West Japan Works (Fukuyama district)—banking from June (restart planned in the second half of FY2020)

*Banking: halt of operation in a state capable of restarting production by stopping the air blast flow

Ensure job security for employees by implementing the temporary suspension of work

- Continue the temporary stoppages implemented across the company since May 2020, for the time being

Engineering business

Continued operations at the Tsurumi Works through the implementation of staggered working hours, and measures to prevent infection, such as the sterilization of shared spaces, in response to the State of Emergency declared in April 2020

Revenue and cash flow measures

1 Reduce costs in the steel business
Achieve 100 billion yen (FY2020) in accumulated cost reductions, in response to the dramatic decline in demand for steel

2 Reduce domestic capital investment in the steel business
A further 30 billion yen reduction on top of the 100 billion yen reduction announced in November 2019 (total reduction of 130 billion yen)

3 JFE Group's asset reductions (inventory reductions, reduction of strategic shareholdings, etc.)
A further 20 billion yen reduction on top of the 150 billion yen reduction announced in November 2019 (total reduction of 170 billion yen)

4 JFE Group's fund procurement in FY2020
Procure a total of around 300 billion yen by September 30, 2020 (issuance of corporate bonds of 60 billion yen in July, plus borrowings from financial institutions)

Employee safety and health measures

Current response to COVID-19

(As of August 2020)

	Main measures to prevent infection	
	Head office and branches	Steelworks and other works
JFE Steel	• Working from home and staggered working hours through introduction of a coreless flexi-time system • Installation of partitions between work desks • Body temperature readings at building entrances using thermo-cameras	• Installation of partitions in workplaces, cafeterias, etc. • Reduction of meeting participants through distributed meetings • Maintenance of appropriate social distancing during break times
	Head office and domestic branches	Works, construction sites and operating offices
JFE Engineering	• 50% or more employees working from home • Thorough body temperature records (daily) and strict compliance with mask wearing • Customers' body temperature measurements	• Installation of plastic sheets in rest areas • Limitations on the use of shared facilities • Staggered working hours at works: three shifts with one-hour intervals
	Head office	Other bases
JFE Shoji	• Staggered working hours through introduction of flexi-time system • Online internal meetings • Installation of partitions between work desks • Customers' body temperature measurement using thermo-cameras • Checking body temperatures every day before going to work	
	• Working from home as much as possible (max. office capacity: 25%)	• Working from home (max. office capacity: 50%)
	Head office	Shipyards
JMU	• Working from home (target office capacity: 50% or less) • Installation of partitions between work desks • Thorough implementation of personal movement records	• Campaign to ensure use of masks, ventilation and sterilization • Avoid the "three Cs" (closed spaces, crowded places and close-contact settings) through staggered working hours, etc. • Thorough implementation of personal movement records

Response in the event of a positive case

If an employee of the JFE Group tests positive for COVID-19, we work to prevent the spread of infection by swiftly sterilizing the employee's workplace and shared areas and also by implementing PCR tests to all who came in close contact with the employee, all in accordance with guidance from public health centers. We implement all possible measures to prevent infection and respond swiftly to suppress the spread of the disease, placing the safety of our employees and all other stakeholders as our highest priority.

Feature
01

JFE Group's Digital Transformation Strategy

The global environment has entered a period of great change. Economic development has brought convenience and enriched the lives of many. At the same time however, it has become necessary to resolve increasingly complicated social issues, such as the reduction of greenhouse gas emissions, the mitigation of excess production or losses of food, the suppression of social costs associated with an aging population, and the establishment of a sustainable industry base.
As the world changes drastically, we are also witnessing the emergence of a succession of new technologies that influence the make-up of society, such as the IoT, robotics, artificial intelligence (AI) and big data. Through the adoption of these leading-edge technologies into industry and social life, we must aim to achieve a new society that combines economic development with the resolution of social issues. Based on this perspective, the JFE Group actively promotes the digital transformation (DX) strategy.

Increasing competitive strength dramatically, and establishing a sustainable, stable revenue base through DX

News

Selected as a DX Stock 2020

JFE Holdings is actively promoting strategic IT investment in order to reinforce the competitive strength across the entire Group and improve corporate value over the medium to long term. We have been selected as Competitive IT Strategy Company Stock Selection jointly announced by the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange for five consecutive years. From this year, the index has been changed to DX Stock Selection with a focus on digital transformation (DX) to realize new growth and enhance competitive strength by fundamentally transforming business models based on digital technology. JFE Holdings was selected as a DX Stock 2020 for its proactive promotion of DX.

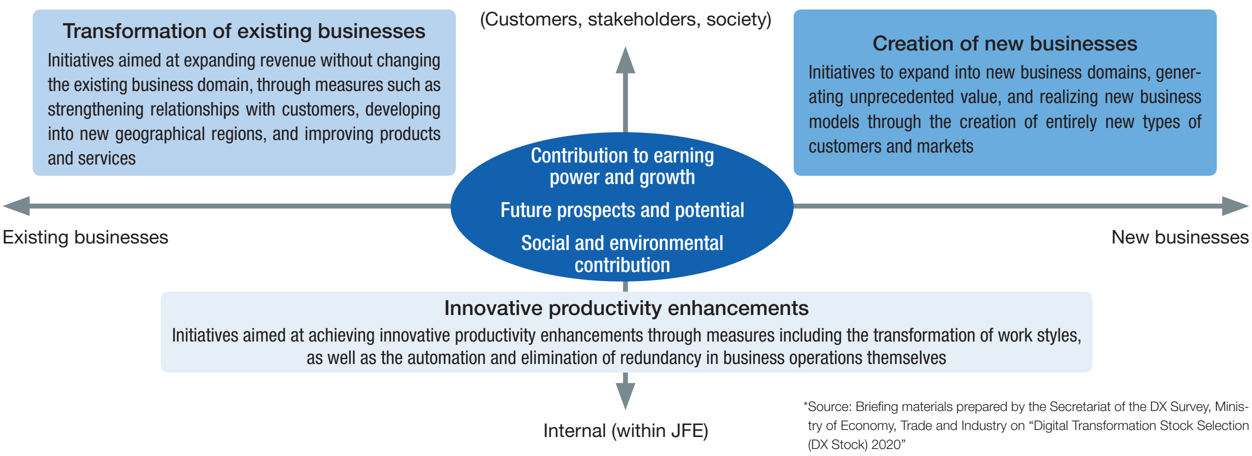
The JFE Group is confronted with a range of structural changes in the business environment, such as dramatic fluctuations in markets in Japan and overseas, generational change including the retirement of veteran engineers, and the aging of equipment. We have identified Group-wide digital transformation (DX) as an important strategy to enable us to respond flexibly and swiftly to increasingly challenging changes in the business environment. This includes the use of data and digital technology to transform products, services and business models, as well as the transformation of organizations, processes, corporate culture and the nature of business operations themselves.

By actively promoting DX in response to key management issues, we will increase the competitive strength of the entire Group dramatically, establish a stable revenue base, and build a strong and resilient corporate structure that can adapt flexibly to changes in the environment.

The JFE Group has identified information security as an important management issue, and is strengthening information security governance in order to protect information resources that may form the foundation for innovative productivity enhancements, the transformation of existing businesses, and the creation of new businesses.

Based on this approach, we are striving to improve corporate value through the promotion of our unique DX strategy in each of the steel, engineering, and trading businesses.

Three areas of DX promotion

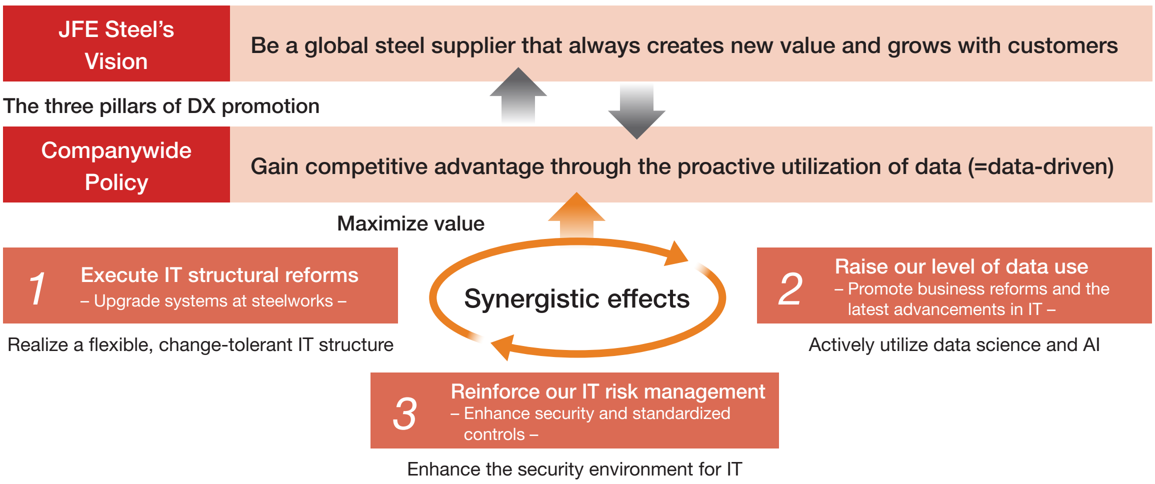


*Source: Briefing materials prepared by the Secretariat of the DX Survey, Ministry of Economy, Trade and Industry on "Digital Transformation Stock Selection (DX Stock) 2020"

Promotion of DX in the Steel Business

Vision for DX promotion

JFE Steel's DX strategy pivots on technological innovation and the use of data resources, through the proactive introduction of technologies such as the IoT, AI and data science (DS). Compared to steel mills overseas, JFE Steel has accumulated a large amount of know-how and data over many years. These abundant data resources are the source of value creation. By actively utilizing these resources through the latest DS and AI technologies, we aim to achieve innovative productivity enhancements, quality improvements, and stable operations, to further enhance our competitive strength. In addition, we will promote measures to respond to new work styles in the wake of COVID-19, including remote working initiatives such as the remote monitoring of manufacturing facilities across each region.



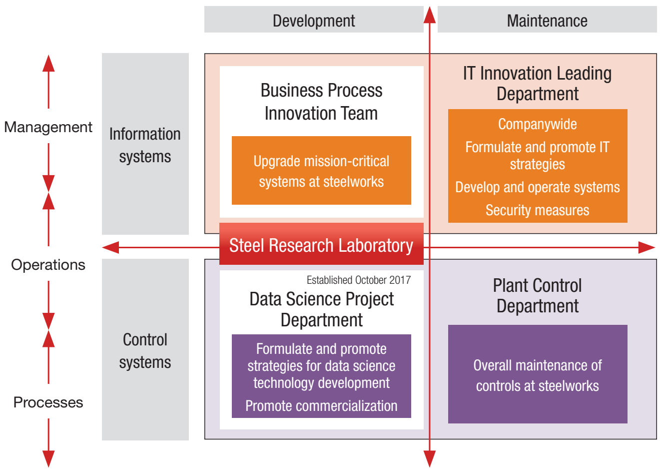
Promotion of DX in the Steel Business

DX promotion structure and transformation

We are building structures to promote the upgrade of legacy systems and the active utilization of the latest IoT, AI and DS, which are key issues for management.

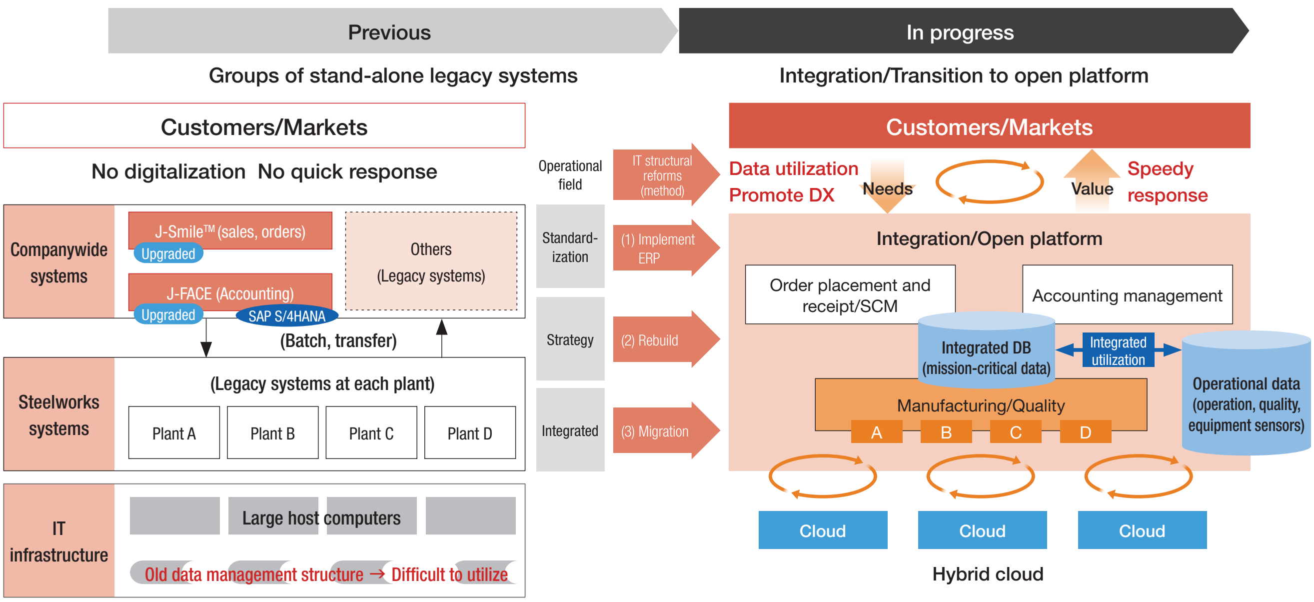
We established the Business Process Innovation Team in January 2015, and continue to steadily promote the upgrading of mission-critical systems at each steelwork and companywide integration.

We went on to establish the Data Science Project Department in October 2017, and the Cyber-Physical System R&D Department in April 2019, promoting the efficient and systematic research and development of the latest IoT, AI and DS technologies from a companywide perspective.



Enhancement of the information system platform for DX promotion

We are engaged in structural reforms of our IT platform to enable the utilization of our abundant data resources, the core of our DX strategy. We are pushing ahead with the development of structures to respond swiftly and flexibly to changes in the environment, through the integration of groups of legacy systems and the transition to an open platform.



Message from the Executive Officer in Charge

The IT Innovation Leading Department and Business Process Innovation Team are currently promoting the integration of ICT platforms, including the upgrade of systems at steelworks. They are constructing a platform to link expertise and data accumulated in the past (integrated DB) with images and sensor data captured using the latest technology, and enable the flexible utilization of data in order to further enhance customer value.

Through the JFE-Security Integration and Response Team (JFE-SIRT), newly established in FY2016, we have implemented swift and exhaustive risk countermeasures across the entire JFE Group, to respond to the risk of increasingly sophisticated cyber-attacks and information leakages. We will continue to improve the level of information security management.

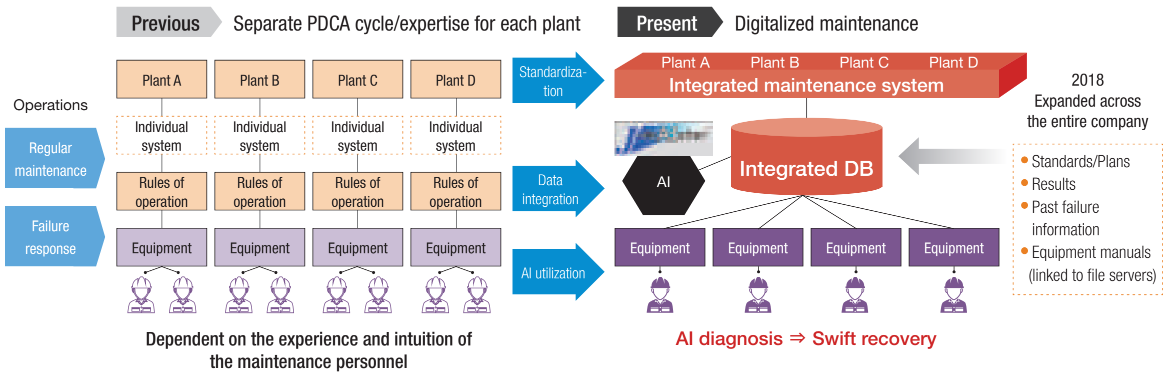
Akira Nitta
In charge of IT Innovation Leading Department, Business Process Innovation Team
Vice President, JFE Steel Corporation

Initiatives for DX promotion

(Raise the level of data use)

01 J-mAIster™: an equipment maintenance support system utilizing AI technology

JFE Steel actively promotes the utilization of its abundant data resources. Based on the companywide integrated maintenance system that began operation in 2015, we introduced the J-mAIster™ system in 2018 utilizing IBM™ Watson to support the recovery from control failures across all manufacturing lines. This new system enables even young maintenance personnel to easily search through extensive failure data accumulated over the past 20 years, and identify countermeasures, achieving a substantial reduction in recovery time.



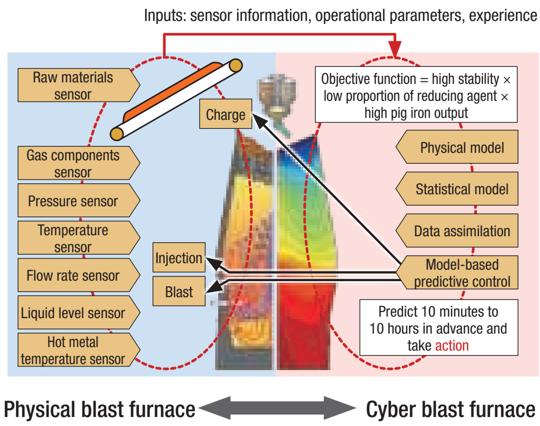
02 Leveraging advanced DS: Transition to CPS (cyber-physical systems)* for blast furnaces

We are progressively introducing CPS at all of our operational blast furnaces in Japan. Until now, it was extremely difficult to predict abnormalities in airflow or temperature conditions within the furnace. The introduction of CPS has facilitated the prediction of these factors, contributing to enhanced productivity and safe operation of blast furnaces.

*A system that generates value by feeding vast quantities of data from sensors (big data) concerning physical space (actual equipment and products) into cyber space, and feeding back the result of multiple analysis using various methods to physical space in real time.

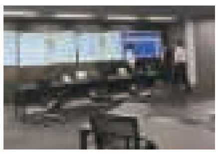
Predictive model

- **Detect abnormalities in airflow in the furnace** from pressure sensors (20 to 30 minutes in advance)
  ⇒**Avoid gas channeling trouble**
- **Predict the furnace temperature** up to 12 hours in advance
  ⇒**Take appropriate action to maintain the target temperature**



03 Establishing the JFE Digital Transformation Center: a base for promoting DX

We established the JFE Digital Transformation Center (JDXC®) as a base for promoting DX at the head office. JDXC™ is the first facility in the Japanese steel industry capable of the comprehensive utilization of data from all steelworks and other works, including the coordination of upstream and downstream processes, and data sharing between districts. We will further accelerate technological innovation and the utilization of data resources, which are the pillars of our DX strategy, by expanding CPS to our main manufacturing processes, and promoting measures including training and increasing data scientists centered around JDXC™. This will also enable the remote monitoring of manufacturing facilities across each region, allowing us to respond to new work styles, including remote working initiatives in the wake of COVID-19.



Message from the Executive Officer in Charge

We will proceed with the systematic and efficient application of the IoT, AI and DS from a companywide perspective, mainly in relation to equipment, processes and operations. To begin with, we have strengthened the base for data collection from all processes, facilitating the comparison and analysis of data from any district within the company. This has enabled us to standardize process models which had previously been operated based on a different expertise in each district, and to implement initiatives to eliminate gaps between districts, and raise the overall level. We are also engaged in implementing more sophisticated QA/QC through consistent data utilization across multiple processes, as well as more efficient operations and cost reductions through seamless companywide data utilization.

Akira Kazama
In charge of Data Science Project Department
Vice President, JFE Steel Corporation

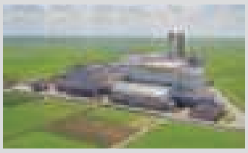
Promotion of DX in the Engineering Business

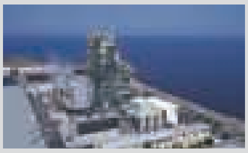
Implementing the world's first automated operating system for incinerators through companywide DX promotion framework

At JFE Engineering, we promote DX directly connected to our business by constructing companywide systems to collect and utilize information, such as the Global Remote Center which collects operating data from plants across Japan, as well as platforms to analyze these data.

For waste-to-energy plants in particular, we have implemented the world's first automated operating system for waste incinerators through AI image analysis of the combustion status and the systemization of manual operation by veteran operators.

Plants/Bridges





Remote monitoring & plant data collection

Global Remote Center (GRC)

Initiatives for DX promotion

Global Remote Center (GRC)

The Global Remote Center (GRC), which opened in March 2018, collects customers' plant operation data and provides services including remote monitoring, operational support and maintenance of customers' plants.

It is equipped with an advanced environment for expanding data utilization, consolidating networks that were previously dispersed among different plant types, enhancing the quality of communications lines, and centralizing management of various data from plants on the cloud. For waste-to-energy plants, the company has used the accumulated big data to develop and launch an AI system to determine the combustion status, and an AI system to provide the know-how of veteran operators in a conversational format. The GRC also plans to utilize AI technology in other areas, such as the prevention of operating failures and the swift restoration of normal operations through diagnosis of warning signs, and the maintenance of industrial machinery and pipeline monitoring and control devices, providing diverse and high added-value services.

Message from the Executive Officer in Charge

Advanced engineering with ICT
Creating and "Ni-na-u"* the foundation for life powered by manufacturing and service capabilities

* "Ni-na-u" is a Japanese word meaning supporting and remaining responsible.

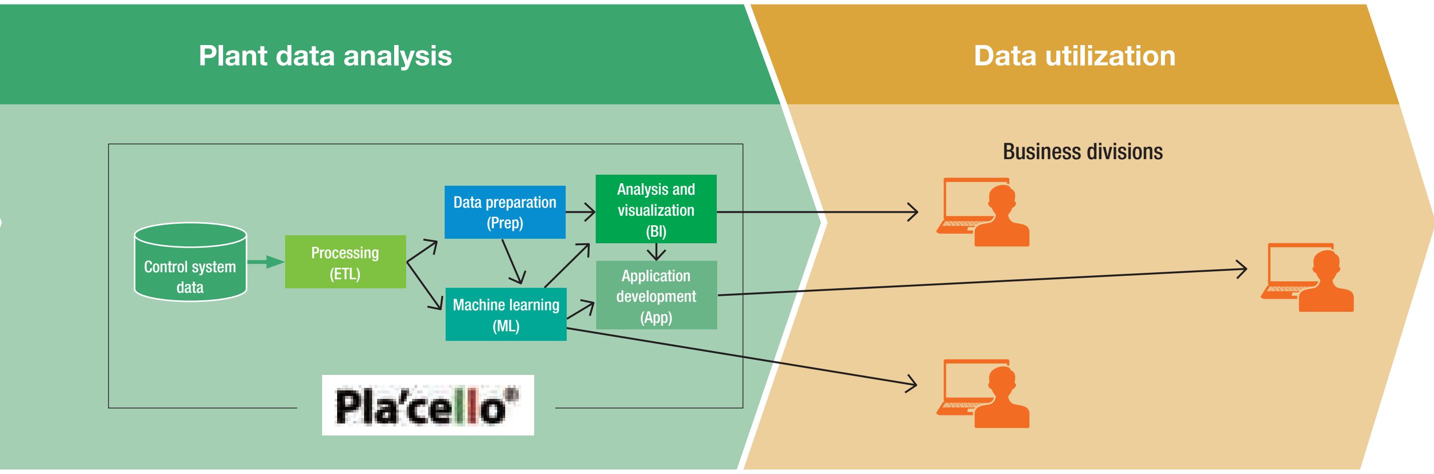
As privatization of public services is requested, we are actively expanding "Ni-na-u" business in addition to creating social infrastructure. Advanced technologies such as IoT, big data analysis and artificial intelligence (AI) are key drivers for creating and "Ni-na-u" the foundation for life. We make the best use of such advanced technologies for state-of-the- art infrastructure business.

Atsushi Okamoto
Senior Managing Director, JFE Engineering Corporation

Achieving DX solutions in a range of fields through technology and operation know-how combined with AI developed in-house

We are developing DX solutions to resolve a variety of issues both within and outside the JFE Group. In addition to the automated operation of waste-to-energy plants, these include the automation of bolt work inspection in bridge construction, the optimization of dam operation through water level prediction, and the optimization of electricity supply through the prediction of electricity demand based on customer needs.

We will fuse AI technology developed in-house with original technologies and operation know-how cultivated through manufacturing, using our unique capabilities to achieve unprecedented efficiency in operating services, innovative operational efficiency enhancements, and new business value.

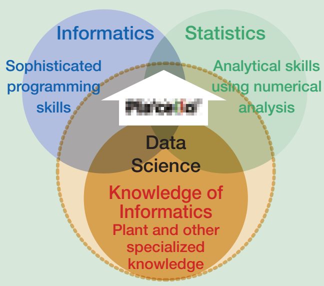


Data analysis platform that does not require specialized IT knowledge

The Pla'cello data analysis platform, which allows analysis of a plant's photo and time-series data, was built and started operating in November 2018. In general, the use of AI and big data is said to require knowledge of informatics, statistics and domain knowledge in the particular field. The Pla'cello makes it possible to analyze data to detect abnormalities and predict demand, without advanced knowledge in informatics or statistics.

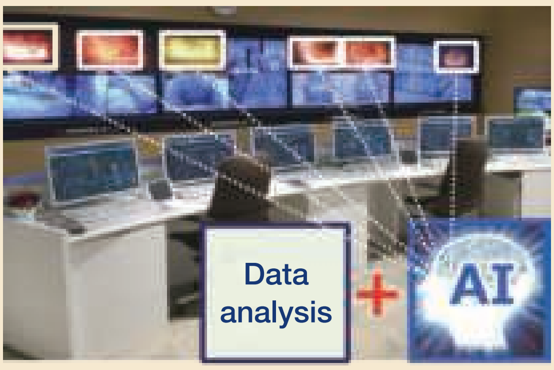
This permits a reduction of the amount of time required for data analysis by up to 90%.

Using Pla'cello, we plan to increase the number of internal engineers engaged in data analysis to 300 by the end of FY2020.



Automated waste incinerator system for waste-to-energy plants

Because the status of combustion at a waste-to-energy plant changes minute by minute depending on the waste being used as fuel, it was previously necessary for an operator to intervene manually to ensure stable operations. Our BRA-ING, the world's first automated operating system for waste incinerators, which uses AI-based image analysis of the combustion status and the systematization of manual operation by veteran operators, is already at the implementation stage, and planning to introduce to 10 facilities in FY2021.



Promotion of DX in the Trading Business

Initiatives for DX promotion

01 Channeling the internal benefits of introducing RPA to enhanced customer service

In FY2018, we launched a companywide project to introduce RPA. We forecast an effective reduction in working hours of around 40,000 hours annually by the time the project comes to completion at the end of FY2020 (it has been expanded to Group companies from FY2019). Internally, introducing RPA has generated secondary effects such as being able to visualize and standardize operations through the review of operational flows and cross-functional activities, and greater opportunities for data utilization.

There has also been a change in the division of duties since RPA was introduced, including the transfer of some duties from employees in career-track positions to those in clerical positions.

It has also contributed to the faster provision of information and other improvements in customer service at points of contact with customers.

These changes are only the first step for JFE Shoji. We will continue to work to promote DX and further enhance customer service.

Changes in operations for customers (establishment of a stable revenue base and expanding profits)

Enhance customer service

Customers

- Provide more accurate materials more quickly
- Create more time for contact
- Propose the review of internal operations (transition to electronic format)

Operational reforms utilizing data

Direct results of introducing RPA

Reductions in work time (efficiency gains): 40,000 hours annually (forecast for end of FY2020)

- Review of operational flows based on robotization
- Robotization of target operations through data utilization
- Increased time-saving per unit by robotization through the standardization of operational flows
- Expansion of the scope of RPA through AI-OCR*

*Optical Character Recognition (OCR) incorporating AI technology

Secondary effects

Work style reforms unconstrained by convention

- Progress in visualizing operation
- Response to changes in the operational environment
- Increased awareness of data utilization

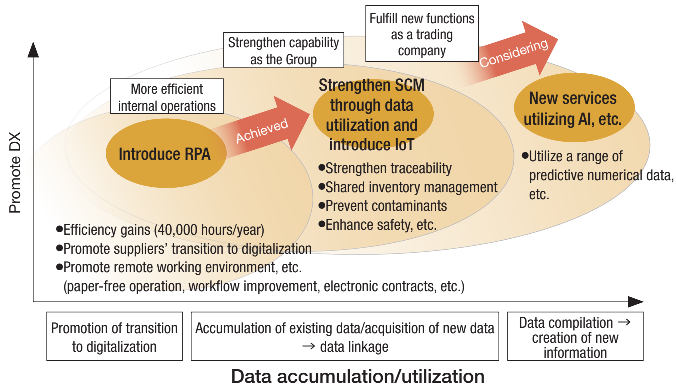
・Prevent individual operations becoming a "black box"
・Equalization of working time during busy periods
・Smooth transition to remote working
・Paper media → Data transfer
・Construction of systems utilizing data

02 Aiming to further evolved customer service through the promotion of DX

The in-house utilization of data has increased through our activities to expand RPA, while the COVID-19 crisis has spurred the progressive transition of customer communications to digitalization.

In addition, we have begun considering IT systems development utilizing data to strengthen SCM, and the utilization of AI for sales operations. We are also in the process of introducing IoT at our manufacturing Group companies.

We will continue to enhance data accumulation and utilization, with our final goal not only to achieve greater efficiency across JFE Shoji and its subsidiaries but also provide unique new value to customers.



Message from the Executive Officer in Charge

JFE Shoji embarked on full-scale DX with the introduction of RPA, focusing mainly on office operations so far. With the adoption of technologies such as the IoT and AI, we are now expanding our sphere of activities outside the company. Specifically, we plan to boost productivity of manufacturing-related Group companies through IoT, and improve various services through data analysis utilizing AI. As the JFE Group's core trading company, we continue to actively adopt digital technology and strive to enhance customer satisfaction.

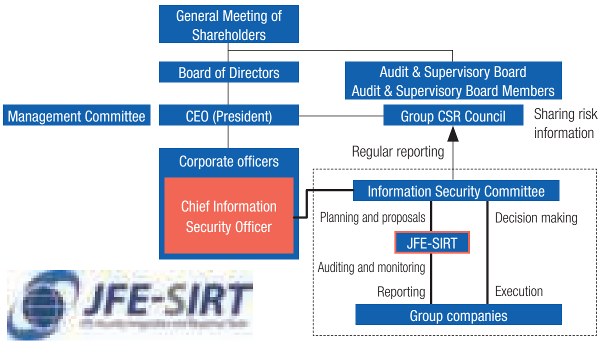
Tatsuya Sakamoto

Vice President, JFE Shoji

Information Security Governance that Underpins DX Strategy (Defensive DX)

JFE Group information security management system

In April 2016, we established the JFE Group Information Security Committee in response to the publication of Cybersecurity Management Guidelines by the Ministry of Economy, Trade and Industry in 2015, with an aim to continuously maintain and reinforce the IT risk management function across the entire Group. Under the direction of the JFE Group Chief Information Security Officer*1, the executives responsible for the IT division in each operating company deliberate on key IT issues principally information security, and determine Group policy. We have also established the JFE-SIRT, made up of General Managers of the IT division in each operating company, and are working to strengthen security measures and governance of operating companies and their group companies, based on the decisions made by the JFE Group Information Security Committee.

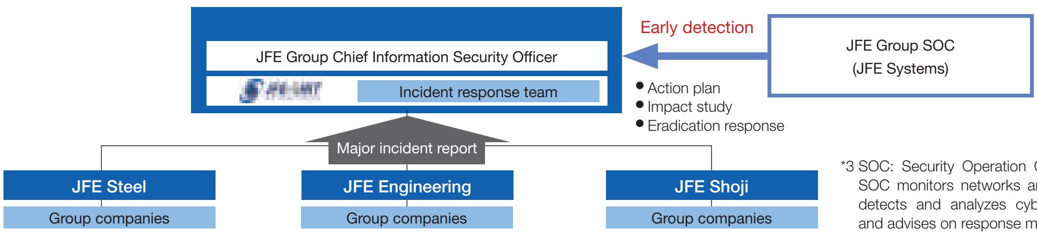


JFE-SIRT (JFE-Security Integration and Response Team) is a CSIRT*2 responsible not only for addressing information security incidents but also for the planning, proposal and promotion of Group-wide measures, auditing group companies, reviewing security policy, etc.

*1 Chief Information Security Officer (CISO). Chief executive ultimately responsible for all information security matters, who is in charge of information management and control within the company and organization.
*2 CSIRT: Computer Security Incident Response Team. A generic name for organizational units that respond to computer security-related incidents within an organization.

Integrated information security monitoring network

Targeted cyber attacks aimed at companies are becoming ever more sophisticated. In many cases, victims remain unaware for a long time that they have even suffered an attack, by which time information resources have already been stolen. An integrated information security monitoring network is necessary to ensure early detection of threats and prevent damage from spreading, by executing multilateral monitoring from individual computers to the network level. By developing a Group-wide SOC*3 we have facilitated constant monitoring across the entire JFE Group. In addition, we have established a system where security incidents at Group companies are promptly reported, dealt with, normal function is restored, and measures are formulated to prevent recurrence, by JFE-SIRT, under the direction of the JFE Group Chief Information Security Officer.

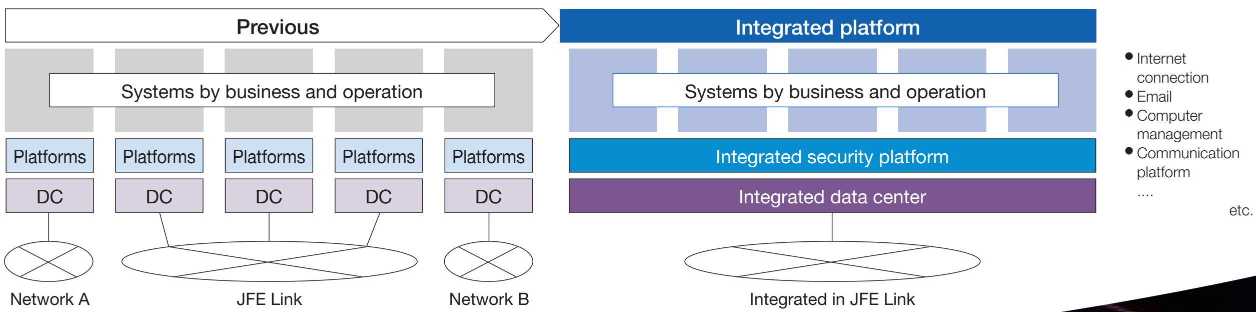


*3 SOC: Security Operation Center. The SOC monitors networks and devices, detects and analyzes cyber attacks, and advises on response measures.

Integrating the Group security platform

We are engaged in the implementation of a shared information security platform, including networks, IT devices, and security-related software, in order to raise the overall level of information security across the JFE Group, and protect the Group's information resources from increasingly sophisticated cyber attacks. In the event of an information security breach, a shared platform will enable us to accurately grasp the threat and respond swiftly.

We have also established a shared data communication platform for the advent of cloud computing. The promotion of safe information sharing within the JFE Group is also contributing to the creation of inter-group DX businesses.



Feature 02

JFE Group's Initiatives for Climate Change Issues

To build a sustainable society, the JFE Group works to respond to climate change risks with the world's most innovative technology, contributing to a resilient societal framework.

CONTENTS

Initiatives for Climate Change

Initiatives for major climate-related risks and opportunities that impact businesses

Initiative 1

JFE Group's medium-to-long-term vision

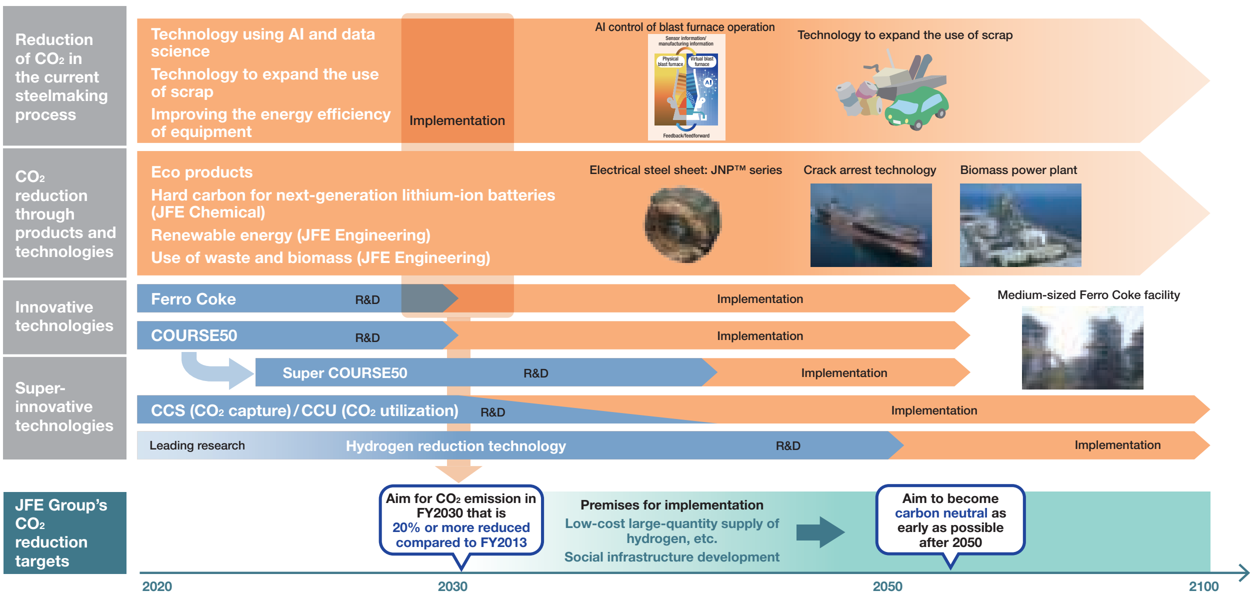
Aiming to reduce CO_2 emissions by 20% or more by FY2030 and to be carbon neutral after 2050

The JFE Group intends to increase sustainability through solutions that address global climate change issues while restructuring its business to respond to developments in the environment facing the steel business. We regard this year to be a landmark year to further reinforce our efforts to tackle the issues of climate change, and we are actively promoting initiatives for reducing CO_2 emissions with the targets set up as follows:

JFE Group's targets for reducing CO_2 emissions	
Toward 2030	• In the steel business, which accounts for most of the JFE Group's CO_2 emissions, we are exploring feasible scenarios with the aim of reducing CO_2 emissions in fiscal 2030 by 20% or more compared to fiscal 2013, maximizing the use of the best available technologies and innovations. • JFE continues to share the Japan Iron and Steel Federation's commitment to a low-carbon society and to play an active role. At the same time, JFE has launched a new project team to reduce our CO_2 emissions as much as possible for an individual company, and will start examining various measures to achieve our targets.
Toward 2050	• In line with the social transformation to establish carbon-free infrastructure over the long term, JFE will strive to be carbon neutral within the JFE Group as soon as possible after 2050. • JFE is carrying out research and development to be ready to show a lineup of carbon neutral technologies in its business processes well ahead of 2050.

See Non-financial Highlights on page 79 for CO_2 emissions by JFE's steel business

The JFE Group's road map for CO_2 reduction to achieve carbon neutrality



CSR Report: Climate Change
https://www.jfe-holdings.co.jp/en/csr/environment/climate/index.html

Initiative 2

Decarbonization in steel production processes

The JFE Group promotes the development of innovative technologies to achieve decarbonization ahead of the rest of the world.

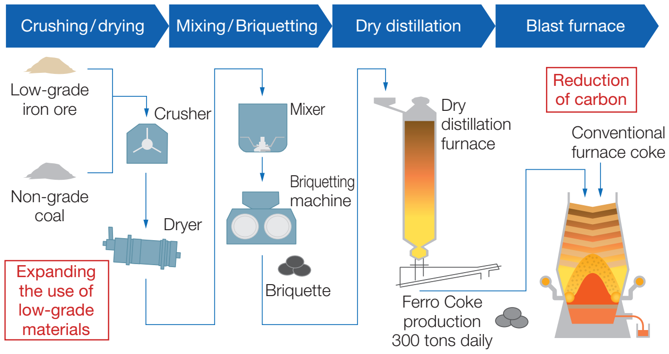
JFE Steel has been actively working on developing energy saving technology to increase the efficiency and achieving decarbonization in the iron and steelmaking processes. We currently boast the world's top-class energy-efficient iron and steelmaking processing technologies. To make further progress toward decarbonization, we will promote development of innovative steel production processes (COURSE50, Ferro Coke) that are expected to reduce CO_2 emissions through methods such as hydrogen-reduction and CCS.

COURSE50 is aiming to reduce CO_2 emissions by approximately 30% in total: around 10% through hydrogen-reduction, and 20% through CCS. Equipment will be put in place by around 2030, and be introduced in stages by around 2050, in line with the timing of the renewal of blast furnace-related equipment. Ferro Coke, which improves the efficiency of iron-reduction in blast furnaces, is a technology that can significantly lower CO_2 emissions. Furthermore, to ultimately achieve Zero-carbon Steel, we will pursue challenges such as developing hydrogen-reduction ironmaking technologies in 2030 and beyond.

We view the introduction of these innovative technologies as one of the top priorities and push ahead with the initiative in cooperation with the national government.

Currently, we have built medium-scale pilot plant equipment that produces 300t/d of Ferro Coke at JFE Steel's West Japan Works (Fukuyama), and will start trials for commercial operation from FY2020.

Process flow of Ferro Coke manufacturing



JFE Group's Response to the TCFD

To build a sustainable society, the JFE Group works to respond to climate change issues with the world's most innovative technology, contributing to a resilient societal framework. The JFE Group will disclose information on risks and opportunities regarding climate change issues, such as scenario analysis, in line with the TCFD recommendations.

JFE's initiatives for climate change issues and future action

The JFE Group's business involves steel manufacturing, which emits massive amounts of CO_2. That is why climate change issues are serious management issues from the viewpoint of business continuity. The steel business accounts for 99.9% of the JFE Group's CO_2 emissions. The JFE Group is able to manufacture steel with the lowest CO_2 emission intensity among all the integrated steel mills in the world through developing diverse technologies that enable energy saving and CO_2 emission reduction, and by applying them to our iron and steelmaking processes we help to alleviate risks. We will continue developing processes to reduce environmental impact and spread our vast accumulated technologies globally for new opportunities, in order to contribute to mitigating climate change.

The JFE Group develops and possesses many environmentally friendly products and technologies which help customers save energy at the stage of consumption, such as high-performance steel materials and power generation using renewable energy.

Reduction of weight and the electrification of automobiles are expected to be further advanced in the future, through enhancing the functions of its products such as high-tensile and electrical steel sheets, the JFE Group will contribute to such advancements. Also, while contributing to the further spread of renewable energy, we plan to help reduce CO_2 through our recycling business and efforts in resource-saving.

To help achieve the Paris Agreement's long term goal of holding the average global temperature rise well below 2°C, the company continues to develop and spread required technologies and contribute to playing its part in mitigating climate change. At the same time, to prepare for the gradually intensifying climate crisis, we plan to contribute to national resilience through providing steel for societal infrastructure and put it into use for construction.

Information disclosure following TCFD recommendations

JFE Holdings declared its agreement with the summary of the Final TCFD* Report, released on May 27, 2019.

*The Task Force on Climate-Related Financial Disclosures, established by the Financial Stability Board (FSB), based on the opinions of G20 Finance Ministers and Central Bank Governors.

TCFD recommendations

Climate-related risks and opportunities significantly affect the finance of companies on a medium- to long-term. TCFD is a task force established by the Financial Stability Board as requested at G20, to reduce risks that could destabilize the financial market. TCFD reviews methods of information disclosure that allows the financial market to appropriately evaluate climate-related risks and opportunities, and announces them as final recommendation reports.

TCFD considers that it is important for investors and other parties to accurately grasp what effects climate-related risks and opportunities pose on the financial conditions of investee before financial decision-making, based on which TCFD recommends that information related to four core elements in organizational management: Governance, Strategy, Risk management, and metrics and targets should be disclosed.

Summary of TCFD recommendations	JFE's disclosure (relevant sections in the CSR report)
Governance: Disclose the organization's governance associated with climate-related risks and opportunities	
a. Describe the Board of Directors' oversight of climate-related risks and opportunities	Corporate governance / Risk management Climate change (JFE Group's Response to the TCFD: Governance)
b. Describe assessment of climate-related risks and opportunities, and management's role in company management	Risk management system
Strategy: Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's business, strategy, and financial planning (if such information is important)	
a. Describe the climate-related risks and opportunities over the short, medium, and long term the organization has identified	JFE Group value chain Climate change (JFE Group's medium-to-long-term vision) Climate change (JFE Group's Response to the TCFD: Strategy)
b. Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	
c. Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C scenario	
Risk management: Disclose the processes used by the organization to identify, assess, and manage climate-related risks	
a. Describe the organization's processes for identifying and assessing climate-related risks	Risk management Environmental management Climate change (JFE Group's Response to the TCFD: Risk management)
b. Describe the organization's processes for managing climate-related risks	
c. Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	
Metrics and targets: Disclose the metrics and targets used to assess and manage climate-related risks and opportunities	
a. Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management	Material CSR issues (KPIs for Material CSR Issues) Climate change (JFE Group's Response to the TCFD: metrics and targets)
b. Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	Climate change (JFE Group CO_2 emissions) / Environmental data
c. Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	Material CSR issues (KPIs for Material CSR Issues) Climate change (JFE Group's medium-to-long term vision) Climate change (JFE Group's Response to the TCFD: metrics and targets)

Governance

The JFE Group's Standards of Business Conduct states that we will actively work to exist harmoniously with the global environment, as well as to raise living standards and advance societies. We acknowledge that activities to protect the global environment, such as reinforcement of environmental conservation and response to climate change issues, are absolutely essential to achieving a sustainable society.

In FY2016 we designated "mitigating climate change" as our CSR materiality in order to pursue a steady PDCA cycle and appropriate management of our ongoing initiatives to reduce CO_2 in iron and steelmaking processes and to develop and provide environmentally friendly products.

The JFE Group Environmental Committee, established under the Group CSR Council chaired by the President of JFE Holdings, supervises and directs these initiatives across the Group by setting targets, assessing progress, and holding discussions to improve the Group's overall performance.

The Group Management Strategy Committee also deliberates topics that are vital to our business, such as climate change issues, and reports to the Board of Directors. The Board of Directors provide supervision through discussions on environmental issues such as climate change based on these reports.

Examples of climate change related issues reported to and discussed in a meeting of the Board of Directors

1. Declaration of endorsement of the final TCFD recommendation report
2. Information disclosure following TCFD recommendations (scenario analysis, etc.)

Methods of monitoring issues relating to climate change

The Group CSR Council, the Group Management Strategy Committee, and the Management Committee monitor issues that may impact our business. Monitoring is conducted through quarterly reports on climate change issues from each operating company deliberated by its environmental committee, etc. to take suitable measures. The JFE Group Environmental Committee strengthens the collection and management of information relating to risks, to not only reduce the likelihood of risks occurring and their impact, but also to strive to maximize opportunities.

Measures based on monitoring

1. Group policy deliberation
2. Supervision of policy penetration
3. Information sharing on topics and examples of actual responses to problems

Strategy

The many risks and opportunities involved with climate change issues are integrated into the business strategies of the JFE Group in the following ways. The JFE Group has formulated the Sixth Medium-term Business Plan to guide our business operations for FY2018 to FY2020. Under this plan, we have placed high priority on contributing to the establishment of a sustainable society as part of our plan to strengthen the business structure for sustainable growth. By dedicating our efforts to continuously addressing ESG issues as one of the core strategies, we have incorporated our initiatives on climate change issues into our business strategy. We disclose information in accordance with TCFD recommendations including scenario analysis, select material factors impacting business, and identify and evaluate risks and opportunities.

The JFE Group positions protection of the global environment as one of our most important issues. In addition to reduction of CO_2 in iron and steelmaking processes and recycling of water resources and energy, we also develop environmentally friendly products and processing technologies and provide resource recycling solutions, establishing a strategy to actively pursue the reduction of environmental impacts. Furthermore, we make our stand on public policies relating to climate change issues and environmental conservation, expressing our opinions through organizations such as the Japan Iron and Steel Federation and proactively participate in such activities.

Risk management

JFE Holdings is responsible for comprehensive risk management in accordance with its Basic Stance for Building an Internal Control System. The JFE Group CSR Council, chaired by the President of JFE Holdings, collects specific information and enhances management for the purpose of reducing the frequency and impact of risks. The Corporate Officer responsible for risk works to identify potential risks associated with ESG risks such as climate change. If potential risks are identified, they are reviewed and assessed at an appropriate meeting as necessary for further examination or the deployment of countermeasures.

The Board of Directors supervises the Group's initiatives on ESG risks and CSR including climate change issues by receiving reports and holding discussion on its material issues.

We identify and evaluate climate-related risks in the corporate level taking into account scenario analysis based on the framework recommended by the TCFD. We select material factors impacting business and perform a closer analysis of their effects, then utilize this in formulating future business strategies.

Metrics and targets

JFE Steel, the steel operating company of the JFE Group, is a member of the Japan Iron and Steel Federation (JISF). The JFE Group is pursuing the "Three Ecos" and innovative iron and steelmaking process development, which are the main pillars of the Low-Carbon Society Implementation Plan formulated by JISF. Under this plan, JISF targets the reduction of 3 million t-CO_2 by FY2020 compared to BAU (Business As Usual: the estimated emissions based on production output without special measures), and the further reduction of 9 million t-CO_2 by FY2030. JFE Steel is also actively pursuing action to attain the targets of the Low-Carbon Society Implementation Plan.

JISF, in addition to these initiatives, established and announced its long-term vision for climate change mitigation for 2030 and beyond, which ultimately aims for Zero-carbon Steel production. JFE Steel also played a pivotal role in the development of this long-term vision.

The JFE Group intends to increase sustainability through solutions to climate change issues on a global level by restructuring its business to cope with the changes facing the steel business. We regard this year to be a landmark year to further redouble our efforts to tackle the issue of climate change, and have set the JFE Group's CO_2 reduction targets, actively promoting initiatives to reduce CO_2 emissions.

Scenario analysis

What is scenario analysis?

While correctly understanding the risks and opportunities related to climate, we evaluate the effects they have on current business strategies, and utilize them in establishing future strategies. Due to our business having the potential to be significantly affected by climate change, we have set the following two scenarios.

Both scenarios are based on the scenarios announced by the International Energy Agency (IEA). The analysis was performed under the assumption that carbon pricing would be introduced into major CO_2 generating countries in order to achieve the 2°C target.

Projected scenarios		2°C scenario	4°C scenario
Reference scenarios	Transition	Transition scenarios by the International Energy Agency (IEA) ● Sustainable Development Scenario (SDS)*1 ● 2°C scenario (2DS)*2	Transition scenarios by the International Energy Agency (IEA) ● New Policies Scenario (NPS)*1 ● Reference Technology Scenario (RTS)*2
	Physical effects	Estimate scenario of climate change by the United Nations' Intergovernmental Panel on Climate Change (IPCC) ● Representative Concentration Pathways Scenario (RCP)*3	
Social vision		Bold policies and technological reforms will be undertaken to hold the increase in the global average temperature below 2°C until the end of the century, and to achieve sustainable development. Societal changes that come alongside decarbonization are assumed to affect business. ● Worldwide/industry-wide common carbon pricing*4 ● Increase in ratio of electric cars in automobile sales	Even with the new policies in various countries stipulated in accordance with the Paris Agreement, including Intended Nationally Determined Contribution (INDC), the global average temperature will rise up to 4°C by the end of the century. Climate changes such as rising temperatures are assumed to affect business. ● Increase in frequency of flood damages ● Rise in sea level

*1 Source: IEA "World Energy Outlook 2018" *2 Source: IEA "Energy Technology Perspectives 2017" *3 Source: IPCC "Fifth Assessment Report"

*4 Carbon pricing differences among countries may widen the global industrial competitiveness between countries with strict CO_2 emission restrictions and those with more lenient ones, potentially resulting in carbon leakage (countries with stricter restrictions decrease production and investments, reducing CO_2 emissions, while those with more lenient restrictions increase production and investments, increasing CO_2 emissions). The reference scenario SDS assumes that developed countries and certain developing countries have implemented carbon pricing. Based on this SDS, the JFE Group has set the 2°C scenario under the assumption that carbon pricing would be introduced into major CO_2 generating countries in order to achieve the 2°C target.

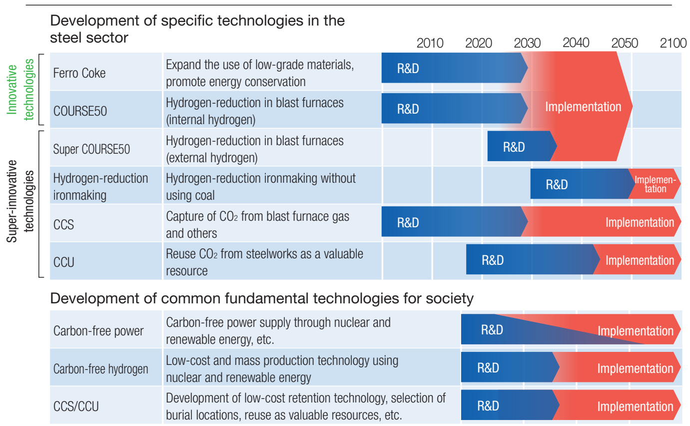
Relevant businesses and period for analysis

Relevant businesses of the scenario analysis were JFE Steel: steel business; JFE Engineering: engineering business; JFE Shoji: trading business; and businesses of certain Group companies. The period for analysis was set to be up to 2050.

Compatibility with the Japan Iron and Steel Federation's long-term vision for climate-change mitigation

JFE Steel, the steel operating company of JFE Group, is a member of the Japan Iron and Steel Federation (JISF), which has set 2030 as the target year to achieve its Low-Carbon Society Implementation Plan. In addition to that, in November 2018, JISF also established and announced its long-term vision for climate-change mitigation from 2030 and beyond. JFE Steel played a pivotal role in the development of this long-term vision. JISF's long-term vision for climate-change mitigation ultimately aims for Zero-carbon Steel by 2100. On the other hand, the JFE Group's scenario analysis aims to ensure the resilience of the Group's business strategies at certain phases during the long-term challenge.

Initiatives toward a long-term vision for climate change mitigation



Source: Compiled based on information provided by the Japan Iron and Steel Federation

Identification processes of important risks, opportunities and factors affecting businesses

Step 1 Summarize factors that affect relevant businesses from a standpoint covering the value chain

Step 2 Study the factors comprehensively and take into account their "impact on the factors" as well as "expectations and concerns of stakeholders," thereby identifying especially important factors

	2°C scenario	4°C scenario
Impact on procurement		5. Procurement of raw materials becomes unstable due to increased frequency in climate disasters
Impact on direct business operations	1. Decarbonization in steel production processes 2. Increase in demand for the effective use of steel scraps	6. Damages to business bases due to climate disasters
Impact on demand for products and services	3. Change in demand for steel for automobiles and others 4. Increase in demand for solutions promoting decarbonization	7. National resilience

Impact × Expectations and concerns of stakeholders → Identifying important factors

Criteria for identifying important factors:
• Impact (possibility of risk opportunities × impact upon occurrence) • Expectations and concerns of stakeholders

Results of Scenario Analysis

	Societal changes and responses to changes		Expectations and concerns of stakeholders towards the JFE Group	Evaluation results	
2°C scenario Important factor ❶ **Decarbonization in steel production processes**	Rising societal demands for decarbonization towards steel production processes	Implementation of innovative technologies that achieve large-scale decarbonization Implementation of carbon pricing	• Significant contribution through innovative technologies • Increase in investment in the implementation of innovative technologies • Increase in operation costs due to the introduction of carbon pricing	Opportunities ↗	↗ Development and implementation of innovative technologies on top of existing technologies
				Risks ➡	↘ Investment in the implementation of innovative technologies is possible ➡ Cost competitiveness is maintained when carbon pricing is implemented worldwide
2°C scenario Important factor ❷ **Increase in demand for the effective use of steel scraps**	Increased focus on electric furnace method, which emits low levels of carbon	Rising expectations toward electric furnace steel Increase in scrap generation	• Replacement of converter steel with electric furnace steel • Increase in JFE Group's production of electric furnace steel	Opportunities ↗	↗ Restrictions on the amount of scrap provided, increase in production of converter steel ↗ Increase in production of electric furnace steel and the need for electric furnace engineering ↗ Expansion of the scrap logistics business
2°C scenario Important factor ❸ **Change in demand for steel for automobiles and others**	Change in automobile needs	Increase of EV motors Decrease of internal combustion engines Reduction of weight and the increased use of multi-materials	• Increase in demand for electrical steel sheets for EV motors • Decrease in demand for special steel due to the decrease of internal combustion engines • Replacement of automobile steel due to the increased use of multi-materials • Demand for further decarbonization and recyclability in steel production	Opportunities ↗	↗ Increase in demand for electrical steel sheets due to more electric vehicles ↗ Increase in demand for special steel due to increase in automobile sales ↗ Increase in demand for high-tensile steel sheets for automobiles ↗ Refocus on the recyclability of steel
	Rising demands for eco-friendly raw materials	Demand for decarbonization and recyclability		Risks ➡	➡ Limited impact of the increased use of multi-materials
2°C scenario Important factor ❹ **Increase in demand for solutions promoting decarbonization**	Shifting to decarbonization	Increase in demand for solutions promoting transition toward decarbonization Overseas development of energy conservation technologies	• Renewable-energy power generation plants • Low-carbon business (Eco Solution) in developing countries using Best Available Technology (BAT) developed and commercialized in Japan	Opportunities ↗	↗ Integrated constructions and operations of renewable energy (biomass, geothermal, and solar power) plants ↗ Integrated constructions and operations of waste incinerators and plastic recycling plants ↗ Integrated constructions of CCU and CCS facilities ↗ Overseas development of low carbon businesses
4°C scenario Important factor ❺ **Procurement of raw materials becomes unstable due to increased frequency in climate disasters**	Intensifying climate disasters alongside rising temperatures	Procurement of raw materials becomes unstable	• Procurement of raw materials becomes unstable	Risks ➡	➡ Undergoing concrete measures "Alternative procurement methods and source distribution"
4°C scenario Important factor ❻ **Damages to business bases due to climate disasters**	Intensifying climate disasters alongside rising temperatures		• Increased damages due to typhoons and rainstorms • Increased damages due to water shortages • Flood damages due to rising sea levels	Risks ➡	➡ Flood and water shortage response measures already in motion ➡ Flood impacts due to rising sea levels can be coped with the current measures
4°C scenario Important factor ❼ **National resilience**	Intensifying climate disasters alongside rising temperatures	Increase in importance of strengthening infrastructure Increased demand for disaster prevention products	• Contribution with steel and related products that help strengthen infrastructure	Opportunities ↗	↗ Strengthening infrastructure with steel and related products

Feature 03

JFE Group's Human Resources Strategy

It is vital that the JFE Group recruits diverse, high-quality skilled human resources, and creates environments where they can demonstrate their full potential, in order to ensure business continuity, and continue to create new value in this rapidly changing social environment.

To this end, we have established a new human resources strategy, especially focusing on the areas essential to our sustainable growth: promoting DX, expanding a new revenue base overseas, and strengthening the competitiveness of our domestic manufacturing sites. We also believe that the creation of safe workplaces and the health of our employees and their families are indispensable for continuing our corporate operations.

We will continue to engage in business operations based on the JFE Group's Basic Stance on Human Resource Management, and strive together with our employees for growth.

CONTENTS

JFE Group's Basic Stance on Human Resource Management

1 **Respect human rights and facilitate fair management of human resources**
The Group manages human resources fairly by respecting the human rights of all employees and nurturing employees who embrace the Group's corporate value and standards of business conduct.

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

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

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

JFE Group's Human Resources Strategy

Human resources development to support the DX strategy

The JFE Group is active in securing and developing human resources necessary to pursue a DX strategy in each business domain.

Data science (hereinafter "DS") technology is being applied in industry at a rapid pace. In order to incorporate DS technology into its business processes, JFE Steel has established a system to independently foster data scientists in-house. Having knowledge unique to the field of the steel industry is essential to applying DS in actual manufacturing and R&D front lines. With the aim of fostering in-house data scientists and human resources that can harness DS, the company established a pyramid-shaped rank-based training system according to the required level, as shown below.

JFE Steel's ranks for data scientist development

1 DS pioneers	Human resources able to independently collect data to solve problems, develop algorithms, and practically implement them. At the same level as professional engineers of DS vendors. Researchers in R&D departments specializing in DS as well as engineers working in manufacturing sites are sent to train for a certain period at a research lab to learn how to solve actual problems.
2 DS advocates	Human resources able to use DS tools to find solutions and practically implement them, with guidance from DS pioneers. Engineers at manufacturing sites learn advanced statistical analysis tools and modeling tools capable of machine learning or deep learning, and trained how to use these to solve actual problems based on data. Ranks 1 and 2 are classified as data scientists.
3 DS handlers	Human resources able to use DS tools, identify problems, and find ways to solve them. This applies to all engineers. They receive the general DS training program, which consists of initial training for adopting tools, statistical analysis courses and existing in-house training brushed up with a focus on big data analysis.
4 DS users	Human resources able to recognize the importance of data analysis and use simple DS tools in dealing with everyday operational tasks. This applies to office employees in addition to engineers. An AI literacy course in e-learning style is provided to enhance the literacy of ordinary employees by gaining an understanding on how AI and DS technologies can help operations.

Rank	Target	Training method
1 DS pioneers	• Researchers in research departments • Some engineers in manufacturing departments	• Dispatch to academic institutions • Dispatch from manufacturing departments to R&D departments
2 DS advocates	• Some engineers in manufacturing departments	• Training through actual problem-solving
3 DS handlers	• All engineers	• Training for adoption of DS tools • General DS training
4 DS users	• Employees including clerical employees	• e-Learning

* Ranks 1 and 2 are classified as data scientists at JFE Steel

As of October 2019, we have trained over 200 in-house data scientists, doubling the number of DS-related initiatives since the conclusion of the Fifth Medium-term Business Plan (the end of FY2017). By pursuing further training, we plan to increase our number of in-house data scientists to around 350 by the end of the Sixth Medium-term Business Plan (the end of FY2020).

Securing and developing global human resources to pursue business overseas

It is essential for the JFE Group to secure and develop global human resources to enhance its competitive strength in the global market.

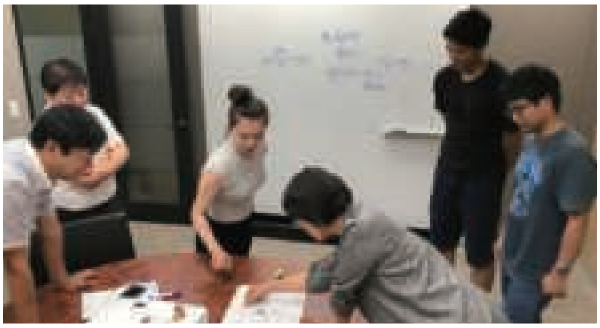
The JFE Steel is striving to expand profits Groupwide with a focus on fields where efforts have been made so far to expand global production. In Asian countries with growth potential, we will expand profitability by utilizing the world-leading technologies that the company has accumulated thus far for raising the corporate value of overseas steel companies in alliance. In April 2020, in order to strengthen management of these overseas businesses, an Overseas Business Promotion Center was established.

We actively promote overseas study and training Group-wide in addition to hiring employees of foreign nationality and local staff overseas, in order to secure and develop human resources to support our overseas business.

JFE Steel provides overseas training opportunities for its young clerical employees to work at local offices and subsidiaries, for mid-carrier employees to obtain MBAs overseas, and for managers to study foreign languages overseas, in order to develop assets required for leading global business. Young engineers are provided with abundant opportunities for gaining experience overseas through assignments to provide technical guidance to overseas affiliates. In total, JFE Steel has provided opportunities for global human resources development to 330 employees since 2014.

JFE Engineering provides training programs for human resources involved in overseas projects according to the skills necessary for each position. Project managers learn quality control, process control, and other project management skills, and administrators learn tax, legal, trade and transportation, personnel administration, risk management and other skills, both of which are designed to gain comprehensive skills required to carry out overseas projects.

JFE Shoji holds overseas staff management training in Tokyo each year for talented local employees employed in overseas local subsidiaries and offices. In addition, the company also invites overseas staff to the head office in Japan for an extended-stay training to improve their skills still further, with the aim of eventually promoting them as executives. Through these and other efforts, JFE Shoji is promoting bilateral globalization with overseas Group companies.



Pursuit of diversity

The JFE Group views the promotion of diversity as a key management issue, and promotes initiatives to maximize the abilities of employees with diverse backgrounds in terms of gender, nationality, values, or lifestyle, in order to swiftly and appropriately respond to the rapidly changing business environment.

In promoting empowerment of female employees, we achieved the target of tripling the number of female employees in management positions by 2020 from that as of August 2014 ahead of time in April 2019. We have proceeded to set a new target to further increase the number by five times by 2025 from that as of August 2014, and will continue to actively promote women to management positions.

Since 2012, female employees have accounted for 10% of JFE Steel's regular recruitment for on-site positions, and approximately 400 women are actively working in its steel manufacturing sites companywide. The company has been engaged in developing female-friendly working environments such as accommodating infrastructure including showers and lockers as well as providing training for staff at accepting sites. We are also focusing on measures to ensure a balance of work and life events, such as expanding work-life balance support systems and daycare centers in the main offices.

We are actively hiring diverse human resources including those with experience of other industries, with one out of every four new employees being a mid-career hire. In particular, JFE Engineering constantly accepts around 80 local staff from overseas Group companies at its workplaces in Japan, to help build a corporate culture based on mutual understanding beyond cultural differences.

We are also promoting Group-wide efforts to raise awareness regarding diversity among managers, and providing opportunities for female employees to participate in leadership training and seminars.

Initiatives to bring out competence and motivation of our human resources

Human resource development utilizing IT and the IoT

Utilization of IT and the IoT is now part of human resources development. The JFE Group provides an online learning curriculum to encourage employees to autonomously improve their own skills, allowing them to engage in various types of training without restraints on time or location.

JFE Steel believes that improving the skills and abilities of each individual at manufacturing sites is the source of competitiveness to provide high-quality products. The company employs human resource development systems to quantitatively determine each person's skill level, along with efforts to analyze and utilize them. To cope with the generational shift in our production sites, we are implementing intensive on-site guidance by technical experts with advanced skills, ensuring the high level of skills is passed down by linking such on-site education to skill data accumulated in IT systems.

Recently, we are using IT tools such as VR to expand simulated, scenario-based mock training that lecture-style learning cannot provide. Through such effective and efficient education, we will improve our human resources development to secure even more quality and depth.

Improving employee engagement

Given that the steel business is an industry based on skill proficiency, it is extremely important for the company's growth to develop an environment where personnel who support the JFE Group can demonstrate their abilities with peace of mind over the long term. This is why each Group company is individually working to promote work style reforms, develop generous welfare benefit systems, and provide enhanced training curriculums.

JFE Steel aims to be a dynamic company where employees can energetically take on new challenges, and to realize this goal, we believe it is necessary to enhance the relationship of trust between senior employees and their subordinates at workplaces. To achieve this, we take methods such as management feedback where subordinates and coworkers reply to questionnaires on the daily management behavior of their superiors (360 degree evaluation), and employee satisfaction surveys (engagement surveys), giving feedback of the survey results of each section to department managers.

JFE Engineering conducts basic engineering training of over 30 courses given by leading experts inside the company, which also serve as an opportunity for interaction between engineers beyond their own departments. In addition, as an initiative to support the honing of engineering skills, we subsidize expenses to gain license qualifications, offer incentives for certifications, and grant qualification allowances to young engineers, in a bid to raise their motivation.

Work style reforms by Group companies to enhance engagement

Category	Company	Items
Reduce long working hours	JFE Steel / JFE Engineering / JFE Shoji	● Designated no overtime days
	JFE Steel	● Trial of standardized number of hours in between work shifts
	JFE Engineering	● No overtime beyond 8:00 p.m. in principle
	JFE Engineering	● Initiative to provide two days off each week for construction departments (expansion of back office functions, use of ICT tools)
Improve number of annual leave days taken	JFE Steel / JFE Engineering / JFE Shoji	● Designated days to encourage taking annual leave days
	JFE Engineering	● Encouraging the "hitoiki" annual leave (consecutive annual leave days taken at the completion of construction) in the construction department
Promote flexible work styles	JFE Steel / JFE Shoji	● Trial of coreless flexi-time system
	JFE Engineering	● Introduction of self-core flexi-time system
	JFE Steel / JFE Shoji	● Work-at-home system
	JFE Engineering	● Introduction of telework system

■ JFE Steel ■ JFE Engineering ■ JFE Shoji

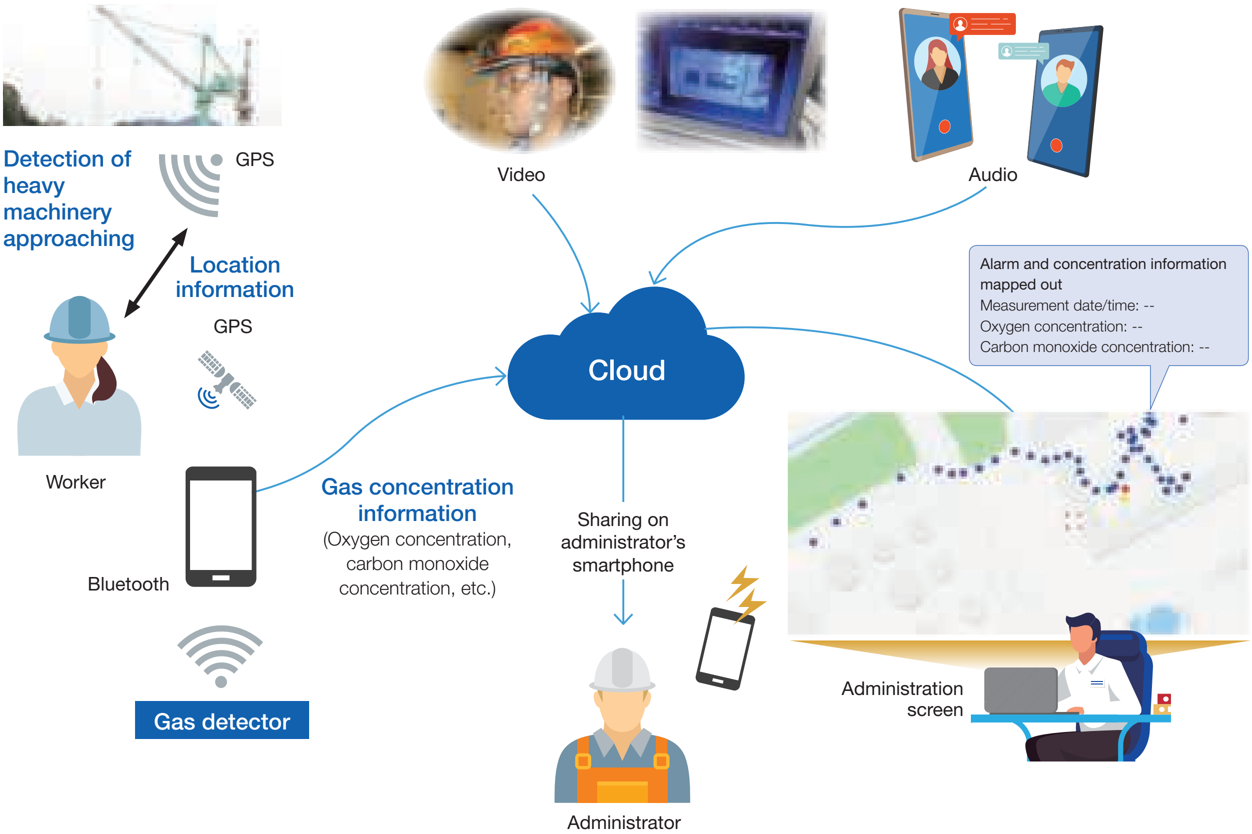
Safety

CSR Report: Occupational Safety and Health
https://www.jfe-holdings.co.jp/en/csr/society/safety/index.html

Securing the safety of employees using AI

In the steel business, we ensure the safety of workers at manufacturing sites by utilizing the latest ICT, AI, and data science to pursue the development and commercialization of further advanced technologies. One example is the use of the safety support system. This system has communications functions such as audio and video sharing within the Group, and also allows the sharing of information including the locations and status of workers, detection of approaching heavy machinery, and operational environment such as the presence of gas, to ensure the safety of workers. This information is also shared to administrators through smartphones and the cloud. We will continue to strive to secure the safety of workers using the latest technology.

System overview



Human Rights

CSR Report: Human Rights
https://www.jfe-holdings.co.jp/en/csr/society/human_rights/index.html

Since its integration, the JFE Group has observed human rights through its Standards of Business Conduct, which mandate respect for individuals in the Group and greater society as well as nondiscrimination in all corporate activities. Two years ago we established the JFE Group Human Rights Basic Stance, ensuring that our corporate operations are aligned with international norms such as the United Nations' Guiding Principles on Business and Human Rights (hereinafter the "UNGPs"). In particular, we purchase raw materials with full consideration of respect for human rights, legal compliance, and environmental preservation in accordance with our Raw Materials Purchasing Policy. In order to make awareness of human rights in business permeate deeply throughout the Group, last year we held seminars by outside experts on the UNGPs for human rights compliance staffs of each Group company. Furthermore, in order to build this awareness among individual employees, we reorganized our training lineup to reflect the concept of the UNGPs and global trends, and held in-house human rights awareness training. We set the rate of participation in this training as a KPI, to improve human rights awareness.

Health and Productivity Management

Web CSR Report: Labor Practice
https://www.jfe-holdings.co.jp/en/csr/society/divercity/index.html

Promoting health and productivity management

In order to realize safe and highly attractive workplaces that provide motivation to workers and to powerfully promote the development of environments where diverse human resources can demonstrate their full potential, the JFE Group has formulated the JFE Group Health Declaration and collaborates with its health insurance union and industrial health staff to strengthen employee health.

JFE Group Health Declaration

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

External recognition

We believe that health and productivity management will be greatly facilitated not only by the individual actions of Group companies but also by recognition from outside. Accordingly, we actively cooperate with outside surveys.

Name of SRI index, etc.	Description of selection criteria, etc.	Evaluation, etc.
Health & Productivity Stock Selection Program Certified Health & Productivity Management Outstanding Organizations Recognition Program (White 500)	Under the Health & Productivity Stock Selection Program, the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange cooperate to select companies that have been strategically implementing employee health management from a business management viewpoint. JFE was selected for the Health & Productivity Stock Selection for the first time in 2018. Additionally, the company was selected for Certified Health & Productivity Management Outstanding Organizations Recognition Program which certifies organizations that implement outstanding health management in collaboration with health insurance society members.	
DBJ Employees' Health Management Rated Loan Program	This is the first financing option in the world to incorporate special health management ratings, which uses the unique screening system developed by the Development Bank of Japan (DBJ) to evaluate and select companies with excellent health management initiatives for employees, whereby setting financing terms and conditions according to the evaluation result. The company was rated as a top-ranking company with excellent advanced initiatives for employees' health management in 2018 in recognition of our advanced health management so far.	

Activities of Group companies

JFE Steel

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

JFE Engineering

JFE Engineering identifies health management issues of company workers from historical health examination data, then takes steps to make improvements. In FY2018, the company introduced gastroscopy as part of the regular health examinations in order to strengthen cancer screening. From FY2019 a self-care training course for all employees was introduced, to enhance concentration through short naps, to practice breathing techniques, etc.

JFE Shoji

JFE Shoji provides helicobacter pylori (blood) tests as part of regular health examinations for prevention and early detection of cancer, as well as subsidies to cover expenses for women's cancer examinations. In November 2019 we started subsidizing the costs of smoking cessation outpatient services, to lower the risk of lung cancer and stroke due to smoking. We also provide e-learning with the aim of raising health awareness among our employees.

Outside Executives Group Interview

Outside executives share perspectives on ESG as the foundation of JFE's value creation

1

Audit & Supervisory Board Member
Shigeo Ohyagi
Senior Advisor,
Teijin Limited

Mr. Ohyagi joined Teijin in 1971. He assumed his present post in June 2018 after serving as President and Chairman. He is also an outside director of KDDI Corporation and MUFG Bank, Ltd. He became an Audit & Supervisory Board Member of JFE Holdings in June 2014.

2

Audit & Supervisory Board Member
Tsuyoshi Numagami
Professor of the Graduate School of Business Administration, Hitotsubashi University

Mr. Numagami was appointed Professor of the Graduate School of Commerce and Management at Hitotsubashi University in 2000. He was made Dean in 2011 and a Board Member and Executive Vice President in 2014. He took his present position in 2018. He became an Audit & Supervisory Board Member of JFE Holdings in June 2018.

3

Audit & Supervisory Board Member
Isao Saiki
Partner Lawyer,
Abe, Ikubo & Katayama Law Firm

Mr. Saiki was admitted to the bar in 1989 and joined Ginza Law Office (now Abe, Ikubo & Katayama Law Firm). He has held his current post since January 1998. He became an Audit & Supervisory Board Member of JFE Holdings in June 2017.

4

Director
Nobumasa Kemori
Executive Advisor,
Sumitomo Metal Mining Co., Ltd.

Mr. Kemori joined Sumitomo Metal Mining in 1980 and was appointed to his current post in June 2017 after serving as President and then Chairman. He is also as an outside director of Nagase & Co., Ltd. and Sumitomo Realty & Development Co., Ltd. He became a Director of JFE Holdings in June 2018.

5

Director
Masami Yamamoto
Director and Senior Advisor,
Fujitsu Limited

Mr. Yamamoto joined Fujitsu in 1976 and was appointed to his current post in June 2019 after serving as President and then Chairman. He is also an outside director of Mizuho Financial Group, Inc. He became a Director of JFE Holdings in June 2017.

What is your perspective on risks and opportunities regarding climate change?

Kemori The Japanese steel industry is said to have the highest energy efficiency in the world. Japanese heavy and chemical industries basically became world leaders in this respect after having experienced two oil shocks. Japan, however, accounts for around 1.14 billion tons, or 3.4% of the world's annual CO_2 emissions of 33.0 billion tons, which is more than twice Japan's share (around 1.6%) of the global population. This is certainly an issue that Japan needs to address in earnest. In this context, I regard climate change as a significant risk for the JFE Group, which is a large emitter of CO_2. The cost of research needed to develop innovative processes is substantial, and until now the company has tackled the issue of climate change mainly as a member of the steel industry. Going forward, however, we need to take the initiative in addressing the issue strategically and actively conveying information about these efforts.

Ohyagi Everyone in corporate management is aware of the importance of reducing CO_2 emissions in the contexts of corporate sustainability and achieving a sustainable world. Based on this awareness, the Japanese steel industry and the JFE Group have continued to tackle this issue for some time. The emission of CO_2 has always been an inevitable outcome of the steelmaking process, but we are presently pursuing research and development into the new hydrogen-reduction ironmaking method. At the same time, it is also important for businesses to offset their CO_2 emissions, as in the case of CCU and CCS (see page 53). This has the potential to become a huge industry in the future. The JFE Group, given the technological prowess of its engineering business, is focusing on the important issue of how to create new businesses in this area.

Yamamoto Of course we are developing technologies to reduce CO_2 emissions from JFE's manufacturing processes. At the same time, however, we are also contributing to energy conservation throughout society, such as providing electrical steel sheets for electric vehicles and thin, high-strength steel sheets that make automobiles lighter. JFE is working to expand its manufacturing technologies and supply capacities for environmentally friendly products such as these, which I think will become one of the company's great strengths. In terms of opportunities, it is important that we engage in initiatives across the entire JFE Group. For example, the engineering business is developing a range of environmental businesses, including biomass power generation and food waste power generation, and the trading business is taking initiatives such as supplying fuel to biomass power plants.

What is your assessment of JFE's environmental initiatives, presumably one of the focuses of the Board of Directors?

Ohyagi The Board of Directors discusses JFE's responses to ESG issues both in terms of its CSR activities and its businesses. ESG is also the primary concern of the Audit & Supervisory Board, which monitors JFE's progress in this area.

Saiki The Board of Directors receives such reports whenever appropriate. I can see that JFE is making enormous efforts in this area, but I feel, however, that JFE is not communicating these efforts as well as it might. JFE needs to be more proactive in conveying the fact that steel is absolutely necessary for infrastructure, and that it is making strong efforts in this area as a company. PR materials such as the Integrated Report and CSR Report are important, of course, but I think that there needs to be more active discussion about how to communicate with the general public about what the company is actually doing.

Numagami Steel is a material that is highly recyclable and generally energy efficient, and even contributes to reducing CO_2 emissions. If the manufacturing process is singled out, however, it is impossible to erase the negative impression that the steel industry accounts for as much as 40% of the combined CO_2 emissions of all manufacturing industries. I think it's very important for JFE to market its positive, overall contribution in clear terms. This means, for example, helping the public to understand terms such as "zero-carbon steel."

Last year, JFE disclosed information in accordance with the TCFD's recommendations (see page 55). How important are such disclosures?

Numagami To gain trust, it is vital to disclose information honestly across all issues and under all circumstances. If there is a standardized, accepted way of disclosing information, then all efforts should be made to disclose information accordingly. It is also necessary to be aware of the various recipients and use the most effective method of communication for each recipient.

Ohyagi The TCFD was established with the aim of alleviating climate change through financial markets. It has had a significant effect in terms of guiding society, as can be seen in the recent movement to withdraw loan funding from thermal power plants. The fact that JFE discloses its initiatives on climate change so prominently and in line with the TCFD's recommendations demonstrates the company's awareness of the risks. I would say that JFE has made appropriate and substantial progress thanks to these initiatives, which began in the previous fiscal year.

What is your opinion of JFE's safety record and related initiatives?

Kemori I believe that proper safety measures have been implemented, but regrettably they have not produced corresponding results. We have seen multiple workplace fatalities over the past few years and lost-time injury frequency rate has worsened. Avoiding injury at work and returning home safely every day is a crucial matter for every employee. But workplace accidents occur if established rules are not fully observed. As I said last year, I believe that you cannot improve corporate value without improving the safety record. The performance of the company overall can be gauged from its safety record. How can employees who don't even follow rules involving their own safety be expected to observe rules for manufacturing and quality management? JFE needs thorough measures to drive home this message to every employee. We discussed this matter at today's meeting of the Board of Directors. We set targets and decided to thoroughly implement measures to achieve these targets, not only to totally eliminate workplace fatalities but also in regard to lost-work injuries. I look forward to seeing results soon.

Yamamoto Many employees of JFE partner companies have also been victimized by workplace accidents. The issue is how to establish education that is effective not only for JFE employees, but also those of its partners. JFE has implemented initiatives to achieve zero workplace fatalities and has top managers chair meetings regarding accident countermeasures. The only way to ensure safety is to steadily establish a safety mindset in everyone, from corporate leaders to frontline workers at manufacturing sites. I believe that with further research and deeper investigation from the perspective of data science, as well as accident prevention utilizing information technologies such as AI and robotics, JFE can achieve progress in reducing accidents.

What is your impression of JFE's human resources and corporate culture? Are there any human resource issues that represent a significant future risk?

Saiki I initially imagined that a traditional steelmaker like JFE would be stiff and conventional. In reality, I am inspired by the flexibility with which employees at its manufacturing sites respond to challenges. I am also impressed by the large number of young employees, especially at steelworks. The younger generation of employees has moved up to take responsibility for core operations and assume key positions as the older generation retires. I had a strong impression of the progress of generational change. On the other hand, it is also true that this progress has sometimes proven to be a weakness, as was seen in blast furnace problems the year before last. I think that JFE must appropriately allocate its human resources, not only through the transmission of skills to younger generations, but also by utilizing AI and other technologies to supplement any skill gap.

Kemori I have the impression that internal workplace communication is excellent. At the same time, I've heard that similar problems have occurred in multiple departments. I feel that maybe there is not enough awareness among employees that a problem that occurs at another department may also occur in their own department, meaning that they too must prepare to prevent such problems. I think that employees need to be more sensitive to what is happening in other parts of the company.

Ohyagi JFE has many outstanding employees, both in the head office and at manufacturing sites, and I can say from past experience that JFE's management has access to a range of human resources that would make other corporate managers jealous. Manufacturing companies, however, are structured according to manufacturing processes, with each section engaged in pursuing high-quality, low-cost manufacturing processes. Each section develops its own unique culture, but as a result, there is a natural tendency to build barriers between the various parts of an organization. To overcome this situation, it is necessary to construct whistleblower systems to collect accurate information in the event of an unusual incident. In the case of JFE, I get the impression that for a company of this size, an exceptionally low number of incidents are submitted through the whistleblower system. I find it difficult to determine if this is because JFE is a really outstanding organization or if information is being withheld somewhere. JFE is making efforts, such as regularly carrying out awareness surveys of all employees, and I think it's crucial that it continues to strive in such ways to increase transparency. As an Audit & Supervisory Board Member, this will be one of my focuses going forward.

Numagami Recently, there has been an increasing tendency among university students to seek work at consulting firms, venture companies and foreign financial institutions. I get the feeling that many people choose these careers regardless of their individual aptitudes or preferences. If JFE were to expand the breadth of its recruitment activities to encompass more people, including mid-career hires and previous employees in addition to new graduates, it would be able to secure more outstanding people who are changing careers. JFE may also have to consider to what extent it could tolerate career paths that do not conform to conventional patterns, such as young employees gradually learning the company's culture through steelworks assignments.

How do you feel about human resources from the IT field?

Yamamoto These days, manufacturing is not as easy as simply setting up equipment to churn out products one after the other. It is necessary to have systems that can respond to changing conditions in order to realize optimal production solutions that keep the company competitive. A key to differentiation, and thus a necessary condition for manufacturers, is how well they use information technology to construct their production systems. Another extremely important question will be how well they utilize the massive data generated during manufacturing. To this end, it is absolutely necessary to nurture people skilled in technologies such as IoT and AI. Also, I think that JFE is leading the steel industry in its adoption of DX (see page 45). JFE is actively studying processes for producing the highest quality steel in the most efficient way based on data collected from sensor systems. JFE has its own IT system company and top management is genuinely committed to utilizing IT, so I am sure that the company will nurture people who will lead the global steel industry in this field.

What about promoting active participation by female employees?

Saiki I think that JFE is really making progress in promoting the participation of female employees at manufacturing sites. Two women also sit on the Board of Directors, the result of appointing a female internal Audit & Supervisory Board Member last year and a female outside director this year. Both provide very frank and outspoken opinions, leading to much more lively debates at Board of Directors meetings. I think that the next step should be the appointment of a female internal director.

Yamamoto It is important that senior corporate management consciously tackles this issue. JFE's senior management is strongly conscious of promoting the participation of women and has set bold, forward-looking targets, so I feel that we can look forward to the increasing participation of female employees in JFE workplaces in the future.

Ohyagi If more women from within JFE were appointed to executive and managerial posts and then achieve success, they would become role models and encourage those around them to strive harder. I really hope that JFE is able to realize this kind of virtuous cycle.

JFE's steel business announced its restructuring in March. How do you assess these changes and what did the Board of Directors discuss in this regard?

Yamamoto The steel business is facing quite harsh conditions in terms of global steel supply and demand. While it is not always possible to aim for growth, steel is a staple product for industry and will remain a universally essential material in the future. It is vitally important for management to ensure business continuity by adjusting its responses to fit the circumstances, specifically, to endure these hard times and pursue growth when the time comes. The opportunity to pursue growth will surely come. Right now, it is necessary to make the company stronger and more resilient, as well as prepare to make the most of opportunities when they appear.

Saiki In the course of making decisions about restructuring, the challenges faced by each steelworks were a constant topic of discussion at meetings of the Board of Directors. The broad-ranging steel industry has a huge effect on regions. I think the board made the best decisions possible at the time, after spending a substantial amount of time collecting information and thoroughly debating the facts.

Numagami As Mr. Saiki has said, the Board of Directors debated which equipment to suspend and how, including by carefully examining extensive data. I think that the board was able to make extremely rational decisions. The decision to reduce excess production capacity was necessary to help the company appropriately create added value and prepare for the era to come. But the decision was not based solely on economic rationale. Companies play vital roles in society, including in terms of regional economies and employment, so it was an extremely difficult decision that was made after extensive consideration of societal factors as well.

What are your hopes and expectations for JFE in terms of ESG overall, and what kind of company would you like JFE to become?

Kemori Contributing to the earth and to society through business is the basis of ESG. I would like to see JFE promptly pursue initiatives to reduce CO_2 emissions and take the initiative to lead the steel industry in the use of hydrogen-reduction ironmaking, CCU and CCS as these technologies enter full-scale development. Based on such efforts, I would like to see JFE achieve exceptionally low levels of CO_2 emissions for a steelmaker and thereby becoming a company with global appeal.

Saiki After assisting a wide range of companies in my capacity as a lawyer, I have come to firmly believe that manufacturing companies generate the most value. In particular, Japan is one of the top producers of steel, a staple input for industry and one of Japan's strengths. I hope that JFE shapes itself as a company in which employees across the group can take pride in their work and their unique steelmaking technologies. I want JFE to convey these qualities to attract young people who aspire to work for a manufacturer. When I visited a steelworks back when I was a legal apprentice, I remember being deeply impressed by the scene of long pieces of red-hot steel sliding back and forth in the rolling mill. I would like to see JFE actively communicate with the public to encourage more people to experience the joy and excitement of manufacturing, making it one of Japan's biggest strengths.

Ohyagi Regarding ESG, I think that the basic focus should be achieving ESG goals through business. JFE already possesses all of the fundamental qualities necessary to do this. JFE can strive to be the best company in Japan. For example, last year JFE even won first prize in Japan's national corporate baseball competition. This is an outstanding achievement. It was also great to observe so many employees out there supporting the JFE team. In this sense, JFE has the potential to become the best company in Japan. I really want to see JFE become a company capable of developing human resources that are the best in Japan. At the moment, I particularly want to see JFE strive to promote the participation of women. I look forward to seeing female internal directors rise up through the ranks before long.

Numagami Along with the impact of COVID-19, we also need to discuss the spread of 5G. The 5G era will make it possible to conduct surgeries from remote locations and may drastically change the way that people work, both in offices and at manufacturing sites. From the perspective of organizational theory, my area of specialization, changes in information systems have historically gone hand-in-hand with changes in organizational design. COVID-19 has made many people realize that they can do their jobs remotely. I think that Japanese companies will all have to explore new organizational designs and ways of working as the spread of 5G alters relationships between companies and employees, employees and employees, and between companies themselves. With these issues in mind, I want JFE to be a company capable of grasping new business opportunities that emerge in this new era. There are many areas where JFE can compete globally. For example, the engineering business could use its excellent technological expertise to provide a range of services remotely. I would like to see the company advance in terms of both strategy and organizationally.

Yamamoto Steel is necessary for the earth to remain sustainable. I think that steel will probably be a vital part of industry for the next millennium, so JFE will remain valuable for a long time to come. It is therefore necessary to create mechanisms to ensure JFE's continuity as a company that contributes to the world. For example, Mr. Numagami mentioned 5G, which will do away with the concept of distance. How can JFE adapt to the 5G world? The actual fact of manufacturing steel will not be altered by 5G, but it may change the way that the manufactured steel is used and applied. I want JFE to focus closely on these issues and encourage employees to aspire to take initiatives to realize a more sustainable world. I would also like to see JFE capture the hearts of young people with this aspiration and use the opportunity to propel the company's further evolution.

Message from New Executive

Contributing to corporate management by drawing on knowledge and experience in public administration, organizational management and crisis response

Yoshiko Ando
Outside Director

In the summer of the year before last, I retired from my post after 36 years and four months as a civil servant. I started working in 1982, before the Equal Employment Opportunity Act was established. There were almost no job openings at private-sector companies for women with four-year university degrees, so I set my hopes on civil service as a way to support myself. I joined the Ministry of Labour, one of the few ministries at the time that recruited women every year. I did not imagine that employment equality, principally the promotion of active participation in the workforce by women, would become my life's work. My aim was to help creating environments where people from different backgrounds and circumstances could fully utilize their abilities. This has now become an indispensable requirement for the formation of sustainable societies. I was also involved in labor standards inspection and employment security offices during six regional assignments. I was fortunate to gain valuable and unique experience in environmental administration, primarily involving the aquatic environment of Lake Biwa, and welfare for disabled persons in Shiga Prefecture, where I spent three years as vice governor.

My family had a tiny plastics-injection molding factory in Ikebukuro, Tokyo. I spent my childhood watching my father strive to differentiate his factory from competitors through precision work based on the accumulation of many small innovations. I believe that the small-scale technologies and skills of townspeople such as these supported Japan's high economic growth. My final post as a civil servant was a director-general for human resources development. My job was to administer the development of human resources, primarily vocational training and trade-skill tests. For me, this felt like a return to my roots.

I now have the good fortune to be involved with JFE. I was profoundly impressed by the group's corporate vision of leveraging innovative technology to carry out the vital work of producing steel, the foundation of all economic activity. After retiring from my official post and gaining the opportunity to participate in private-sector companies as an outside officer, I have come to feel that while companies are completely different from public service in some ways, they have a lot in common in terms of organizational management and crisis response. I have joined the board of JFE in an extremely adverse business environment and I am humbled by the responsibility that I now bear. I will maintain my perspective as an outsider, leverage the knowledge and experience I have gained as an administrative official, and strive to the best of my ability to contribute to the sustainable growth of JFE.

Material CSR Issues of the JFE Group

In response to the needs of various stakeholders, the JFE Group identified material CSR issues in FY2016 and set KPIs in FY2017 to find out where and how we should invest its resources to minimize negative social impact and maximize the Group's value creation.
Such initiatives will demonstrate our Corporate Vision of "Contributing to society with the world's most innovative technology." We aim to contribute to the establishment of the Group's sustainable growth as well as sustainable society through the implementation of these initiatives.

Corporate Vision

Contributing to Society with the World's Most Innovative Technology

	Areas of Focus	Details	Scope of Influence	Material CSR Issues
Activity	Provide quality products (customer satisfaction)	● Provide products and services based on advanced technologies • Continue stable supply of safe, high-quality products • Solve customer problems	JFE Group Customers Society	Stably supply products Ensure quality Pursue R&D operations Respond to customer needs
Activity	Protect the global environment	● Mitigate environmental impact ● Contribute to recycling societies ● Utilize Group technologies to develop products that contribute to environmental protection	JFE Group Local communities near manufacturing sites Customers Society	Develop and provide environmentally friendly products Mitigate climate change Protect the global atmosphere Pursue resource recycling
Activity	Ensure occupational safety and health	● Prioritize safety first ● Maintain the physical and mental health of employees and their families and create rewarding workplaces	JFE Group Suppliers Business partners	Prevent workplace accidents Ensure the health of employees and their families
Activity	Recruit and nurture diverse human resources	● Maintain work environments where all personnel can maximize their abilities ● Accumulate and hand down technologies and skills	JFE Group Business associates	Pursue diversity and inclusion Strengthen human resource development programs
Basis of activity	Thoroughly enforce compliance		JFE Group Suppliers Political authorities Society	Ensure adherence to Corporate Ethical Standards and compliance

Corporate Governance (Ensure Fairness, Objectivity and Transparency)

Respect and Maintain Awareness of Human Rights

Contributing to the Sustainable Development Goals (SDGs) through business activities

In September 2015, a United Nations Summit adopted 17 SDGs to be addressed through worldwide efforts to achieve sustainable development. In response to requests from global society, the JFE Group will strive to contribute to SDGs though its business activities.

Relevant SDGs
7 9 10 11 12 13 17
6 7 9 12 13 14
3 8
4 5 8 9 10
10 16

Increased corporate value and sustainable growth of the JFE Group

Goals

Help realize sustainable society

FY2016: Identification of 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
- ISO26000
- 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 (Group-wide 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.

Group-wide 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
- Two-stage examination and approval by JFE Group CSR Council*

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

FY2017: Setting KPIs

Step 4 Review / Setting KPIs

Conducting reviews

- Reviewed by the JFE Group CSR Council
- Examined comments by third-party experts on the CSR report

Setting KPIs

We set KPIs and implemented PDCA through the following processes.

- Review was conducted by each operating company
- Draft KPIs were submitted to the JFE Group Environmental Committee
- KPIs were deliberated at and approved by the JFE Group CSR Council

KPIs for Material CSR Issues

–Performance in FY2019 and revisions for FY2020 and beyond–

To address material CSR issues identified in FY2016, the JFE Group has set KPIs and has been working on the issues on a group-wide basis.
Continuing from FY2019, we again evaluated the previous year’s results in FY2020 and revised the KPIs further based on the evaluation results and with input from stakeholders.
We will continuously take into consideration the business characteristics of each operating company upon setting KPIs, aiming to facilitate PDCA cycle and effective CSR management.

Areas of Focus		Material CSR Issues	Operating company	Targets/KPIs
Activity	Provide quality products (customer satisfaction)	**Stably supply products**		1. Stable products supply to customers through steady operations 2. Make steady progress on strengthening its manufacturing bases, starting with blast furnace stabilizing measures
				• Secure a stable number of certificated managing engineers
				• Make consistent capital investment in processing and distribution operations
		Ensure quality		• Implementation of the capital investments for improving the level of quality assurance and product testing established in the Sixth Medium-term Business Plan
				• No major quality problems
				• Conduct quality audits on affiliate companies Continue to conduct quality audits at least once annually on 30 manufacturing affiliate companies (audit executing rate: 100%)
		Pursue R&D operations		• Conduct R&D operations established in the Sixth Medium-term Business Plan
				• Make consistent or increased investment in R&D operations
		Respond to customer needs		1. Implement rank-based training within the sales department and ensure all employees receive training within two years from assignment 2. Implement customer satisfaction surveys and give thorough feedback
				• Use data collected from customer surveys to enhance customer satisfaction
				• Invest in the development of strong sales personnel Ensure that all target employees receive employee training such as skill development, and that all target staff from overseas offices receive group training in Japan
	Protect the global environment	**Develop and provide environmentally friendly products**		• Develop new products and technologies established in the Sixth Medium-term Business Plan
				–

CSR Report: Material CSR Issues of the JFE Group
https://www.jfe-holdings.co.jp/en/csr/sus_manage/materiality/index.html

Evaluation criteria

JFE Steel JFE Engineering JFE Shoji

Target attributes		○	△	×
Quantitative	Set for each fiscal year	Accomplished 100% or better	Accomplished 80%-99%	Accomplished 79% or less
	Set medium- to long-terms (in case of setting a multi-year target)	Final target accomplished 100% or better	Final target partly accomplished with some results (80% or better with linear interpolation).	Working toward the goal but no results yet (79% or less with linear interpolation).
Qualitative		Fully accomplished with significant results.	Partly accomplished with some results.	Working toward the goal but no results yet.

*In Group-wide evaluations, the lowest result among the companies is taken as the overall result.

	Results and initiatives implemented in FY2019	Evaluation	Targets/KPIs for FY2020
	• Steady progress on strengthening manufacturing bases to stabilize capacity utilization of each steelwork and district, and improved the successful delivery rates over the previous fiscal year	○	1. Flexibly adapt to shifting demand owing to changes in the environment, and ensure stable products supply to customers through steady operations 2. Make steady progress on strengthening its manufacturing bases, starting with blast furnace stabilizing measures
	• Secured a stable number of certified managing engineers while gaining a high level of net sales	○	• Secure a stable number of certificated managing engineers
	• Implemented all the required investment this fiscal year for a stable supply of products Amount of investment (selected amounts) ▸ Investment in quality enhancement: 1.7 billion yen ▸ Renewal and safety investment: 2.0 billion yen ▸ System investment: 1.8 billion yen	○	• Make consistent capital investment in processing and distribution operations
	• Virtually completed in FY2019 permission for investment to achieve the four key items for 100% automation, a goal in the Sixth Medium-term Business plan (tensile testing: 96.7%; cast analysis: 100%; automobile steel sheet thickness measurement: 100%; coating weight measurement: 100%)	○	• Steadily proceed with capital investments to improve the level of quality assurance and product testing, aiming at 100% automation for four key items (tensile testing, cast analysis, automobile steel sheet thickness measurement, and coating weight measurement)
	• No major quality problems	○	• No major quality problems
	• Steadily conducted quality audits as planned for 30 manufacturing affiliate companies. Due to COVID-19, six companies scheduled for the end of the fiscal year were rescheduled to FY2020 Audit executing rate: 80% (Japan: 14 companies; overseas: 10 companies)	○	• Conduct quality audits on affiliate companies Continue to conduct quality audits for 32 manufacturing affiliate companies (Expanded the number of companies subject to be audited from 30 to 32)
	• Invested in R&D operations at the same level as the previous fiscal year, and commercialized new products as planned • Company-wide deployment of optimized control technology using data science technologies	○	• Pursue strategic R&D operations ▸ Launch JDXC™ in FY2020 via technological development utilizing DS, aim to apply AI to blast furnaces, bring DS to Fukuyama No. 3 Sintering Machine, and apply J-dscom™ to all hot-rolling lines ▸ New product and technological development: 20 or more in FY2020 (Aim at a total of 135 from FY2015 to FY2020) *DS：Data Science, JDXC：JFE Digital Transformation Center J-dscom: JFE Detecting-anomaly-Signs & COlor-Mapping system
	• Investment amount is maintained and increased FY2017: 3.8 billion yen FY2018: 4.1 billion yen FY2019: 4.7 billion yen (15% growth from FY2018)	○	• Focus technological development on the three key areas of ICT utilization, climate change measures, and recycling plastics Target values: At least 30% of R&D expenses for the three key areas
	1. Office heads, General Managers, and newly appointed employees received training within two years 2. Implemented feedback of customer satisfaction surveys	○	1. Implement rank-based training within the sales department and ensure all employees receive training within two years from assignment 2. Implement customer satisfaction surveys and give thorough feedback
	• Giving feedback through work performance assessment notices for public works, and the QMS customer surveys for private works	○	• Use data collected from customer surveys to enhance customer satisfaction
	• Provided employee training such as skill development, and group training in Japan for staff from overseas offices, as scheduled (100%) Skill development: Four types, total of 130 participants Group training for staff from overseas offices: 24 participants	○	• Invest in the development of strong sales personnel Ensure that all target employees receive employee training such as skill development, and that all target staff from overseas offices receive group training in Japan
	• Commercialized 16 environmentally friendly products as initially planned Low alloyed & low atmospheric corrosion steel - high salinity (LALAC-HS), BRITE-ACE™ tin-free steel for a welded can with excellent high-speed weldability, FM800 nickel-free-alloyed steel powder, etc.	○	• Expand lineup of environmentally friendly products and technologies: At least 15 in FY2020 (aim at a total of 105 from FY2015 to FY2020)
	–	–	• New businesses and products that contribute to protecting the global environment, or expansion of scale of such business: At least one per year ▸ Promote plastic recycling business ▸ Promote food waste recycling business ▸ Promote consumer appliance and fluorescent tube recycling business ▸ Promote electricity supplying business from renewable sources ▸ Newly develop and provide environmentally friendly products

Areas of Focus		Material CSR Issues	Operating company	Targets/KPIs
Activity	Protect the global environment	Mitigate climate change	(red)	1. CO_2 reduction target defined in the Japan Iron and Steel Federation's "Commitment to a Low Carbon Society" 2. Continue to invest in energy conservation
			(green)	1. Contribute to global environment conservation through our products and services ▸ Spread of waste-to-energy plants ▸ Spread of woody biomass power generation ▸ Energy conservation in water and sewage facilities ▸ Spread of geothermal, solar and wind power ▸ Provide electricity from renewable sources 2. Reduce CO_2 emissions in factories and offices
		Protect the global atmosphere	(red)	1. Continue to work on keeping NOx and SOx emissions at low levels 2. VOC emissions: maintain at low levels (30% decrease compared to 2000) 3. Benzene emissions: maintain at low levels (80% decrease compared to 1999) 4. Dichloromethane emissions: maintain at low levels (40% decrease compared to 1999)
			(green)	• Continue to work on keeping NOx and SOx emissions at low levels
		Pursue resource recycling	(red)	1. Maintain the efficient use of water resources Recycling rate: At least 90% 2. Recycling rate of co-products: At least 99%
			(green)	1. Recycling rate at construction sites ▸ Recycle at least 99.5% of rubble ▸ Recycle at least 95.0% of sludge ▸ Recycle at least 85.0% of industrial waste 2. Recycling rate of office resources (Yokohama Head Office): At least 98.0% 3. Promote the recycling business (plastics, food, consumer appliances, fluorescent tubes, etc.)
			(yellow)	• Global recycling of steel scraps Continue to implement measures that increases the volume of scraps compared to FY2017 (FY2020 target: 3% increase from FY2017)
	Ensure occupational safety and health	Prevent workplace accidents	Group-wide	• Workplace fatalities: zero occurrences

■ JFE Steel ■ JFE Engineering ■ JFE Shoji

	Results and initiatives implemented in FY2019	Evaluation	Targets/KPIs for FY2020
	1. Progressing as planned towards the FY2020 target defined in the Japan Iron and Steel Federation's "Commitment to a Low Carbon Society" 2. Made capital investment in energy conservation	○	• Aim to reduce CO_2 emissions in FY2030 by at least 20% compared to FY2013 • Launch a project team and formulate action scenarios in FY2020 to achieve this • Participate in technological development by the New Energy and Industrial Technology Development Organization (NEDO) to achieve Zero Carbon Steel and formulate a long-term technological development roadmap in 2020-2021 • Begin an actual operation test of the pilot plant for ferro-coke
	1. Delivered three waste-to-energy plants and three biomass power plants, exceeding the planned two plants per year Amount of CO_2 reduced by domestic plants (in operation) we introduced 4.13 million t-CO_2 per year 2. Achieved the reduction of 13.7%, exceeding the planned reduction of 1% or more compared to the previous year (FY2018: 13,100 t-CO_2 per year FY2019: 11,300 t-CO_2 per year)	○	1. Provide at least two products and services per year contributing to climate change mitigation ▸ Spread of waste-to-energy plants ▸ Spread of woody biomass power generation plants ▸ Spread of digestion gas power generation plants ▸ Spread of geothermal, solar and wind power 2. Reduce CO_2 emissions in factories and offices by 1% or more compared to the previous fiscal year
	1. NOx and SOx emissions were kept at low levels through thorough combustion-control 2. VOC emissions: 51% decrease 3. Benzene emissions: 93% decrease 4. Dichloromethane emissions: 71% decrease	○	1. Continue to work on keeping NOx and SOx emissions at low levels 2. Keep VOC emissions at low levels (30% decrease compared to 2000) 3. Keep Benzene emissions at low levels (80% decrease compared to 1999) 4. Keep Dichloromethane emissions at low levels (40% decrease compared to 1999)
	• Successful in maintaining the low emission level, as it was significantly below the value equivalent to total allowable emissions per year NOx 178Nm^3 (18,000Nm^3) SOx 40Nm^3 (100Nm^3) (Figures in brackets indicate the equivalent value of total allowable emissions per year)	○	• Continue to work on keeping NOx and SOx emissions at low levels Numerical targets Stay below the equivalent value of the total allowable emissions per year NOx : 18,000Nm^3 SOx : 100Nm^3
	1. Recycling rate: 92.9% 2. Resource recycling rate: 99.7%	○	1. Maintain the efficient use of water resources Recycling rate: At least 90% 2. Recycling rate of co-products: At least 99%
	1. Recycling rate at construction sites ▸ Rubble recycled: 99.7% ▸ Sludge recycled: 98.8% ▸ Industrial waste recycled: 85.0% 2. 98.8% 3. Promoted the food waste recycling business by J&T Recycling Corporation	○	1. Recycling rate at construction sites ▸ Recycle at least 99.5% of rubble ▸ Recycle at least 95.0% of sludge ▸ Recycle at least 85.0% of industrial waste 2. Recycling rate of office resources (Yokohama Head Office): At least 98.0%
	• Increased the volume of scrap transactions compared to FY2017 (+2.8%) Contributed to the expansion of a recycling-oriented society by focusing on finding new suppliers inside and outside Japan and increasing the volume of exports from Japan as well as transactions between other countries	○	• Global recycling of steel scraps Continue to implement measures that increases the volume of scraps compared to FY2017 (FY2020 target: 3% increase from FY2017)
	• Workplace fatalities: ■ 4 ■ 2 ■ 0	×	1. Workplace fatalities: 0 2. ■ Lost-work injuries rate: below 0.10 Key measures 1) Strengthen safety activities with awareness of workplace vulnerabilities of each site 2) Rebuild health and safety management system (adopt ISO) 3) Roll out safety activities utilizing ICT (Specific actions: Adopt safety monitoring system, support safe work with AI image analysis, etc.) ■ Lost-work injury rate: below 0.25 Key measures 1) Install working platforms/handrails and safety belts for work in high places 2) Clear people from hoisting load areas/areas operating heavy machinery 3) Turn off equipment, machinery, and tools for non-operational work 4) On-site patrols for verbal communication of safety precaution and correction Examples of advanced approach ▸ Conduct trainings using safety-experience cars and VR ■ Key measures ▸ Prevent accidental contact between a person and operating machinery by making facility improvements (e.g. installing safety sensors)

KPIs for Material CSR Issues

Areas of Focus		Material CSR Issues	Operating company	Targets/KPIs
Activity	Recruit and nurture diverse human resources	**Ensure the health of employees and their families**	Group-wide	• Provision rates of health guidance (by 2020) 35% 35% 40%
				• Rate of health examination for dependents: 60% (by 2020)
		Pursue diversity and inclusion	Group-wide	• Percentage of female recruits Career-track white-collar positions: At least 35% Career-track technical positions: At least 10% On-site positions: At least 10% Career-track positions: At least 20% Production/construction positions (technical): At least 5% Career-track positions: At least 25%
				• Females in managerial positions: 5 times the August 2014 figure (by 2025)
		Strengthen human resource development programs	Group-wide	• Improve technical skills and conduct high-quality human resource development programs
				• 100% attendance from the target audience for human rights awareness training
Basis of activity	Thoroughly enforce compliance	**Ensure adherence to Corporate Ethical Standards and compliance**	Group-wide	• Steady execution of training to foster and maintain a sense of compliance (100% achievement)
				• Improve employee awareness of ethics reflected in the Corporate Ethics Awareness Surveys • Have all employees participate in the Corporate Ethics Awareness Survey

■ JFE Steel ■ JFE Engineering ■ JFE Shoji

Results and initiatives implemented in FY2019	Evaluation	Targets/KPIs for FY2020
• Actual rates of health guidance ■ 56.9% ■ 28.9% ■ 36.8%	△	■ Provision rates of health guidance: 60% (by 2023) ■ Provision rates of health guidance: 35% (by 2020) ■ Provision rates of health guidance: 40% (by 2020)
• Rate of health examination for dependents ■ 48.2% ■ 51.7% ■ 51.0%	△	• Rate of health examination for dependents: 60% (by 2020)
• Percentage of female recruits ■ Career-track white-collar positions 27% Career-track technical positions 7% On-site positions 10% ■ Career-track positions 14% Production/construction positions (technical) 14% ■ Career-track positions 25.5%	×	• Percentage of female recruits ■ Career-track white-collar positions At least 35% Career-track technical positions At least 10% On-site positions At least 10% ■ Career-track positions At least 20% Production/construction positions (technical) At least 5% ■ Career-track positions At least 25%
• Females in managerial positions: 3.5 times the August 2014 figure	△	• Females in managerial positions: 5 times the August 2014 figure (by 2025)
■ Training provided Total training hours: 1,197,045 hours ■ Human resource development programs utilizing various educational systems ▸ Rank-based training: 389 participants ▸ Overseas Project Human Resources Development Program: 20 participants ■ Improved technical skills and promoted high-quality human resource development programs (Implemented rank-based training with 100% attendance from eligible staff)	○	• Training hours per person ■ At least 40 hours per year ■ At least 20 hours per year ■ At least 20 hours per year • ■ Implement rank-based training with 100% attendance from eligible staff
Rate of attendance for human rights awareness training: ■ 99.98% ■ 100% ■ 100%	△	• 100% attendance from the target audience for human rights awareness training
■ Implemented rank-based compliance training (100% achievement) ■ ▸ Implemented rank-based compliance training, law-based training, etc. (Classroom lectures: Total of 4,165 participants; e-learning: Total of 17,897 participants) ▸ Implemented training and awareness-raising activities for hotline (Training for hotline staff: 29 participants including Group companies) ■ Implemented training to foster and maintain a sense of compliance 100% as planned Compliance training: 13 sites in Japan (677 participants) 16 sites overseas (337 participants) Rank-based compliance training (237 participants) e-learning (3,487 participants)	○	• Steady execution of training to foster and maintain a sense of compliance (100% achievement)
Have all employees participated in the Corporate Ethics Awareness Survey ■ Compliance awareness improved 4 percentage points over last time from 65% to 69% Question: "Do you think that compliance systems and measures in the company are improving? Do you have a greater awareness of compliance? " ■ Hotline system awareness improved 14 percentage points over last time from 63% to 77% ■ Confirmed that overall employees are more aware of compliance than before. Issues: Increase awareness of the whistleblowing system and hotline, measures against power harassment	○	• Improve employee awareness of ethics reflected in the Corporate Ethics Awareness Surveys

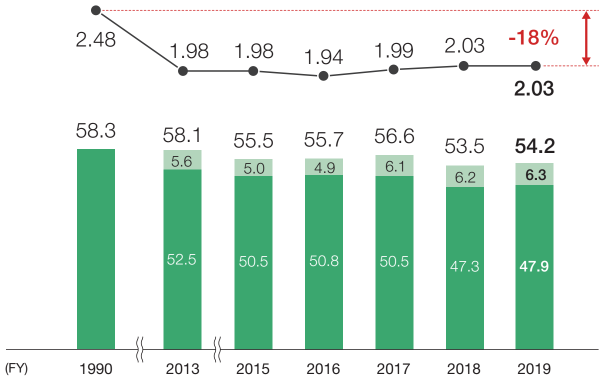
Management Foundation to Support Growth

Non-financial Highlights

Environmental Indicators

CO_2 emissions from energy sources (million t-CO_2) and CO_2 emission intensity (t-CO_2/t-s) of JFE Steel

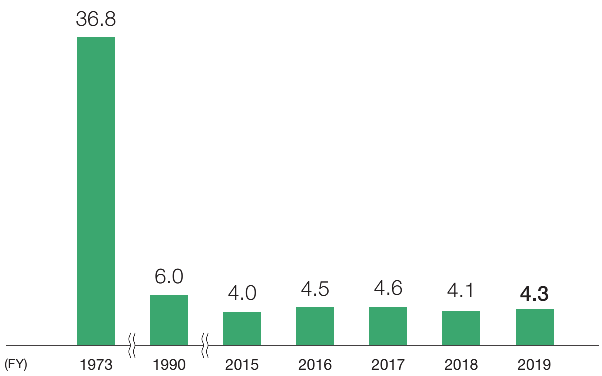
■ Scope1 ■ Scope2 ● CO_2 emissions from energy sources intensity



*1. The CO_2 coefficient for electricity purchased in FY2019 is that of FY2018 on the Japan Iron and Steel Federation's Commitment to a Low Carbon Society.
*2. The figures in FY2018 has been updated as the CO_2 coefficient for electricity purchased in FY2018 on the Japan Iron and Steel Federation's Commitment to a Low Carbon Society was applied.
*3. Data of JFE Bars & Shapes Corporation Sendai Works is included in the figures from FY2013 to FY2016.

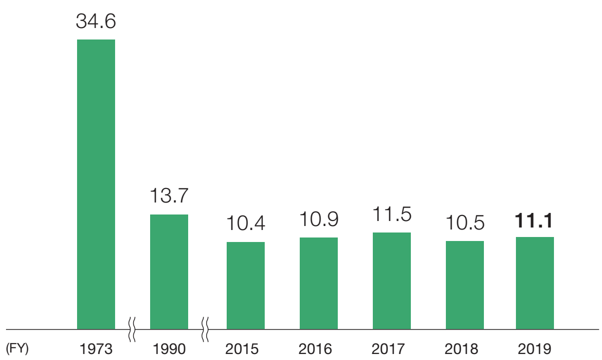
SOx emissions by JFE Steel (million Nm^3)

■ Emission by JFE Steel (non-consolidated)



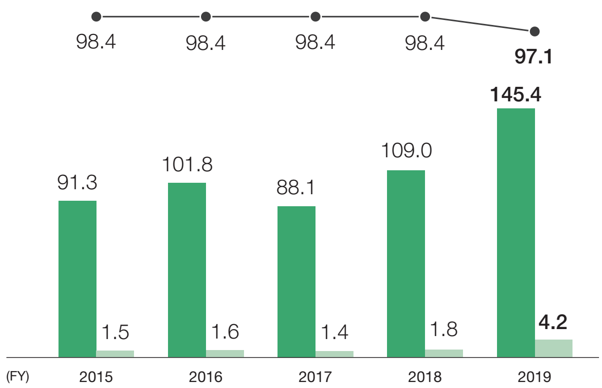
NOx emissions by JFE Steel (million Nm^3)

■ Emission by JFE Steel (non-consolidated)



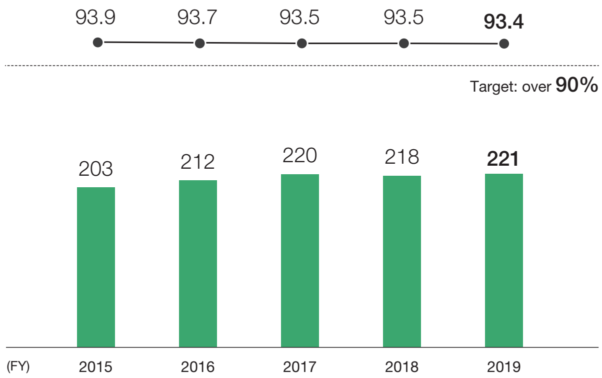
Waste generated at construction sites (thousand tons) and recycling rate (%) of JFE Engineering

■ Total ■ Final disposal ● Recycling rate



Industrial water accepted (million tons) and circulated (%) of JFE Steel

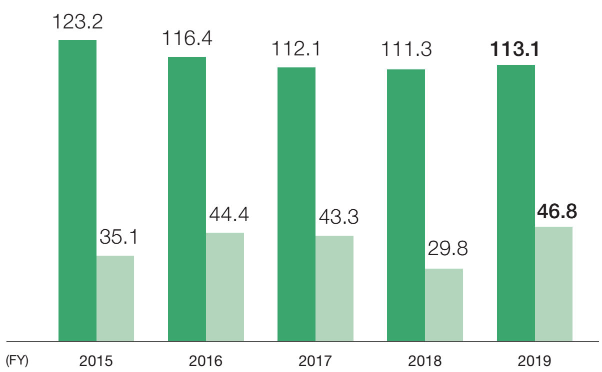
■ Industrial water accepted by JFE Steel (non-consolidated)
● Industrial water circulated by JFE Steel* (non-consolidated)



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

Environmental capital investment (billion yen) and promotion expenses for environmental activities (billion yen) of JFE Steel

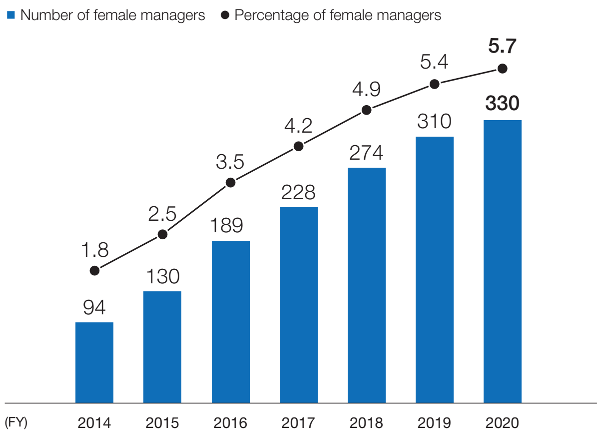
■ Promotion expenses for environmental activities
■ Environmental capital investment



CSR Report: Environment / Society
https://www.jfe-holdings.co.jp/en/csr/esg/index.html

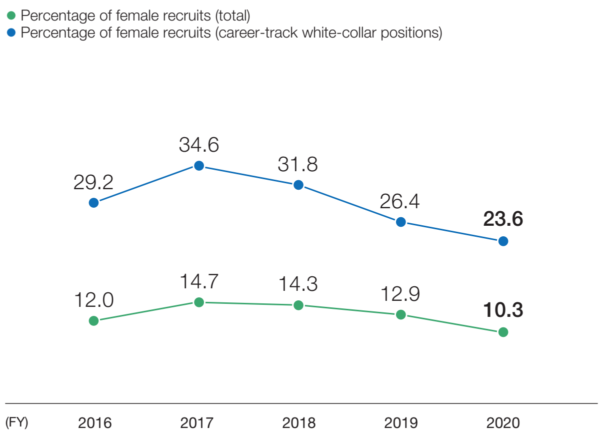
Societal Indicators

Number of female managers (persons) and percentage of female managers (%)



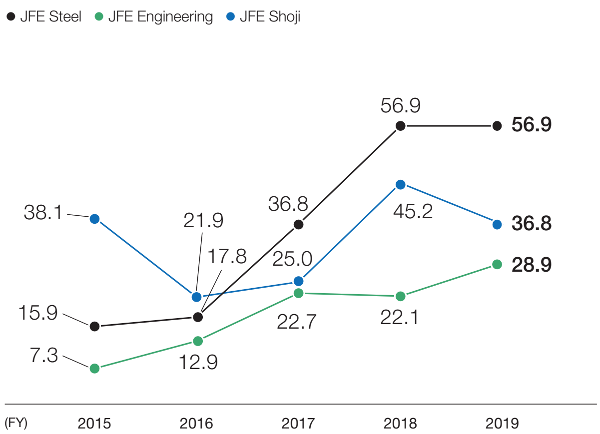
*Scope of calculation: JFE Holdings and operating companies

Percentage of female recruits (total) (%) and percentage of female recruits (career-track white-collar positions) (%)

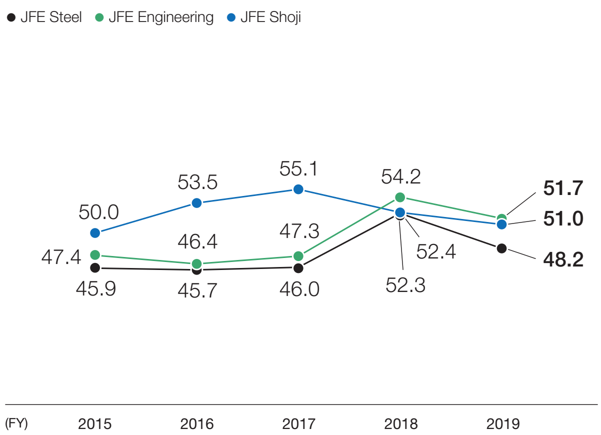


*Scope of calculation: total of three operating companies

Provision rates of health guidance (%)

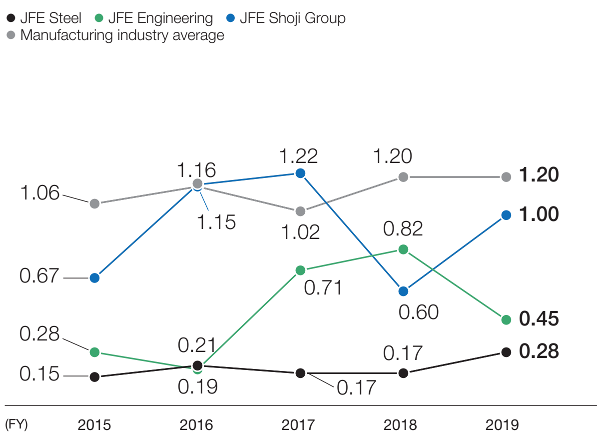


Rate of health examination for dependents (%)



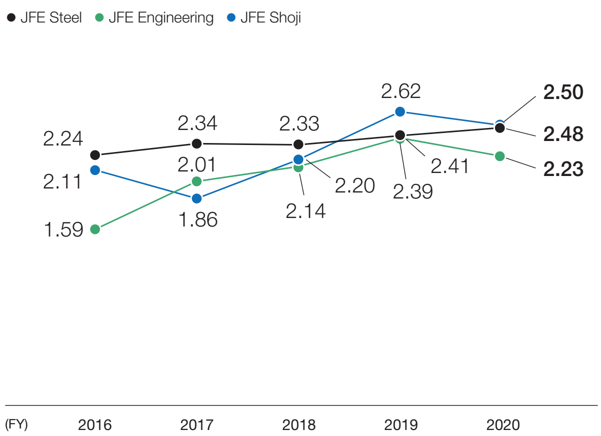
* Target: dependents aged 40 or older (including dependents other than spouses)

Lost-work Injuries



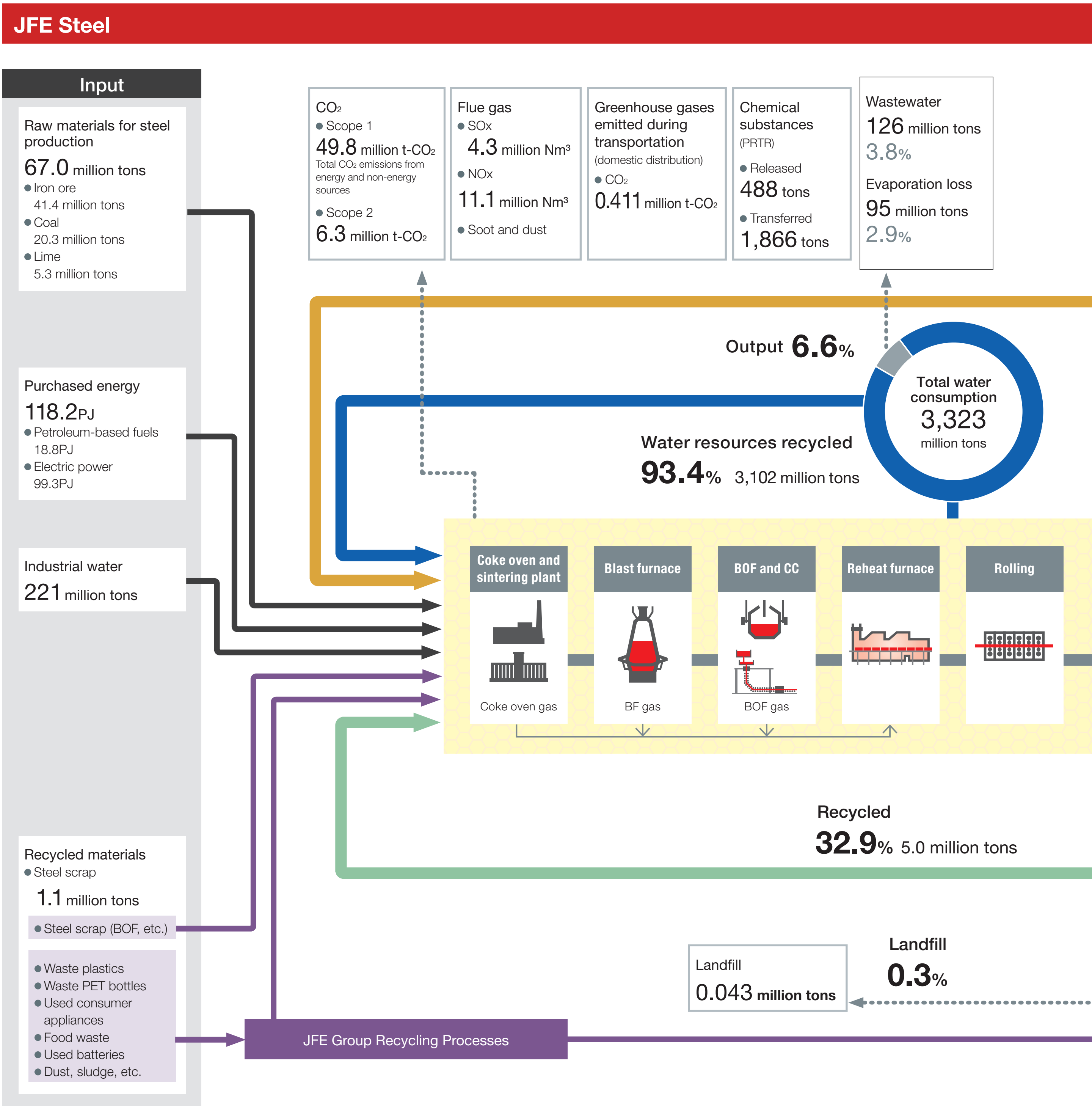
*JFE Steel and JFE Engineering: parent company, business associates and contractors;
JFE Shoji: domestic parent and group companies, business associates and contractors
*Lost-work injuries = Number of lost-time injuries / number of hours worked × 1,000,000

Employment of people with disabilities (as of June 1 of each year) (%)

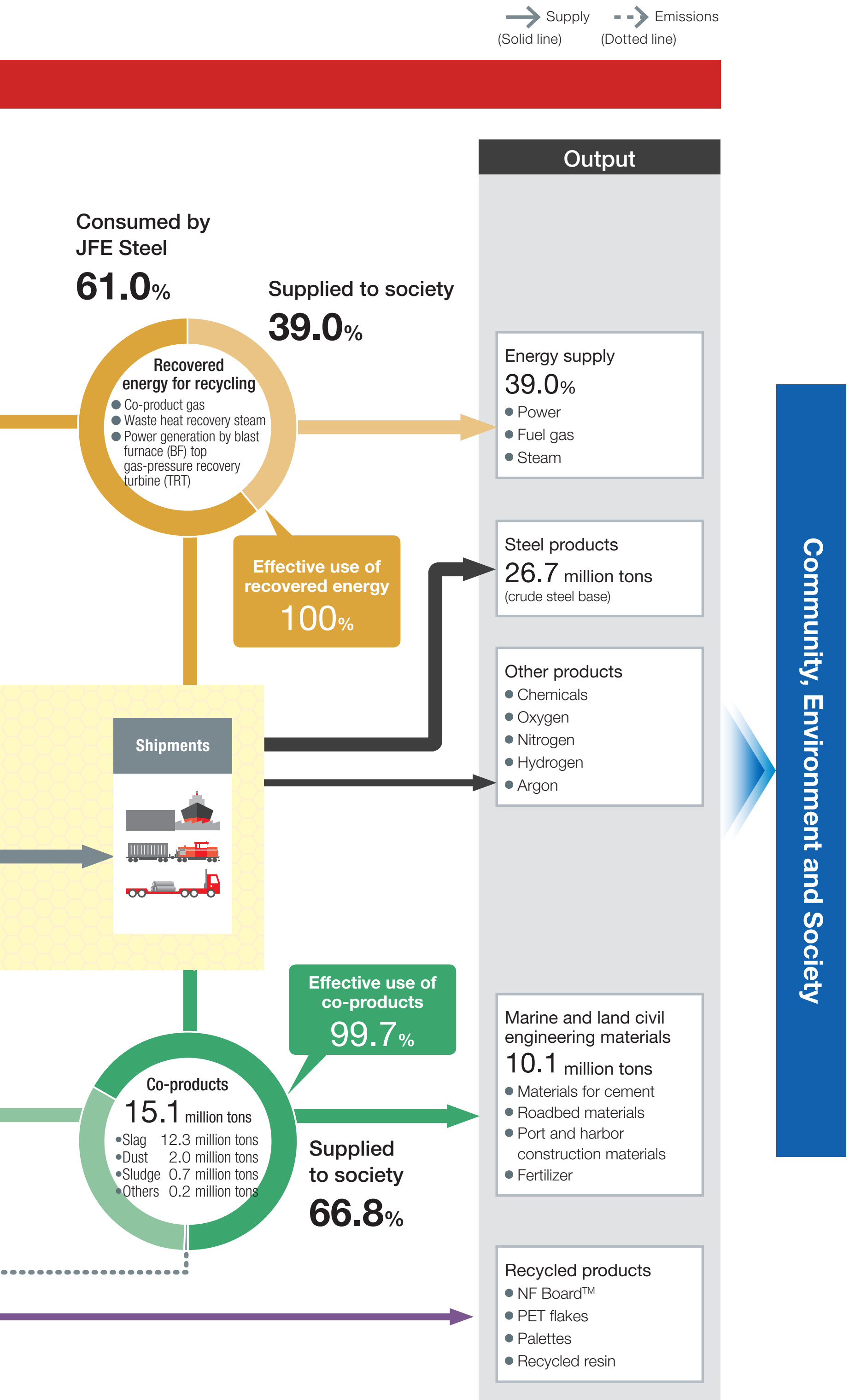


Material Flow

JFE Steel works to reduce the environmental impact of its iron and steelmaking processes, including through the effective use of resources. The company recycles 93.4% of the water it uses for production and uses 99.7% of its co-products, such as iron-steel slag. In addition, 100% of co-product gas generated during production is reused as fuel for reheating slabs, generating power for internal use and supplying power to the public.



JFE Steel JFE Engineering JFE Shoji



JFE Engineering (Head Office and Works)

Input

Steel	39,400 tons
Energy	
• Electric power purchased	26.3 GWh
• Class A heavy oil	150 kl
• Kerosene	8.5 kl
• Light oil	235 kl
• Gasoline	13.8 kl
• City gas	453,300 Nm³
• LPG	111.4 tons
Water	106,000 tons

JFE Engineering

- Tsurumi Engineering and Manufacturing Center
- Tsu Works

Output and Emissions

Products	36,600 tons
CO_2	9,700 t-CO_2
• Scope 1	3,000 t-CO_2
• Scope 2	6,700 t-CO_2
Waste generated	1,800 tons
• Industrial wastes	1,500 tons
• General wastes	313 tons
Wastewater (ocean only)	126,000 tons
Others (PRTR)	136 tons

Stakeholder Relationships

Promotion of interactive communication

The JFE Group strives to maintain agreeable and favorable relationships with all stakeholders, including shareholders, customers, clients, employees and local communities, for the sustainable growth and medium- to long-term increase of corporate value.

JFE Group's major stakeholders

Stakeholders	Approach	Major communication methods, etc.	Others: Frequency (per year)	Others: Scale, etc.
Shareholders/ Investors	We work to disclose information accurately, fairly and in a timely and appropriate manner as well as strive for active communication. We established the Investor Relations and Corporate Communications Department as an organization responsible for communication with domestic and international shareholders and investors, and promote constructive dialogue as well as provide management with the information acquired, with the aim of maintaining and improving the relationship of trust.	Ordinary general meeting of shareholders (convocation notices, notices of resolutions, etc.)	1	Approx. 150,000 persons (Unit shareholders)
		Investors meeting (financial results, medium-term business plans, etc.)	5	Approx. 500 persons in total
		Individual meetings (financial results, medium-term business plans, etc.)	As needed	Approx. 400 persons in total
		Briefings (at the branch offices of securities firms, etc.)	11	Approx. 800 persons
		Plant tours for shareholders (steel, engineering, shipbuilding bases, etc.)	23	Approx. 1,800 persons
		Publishing shareholder newsletters (JFE Dayori)	2 (Mid-year and annual)	Approx. 220,000 copies/issue
		Various reports, including integrated reports and CSR reports	1	Approx. 40,000 copies
		Information via websites (for shareholders and investors), etc.	As needed	
Customers	The Group believes that the stable supply of products and services and reliable quality assurance, along with advancing research and development, are necessary to meet customer needs. We will work to establish win-win relationships by continuously meeting customer needs and the trust they place in us.	Communication through sales activities and support for quality assurance	As needed	Conducted at each operating company
		Interviews and questionnaires, such as that on customer satisfaction	As needed	Conducted at each operating company
		Information via websites (product information), etc.	As needed	
Clients	CSR initiatives are being actively pursued together with our clients, who are important business partners. We have established Purchasing and Procurement Policies to promote fair and sincere procurement activities and to construct healthy relationships with clients.	Communication through purchasing activities	As needed	Conducted at each operating company
		Briefings and discussions	As needed	Conducted at each office
		Information via websites, etc.	As needed	
Employees	With the recognition of top management that creating workplaces to provide dignity and job satisfaction for all is essential for maximizing the potential of individuals, we have formulated the Basic Stance on Human Resource Management and Health Declaration and are conducting various activities toward attaining the goals.	Communication through daily operations and in the workplace	As needed	
		Internal newsletters and intranet	As needed	
		Various labor-management committees	2 to 4	Management and labor unions at each operating company
		Corporate Ethics Hotline	As needed	101 calls in FY2019
		Various training sessions	As needed	Position-specific, compliance, human rights, etc.
		Family days (visits by employee families, lunch at employees' cafeterias, etc.)	As needed	Conducted at each operating company
		Corporate Ethics Awareness Survey	1 (every 3 years)	At the company and operating companies
Local communities	To ensure business continuity at manufacturing bases where steelworks are located and elsewhere, constructing a relationship of trust with citizens in local communities and realizing coexistence and prosperity are crucial. We will pursue various activities with the aim of realizing sustainable growth and regional development, including continued initiatives toward ensuring safety and reducing our environmental impact.	Communication through local residents' associations, events, etc.	As needed	
		Events at manufacturing bases (festivals, etc.)	Approx. once in each region	Approx. 270,000 persons a year
		Plant tours	As needed	100,000 or more persons a year
		Clean-up activities (vicinity of manufacturing bases, regional cleaning, etc.)	As needed	
		Sports promotion (baseball or jogging workshops, various sports competitions, etc.)	As needed	
		Others (education at elementary schools, craft workshops, workplace experience events, etc.)	As needed	
		Information via websites (environmental information, etc.)	As needed	
		Social contribution through JFE 21st Century Foundation (various research support, regional activity support, etc.)	As needed	
		Web JFE 21st Century Foundation ▶ http://www.jfe-21st-cf.or.jp/eng/		

External recognition in recent years

Name of SRI index, etc.	Description of selection criteria, etc.	Evaluation / selection period	
FTSE4Good Index Series, FTSE Blossom Japan Index	In July 2020, JFE Holdings was selected as a constituent of the FTSE4Good Index Series and the FTSE Blossom Japan Index, which are investment indices developed by FTSE Russell, a subsidiary of the London Stock Exchange Group. The FTSE4Good Index Series comprise companies that are demonstrating strong environmental, social, and governance practices. It is used widely to create and evaluate sustainable investment funds and other financial instruments. FTSE Blossom Japan Index measures the performance of Japanese companies that demonstrate excellent ESG practices, and is one of the investment indices used by Japan's Government Pension Investment Fund (GPIF).	At July 2020	
CDP 2019	Established in Britain in 2000, the Carbon Disclosure Project (CDP) is a nongovernmental organization that conducts ESG evaluations. It calls on companies to disclose ESG-related information by responding to CDP questionnaires to facilitate the ESG investment decisions of institutional investors. Currently, the CDP covers three environmental areas: climate change, water security, and forests, and companies are rated on an eight-point scale for each area. The volume of information collected by the CDP has become one of the largest in the world, with currently over 300 companies responding to the questionnaires, which are widely used in various indexes by institutional investors and for socially responsible investment. The JFE Group responds to climate change and water security questionnaires every year. We made sure to disclose appropriate information for the CDP 2019 questionnaire, and as a result we received a high rating.	2019	[CDP 2019 scores] Climate change: B Water security: A- Supplier/ Engagement: A-
DBJ Environmentally Rated Loan Program	DBJ Environmentally Rated Loan Program is the first financing system in the world to incorporate special environmental ratings, which uses a screening system developed by the Development Bank of Japan (DBJ) to evaluate environmental management levels and select outstanding companies with three interest stages according to evaluation points. In March 2016, JFE Holdings was rated as a top-ranking company that pursues excellent and advanced environmental initiatives in recognition of our advanced environmental management, and we received a loan under the program.	2016	
Sompo Sustainability Index	JFE Holdings has been chosen for the ninth consecutive year as a constituent of the Sompo Sustainability Index (former SNAM Sustainability Index) which was launched by Sompo Asset Management in August 2012. The index, which encompasses companies with highly evaluated ESG ratings, contributes to investor asset formation by evaluating corporate value from a long-term perspective.	2012 to 2020	
Quality Assurance Certification	JFE Steel West Japan Works (Kurashiki district) and JFE Shoji were named as Gold Level SQEP suppliers for the Supplier Quality Excellence Process, a quality certification of the U.S.-based construction equipment manufacturer Caterpillar Inc. for four consecutive years from 2017 to 2020. The program ranks suppliers for compliance with ISO 9001 standards and Caterpillar's own specifications and certifies the top firms as Platinum, Gold, Silver or Bronze. Only a few companies in Japan have received Gold Level certification, and JFE Steel is the world's first blast furnace company to be certified.	2017 to 2020	
Digital Transformation Stock Selection (DX Stock) 2020	JFE Holdings has been selected as Competitive IT Strategy Company Stock Selection jointly announced by the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange for five consecutive years. This index has been part of the initiatives to promote strategic IT investments that will lead to medium- to long-term increase in corporate value and reinforced competitive strength of Japanese companies. From this year, the program has been changed to Digital Transformation Stock Selection (DX Stock) with a focus on Digital Transformation (DX) that fundamentally changes business models based on digital technology, and leads to new growth and enhanced competitiveness. The company was selected as DX Stock 2020 for its proactive promotion of DX just as it was chosen for the Competitive IT Strategy Company Stock Selection.	2020	

Major external awards

Award name	Description of awards, etc.
Excellence Award in the 23rd Environmental Communication Awards	The JFE Group has received Excellence Award at the 23rd Environmental Communication Awards, sponsored by the Ministry of the Environment and the Global Environmental Forum, for its CSR Report 2019, published in September 2019. This is the first time for the JFE Group to receive this award. The Environmental Communication Awards is a program designed to promote environmental communication with stakeholders surrounding the business operator and further invigorate environmental activities by commending outstanding environmental reports and communications for multiple stakeholders among various media such as CSR reports, integrated reports, and environmental management reports. In this year's competition, 180 entries were submitted in the environmental report category and 118 in the environmental management report category, and the Group was selected as one of the 25 winners in the environmental report category. The award ceremony was held at Shinagawa Prince Hotel on February 19, 2020.
Grand Prize of Minister of Economy, Trade and Industry in the Energy Conservation Grand Prize Award	Multi-site integrated energy network services (service name "JFE-METS," hereinafter referred to as the same) provided by JFE Engineering was awarded the Grand Prize of Minister of Economy, Trade and Industry, the highest prize in the product and business model category of the Energy Conservation Grand Prize Award 2019. JFE-METS is a service that provides energy optimization by centrally managing multiple sites, such as by business operator or by area, whereas conventionally, energy is optimized per individual site. Based on the analysis on customers' energy consumption facts, JFE-METS lays out and manages energy-related facilities to provide total optimization for each site on behalf of customers. By implementing energy sharing including remote areas, it makes comprehensive energy conservation possible.

Awards for technology and product development, etc. (FY2019)

JFE Steel

Award name	Description	Sponsor
The Commendation for Science and Technology the Minister of Education, Culture, Sports, Science and Technology, Prize for Science and Technology (Development Category)	Development of high-strength high-workability thin steel sheet series by innovative microstructural control	Ministry of Education, Culture, Sports, Science and Technology
JSPMI Prize, Chairman's Prize	Development of the world's fastest precision thermal refining system for rolling	Japan Society for the Promotion of Machine Industry
Okochi Memorial Award	Development of texture-controlled heavy thick steel plate with brittle crack arrestability for mega container carriers	Okochi Memorial Foundation
Prize of the Chairman of ECCJ for Energy Conservation Best Practices at Workplaces, Energy Conservation Grand Prize Award	Energy conservation activities through reduction of heat loss in molten steel transportation containers at steelworks	The Energy Conservation Center, Japan
Prime Minister's Prize for Monozukuri Nippon Grand Award	Development of resource saving Si gradient magnetic material contributing to energy saving of electronic devices	Ministry of Economy, Trade and Industry
National Commendation for Invention, Japan Institute of Invention and Innovation Chairman's Award	Invention of electrical steel sheet that contributes to development of smaller electrical devices with higher efficiency	Japan Institute of Invention and Innovation
Derwent Top 100 Global Innovator 2018-2019 Award	JFE Steel's intellectual property activities	Clarivate Analytics

JFE Engineering

Award name	Description	Sponsor
Progress Award (Technical Category)	Establishment of boiler corrosion countermeasure technology and increase in power generation at waste incineration facilities	The Japan Institute of Energy
Prize of Director-General of the Industrial Science and Technology Policy and Environment Bureau, Ministry of Economy, Trade and Industry in the Excellent Environmental Equipment Award	Fully-automated incinerator for general waste with AI and data analysis technology	The Japan Society of Industrial Machinery Manufacturers
Distinguished Service Award, Engineering Advancement Association of Japan	Yangon Waste to Energy Plant project	Engineering Advancement Association of Japan

Management Organization

Executive Structure (as of September 1, 2020)

Directors

Nomination Committee Member

Remuneration Committee Member

Koji Kakigi
Representative Director

1977 Joined Kawasaki Steel Corporation
2015 Representative Director, President and CEO of JFE Steel Corporation, Representative Director of JFE Holdings, Inc.
2019 Representative Director, President and CEO of JFE Holdings, Inc. (current post)

Mr. Kakigi has abundant experience and knowledge required for management of the Group, which he has accumulated through his experience in operations in human resource and labor administration departments, and execution of duties as Corporate Officer in general administration, legal, accounting, finance, and procurement, in the company and JFE Steel Corporation.

Nomination Committee Member

Yoshihisa Kitano
Representative Director

1982 Joined Kawasaki Steel Corporation
2019 Representative Director, President and CEO of JFE Steel Corporation (current post),
Representative Director of JFE Holdings, Inc. (current post)

Mr. Kitano has abundant experience and knowledge required for management of the Group, which he has accumulated through his experience in operations in steel making technology and production control departments, and execution of duties as Corporate Officer such as supervision of steel works and overseas business, corporate planning, and IT in JFE Steel Corporation.

Remuneration Committee Member

Masashi Terahata
Representative Director

1982 Joined Kawasaki Steel Corporation
2018 Representative Director and Executive Vice President of JFE Steel Corporation
2019 Representative Director and Executive Vice President of JFE Holdings, Inc. (current post)

Mr. Terahata has abundant experience and knowledge required for management of the Group, which he has accumulated through his experience in operations such as general administration and legal departments in the company as well as operations in human resource and labor administration departments, and execution of duties as Corporate Officer in management divisions such as accounting, finance and procurement departments in JFE Steel Corporation.

Naosuke Oda
Director

1977 Joined NKK Corporation
2012 Representative Director and Executive Vice President of JFE Steel Corporation
2016 Representative Director, President and CEO of JFE Shoji Corporation (current post)
2017 Director of JFE Holdings, Inc. (current post)

Mr. Oda has abundant experience and knowledge required for management of the Group, which he has accumulated through his experience in operations related to sales of automotive steel at JFE Steel Corporation, and supervising sales divisions as Corporate Officer.

Hajime Oshita
Director

1982 Joined NKK Corporation
2017 Representative Director, President and CEO of JFE Engineering Corporation (current post), Director of JFE Holdings, Inc. (current post)

Mr. Oshita has abundant experience and knowledge required for management of the Group, which he has accumulated through his experience in corporate planning, accounting and finance, and a wide range of duties as Corporate Officer, including overseeing domestic and overseas businesses at JFE Engineering Corporation.

Audit & Supervisory Board Members

Nobuya Hara
Audit & Supervisory Board Member

1984 Joined NKK Corporation
2016 Audit & Supervisory Board Member of JFE Steel Corporation (current post)
2017 Audit & Supervisory Board Member of JFE Holdings, Inc. (current post)

Mr. Hara has abundant experience and knowledge in finance and accounting that he has accumulated through operations related to corporate planning, accounting and finance at JFE Steel Corporation as well as accounting operations at the company. He also has abundant experience and knowledge gained through corporate management operations at the group companies of JFE Steel Corporation, in addition to duties as its Audit & Supervisory Board Member.

Kumiko Baba
Audit & Supervisory Board Member

1989 Joined Toshiba Corporation
2014 Joined JFE Engineering Corporation
2018 Vice President of JFE Engineering Corporation
2019 Audit & Supervisory Board Member of JFE Holdings, Inc. (current post)

Ms. Baba had engaged in operations such as contract negotiation with overseas parties and business alliances and launches of new business in Toshiba Corporation. Since joining JFE Engineering Corporation, she has executed duties as Corporate Officer in the company in addition to supervision of overseas businesses and accounting and finance related operations and thus she has abundant experience and knowledge about finance and accounting.

Outside Executive Structure (as of September 1, 2020)

A Masami Yamamoto
Director

B Nobumasa Kemori
Director

C Yoshiko Ando
Director

D Shigeo Ohyagi
Audit & Supervisory Board Member

E Isao Saiki
Audit & Supervisory Board Member

F Tsuyoshi Numagami
Audit & Supervisory Board Member

Category	Name	Main concurrent positions	Independent executive	Expertise and background							Appointment as members of advisory bodies to the Board of Directors	
				Corporate management/ Management strategy	Engineering	Global management	Finance and accounting	Legal	Academic	Public administration and public policy	Nomination Committee	Remuneration Committee
Directors	A Masami Yamamoto	Director and Senior Advisor of Fujitsu Limited	Independent	✓	✓	✓					Chair	Member
Directors	B Nobumasa Kemori	Executive Advisor of Sumitomo Metal Mining Co., Ltd.	Independent	✓	✓	✓						Chair
Directors	C Yoshiko Ando	Audit & Supervisory Board Member of Kirin Holdings Company, Limited	Independent					✓		✓	Member	
Audit & Supervisory Board Members	D Shigeo Ohyagi	Senior Advisor of Teijin Limited	Independent	✓		✓					Member	
Audit & Supervisory Board Members	E Isao Saiki	Partner Lawyer of Abe, Ikubo & Katayama Law Firm	Independent					✓				Member
Audit & Supervisory Board Members	F Tsuyoshi Numagami	Professor, Graduate School of Business Administration, Department of Business Administration of Hitotsubashi University	Independent	✓			✓		✓		Member	Member

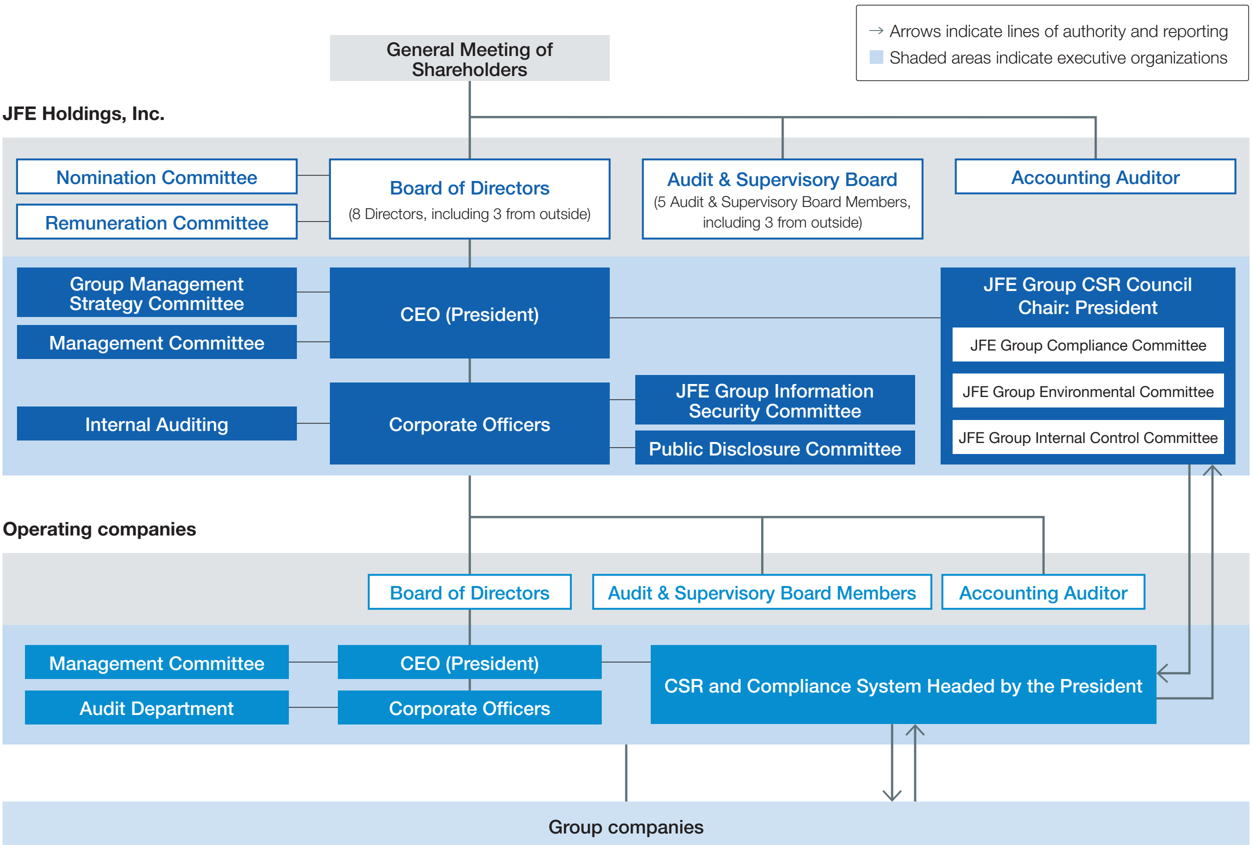
For their career summary and significant concurrent positions, please refer to Outside Executives Group Interview on page 65 and Corporate Governance on page 87.

Corporate Governance

Basic Stance

With the steel business, engineering business and trading business at its core, the JFE Group develops a broad range of businesses in a wide range of areas together with many group companies and partners. Establishing a proper governance system is essential towards improving independence and raising efficiency in each operating company, along with the optimal management of risks, which include those related to the environment, safety and disaster prevention in the Group. It is also necessary for the sustainable growth of the Group and the medium- to long-term improvement of its corporate value.

Corporate governance system



Establishment of Basic Stance on Corporate Governance

The JFE Holdings, Inc. Basic Stance on Corporate Governance was established in October 2015 to strengthen efforts to achieve sustainable growth and increased corporate value over the medium to long term. Please review the Corporate Governance Report for more information.

Web

JFE Holdings, Inc. Basic Stance on Corporate Governance
https://www.jfe-holdings.co.jp/en/company/info/pdf/basic-policy.pdf

Corporate Governance Report
https://www.jfe-holdings.co.jp/en/company/info/pdf/corporate-governance.pdf

Overview of the corporate governance system

Group governance system

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

JFE Holdings, a pure holding company at the core of the Group's integrated governance system, guides Group-wide strategy, risk management and public accountability.

Each operating company has developed its own system suited to its respective industry, ensuring the best course of action for competitiveness and profitability.

Overview of the corporate governance system

Organizational design type	Company with an Audit & Supervisory Board
Number of Directors (Of which, the number of Independent Outside Directors)	8 members (3 members)
Number of Audit & Supervisory Board Members (Of which, the number of Independent Outside Audit & Supervisory Board Members)	5 members (3 members)
Term for Directors	1 year (The same for Outside Directors)
Corporate Officer System	Adopted
Voluntary advisory committees of the Board of Directors	Nomination Committee and Remuneration Committee

Major topics discussed at the FY2019 Board of Directors meeting

- M&A (Acquisition of Cogent Power Inc. in Canada, acquisition of Mitsui E&S Plant Engineering Inc., etc.)
- Overseas business investment (Specialty bar steel joint venture in China, etc.)
- Large scale capital investment (Revamping of the No. 4 blast furnace of West Japan Works (Kurashiki), etc.)
- JFE Steel's structural reform and long-term strategy
- ESG activity initiatives (Assessment and review of KPIs for material CSR issues, etc.)

Governance system

JFE Holdings and each operating company have their respective Audit & Supervisory Board Members. The companies are cross-checked by the Directors, who supervise operational execution, and the Audit & Supervisory Board Members, who conduct audits. Also, a Corporate Officer system separates decision making and execution to clarify authority and responsibility, as well as to accelerate execution. JFE Holdings' Board of Directors is responsible for maintaining and enhancing management efficiency and passing resolutions as legally required, laying down key management policies and strategies and supervising operational execution. The Audit & Supervisory Board oversees management for the purpose of strengthening its soundness.

Major initiatives to strengthen the governance system

- **September 2002** — Established JFE Holdings
- **June 2007** — Added two outside directors and shortened the term of directors from two years to one year
- **October 2015** — Established JFE Holdings, Inc. Basic Stance on Corporate Governance, Nomination Committee, and Remuneration Committee
- **FY2015** — Initiated analysis and evaluation of board of directors' effectiveness
- **June 2017** — Reorganized the Board of Directors and the Audit & Supervisory Board based on results of their effectiveness analysis and evaluation
  - Added the presidents of JFE Engineering and JFE Shoji to the Board of Directors, along with an increase of two outside members (Director and Audit & Supervisory Board Member)

Independent Outside Directors

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

Independent Outside Audit & Supervisory Board Members

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

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

JFE Holdings Outside Directors and Outside Audit & Supervisory Board Members

(as of September 1, 2020)

Position	Name	Major concurrent positions	Independent executive	FY2019 Board of Directors attendees	FY2019 Audit & Supervisory Board attendees
Outside Director	**Masami Yamamoto**	Director and Senior Advisor of Fujitsu Limited Outside Director of Mizuho Financial Group, Inc.	✓	14 out of 14 times (100%)	—
Outside Director	**Nobumasa Kemori**	Executive Advisor of Sumitomo Metal Mining Co., Ltd. Outside Director of NAGASE & CO., LTD. Outside Director of Sumitomo Realty & Development Co., Ltd.	✓	14 out of 14 times (100%)	—
Outside Director	**Yoshiko Ando**	Audit & Supervisory Board Member of Kirin Holdings Company, Limited Outside Director of Sansei Technologies, Inc.	✓	—	—
Outside Audit & Supervisory Board Member	**Shigeo Ohyagi**	Senior Advisor of Teijin Limited Outside Director of KDDI Corporation Outside Director of MUFG Bank, Ltd. Outside Director of Tokyo Electric Power Company Holdings, Incorporated	✓	14 out of 14 times (100%)	20 out of 20 times (100%)
Outside Audit & Supervisory Board Member	**Isao Saiki**	Partner Lawyer of Abe, Ikubo & Katayama Law Firm	✓	14 out of 14 times (100%)	20 out of 20 times (100%)
Outside Audit & Supervisory Board Member	**Tsuyoshi Numagami**	Professor, Graduate School of Business Administration, Department of Business Administration of Hitotsubashi University	✓	14 out of 14 times (100%)	20 out of 20 times (100%)

Approach to diversity in the Board of Directors

With regard to the composition of the Board of Directors, the company elects Officers following deliberations by the Nomination Committee, by focusing on the enhancement of diversity of the Board members, such as their expertise, knowledge and experience in various fields, while balancing with the appropriate size of the Board. One female Audit & Supervisory Board Member and one female Director were appointed in June 2019 and June 2020, respectively. The company is working to enhance gender and global diversity mainly by electing Directors and Audit & Supervisory Board Members who possess a wealth of knowledge and experience as management in global enterprises. The company will continue to systematically engage in initiatives to foster such human resources suitable for candidates for Directors and Audit & Supervisory Board Members by setting specific targets.

Nomination Committee and Remuneration Committee

In October 2015, JFE Holdings set up the Nomination Committee and the Remuneration Committee as advisory bodies to the Board of Directors to secure fairness, objectivity and transparency in the appointment of and remuneration for Directors and Audit & Supervisory Board Members. For both committees, the majority of committee members are Outside Directors/Audit & Supervisory Board Members and the chairs are chosen from among these people.

Nomination Committee and Remuneration Committee structure

(as of July 1, 2020)

Committee	Inside Director	Outside Director	Outside Audit & Supervisory Board Member	Chair
Nomination Committee	2	2	2	**Masami Yamamoto** Outside Director
Remuneration Committee	2	2	2	**Nobumasa Kemori** Outside Director

The Nomination Committee deliberates and reports to the Board of Directors on matters pertaining to the basic stance on the election and dismissal of the President of the company, proposals for the election of candidates for the President of the company, succession plans of the President of the company, and the nomination of candidates for Outside Directors and Outside Audit & Supervisory Board Members. Four meetings were held in FY2019. The Remuneration Committee deliberates matters pertaining to the basic stance on the remuneration of Directors, etc. of the company and each operating company and reports to the Board of Directors. Three meetings were held in FY2019.

Support for Directors and Audit & Supervisory Board Members

Directors and Audit & Supervisory Board Members are provided with opportunities and funding to receive training in legal matters, corporate governance, risk management and other subjects that help them fulfill their roles and duties.

In addition, a briefing is held for Outside Directors and Outside Audit & Supervisory Board Members prior to Board of Directors meetings.

Furthermore, Outside Directors and Outside Audit & Supervisory Board Members are provided with relevant information and opportunities to exchange opinions with the president and other top managers, attend key hearings on the operational status of individual departments, and inspect business sites and Group companies inside and outside Japan.

Analysis and evaluation of effectiveness

Since FY2015, JFE Holdings has worked to improve the overall effectiveness of its Board of Directors by analyzing and evaluating it every year.

In FY2019, third-party questionnaires were sent to all Directors and Audit & Supervisory Board Members. Based on the discussions by the Board of Directors in light of the survey results and evaluation by the third-party organization, the Board of Directors determined that its overall effectiveness has been ensured through invigorated discussions among attending executives including Outside Directors/Audit & Supervisory Board Members, mainly by conducting a preliminary briefing session where all Outside Directors/Audit & Supervisory Board Members attended and by appropriate direction by the chairperson. In addition, the appointment of a female Audit & Supervisory Board Member and a female Director in June 2019 and June 2020, respectively, has helped further diversify the composition of the Board, thereby enabling more fruitful discussions.

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

Meanwhile, regarding the business plans, we are implementing measures to further improve the effectiveness of the Board of Directors, including enhancing the Board's responses to the rapidly changing business environment as well as specific initiatives to pursue ESG issues which are crucial to achieving sustainable growth.

Operating system

Key decision making

JFE companies are responsible for business decisions in accordance with their respective rules and procedures, whereas JFE Holdings makes final decisions about Group-wide matters. Each operating company determines key matters through a deliberative process by its own Management Committee and Board of Directors. In April 2017, JFE Holdings changed the operating structure of key committees. Management strategies involving the entire group are now deliberated by the Group Management Strategy Committee and core issues of JFE holdings, the operating companies and the Group are deliberated by the Management Committee before they are submitted to the Board of Directors for resolution.

Structure of Group Management Strategy Committee and Management Committee

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

Executive remuneration

Executive remuneration is based on the basic policies founded on discussions and reports by the Remuneration Committee, and it is decided through either a resolution of the Board of Directors or deliberations by the Audit & Supervisory Board Members, for an amount within the total limit approved at the General Meeting of Shareholders.

Executive remuneration (FY2019)

Position	Total remuneration, etc. (thousand yen)	Number of executives
Directors (excluding Outside Directors)	267,653	7
Audit & Supervisory Board Members (excluding Outside Audit & Supervisory Board Members)	78,296	3
Outside Directors/Audit & Supervisory Board Members	86,535	6

Officers whose consolidated remuneration exceeded 100 million yen

(FY2019)

Name	Position	Company	Per company (thousand yen)	Total (thousand yen)
Koji Kakigi	Director	JFE Holdings	127,181	127,181
Yoshihisa Kitano	Director	JFE Holdings	9,000	126,340
	Director	JFE Steel	117,340	

Basic Stance on Determination of Remuneration for Directors and Audit & Supervisory Board Members and Corporate Officers

- The Board of Directors shall determine remuneration system for Directors and Corporate Officers based on deliberations regarding its appropriateness by the Remuneration Committee to ensure fairness, objectiveness and transparency.
- The remuneration level for Directors and Corporate Officers shall be determined to secure excellent human resources who are able to put the Group's corporate vision into practice, taking into consideration the business environment of the Group and remuneration levels at other companies in the same industry or of the same scale.
- The ratio between basic remuneration and performance-linked remuneration (annual bonus and stock remuneration) shall be properly established according to the roles and responsibilities, etc. of each Director and Corporate Officer so as to function as sound incentives toward the sustainable growth of the Group.

The company pays only basic remuneration to Outside Directors and Audit & Supervisory Board Members given their respective roles of supervising and auditing management from an independent and objective standpoint.

Composition of remuneration for Directors and Audit & Supervisory Board Members and Corporate Officers

Medium- to long-term performance-linked remuneration system for Directors and Audit & Supervisory Board Members has been introduced from FY2018. Remuneration for Directors and Audit & Supervisory Board Members after the introduction of this system is as follows.

Basic remuneration

A fixed amount is paid every month according to positions and other factors.

Annual bonus

Directors and Corporate Officers, excluding Outside Directors, receive cash bonuses once a year, based on a standard determined according to single-year consolidated results. From FY2018 to FY2020, the "total amount of segment profit" will be used as a performance indicator.

Medium- to long-term performance-linked remuneration

The stock remuneration plan is a plan that provides the company's shares and an amount of cash equivalent to the market price of the company's shares to Directors (excluding Outside Directors) and Corporate Officers. Remuneration based on this system is paid based on the payment level, which is determined in accordance with the performance targets, etc. in the Group's medium-term business plan, and as a rule, it is provided at retirement through a trust in the form of the company's shares or cash.

For the period between FY2018 and FY2020, the payment level is determined according to the level of achievement of the target profit attributable to owners of the parent company of 200 billion yen per year, set under the Sixth Medium-term Business Plan. Furthermore, 5% or more ROE is the minimal requirement for the payment.

Remuneration for the company president when the target goals have been attained is set so that the ratio of basic remuneration (fixed remuneration), annual bonus (short-term performance-liked) and stock remuneration (medium- to long-business performance-linked) roughly stands at 6:2:2.

Internal control

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

Web Basic Policies to Establish the Internal Control Systems
http://www.jfe-holdings.co.jp/en/company/info/pdf/corporate-governance.pdf

Strengthening internal control

Internal audits

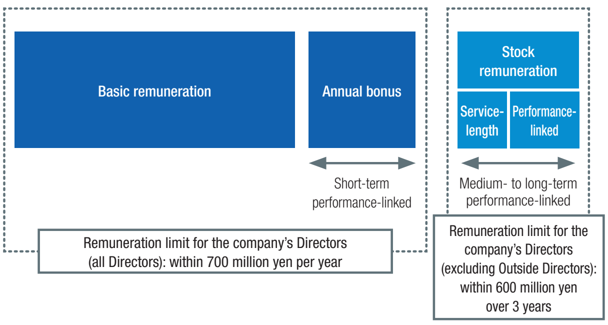
JFE Holdings, its operating companies and key Group companies had internal audit organizations comprising 164 people as of April 1, 2020. These organizations share information to enhance overall auditing within the Group.

Audits by Audit & Supervisory Board Members

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

- A total of 34 full-time Audit & Supervisory Board Members have been appointed to 28 companies, including JFE Holdings. Operating company personnel are dispatched to Group companies as part-time Outside Audit & Supervisory Board Members. Each absentee Audit & Supervisory Board Member serves one to four subsidiaries to raise the quality of the audits by their Audit & Supervisory Board Members and enhance Group governance. Eleven absentee Audit & Supervisory Board Members served 30 companies in total.
- The JFE Group Board of Auditors includes both full-time Audit & Supervisory Board Members of each Group company and part-time Audit & Supervisory Board Members. Subcommittees and working groups created to address specific issues meet autonomously to share information, investigate issues and enhance understanding. The findings of the year's activities are presented at the general meeting of JFE Group Auditors and used for audits.

Composition of remuneration for the company's Directors



Structure of JFE Group Board of Auditors

Cooperation between Audit & Supervisory Board Members and Accounting Auditor

In FY2019, the Audit & Supervisory Board Members held eight scheduled or unscheduled meetings with Ernst & Young ShinNihon, JFE's outside accounting auditor, in which the latter presented its audit plan, completed work and detailed results. The firm also presented a detailed explanation of its quality management system to confirm its validity. In turn, the Audit & Supervisory Board Members explained their own audit plans and other matters to the firm. The two sides also shared opinions on related matters.

Cooperation between Audit & Supervisory Board Members and Internal Auditing Department

In FY2019, the Audit & Supervisory Board Members held six scheduled or unscheduled meetings with the internal auditing department, in which the latter presented its internal audit plan, work status and detailed results. During the meetings, the Audit & Supervisory Board Members also shared opinions with the department.

Operating company governance

Some Directors, Corporate Officers and Audit & Supervisory Board Members of JFE Holdings serve concurrently as the Directors or Audit & Supervisory Board Members of operating companies to strengthen governance and information sharing across the Group. To strengthen governance, JFE Holdings' managers attend each operating company's General Meeting of Shareholders and Management Planning Briefing, receive reports on their activities and discuss the managerial policies of subsidiaries.

Approach regarding listed subsidiaries

To realize sustainable growth and enhancement of medium to long-term corporate value, the JFE Group forms a corporate group comprising companies with high expertise, divides business functions within the Group and conducts businesses development outside of the Group. Among the Group companies, Gecoss Corporation, JFE Container Co., Ltd. and JFE Systems, Inc., which are subsidiaries of JFE Steel Corporation, maintain their listed status as a means to enhance their competitiveness from the perspectives of their specialized business areas as well as to secure market recognition and credibility in funding, sales and marketing, and hiring. The aforementioned 3 companies are subject to rules different from those applicable to other consolidated subsidiaries, and other measures are also taken so as to ensure that each of the companies conducts autonomous corporate activities exercising autonomy and flexibility, secure management independence as listed companies, and make sure that the interest of the said subsidiaries' shareholders other than the said subsidiaries and the Company will not be unfairly impaired. In addition, with respect to matters necessary for the Group's risk management, prior consultation and reporting are required from the 3 companies while securing their independent decision making, so as to implement risk management as a member of the Group companies.

Furthermore, the Company shall regularly verify the significance of maintaining the listing of the listed subsidiaries and take necessary measures upon confirmation at its Board of Directors.

Basic policies for strategic shareholdings and exercise of related voting rights

All shares held by the company are the shares of subsidiaries or affiliates.

The company's wholly owned subsidiaries as well as operating companies, JFE Steel Corporation, JFE Engineering Corporation and JFE Shoji Corporation (hereinafter the "Operating Companies"), do not hold listed shares as strategic shareholdings, in principle. Strategic shareholdings, however, are allowed as an exception when holding the stocks of a company is determined to be necessary for maintaining and achieving growth for the Group's business.

The Board of Directors meetings regularly confirm the significance of the strategic shareholdings and whether the benefits and risks of such holdings are commensurate with their capital cost, and sell strategic shareholdings if there is no significance of such shareholdings or there is a risk of damage to shareholders' interest. In April 2016, the Company decided to reduce its strategic shareholdings by approximately 100 billion yen and sold its strategic shareholdings in the amount of approximately 140 billion yen (on a market value basis) by FY2018.

In November 2019, the Company decided on a policy to further sell its strategic shareholdings in the amount of 100 billion yen and sold all or part of 45 stocks in FY2019. (Total sales amount: approximately 23.2 billion yen (on a market value basis)). Furthermore, at a meeting held in August 2019, the Board of Directors examined the significance of its strategic holdings and return on investment.

The exercise of voting rights of strategic shareholdings is decided upon reviews by Operating Companies on the content of the proposal and is appropriately implemented in a way that will maximize shareholder interest. To be specific, the content of the proposal is to be checked by the investment application department and the investment control department, and approval will be given to proposals which are considered not to pose any threat to the maximization of interest of these Operating Companies as shareholders.

Of the shares for investment purposes held by JFE Steel, which has the largest balance sheet amount and accounts for the majority of the shares for investment purposes posted in the consolidated financial statements of the company, those shares of JFE Steel that are held for purposes other than pure investments are shown below.

	End of FY2017	End of FY2018	End of FY2019
Number of issues	242	238	219
Total balance sheet amount (billion yen)	259.1	241.0	166.1

Management Foundation to Support Growth

Thorough Compliance

Basic Stance

In expanding our businesses in Japan and abroad, it is important that JFE maintains relationships of trust with all stakeholders, including its customers, shareholders and local communities. Trust can only be built upon a strong foundation of "Ensuring Thorough Compliance." Misconduct and scandals resulting from compliance violations can instantly shatter the trust that has taken many years to establish. Therefore, JFE believes it is extremely important that all members of the organization deepen their knowledge and awareness of compliance and perform their jobs accordingly.

Compliance System

The JFE Group's Standards of Business Conduct guides employees to conduct their business activities based on the Corporate Vision and Corporate Values. They also help to strengthen awareness among all JFE Group executives and employees and ensure adherence to corporate ethics.

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

Web CSR Report: Compliance
https://www.jfe-holdings.co.jp/en/csr/governance/compliance/index.html

Ensure adherence to corporate ethical standards and compliance

Configured KPI (Group-wide)

- Steady execution of training to foster and maintain a sense of compliance
- Improve employee awareness of ethics reflected in JFE's Corporate Ethics Awareness Survey

Thorough compliance

The JFE Group conducts training on compliance with the Antimonopoly Act, insider trading restrictions, security export controls, the Construction Business Act, laws against bribery of public officials, etc. The Group has also compiled a Compliance Guidebook and distributed to employees and executives (domestic and overseas), to be used in activities such as collation, to ensure that the rules are fully communicated and informed.

Whistleblowing system

The JFE Group has established a Corporate Ethics Hotline to ensure that crucial information regarding compliance, including violation of the Antimonopoly Act, bribery, or all kinds of workplace harassment, can be communicated directly from the front lines to top management rapidly and accurately. The whistleblowing system aims to maintain corporate ethics, comply with laws and regulations, and prevent corruption. It is accessible to all officers and employees of the JFE Group as well as those of suppliers and other business partners. Additionally, an external hotline to a law firm is also provided. To encourage the active sharing of information, confidentiality is strictly respected and the hotline is operated under rules and regulations that protect people who report information or seek advice. Whistleblowing and requests for advice are regularly reported to full-time Audit & Supervisory Board Members. Moreover, the operational status of the system is reviewed every year by the Board of Directors.

Cases handled by the Corporate Ethics Hotline

Company	FY2017	FY2018	FY2019
JFE Holdings and operating companies	89	80	101

Prevention of bribery

The JFE Group does not tolerate any kind of illegal activity in Japan or any other country, including bribery, such as offering money or other benefits to public officials, and never resorts to these illegal activities to gain profit or resolve problems. Based on these thoughts, the Group issued JFE Group's Basic Stance on Preventing Bribery of Public Officials and disseminate it throughout the Group including operating companies. JFE Group also maintains various systems to prevent the bribery of public officials.

Web JFE Group's Basic Stance on Preventing Bribery of Public Officials
https://www.jfe-holdings.co.jp/en/company/philosophy/anti-bribery.html

Resisting organized crime

The JFE Group declares in its standards of business conduct that it will firmly resist all antisocial forces, and has established the JFE Group Policies for Addressing Antisocial Forces and Regulations for Addressing Violence Directed at Companies to clarify the measures to be taken in response to any issues.

Employee ethics awareness surveys

The JFE Group regularly conducts Corporate Ethics Awareness Surveys to quantitatively assess employees' awareness of ethics and help employees stay informed about JFE's corporate vision.

Antimonopoly Act compliance

The JFE Group views past violations of the Antimonopoly Act seriously and continues to implement thorough measures to eliminate the possibility of future infringements.

Risk Management

Risk Management System

JFE Holdings is responsible for comprehensive risk management in accordance with its Basic Stance for Building an Internal Control System. The JFE Group CSR Council, chaired by the President of JFE Holdings, collects specific information and enhances management for the purpose of reducing the frequency and impact of risks. The Corporate Officer responsible for risk works to identify potential risks associated with business activities, ethical and regulatory compliance, the disclosure of financial reports and information, as well as ESG risks such as climate change, which have become increasingly important in risk management. If potential risks are identified, they are reviewed and assessed at an appropriate meeting as necessary for further examination or the deployment of countermeasures. The Board of Directors supervises the CSR and ESG activities of the JFE Group by receiving reports and holding discussion on its material issues.

Web CSR Report: Risk Management
https://www.jfe-holdings.co.jp/en/csr/governance/risk/index.html

Response to risks

Response to climate change risks

As an enterprise engaged in iron and steel manufacturing, which is associated with emitting massive volumes of CO_2, climate change is a critical managerial concern from the perspective of business continuity. Risks are identified and evaluated based on a scenario analysis conducted under the framework recommended by the TCFD, and important factors that may affect management are selected for further analysis and used in formulating future business strategies.

Intellectual property management

The JFE Group meticulously manages intellectual property across its diverse business activities. To prevent infringement on third-party intellectual property, it constantly monitors the latest information on intellectual property and implements all necessary measures.

Privacy protection

JFE has established the JFE Group Privacy Statement for managing information including "My Numbers," which are personally identifiable numbers under Japan's social security and tax number systems.

To maintain the appropriate protection of personal information, employee trainings on the rules, which have been set in place in accordance with the privacy statement, have been conducted as stipulated in applicable laws of each country related to businesses and guidelines.

Web JFE Group Privacy Statement
https://www.jfe-holdings.co.jp/en/privacy.html

Information security

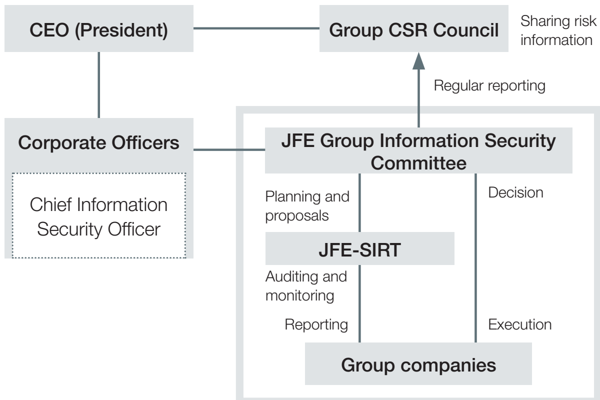
The JFE Group formulates various rules on information security management to prevent information leakage and system failures due to cyber-attacks and improper system use. Efforts are made to enhance information-security knowledge and awareness of rules among employees through training and education. Additionally, shared IT measures are applied in each Group company and regular information security audits are conducted to reinforce the overall information security management level in the Group.

Key issues related to information security are deliberated by the JFE Group Information Security Committee to determine Group policy.

Based on policies set by the committee, the JFE-SIRT* formulates and implements information-security measures, performs information security audits, offers guidance on responding to incidents and generally enhances the level of Group-wide information security management.

* JFE-Security Integration and Response Team established in April 2016.

JFE Group Information Security Governance System



JFE Group's BCP

Anticipating the possibility of natural disasters caused by typhoons and major earthquakes as well as a rapid expansion in infectious diseases such as a new strain of influenza, the JFE Group has formulated a business continuity plan (BCP) to address contingencies. We conduct regular training based on the BCP while also pursuing other countermeasures.

Corporate Data

Company Profile / Share Information

Company Profile (As of March 31, 2020)

Company Name (Trade Name)	JFE Holdings, Inc.
Head Office	2-2-3 Uchisaiwaicho, Chiyoda-ku, Tokyo 100-0011, Japan TEL: +81-3-3597-4321
Established	September 27, 2002
Capital	147.1 billion yen
Number of Employees	64,009 (Consolidated) Male: 54,796 / Female: 9,213

Share Data (As of March 31, 2020)

Total Number of Shares Authorized to Be Issued	2,298,000,000 shares
Total Number of Shares Issued	614,438,399 shares
Total Number of Shareholders	222,678 persons

Share Information (As of March 31, 2020)

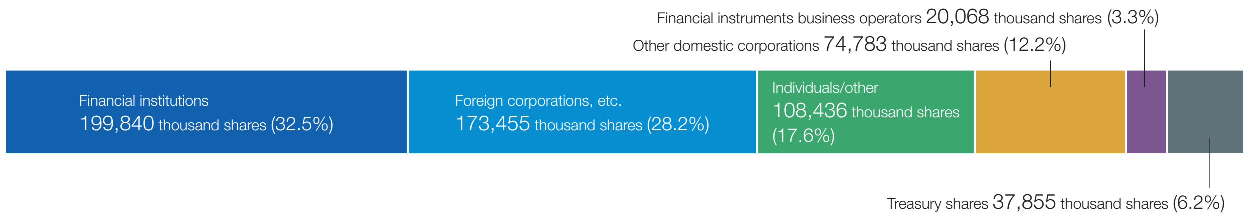
Minimum Trading Unit	100 shares
Fiscal Year End	March 31 of each year
Stock Exchange Listing	Tokyo Stock Exchange, Inc. and Nagoya Stock Exchange, Inc.
Security Code	5411
Shareholder Registry Administrator	Mizuho Trust & Banking Co., Ltd. 1-2-1 Yaesu, Chuo-ku, Tokyo 103-8670, Japan

Major Shareholders (As of March 31, 2020)

Name	Number of shares held (Thousand shares)	Shareholding ratio (%)
The Master Trust Bank of Japan, Ltd. (trust account)	31,914	5.54
J.P. MORGAN BANK LUXEMBOURG S.A. 1300000	23,166	4.02
Nippon Life Insurance Company	20,821	3.61
Japan Trustee Services Bank, Ltd. (trust account)	17,842	3.09
Mizuho Bank, Ltd.	13,403	2.32
The Dai-ichi Life Insurance Company, Limited	13,127	2.28
Japan Trustee Services Bank, Ltd. (trust account 5)	10,874	1.89
Japan Trustee Services Bank, Ltd. (trust account 9)	10,564	1.83
JP MORGAN CHASE BANK 385151	9,051	1.57
JFE Employees Stock Ownership Plan	8,781	1.52

Note: In addition to the above, the company retains 37,855 thousand shares as treasury shares. The treasury shares are not included in the shareholding ratio calculation.

Distribution of Shareholders (As of March 31, 2020)



Changes in Share Prices, Trading Volume and Dividends

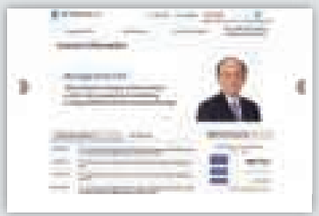
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Share price (Yen) (As of year-end)	3,765	2,434	1,778	1,767	1,943	2,654	1,516	1,909	2,144	1,879	703
Trading volume (Million shares) (Fiscal year)	814	760	722	1,206	1,113	799	1,080	1,141	896	685	823
Annual dividends per share (Yen)	20	35	20	20	40	60	30	30	80	95	20

Employee Data (Non-consolidated: Actual figures for FY2019)

Category		JFE Steel	JFE Engineering	JFE Shoji
Number of employees (persons) (March 31, 2020)		15,998	3,841	987
	Male	14,636	3,307	603
	Female	1,362	534	384
Number of managers (persons)		2,800	2,348	630
	Male	2,650	2,216	591
	Female	150	132	39
	Ratio of female managers (%)	5.4	5.6	6.2
Number of recruits (persons)		1,022	143	83
	Male	935	132	53
	Female	87	11	30
	New graduates	795	79	70
	Mid-career	227	64	13
Average years employed (years)		15.9	13.8	13.9
	Male	15.8	13.8	14.3
	Female	17.9	13.8	12.9
Turnover rate (%)		2.5	1.5	2.9
Number of rehired employees (persons)		824	48	32
Number of annual leave days taken (average) (days per year)		17.0	18.7	12.7
Overtime working hours (average) (hours per month)		27.4	27.6	26.8
Number of employees working shorter hours for childcare (total number of persons)		129	79	21
Number of dispatched employees (persons)		214	732	16

URL of the company's website

Web https://www.jfe-holdings.co.jp/en/



Investor Information
https://www.jfe-holdings.co.jp/en/investor/

CSR (Environment and Society)
https://www.jfe-holdings.co.jp/en/csr/

Operating and Main Group Companies (As of April 1, 2020)

*Net sales/Revenue: Results for FY2019 *Number of employees: As of March 31, 2020 (Consolidated)

Steel business
JFE Steel

Head office	Chiyoda-ku, Tokyo	Revenue	2,681.3 billion yen	Number of employees	45,844 (male: 40,215; female: 5,629)

Domestic group companies

• JFE Mineral Company, Ltd. • Mizushima Ferroalloy Co., Ltd. • JFE Material Co., Ltd. • Chiba Riverment and Cement Corporation
• Mizushima Riverment Corporation • JFE Precisions Co., Ltd. • JFE Plastic Resource Corporation • JFE Bars & Shapes Corporation
• JFE Metal Products & Engineering, Inc. • JFE Galvanizing & Coating Co., Ltd. • JFE Welded Pipe Manufacturing Co., Ltd. • JFE Container Co., Ltd.
• JFE Steel Pipe Co., Ltd. • Galvatex Corporation • JFE Pipe Fitting Mfg. Co., Ltd. • JFE Tubic Corporation • JFE Techno-Wire Corporation
• JFE Kozai Corporation • Daiwa Kohtai Co., Ltd. • GECOSS Corporation • JFE Plant Engineering Co., Ltd. • JFE Advantech Co., Ltd.
• JFE Civil Engineering & Construction Corporation • JFE Sekkei Ltd. • JFE Logistics Corporation • JFE West Technology Corporation
• JFE Wing Corporation • JFE Techno-Research Corporation • JFE Systems, Inc. • JFE Chemical Corporation • JFE Life Corporation
• JFE East Japan GS Co., Ltd. • JFE West Japan GS Co., Ltd. • JFE Apple East Corporation • JFE Apple West Corporation
• Shinagawa Refractories Co., Ltd.* • Nippon Chuzo K.K.* • Nippon Chutetsukan K.K.* • EXA Corporation* • Setouchi Joint Thermal Power Co., Ltd.*
• K.K. JFE Sanso Center* • Mizushima Eco-Works Co., Ltd.* • NKK Seamless Steel Pipe K.K.*

Engineering business
JFE Engineering

Head office	Chiyoda-ku, Tokyo	Yokohama head office	Yokohama, Kanagawa Prefecture	Revenue	512.2 billion yen	Number of employees	10,265 (male: 8,851; female: 1,414)

Domestic group companies

• Asukasoken Co., Ltd. • Urban Energy Corporation • AnyTech Inc. • Kitanihon Industrial Co. Ltd. • J&T Recycling Corporation
• JFE Aqua Machine and Service Corporation • JFE Environmental Service Corporation • JFE Career Navi Corporation • JFE Technos Co., Ltd.
• JFE Pipeline Engineering Corporation • JFE Business Support Yokohama Corporation • JFE Project One Co., Ltd. • J Farm Corporation
• Japan Tunnel Systems Corporation* • JP Steel Plantech Co.* • Tohoku Dock Tekko K.K. • Fuji Kako Co., Ltd • Mie Data Craft Co., Ltd.

Trading business
JFE Shoji

Head office	Chiyoda-ku, Tokyo	Revenue	1,084.1 billion yen	Number of employees	7,855 (male: 5,707; female: 2,148)

Domestic group companies

• JFE Shoji Steel Construction Materials Corporation • JFE Shoji Pipe & Fitting Corporation • JFE Shoji Electrical Steel Co., Ltd.
• Kawasho Foods Corporation • JFE Shoji Electronics Corporation • JFE Shoji Coil Center Corporation • Niigata Steel Corporation
• Nagano Can Corporation • Toyo Kinzoku Corporation • JFE Shoji Terre One Corporation • Tochigi Shearing Corporation • Hokuriku Steel Co., Ltd
• K&I Tubular Corporation • Taisei Kogyo Corporation • Kadota Kozai Corporation • JFE Shoji Zosen Kako Corporation
• JFE Shoji Kohnan Steel Center Co., Ltd • Naigai Steel Corporation • JFE Shoji Tinplate Center Corporation • Mizushima Steel Corporation
• Mizushima Metal Products Corporation • Nihon Jiseizai Kogyo Co., Ltd. • Kyushu-Tech Corporation • JFE Shoji Oil Co., Ltd
• JFE Shoji Matech Inc. • JFE Shoji Machinery & Materials Corporation • JFE Shoji Business Support, Inc. • JFE Shoji Service Corporation
• Kadowaki Steel Material's Corporation • Tohsen Corporation • Shin Nihon Kogyo Corporation • Yashimanada Corporation • Mitsuwa Tekken Corporation
• JFE Shoji Jutaku Shizai Corporation • Aichi Kanzai Kogyo Corporation • Hoshi Kinzoku Corporation • Showa Kigyo Corporation
• Hokuriku Kogyo Corporation • Kohnan Blanking Service Corporation • JFE Shoji Cormec Co., Ltd. • Hanwa Kozai Co., Ltd.*
• Kita-Kanto Steel Corporation* • Ohmi sangyo Co., Ltd.*

Shipbuilding business
Japan Marine United

Head office	Yokohama, Kanagawa Prefecture	Revenue	253.1 billion yen	Number of employees	5,678 (male: 5,413; female: 265)

Domestic group companies

• JMU AMTEC Co., Ltd. • IMC Co., Ltd. • JMU Defense Systems Co., Ltd.

*Equity method affiliates

Overseas group companies

● Nova Era Silicon S.A. ● Thai Coated Steel Sheet Co., Ltd. ● Thai Tinplate Manufacturing Co., Ltd.* ● JFE Steel Galvanizing (Thailand) Ltd.
● Philippine Sinter Corporation ● PT.JFE Steel Galvanizing Indonesia ● JFE Steel Australia Resources Pty. Ltd.
● Nucor-JFE Steel Mexico, S. Der. L. Dec.V.* ● California Steel Industries, Inc.* ● Hojalata Y Laminados S.A.* ● Fujian Sino-Japan Metal Co., Ltd.*
● Bohai NKK Drill Pipe Co., Ltd.* ● Guangzhou JFE Steel Sheet Co., Ltd.* ● Inner Mongolia Erdos EJM Manganese Alloys Co., Ltd.*
● Jiaxing JFE Precision Steel Pipe Co., Ltd.* ● Shanghai Baowu JFE Clean Iron Powder Co., Ltd.* ● Baosteel Special Steel Shaoguan Co., Ltd.*
● JSW Steel Ltd.* ● Thai Cold Rolled Steel Sheet Public Co., Ltd.* ● P.T. Sermani Steel* ● Perusahaan Sadur Timah Malaysia (Perstima) Bhd.*
● JFE Steel Tubular Technical Center Pte. Ltd.* ● J-Spiral Steel Pipe Co., Ltd.* ● Agrimeco & JFE Steel Products Co., Ltd.*
● Al Gharbia Pipe Company* ● JFE MERANTI MYANMAR Co., Ltd. ● JFE Connections America, Inc. ● GECOSS VIETNAM COMPANY LIMITED

Overseas group companies

● JFE Techno Manila, Inc. ● JFE Engineering (M) Sdn. Bhd. ● PT. JFE Engineering Indonesia
● JFE Engineering India Private Limited ● Standardkessel Baumgarte Holding GmbH ● J&M Steel Solutions Co., Ltd.
● DongJie Environmental Technology Co., Ltd.*

Overseas group companies

● Guangzhou JFE Shoji Steel Products Co., Ltd. ● Dongguan JFE Shoji Steel Products Co., Ltd. ● Zhejiang JFE Shoji Steel Products Co., Ltd.
● Jiangsu JFE Shoji Steel Products 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 Hai Phong Co., Ltd. ● JFE Shoji Steel Malaysia Sdn. Bhd.
● PT. JFE Shoji Steel Indonesia ● JFE Shoji Steel India Private Limited ● VEST Inc. ● JFE Shoji Steel America, Inc.
● JFE Shoji Steel de Mexico, S.A. de C.V. ● Kelly Pipe Co., LLC ● JFE Shoji Steel Service Center Bajio, S.A.P.I. de C.V. ● Cogent Power Inc.
● Marushin Canneries (Malaysia) Sdn. Bhd. ● JY Steel Processing Co.,Ltd. ● Kawarin Enterprise Pte. Ltd.*
● r. bourgeois JFE Shoji Magnetic Lamination, Inc.*

Annual Highlights

JFE Holdings

2019

April
- Selected as Competitive IT Strategy Company Stock Selection for the fifth consecutive year

May
- Agreed to the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)

June
- Held the 17th Ordinary General Meeting of Shareholders

July
- Sponsored the 14th All-China Japanese Speech Contest

Steel business — JFE Steel

2019

April
- Received the Prize for Science and Technology (Development Category) in the 2019 Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology (development of high-strength high-workability thin steel sheet series by innovative microstructural control)

May
- Held festivals in Fukuyama and Keihin
- Developed BRITE-ACE™, tin free steel for high-speed welding of cans
- Achieved the world's first application of high-power vacuum laser welding technology to the steel production process (manufacturing process of clad steel plates)
- Received the Invention Award in the 2019 National Commendation for Invention (JNSF Core™, electrical steel sheet that contributes to development of smaller electrical devices with higher efficiency)

July
- JFE East Japan Baseball Team crowned the winner of the 90th Intercity Baseball Tournament for the first time

August
- Determined to establish a joint venture for battery material (anode material) business in China

September
- Began commercial production at a large-diameter welded steel pipe plant in the UAE

October
- Highly salt-resistant, highly weatherable, and cost-effective steel plates adopted in a bridge in Japan
- Held festivals at Sendai Works and in Chiba

November
- Held festivals in Kurashiki and at Chita Works
- Introduced data science technologies (cyber-physical systems) to all blast furnaces at steelworks
- Began company-wide deployment of J-dscom™, a system for detecting signs of equipment abnormalities using data science technologies

Engineering business — JFE Engineering

2019

April
- (JFE Technos) Received order of 93 units of RAPIDAS™ (latest model), a quick charger for EVs, for Honda dealerships
- Design-build Works of Water Transmission/Distribution Pipe for Tsubame City and Yahiko Village
- Established J&T Recycling Corporation
- Completion of Myaungmya Bridge in Myanmar
- Began operation of Sunrise Clean Center, a waste incineration facility in Iwakuni City, Yamaguchi Prefecture
- Began operation of long-term comprehensive management for waste management business of Tatebayashi Hygiene Facilities Union

May
- Began integrated regional energy project focusing on Smart Energy Kumamoto in Kumamoto City
- (SBG) Received order for a large-scale gas-fired boiler equipment for STEAG GmbH in Germany

June
- (J&T Recycling Corporation) Launched food recycling business in Sapporo City

July
- Completed expansion work of a chemical plant for Asahi Kasei's subsidiary in Singapore (AKSS)
- Established Niigata Swan Energy Corporation, a regional power producer and supplier, in partnership with Niigata City
- Achieved fully-automated operation of waste incinerators
- Completed construction of lubricant oil/adhesive manufacturing plant in India
- (Urban Energy) Added electricity discount service for food waste to Electricity Creation Returning

August
- Commercialized OdySSEA, sewage sludge treatment technology
- (JFE Technos) Developed 100 kW extra-rapid charging system for EVs
- Acquired all shares of AnyTech, an AI startup company
- Completed construction of a BOG booster facility for JERA's Chita LNG Terminal in Aichi Prefecture

September
- (SBG) Received order for a biomass power plant for E-Wood Energiecentrale NV in Belgium
- (SBG) Received order for a waste-to-energy plant for Acciona Industrial UK Limited in Scotland
- (SBG) Received order for waste heat recovery boilers for Siemens AG in Germany
- Began operation of the crane simulator installed at the Global Remote Center
- Completion of CycleTree™ in Hakata Station
- Completed construction of Hachinohe Eco-Energy Power Station, one of the largest biomass power plants in Japan

Trading business — JFE Shoji

2019

April
- Established the Overseas Planning Section in the Corporate Planning Department

May
- Invested in Zhejiang r. bourgeois mechanics CO., LTD, a Chinese local subsidiary of r. bourgeois S.A., a French manufacturer of motor lamination core
- Through JFE Shoji America, JFE established Productos Laminados de Monterrey S.A. de C.V., a Mexican steel pipe manufacturer, and JFE Shoji Steel Service Center Bajio, S.A.P.I. de C.V., a joint venture company processing and selling steel products, mainly for automobiles in Mexico
- JFE Shoji Tinplate Center Corporation held a completion ceremony for a new plant
- With support from group companies including JFE Shoji Steel India Private Limited and PT. JFE Shoji Steel Indonesia, and our business partner Ichinomiya Electronics, JFE exhibited at CWIEME in Berlin, the world's largest expo in the electrical steel sheets industry, for the second consecutive year
- JFE Shoji Zosen Kako participated in Bali-Ship 2019, an international maritime exhibition, jointly with JFE Steel

June
- Zhejiang JFE Shoji Steel Products Co., Ltd. received its first Quality & Performance Award from its main customer Brose, a major auto parts manufacturer

July
- JFE Shoji Terre One and ROLLMAT JAPAN jointly participated in the Construction Materials Exhibition as JFE Group

Shipbuilding business — Japan Marine United

2019

April
- Completed modification work for STU48, a ship with onboard theater

July
- Received first order for the newly developed next-generation energy-efficient bulk carrier (J211BC)
- Large passenger/car ferries SUNFLOWER SATSUMA and SUNFLOWER KIRISHIMA received the Large Passenger Ship Category Award in the Ship of the Year 2018
- Naming and launching ceremony for the escort ship Haguro
- Received order for construction of the world's largest self-propelled SEP (self elevating platform) ship

September
- Issued the JFE GROUP REPORT 2019 (Integrated report)
  Issued the JFE Group CSR REPORT 2019

November
- Issued the JFE Group IT REPORT 2019

2020

February
- The JFE Group CSR REPORT 2019 won the Excellence Award in the 23rd Environmental Communication Awards

November
- Achieved the industry's first automated surface inspection of mill scale steel by developing a new image-based surface inspection technology
- Determined to launch a specialty bar steel joint venture in China
- Applied the J-WALL™ II Method to the repair work of earthquake-resistant structures in the East Building of the Kagawa Prefectural Government Office
- Began operation of No. 3 Coke oven (Battery A) at the West Japan Works (Fukuyama)

December
- Stripe-H™, H-shaped steel with protrusion, adopted for the construction work of sluice pillars at Yamba Dam
- Received the Chairman's Prize in the 54th JSPMI Prize (development of the world's fastest precision thermal refining system for rolling)
- Developed FM800, nickel-free alloy steel powder
- Received the Energy Conservation Center, Japan Chairman's Award, Energy Conservation Best Practice Category in the 2019 Energy Conservation Grand Prize (reduction of heat loss in molten iron containers through insulation technology)
- Compiled the systematic application of technology for steel sheets for automobiles as JESOLVA™
- Received the Prime Minister's Prize in the 8th Monodzukuri Nippon Grand Awards (development of high-performance electrical steel sheet that contributes to energy conservation in electrical devices)

2020

January
- Began operation of No. 3 sintering machine at the West Japan Works (Fukuyama)
- JFE's body performance evaluation technology adopted for vehicle development of SUZUKI MOTOR
- Introduced a fuel and electricity operation guidance system at the West Japan Works

February
- Received the Derwent Top 100 Global Innovator 2020 Award
- Received the 66th (2019) Okochi Memorial Award in the Okochi Awards (ARRESTEX™, heavy crack arrest steel plate for super large container carriers)
- Kakuhot™, hot-formed square seamless steel pipe for building structure, adopted in CLT PARK HARUMI
- Began operation of a manufacturing facility for color-coating of flat-steel construction materials in Myanmar

March
- Began operation of a manufacturing facility for hot-dip galvanized steel sheets for automobiles in NUCOR-JFE STEEL MEXICO
- Announced the introduction of 5G to the East Japan Works (Chiba) in collaboration with KDDI from April

October
- Established a joint investment vehicle, J&TC Frontier LLC
- Received order for construction of CAMANA Water Reclamation Facility, the largest in the Philippines
- Received order from Shizuoka City for improvement work of basic equipment at Numagami Incineration Plant

November
- Received order from MARUBENI Corp. for complex of Japanese strawberry greenhouses for Sovkhoz Electrostalsky in Russia
- Received order from Ryugasaki Regional Waste Management Association for improvement work of basic equipment at Clean Plaza Ryu Recycling Facility
- Completion of tsunami protection work at Miyako Port, Iwate Prefectuer

December
- (JFE Engineering, JFE Aqua Machine and Service) Launched Mizuhime, a compact water purification device for emergency use
- Completion of Harada Bridge in Hamamatsu City, Shizuoka Prefecture
- Completed construction of Chonburi Waste-to-Energy Power Plant in Thailand
- Completed construction of Ofunato Biomass Power Station
- Received order from Kawasaki City for improvement work of basic equipment at Ukishima Incineration Plant

2020

January
- Began providing electricity of Zero Emissions Plan at Bikkuri Donkey
- (DongJie Environmental Technology) Received order for a waste-to-energy plant for China ENFI Engineering Corporation
- Completed construction of Buzen Biomass Power Plant
- Completion of Bangladesh #2 KMG bridges

March
- Received order from Funabashi City for a Digestion Gas Power Generation Business at Takase Sewage Treatment Plant
- (SBG) Received order for waste heat recovery boilers for Infraserv GmbH & Co. Hoechst KG in Germany
- Completed acquisition of shares of Mitsui E&S Plant Engineering. Established JFE Project One
- Completed installation of a container crane for Minami-Honmoku Pier in Yokohama Port

September
- Acquired Cogent Power Inc., a Canadian electrical steel sheet processing company
- Established JFE Shoji America Holdings Inc.
- JFE Shoji Steel Philippines, Inc. participated in the groundbreaking ceremony for the new plant of ICHINOMIYA ELECTRONICS PHILIPPINES CORP., a Philippines' local subsidiary of Ichinomiya Electronics

October
- Naigai Steel held a completion ceremony for a new plant
- Conducted social contribution activities in Ghana and Nigeria for nine consecutive years

November
- JFE Shoji Terre One won the Excellence Award in the Infrastructure Maintenance Awards

December
- JFE Shoji Electronics launched a cloud surveillance camera system

2020

January
- Kawasho Foods announced the packaging change of Nozaki's Corned Beef for the first time in 70 years

February
- JFE jointly participated in the WIND EXPO 2020, a wind power exhibition, as JFE Group

March
- JFE Shoji Pipe & Fitting Trade established a new company Chubu Shinkan Kogyo, teaming up with Asahi Steel Tube

November
- Signed a contract with IMABARI SHIPBUILDING for a basic agreement on a capital and business alliance

2020

February
- Completed construction of merchant vessels at Maizuru Shipyard and announced the specialization in naval ship repairs

March
- Delivery ceremony for the escort ship Maya
- Signed a contract with IMABARI SHIPBUILDING for an agreement, etc. on a capital and business alliance and establishment of a joint venture

Financial Information

Note: Fiscal Year (FY) 2019 in the following pages refers to the period beginning April 1, 2019 and ended March 31, 2020

Financial information URL **www.jfe-holdings.co.jp/en/investor**

1. Preparation Policy of the Consolidated Financial Statements

The consolidated financial statements of the Company are prepared in accordance with International Financial Reporting Standards (hereinafter referred to as "IFRS") pursuant to the provisions of Article 93 of the Ordinance on Terminology, Forms, and Preparation Methods of Consolidated Financial Statements (Ordinance of the Ministry of Finance No. 28 of 1976; hereinafter referred to as the "Ordinance on Consolidated Financial Statements").

2. Audit Certification

In accordance with the provisions of Article 193-2, paragraph 1 of the Financial Instruments and Exchange Act, the consolidated financial statements of the Company for the fiscal year ended March 31, 2020 were audited by Ernst & Young ShinNihon LLC.

3. Particular Efforts to Secure the Appropriateness of Consolidated Financial Statements, etc.

The Company is making particular efforts to ensure the appropriateness of consolidated financial statements, etc. Specifically, in order to establish a system for gaining proper understanding of the details and revisions of accounting standards and relevant guidance and responding accordingly, the Company has joined the Financial Accounting Standards Foundation and attends seminars and workshops held by the foundation.

4. Development of a System for Fair Preparation of Consolidated Financial Statements, etc. in Accordance with IFRS

In order to prepare appropriate consolidated financial statements under IFRS, the Company keeps up to date with the latest accounting standards and assesses their impact by obtaining press releases and standards issued by the International Accounting Standards Board as necessary. The Company has also formulated the Group Accounting Policies in compliance with IFRS and conducts its accounting based on those policies. In addition, the Company attends seminars and workshops held by the Financial Accounting Standards Foundation, audit firms and other organizations, thereby accumulating expertise within the Company.

Consolidated statement of financial position

(million yen)

	Notes	As of March 31, 2019	As of March 31, 2020
Assets			
Current assets			
Cash and cash equivalents	7, 21	82,288	**86,704**
Trade and other receivables	8, 21, 37	754,679	**678,098**
Contract assets	27	124,039	**142,075**
Inventories	9	917,812	**872,602**
Income taxes receivable		19,076	**20,946**
Other financial assets	10, 37	4,471	**6,307**
Other current assets	11	86,290	**108,410**
Total current assets		1,988,658	**1,915,146**
Non-current assets			
Property, plant and equipment	12, 21	1,835,229	**1,717,751**
Goodwill	13	4,445	**6,497**
Intangible assets	13	82,567	**88,802**
Right-of-use asset	14, 21	–	**102,322**
Investment property	15	59,425	**58,158**
Investments accounted for using equity method	6, 18, 21	315,064	**336,040**
Retirement benefit asset	24	16,380	**15,520**
Deferred tax assets	19	36,609	**94,930**
Other financial assets	10, 21, 37	360,133	**296,004**
Other non-current assets	11, 21	10,686	**14,946**
Total non-current assets		2,720,543	**2,730,974**
Total assets	6	4,709,201	**4,646,120**

(million yen)

	Notes	As of March 31, 2019	**As of March 31, 2020**
Liabilities and equity			
Liabilities			
Current liabilities			
Trade and other payables	20, 21, 37	584,939	**557,252**
Bonds payable, borrowings, and lease liabilities	21, 36, 37	329,400	**376,473**
Contract liabilities	27	59,060	**44,813**
Income taxes payable, etc.		16,399	**13,249**
Provisions	23	14,336	**12,507**
Other financial liabilities	22, 37	99,097	**89,465**
Other current liabilities	11	222,705	**210,543**
Total current liabilities		1,325,938	**1,304,306**
Non-current liabilities			
Bonds payable, borrowings, and lease liabilities	21, 36, 37	1,194,478	**1,437,835**
Retirement benefit liability	24	133,999	**143,316**
Provisions	23	30,438	**25,740**
Deferred tax liabilities	19	3,550	**3,723**
Other financial liabilities	22, 37	17,140	**16,246**
Other non-current liabilities	11	11,895	**8,398**
Total non-current liabilities		1,391,503	**1,635,261**
Total liabilities		2,717,442	**2,939,568**
Equity			
Share capital	25	147,143	**147,143**
Capital surplus	25	646,793	**652,430**
Retained earnings	25	1,241,420	**1,002,076**
Treasury shares	25	(180,670)	**(180,637)**
Other components of equity		71,650	**6,012**
Equity attributable to owners of parent		1,926,337	**1,627,026**
Non-controlling interests		65,422	**79,526**
Total equity		1,991,759	**1,706,552**
Total liabilities and equity		4,709,201	**4,646,120**

Consolidated statement of profit or loss

(million yen)

	Notes	Fiscal 2018 (April 1, 2018 – March 31, 2019)	**Fiscal 2019 (April 1, 2019 – March 31, 2020)**
Revenue	27	3,873,662	**3,729,717**
Cost of sales	12, 13, 29	(3,328,475)	**(3,334,103)**
Gross profit		545,186	**395,614**
Selling, general and administrative expenses	12, 13, 28, 29, 30	(357,323)	**(356,992)**
Share of profit of entities accounted for using equity method	6, 18	42,685	**8,782**
Other income	31	30,877	**30,818**
Other expenses	32	(29,355)	**(40,323)**
Business profit		232,070	**37,899**
Impairment losses	6, 16	(10,252)	**(238,826)**
Operating profit (loss)		221,818	**(200,927)**
Finance income	6, 33	2,083	**2,727**
Finance costs	6, 33	(14,588)	**(15,273)**
Profit (loss) before tax		209,313	**(213,473)**
Income tax expense	19	(39,488)	**20,183**
Profit (loss)		169,825	**(193,290)**
Profit (loss) attributable to			
Owners of parent		163,509	**(197,744)**
Non-controlling interests		6,315	**4,454**
Profit (loss)		169,825	**(193,290)**
Earnings per share			
Basic earnings (losses) per share (yen)	35	283.81	**(343.39)**
Diluted earnings (losses) per share (yen)	35	283.76	**(343.39)**

Consolidated statement of comprehensive income

(million yen)

	Notes	Fiscal 2018 (April 1, 2018 – March 31, 2019)	**Fiscal 2019 (April 1, 2019 – March 31, 2020)**
Profit (loss)		169,825	**(193,290)**
Other comprehensive income			
Items that will not be reclassified to profit or loss			
Remeasurements of defined benefit plans	24, 34	(4,270)	**(4,975)**
Net change in fair value of equity instruments designated as measured at fair value through other comprehensive income	34, 37	(23,091)	**(49,143)**
Share of other comprehensive income of investments accounted for using equity method	18, 34	(430)	**3,148**
Total of items that will not be reclassified to profit or loss		(27,793)	**(50,971)**
Items that may be reclassified to profit or loss			
Exchange differences on translation of foreign operations	34	(4,445)	**(3,080)**
Effective portion of cash flow hedges	34	(383)	**(44)**
Share of other comprehensive income of investments accounted for using equity method	18, 34	(10,824)	**(11,786)**
Total of items that may be reclassified to profit or loss		(15,653)	**(14,911)**
Total other comprehensive income		(43,446)	**(65,882)**
Comprehensive income		126,378	**(259,172)**
Comprehensive income attributable to			
Owners of parent		120,693	**(263,243)**
Non-controlling interests		5,685	**4,070**
Comprehensive income		126,378	**(259,172)**

Consolidated statement of changes in equity

(million yen)

	Notes	Equity attributable to owners of parent					
						Other components of equity	
		Share capital	Capital surplus	Retained earnings	Treasury shares	Remeasure-ments of defined benefit plans	Net change in fair value of equity instruments designated as measured at fair value through other comprehensive income
Balance as of April 1, 2018		147,143	646,634	1,138,091	(179,070)	–	113,073
Profit (loss)		–	–	163,509	–	–	–
Other comprehensive income		–	–	–	–	(4,630)	(23,108)
Comprehensive income		–	–	163,509	–	(4,630)	(23,108)
Purchase of treasury shares		–	–	–	(1,627)	–	–
Disposal of treasury shares		–	(16)	–	27	–	–
Dividends	26	–	–	(54,784)	–	–	–
Share-based payment transactions	30	–	170	–	–	–	–
Changes in ownership interest in subsidiaries		–	4	–	–	–	–
Transfer from other components of equity to retained earnings		–	–	(5,396)	–	4,630	766
Transfer to non-financial assets	37	–	–	–	–	–	–
Other		–	–	–	–	–	–
Total transactions with owners		–	158	(60,181)	(1,600)	4,630	766
Balance as of March 31, 2019		147,143	646,793	1,241,420	(180,670)	–	90,730

	Notes	Equity attributable to owners of parent					
		Other components of equity					
		Exchange differences on translation of foreign operations	Effective portion of cash flow hedges	Total	Total	Non-controlling interests	Total equity
Balance as of April 1, 2018		(1,805)	(1,359)	109,907	1,862,707	59,357	1,922,065
Profit (loss)		–	–	–	163,509	6,315	169,825
Other comprehensive income		(14,742)	(334)	(42,816)	(42,816)	(630)	(43,446)
Comprehensive income		(14,742)	(334)	(42,816)	120,693	5,685	126,378
Purchase of treasury shares		–	–	–	(1,627)	–	(1,627)
Disposal of treasury shares		–	–	–	10	–	10
Dividends	26	–	–	–	(54,784)	(1,972)	(56,756)
Share-based payment transactions	30	–	–	–	170	–	170
Changes in ownership interest in subsidiaries		–	–	–	4	(4)	–
Transfer from other components of equity to retained earnings		–	–	5,396	–	–	–
Transfer to non-financial assets	37	–	(838)	(838)	(838)	–	(838)
Other		–	–	–	–	2,356	2,356
Total transactions with owners		–	(838)	4,558	(57,064)	379	(56,684)
Balance as of March 31, 2019		(16,547)	(2,532)	71,650	1,926,337	65,422	1,991,759

(million yen)

	Notes	Equity attributable to owners of parent					
						Other components of equity	
		Share capital	Capital surplus	Retained earnings	Treasury shares	Remeasure-ments of defined benefit plans	Net change in fair value of equity instruments designated as measured at fair value through other comprehensive income
Balance as of April 1, 2019		147,143	646,793	1,241,420	(180,670)	–	90,730
Cumulative effects of changes in accounting policies		–	–	(1,302)	–	–	–
Retroactively adjusted balance		147,143	646,793	1,240,117	(180,670)	–	90,730
Profit (loss)		–	–	(197,744)	–	–	–
Other comprehensive income		–	–	–	–	(4,765)	(46,129)
Comprehensive income		–	–	(197,744)	–	(4,765)	(46,129)
Purchase of treasury shares		–	–	–	(73)	–	–
Disposal of treasury shares		–	(12)	–	17	–	–
Dividends	26	–	–	(40,363)	–	–	–
Share-based payment transactions	30	–	(34)	–	88	–	–
Changes in ownership interest in subsidiaries		–	5,684	–	–	–	–
Transfer from other components of equity to retained earnings		–	–	67	–	4,765	(4,832)
Transfer to non-financial assets	37	–	–	–	–	–	–
Other		–	–	–	–	–	–
Total transactions with owners		–	5,637	(40,296)	33	4,765	(4,832)
Balance as of March 31, 2020		147,143	652,430	1,002,076	(180,637)	–	39,768

	Notes	Equity attributable to owners of parent				Non-controlling interests	Total equity
		Other components of equity					
		Exchange differences on translation of foreign operations	Effective portion of cash flow hedges	Total	Total		
Balance as of April 1, 2019		(16,547)	(2,532)	71,650	1,926,337	65,422	1,991,759
Cumulative effects of changes in accounting policies		–	–	–	(1,302)	–	(1,302)
Retroactively adjusted balance		(16,547)	(2,532)	71,650	1,925,034	65,422	1,990,456
Profit (loss)		–	–	–	(197,744)	4,454	(193,290)
Other comprehensive income		(15,393)	790	(65,498)	(65,498)	(384)	(65,882)
Comprehensive income		(15,393)	790	(65,498)	(263,243)	4,070	(259,172)
Purchase of treasury shares		–	–	–	(73)	–	(73)
Disposal of treasury shares		–	–	–	5	–	5
Dividends	26	–	–	–	(40,363)	(2,559)	(42,922)
Share-based payment transactions	30	–	–	–	54	–	54
Changes in ownership interest in subsidiaries		–	–	–	5,684	12,287	17,971
Transfer from other components of equity to retained earnings		–	–	(67)	–	–	–
Transfer to non-financial assets	37	–	(71)	(71)	(71)	–	(71)
Other		–	–	–	–	306	306
Total transactions with owners		–	(71)	(138)	(34,764)	10,034	(24,730)
Balance as of March 31, 2020		(31,941)	(1,813)	6,012	1,627,026	79,526	1,706,552

Consolidated statement of cash flow

(million yen)

	Notes	Fiscal 2018 (April 1, 2018 – March 31, 2019)	Fiscal 2019 (April 1, 2019 – March 31, 2020)
Cash flows from operating activities			
Profit (loss) before tax		209,313	(213,473)
Depreciation and amortization		196,243	231,577
Changes in allowance		(23)	(6,601)
Interest and dividend income		(10,627)	(12,205)
Interest expenses		13,648	14,486
Decrease (increase) in trade and other receivables		2,533	86,357
Decrease (increase) in inventories		(82,525)	42,559
Increase (decrease) in trade and other payables		19,691	(52,338)
Other	36	(669)	184,494
Subtotal		347,585	274,856
Interest and dividends received		19,014	24,192
Interest paid		(12,606)	(13,241)
Income taxes paid		(85,741)	(24,736)
Cash flows from operating activities		268,251	261,070
Cash flows from investing activities			
Purchase of property, plant and equipment, intangible assets, and investment property		(312,578)	(352,842)
Proceeds from sale of property, plant and equipment, intangible assets, and investment property		488	3,357
Purchase of investments		(8,394)	(35,299)
Proceeds from sale of investments		6,889	23,530
Other		243	2,875
Cash flows from investing activities		(313,351)	(358,378)

(million yen)

	Notes	Fiscal 2018 (April 1, 2018 – March 31, 2019)	Fiscal 2019 (April 1, 2019 – March 31, 2020)
Cash flows from financing activities			
Net increase (decrease) in short-term borrowings	36	18,752	(11,500)
Increase (decrease) in commercial papers	36	77,000	5,999
Proceeds from long-term borrowings	36	213,499	183,529
Repayments of long-term borrowings	36	(200,487)	(104,825)
Proceeds from issuance of bonds	36	30,000	120,000
Redemption of bonds	36	(15,000)	–
Payments for purchase of treasury shares		(1,627)	(73)
Dividends paid to owners of parent	26	(54,640)	(40,363)
Other	36	(15,614)	(48,865)
Cash flows from financing activities		51,882	103,900
Effect of exchange rate change on cash and cash equivalents		388	(2,176)
Net increase (decrease) in cash and cash equivalents		7,170	4,416
Cash and cash equivalents at beginning of period		75,117	82,288
Cash and cash equivalents at end of period	7	82,288	86,704

Notes to Consolidated Financial Statements

1. Reporting Entity

JFE Holdings, Inc. (the "Company") is an incorporated company established under Japan's Companies Act and is located in Japan. The consolidated financial statements of the Company, as of March 31, 2020, encompass the Company and its subsidiaries (the "Group") and its interests in affiliates and joint arrangements of the Company.

Details of the Group's business are described in "6. Segment Information."

2. Basis of Preparation

(1) Statement of compliance with IFRS

The Company meets the requirements of a "specified company complying with designated international accounting standards" as stipulated in Article 1-2 of the Ordinance on Consolidated Financial Statements, and the Company therefore prepares its consolidated financial statements in accordance with IFRS, in accordance with Article 93 of the Ordinance on Consolidated Financial Statements.

The Group's consolidated financial statements for the fiscal year ended March 31, 2020 were authorized for issue on June 19, 2020 by the Board of Directors.

(2) Basis of measurement

The Group's consolidated financial statements have been prepared on a historical cost basis, with the exception of financial instruments, etc., described in "3. Significant Accounting Policies."

(3) Functional currency and reporting currency

The Group's consolidated financial statements are presented in Japanese yen, which is the Company's functional currency. Amounts less than one million yen are rounded down.

3. Significant Accounting Policies

(1) Basis of consolidation

(i) Subsidiaries

Subsidiaries are those companies over which the Company has control. If the Group has an exposure or right to variable returns from involvement in the investee, and has the ability to use its power over the investee to affect the amount of returns, then it is regarded as controlling the investee.

The financial statements of subsidiaries are included in the consolidated financial statements of the Group from the date of acquisition of control to the date of loss of control.

If there is a change in equity interest in a subsidiary without loss of control, it is accounted for as a capital transaction. If there is a change in equity interest in a subsidiary accompanied by a loss of control, the subsidiary's assets and liabilities, non-controlling interests related to the subsidiary, and other components of equity are derecognized, with any gain or loss resulting therefrom recognized in profit or loss.

For subsidiaries whose reporting periods end on a date that differs from that of the parent entity, provisional financial statements as of the consolidated reporting date are used.

(ii) Associates and joint arrangements

Associates: An entity in which the Group owns at least 20% and at most 50% of the voting rights is considered an associate unless it can be clearly demonstrated that the Company cannot exercise influence over financial and operating policy decisions of the entity. An entity in which the Group owns less than 20% of the voting rights is considered an associate if the Company can exercise influence over financial and operating policy decisions of the entity. Investments in associates are accounted for using the equity accounting method.

A joint arrangement is an arrangement in which two or more parties have joint control such that decisions about the relevant activities of the arrangement require the unanimous consent of the parties sharing control. If the parties that share joint control have rights to the assets and obligations for the liabilities relating to the arrangement, it is called a joint operation. If the parties that share joint control have rights to the net assets of the arrangement, it is called a joint venture. In relation to its interest in a joint operation, the Group recognizes its share of assets, liabilities, revenue, and expenses. Joint ventures are accounted for using the equity accounting method.

For associates whose reporting periods end on a date that differs from that of the parent entity, provisional financial statements as of the consolidated reporting date are prepared.

For JSW Steel Limited, provisional financial statements are prepared based on December 31 as the reporting date because local legislation imposes restrictions on when certain information becomes available to the Company. Necessary adjustments have been made for material transactions or events disclosed between JSW Steel Limited's provisional reporting date and the consolidated reporting date.

(iii) Consolidation eliminations

The balances of receivables and payables and transactions within the Group, and unrealized gains and losses arising from transactions within the Group, have been eliminated when preparing consolidated financial statements.

(2) Business combinations

Business combinations are accounted for using the acquisition method.

Identifiable assets acquired through business combinations, liabilities assumed, non-controlling interests of the acquiree, and goodwill are recognized on the acquisition date (the date on which the acquirer obtains control of the acquiree). As a general rule, identifiable assets acquired and liabilities assumed are measured at fair value.

If the total value of the fair value of consideration (including contingent consideration) transferred in the business combination, the amount of any non-controlling interests of the acquiree, and the fair value of the acquirer's previously held equity interest in the acquiree ("Value A") exceeds the net value (usually the fair value) of the acquiree's identifiable assets and liabilities assumed ("Value B"), the excess is recognized as goodwill. If, on the other hand, Value A is less than Value B, the difference is recognized in profit or loss as of the acquisition date.

Acquisition costs incurred are recognized as expenses when incurred.

For each individual transaction, the Company chooses to measure non-controlling interests at fair value or as a proportionate share of the fair value of identifiable net assets of the acquiree.

(3) Foreign currency translation

(i) Translation of foreign currency transactions

Foreign currency transactions are translated into the functional currency of each company using the exchange rate or similar rate prevailing on the transaction date. Monetary items denominated in foreign currencies at the end of the reporting period are translated into the functional currency at the exchange rate prevailing at the end of the reporting period, and the resulting exchange differences are recognized in profit or loss. When the valuation difference of a non-monetary item is recognized in other comprehensive income, any exchange component is recognized in other comprehensive income, and when a non-monetary item is recognized in profit or loss, any exchange component is recognized in profit or loss.

(ii) Translation of foreign operations

Assets and liabilities of foreign operations are translated at the exchange rates prevailing at the end of the reporting period. In addition, revenues and expenses of foreign operations are translated at the average exchange rates for the reporting period unless exchange rates fluctuated significantly during the period. Exchange differences arising from translation are recognized in other comprehensive income, and the accumulated amount is included in other components of equity.

When disposing of foreign operations, the cumulative amount of exchange differences related to the foreign operations is recognized in profit or loss at the time of disposal.

(4) Financial instruments

(i) Financial assets

a. Initial recognition and measurement

Financial assets are classified either as financial assets measured at amortized cost or as financial assets measured at fair value at the time of initial recognition. The Group recognizes a financial asset on the transaction date on which it becomes a party to the contractual provisions of the financial asset.

Financial assets that meet the following conditions are classified as financial assets measured at amortized cost:

- The asset is held in a business model of which the objective is to hold the asset in order to collect its contractual cash flows
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding

Financial assets other than financial assets measured at amortized cost are classified as financial assets measured at fair value.

With the exception of equity financial assets held for trading purposes that must be measured at fair value through profit or loss, equity financial assets measured at fair value are individually classified either as measured at fair value through profit or loss or as measured at fair value through other comprehensive income, with that classification being made when the asset is initially recognized and applying continuously thereafter.

With the exception of financial assets measured at fair value through profit or loss, financial assets are measured at fair value at initial recognition plus transaction costs directly attributable to the acquisition. Financial assets measured at fair value through profit or loss are measured at fair value at initial recognition, and transaction costs directly attributable to the transaction are recognized in profit or loss.

b. Measurement subsequent to initial recognition

(a) Financial assets measured at amortized cost

After initial recognition, measurement is the amortized cost using the effective interest method.

(b) Financial assets measured at fair value through profit or loss

After initial recognition, measurement is the fair value with subsequent changes recognized in profit or loss.

(c) Equity financial assets measured at fair value through other comprehensive income

After initial recognition, measurement is the fair value with subsequent changes recognized in other comprehensive income.

Amounts recognized in other comprehensive income are transferred to retained earnings when an asset is derecognized or its fair value declines significantly (except when recovery is deemed probable); they are not transferred to profit or loss. Dividends derived from such financial assets are recognized as profit or loss.

c. Derecognition

Financial assets are derecognized when the contractual rights to receive cash flows have extinguished or when the contractual rights to receive cash flows have been transferred and substantially all risks and rewards of ownership of the financial asset are transferred to another entity.

d. Impairment

For financial assets measured at amortized cost, the Company recognizes allowances for doubtful accounts based on expected credit losses.

Allowances for doubtful accounts are calculated as the present value of the difference between the contractual cash flows due to the Group and the cash flows that the Group expects to receive.

The Group determines whether the credit risk on each financial asset has increased significantly since initial recognition on each reporting date, and if the credit risk has not increased significantly since initial recognition, the amount of the allowance for doubtful accounts is assessed based on the expected credit losses (expected credit losses over 12 months) resulting from default events that may occur within 12 months. If, on the reporting date, credit risk on a financial asset has increased significantly since initial recognition, the amount of the allowance for doubtful accounts is assessed based on the expected credit losses arising from all possible default events over the expected lifetime of the financial asset (expected credit losses over full lifetime). However, in the case of trade receivables, contract assets, and lease receivables that do not contain a significant financing component, regardless of the above, the amount of the allowance for doubtful accounts is always measured using the expected credit losses for the instrument's full lifetime.

A receivable is determined to be credit-impaired when a fact such as the commencement of legal liquidation proceedings due to the obligor's bankruptcy, etc. or the significant deterioration of the obligor's financial condition occurs. When it becomes apparent that a receivable will be unrecoverable in the future due to a write-off under the provisions of the Corporate Reorganization Act, etc., the carrying amount of the receivable is directly reduced.

Provisions of allowances for doubtful accounts on financial assets are recognized in profit or loss. In the case of events that reduce the allowance for doubtful accounts, reversals of allowances for doubtful accounts are recognized in profit or loss.

Estimates of allowances for doubtful accounts relating to financial assets reflect the following.

- Unbiased probability-weighted amounts calculated by evaluating a range of possible outcomes
- Time value of money
- Rational and supportable information about past events, current conditions, and forecasts of future economic conditions, available at the reporting date without undue cost or effort

(ii) Financial liabilities

a. Initial recognition and measurement

Financial liabilities are classified either as financial liabilities measured at amortized cost or as financial liabilities measured at fair value through profit or loss at the time of initial recognition. The Group initially recognizes issued debt securities on the date of issue, and other financial liabilities are initially recognized on the transaction date on which the Group becomes a party to the contractual provisions of the financial liability.

Financial liabilities measured at amortized cost are measured at fair value minus transaction costs directly attributable to the issue of the instruments at the time of initial recognition. However, financial liabilities measured at fair value through profit or loss are measured at fair value at the time of initial recognition.

b. Measurement subsequent to initial recognition

(a) Financial liabilities measured at amortized cost

After initial recognition, measurement is the amortized cost using the effective interest method.

(b) Financial liabilities measured at fair value through profit or loss

After initial recognition, measurement is the fair value with subsequent changes recognized in profit or loss.

c. Derecognition

Financial liabilities are derecognized when the financial liabilities extinguish; that is, when the liabilities are discharged, are cancelled, or expire.

(iii) Derivative and hedge accounting

The Group enters into derivative transactions such as forward exchange contracts and interest rate swaps in order to hedge foreign exchange risk, interest rate risk, and the like.

At the inception of the hedge, the Group formally designates and documents the risk management purpose and strategy for the hedging relationship and the implementation of the hedge. This documentation identifies the hedging instrument, the item or transaction being hedged, the nature of the risk being hedged, and the method of evaluating the effectiveness of the hedging instrument in offsetting the exposure to changes in the fair value or cash flows of the hedged item due to the risk being hedged. Moreover, the Group assesses at the inception of the hedging relationship, and on an ongoing basis, whether a hedging relationship meets the hedge effectiveness requirements.

Derivatives are initially recognized at fair value. After initial recognition, fair value is measured and subsequent changes are treated as shown immediately below.

a. Fair value hedges

Changes in the fair value of derivatives used as hedging instruments are recognized in profit or loss or other comprehensive income. Changes in the fair value of the hedged item corresponding to the hedged risk are recognized in profit or loss or other comprehensive income, with the carrying amount of the hedged item being adjusted.

b. Cash flow hedges

The portion of the change in the fair value of derivatives used as hedging instruments that is determined to be an effective hedge is recognized in other comprehensive income, and the cumulative amount is included in other components of equity. The portion of hedges that is ineffective is recognized in profit or loss. Amounts accumulated in other components of equity are reclassified from other components of equity to profit or loss in the accounting period in which the transaction being hedged affects profit or loss. However, if the forecast transaction being hedged subsequently results in the recognition of a non-financial asset or non-financial liability, the amount accumulated in other components of equity is treated as an adjustment to the initial book value of that non-financial asset or non-financial liability.

Hedge accounting is discontinued prospectively when the hedging instrument expires, is sold, or is terminated or exercised, or if the derivative no longer meets the requirements for hedge accounting. When the forecast transaction is no longer expected to occur, the amount accumulated in other components of equity is immediately reclassified from other components of equity to profit or loss.

c. Derivatives not designated as hedges

Changes in the fair value of such derivatives are recognized in profit or loss.

(iv) Offsetting financial assets and financial liabilities

Financial assets and financial liabilities are offset and presented at net when the Group has a legally enforceable right to offset the recognized amounts and intends to settle on a net basis or intends to realize the asset and settle the liability simultaneously.

(5) Cash and cash equivalents

Cash and cash equivalents consist of cash on hand, readily available deposits, and short-term investments maturing within three months that are readily convertible to cash and subject to an insignificant risk of changes in value.

(6) Inventories

Inventories are measured at the lower of cost and net realizable value. Cost consists of material costs, direct labor costs, other direct costs, and an appropriate allocation of related manufacturing overhead costs. Net realizable value is calculated by deducting the estimated selling costs from the estimated selling price. Cost is mainly calculated based on the weighted-average method.

(7) Property, plant and equipment

The Group uses the cost model to measure the carrying value of property, plant and equipment subsequent to its recognition. Under this model, property, plant and equipment are carried at their cost less any accumulated depreciation and any accumulated impairment losses.

Property, plant and equipment other than land and construction in progress are mainly depreciated using the straight-line method. The estimated useful lives of major asset items are as follow:

- Buildings and structures: 2–75 years
- Machinery and vehicles: 2–27 years

The estimated useful lives, depreciation methods, and residual values of property, plant and equipment are reviewed at the end of each fiscal year.

(8) Goodwill and intangible assets

(i) Goodwill

Goodwill is not amortized; it is tested for impairment annually or whenever an indication of impairment exists. Impairment losses on goodwill are recognized in the consolidated statement of profit or loss and are not subsequently reversed.

Goodwill is carried at book value less accumulated impairment losses.

(ii) Intangible assets

Intangible assets acquired separately are measured at cost at the time of initial recognition. Intangible assets acquired in business combinations are measured at fair value as of the acquisition date.

The Group uses the cost model to measure the carrying value of intangible assets subsequent to their recognition. Under this model, intangible assets are carried at cost less any accumulated amortization and any accumulated impairment losses.

Intangible assets whose useful lives can be determined are amortized using the straight-line method over their estimated useful lives. Intangible assets mainly comprise software for internal use and have estimated useful lives of 2–10 years.

(9) Leases

At inception of a contract, the Group assesses whether the contract is, or contains, a lease. If the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration, the contract is, or contains, a lease.

(i) Leases as a lessee

At the commencement date, the Group recognizes right-of-use assets and lease liabilities. At the commencement date, right-of-use assets are initially measured at the amount of the initial measurement of lease liabilities adjusted for any initial direct costs, costs for restoration as required pursuant to the contract and other costs. After the commencement date, the Group uses the cost model to measure right-of-use assets. Under this model, right-of-use assets are measured at cost, less any accumulated depreciation and any accumulated impairment losses. Right-of-use assets are depreciated using the straight-line method from the commencement date to the earlier of the end of the useful life of the right-of-use asset or the end of the lease term, unless it is reasonably certain that the Group will acquire ownership of the leased assets at the end of the lease term. The lease term is determined as the non-cancellable period of leased assets, together with periods covered by an option to extend the lease if the Group is reasonably certain to exercise that option, and periods covered by an option to terminate the lease if the Group is reasonably certain not to exercise that option.

Lease liabilities are measured at the present value of the lease payments that are not paid at the commencement date, discounted using the lessee's incremental borrowing rate. After the commencement date, the Group measures the lease liability by increasing the carrying amount to reflect interest on the lease liability and reducing the carrying amount to reflect the lease payments made. In case of lease modifications, the Group remeasures the lease liability. For a lease modification that is not accounted for as a separate lease and decreases the scope of the lease, the Group decreases the carrying amount of the right-of-use asset to reflect the partial or full termination of the lease, and recognizes in profit or loss any gain or loss relating to the partial or full termination of the lease. The Group makes a corresponding adjustment to the right-of-use asset for all other lease modifications.

However, the Group uses the exemption for short-term leases and leases of low-value assets; instead of recognizing right-of-use assets and lease liabilities for such leases, it expenses the lease payments on a straight-line basis over the lease term.

(ii) Leases as a lessor

Leases entered into as a lessor are classified as either finance leases or operating leases according to the substance of the transaction rather than the form of the contract. Assets held under finance leases are presented as receivables in an amount equal to the net investment in the lease.

In the case of subleases, the intermediate lessor classifies the sublease with reference to the right-of-use asset arising from the head lease.

In the case of operating leases, the Group records the leased assets on the consolidated statement of financial position and recognizes lease payments as income on a straight-line basis over the lease term.

(10) Investment property

Investment property is real estate held for the purpose of earning rental income, capital gains, or both.

The Group uses the cost model to measure the carrying value of investment property subsequent to its recognition. Under this model, investment property is carried at cost less any accumulated depreciation and any accumulated impairment losses.

Investment property other than land is depreciated mainly using the straight-line method over the estimated useful life. The estimated useful life of the Company's main investment properties is 26 years.

The estimated useful lives, depreciation methods, and residual values of investment properties are reviewed at the end of each fiscal year.

(11) Impairment of non-financial assets

For property, plant and equipment and intangible assets, if there is any indication at the end of each reporting period that an asset may be impaired, the asset is assessed based on its recoverable value, being the higher of fair value less costs to sell and its value in use; if the carrying value of the asset exceeds its recoverable value, then the asset is impaired and is written down to its recoverable value.

Goodwill, intangible assets with indefinite useful lives, and intangible assets not yet available for use are tested for impairment annually and whenever there is any indication of impairment.

Impairment losses recognized on assets other than goodwill in previous years are assessed at the end of each reporting period to determine whether there is any indication that the recognized impairment loss may no longer exist or may have decreased. If any such indication exists, the recoverable amount is estimated, and if the recoverable amount exceeds the carrying amount of the asset or the cash-generating unit to which the asset belongs, an impairment reversal is recognized and the carrying amount is increased to the recoverable amount subject to the condition that the carrying amount of the asset may not exceed the carrying amount (net of accumulated depreciation or accumulated amortization) that would have been determined had no impairment loss been previously recognized. Impairment losses recognized on goodwill are not reversed in subsequent periods.

(12) Post-employment benefits

(i) Defined benefit plans

Defined benefit plans are any retirement benefit plans other than defined contribution plans. For each separate plan, the defined benefit obligation is calculated by estimating the future benefits earned as compensation for services provided by employees in previous and current fiscal years, and discounting that amount to the present value. The fair value of plan assets is deducted from the result of that calculation. The discount rate is determined with reference to the market yields of high quality corporate bonds that are denominated in the same currency as the expected benefit payment and that have approximately the same maturity as the Group's defined benefit obligation.

If a retirement benefit plan is revised, costs related to the variable portion of benefits related to employees' past service are immediately recognized in profit or loss.

The Group recognizes changes in net defined benefit liability (asset) due to remeasurement in other comprehensive income and immediately transfers the amounts to retained earnings.

(ii) Defined contribution plans

Expenses related to defined contribution plans are recognized as expenses in the period in which the employees provide the services.

(13) Share-based payment

The Company has instituted share-based payment plans through which a portion of the compensation of directors (excluding outside directors) and executive officers (excluding non-residents under income tax law) of the Company and its operating companies is provided in the form of cash-settled share-based payments and equity-settled share-based payments through employee stock ownership plans. The Group's objective is to establish a clear link between compensation and the Group's operating performance and equity value and encourage the sharing of value with shareholders, thereby creating a greater incentive to contribute toward enhancing shareholder value over the medium and long term.

For equity-settled share-based payments, compensation for services received is measured with reference to the fair value of Company shares granted. The calculated consideration for services is recognized as an expense, and the same amount is recognized as an increase in equity.

For cash-settled share-based payments, the fair value of the amount paid is recognized as a liability, and changes in the fair value of the liability are recognized in profit or loss over the period up until an unconditional right to compensation is established.

(14) Provisions

Provisions are recognized when the Company has a present obligation (legal obligation or constructive obligation) resulting from past events, it is likely that an outflow of resources embodying economic benefits will be required to settle the obligation, and a reliable estimate of the amount of the obligation can be made.

If the impact of the time value of money is material, provisions are measured at a discounted amount calculated using a discount rate that reflects the risks specific to the liability.

(15) Revenue

With the exception of interest, dividend income, etc., under IFRS 9 Financial Instruments, the Group uses the following five-step approach in recognizing revenue that reflects the amount of consideration to which the Company expects to be entitled in exchange for the transfer of goods and services to customers:

Step 1: Identify the contract with the customer
Step 2: Identify the performance obligations in the contract
Step 3: Determine the transaction price
Step 4: Allocate the transaction price to a distinct performance obligation of the contract
Step 5: Recognize revenue when the performance obligation is fulfilled (or as it is fulfilled).

With respect to sales of steel products, etc. in the steel business, revenues are mainly recognized at the point of shipment, when the customer assumes the significant risk and economic value of ownership of the product being physically transferred and the right to receive payment is confirmed. Consideration for transactions is received mainly within one year from the fulfillment of performance obligations and includes no significant financing components.

With regard to construction contracts, etc. in the engineering business, the Group mainly estimates the progress of fulfilling performance obligations, and revenue is recognized over a fixed period based on the degree of progress. Consideration for transactions is mainly received in phases during the contract term separately from the fulfillment of performance obligations, and the remaining amount is received after a fixed period from the fulfillment of all performance obligations. Consideration for certain transactions includes significant financing components. A cost-based input method is used for performance obligations fulfilled over time in order to recognize revenue. The cost-based input method excludes the effects of any inputs that do not depict the Group's performance in transferring control of goods or services to the customer. When a cost incurred is not proportionate to progress, the Group's performance is faithfully depicted by adjusting the input method to recognize revenue only to the extent of that cost incurred.

With respect to sales of steel products, etc. in the trading business, revenues are mainly recognized at the point of delivery to the customer, when ownership rights and physical ownership of the product are physically transferred to the customer and the significant risk and economic value associated with ownership and the right to receive payment is confirmed. In addition, for certain transactions in the trading business, the Company has the responsibility to carry out work as an agent. Consideration for transactions is received mainly within one year from the fulfillment of performance obligations and includes no significant financing components.

Revenue is measured at the amount that deducts price reduction and rebates, etc. from the promised value in the contract with the customer.

When the Group is engaged in a transaction as a party to the transaction, revenue is presented as the total consideration received from the customer. When the Group is engaged in transactions as an agent for a third party, revenue is presented as a fee, calculated as the total amount of consideration received from the customer minus the amount collected for the third party.

(16) Business profit

Business profit is profit before income taxes excluding financial income and one-time items of materially significant value. It is a benchmark indicator of the Company's consolidated earnings.

(17) Finance income and costs

Finance income consists mainly of interest income, and finance costs consist mainly of interest expenses. Interest income is recognized as income when incurred using the effective interest method. Interest expense is recognized as an expense when incurred using the effective interest method.

(18) Dividend income

Dividend income is recognized in profit or loss when the right to receive the dividend is established.

Of the shares and investments held by the Group, dividends received on those held for the purpose of facilitating business transactions are included in other income.

(19) Income taxes

Income tax expense consists of current tax expense and deferred tax expense. These items are recognized in profit or loss except when they arise from items that are directly recognized in other comprehensive income or equity and when they arise from business combinations.

Current tax expense is measured in an amount that reflects the amount the Company expects the tax authorities to refund or expects to pay to the tax authorities. The tax rate and tax law used to calculate the amount of tax are those that are enacted or substantively enacted at the end of the reporting period.

Deferred tax assets and deferred tax liabilities are recognized for temporary differences, which are the differences between the carrying amounts and tax bases of assets and liabilities, and for unused tax losses and unused tax credits. They are determined at the tax rate estimated for the period when the asset is realized or the liability is settled, based on the tax rate and tax law that are enacted or substantively enacted at the end of the reporting period.

Deferred tax liabilities are recognized for taxable temporary differences excluding the following:

- Temporary differences arising from initial recognition of goodwill
- Temporary differences resulting from the initial recognition of an asset or liability in a transaction that is not a business combination and does not affect accounting income or taxable income at the time of the transaction
- Taxable temporary differences arising from investments in subsidiaries and associates, and interests in joint arrangements, when the Company is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future.

Deferred tax assets are recognized for deductible temporary differences, unused tax losses, and unused tax credits, but only to the extent that it is probable that future taxable income will be available against which the deductible temporary difference, etc., can be utilized, except when the deductible temporary difference, etc., results from the initial recognition of an asset or liability in a transaction that is not a business combination and does not affect accounting income or taxable income at the time of the transaction.

Deferred tax assets are recognized for deductible temporary differences arising from investments in subsidiaries and associates, and interests in joint arrangements, only when it is probable that the temporary difference will reverse in the foreseeable future and it is probable that taxable income will be available against which the deductible temporary difference can be utilized.

Deferred tax assets and deferred tax liabilities are offset only when there is a legally enforceable right to offset income taxes payable and income taxes receivable and either of the following criteria is met:

- The deferred tax assets and the deferred tax liabilities relate to income tax levied on the same taxable entity by the same tax authority
- The deferred tax assets and deferred tax liabilities relate to income tax levied on separate taxable entities by the same tax authority, and the taxable entities intend to settle income taxes receivable and income taxes payable on a net basis or realize the assets and settle the liabilities simultaneously.

The Company has applied consolidated tax reporting.

(20) Equity

(i) Share capital and capital surplus

Capital paid in by shareholders is recognized in share capital or capital surplus.

(ii) Treasury shares

When treasury shares are acquired, the consideration paid, including direct transaction costs, is recognized as contra equity.

(21) Earnings per share

Basic earnings per share are calculated by dividing the profit attributable to owners of the parent company by the weighted average number of common shares on issue during the fiscal year.

Diluted earnings per share are calculated by adjusting for the impact of all dilutive potential shares.

Changes in Accounting Policies

Effective from the fiscal year ended March 31, 2020, the Group has adopted IFRS 16 Leases (issued January 2016).

In applying IFRS 16, the Group uses the transition method described in paragraph C5(b) of IFRS 16 and thus recognizes the cumulative effects of initially applying the standard at the date of initial application (April 1, 2019). The Group has not restated comparative information for the consolidated financial statements under review.

In applying IFRS 16, the Group selected the practical expedient detailed in paragraph C3 of IFRS 16 for the purpose of assessing whether a contract is, or contains, a lease and thus continues to use the assessments previously made under IAS 17 Leases and IFRIC 4 Determining Whether an Arrangement Contains a Lease. For such assessments made on or after the date of initial application, the Group applies the provisions of IFRS 16.

The adoption of IFRS 16 resulted in a 104,408-million-yen increase in total assets, a 105,711-million-yen increase in total liabilities and a 1,302-million-yen decrease in retained earnings as of the beginning of the fiscal year ended March 31, 2020.

The weighted average of the lessee's incremental borrowing rate applied to lease liabilities at the date of initial application (April 1, 2019) is 0.6%.

The following shows the adjustments between total future minimum lease payments under non-cancellable operating lease agreements as of the end of the fiscal year ended March 31, 2019 disclosed in accordance with IAS 17 and lease liabilities recognized on the consolidated statement of financial position at the date of initial application.

(million yen)

Future minimum lease payments under non-cancellable operating lease agreements as of March 31, 2019 (after discount at the incremental borrowing rate)	32,974
Finance lease liabilities recognized as of March 31, 2019	51,375
Operating lease agreements, etc. that are not non-cancellable, recognized as of the date of initial application	72,738
Lease liabilities recognized on the consolidated statement of financial position as of the date of initial application	157,087

The Group uses the following practical expedients in applying IFRS 16.

- The Group adopts a single discount rate for portfolios of leases that have reasonably similar characteristics
- The Group excludes initial direct costs from the measurement of the right-of-use asset at the date of initial application
- The Group uses hindsight when, for example, calculating the lease term for contracts that include an extension or cancellation option

With the adoption of IFRS 16, the Group has renamed "Bonds payable, borrowings, and lease obligations" on the consolidated statement of financial position for the previous fiscal year as "Bonds payable, borrowings, and lease liabilities."

4. Significant Accounting Judgments, Estimates and Assumptions

In preparing the consolidated financial statements, the Group makes judgments, accounting estimates and assumptions that affect the application of accounting policies and the amounts of assets, liabilities, income and expenses. These estimates and assumptions are based on the management's best judgments reflecting historical experiences and various factors that are believed to be reasonable under the circumstances. By their nature, however, actual results may differ from the estimates and assumptions.

The estimates and underlying assumptions are reviewed on an ongoing basis. The effects resulting from revisions of these estimates are recognized in the period in which the estimates are revised and in future periods affected by the revision.

Additionally, due to an economic slowdown caused by COVID-19, a significant decline in demand for steel materials was anticipated in Japan and overseas at the end of the fiscal year ended March 31, 2020. Accordingly, for the fiscal year ended March 31, 2020, accounting estimates were made on the assumption that such effect will continue for approximately six months.

Significant accounting estimates for the fiscal year ended March 31, 2020 are as follows:

- Impairment of non-financial assets

  Recoverable amounts based on use values of Chiba and Keihin under the East Japan Works of JFE Steel Corporation, a consolidated subsidiary of the Company engaged in the steel business

- **Recoverability of deferred tax assets**
  Future taxable income plan of the Company and its subsidiaries subject to consolidated tax reporting

Judgments made in applying accounting policies that have a significant effect on the consolidated financial statements are mainly as follows:
- Scope of subsidiaries, associates and joint arrangements (Note “3. Significant Accounting Policies”)
- Revenue recognition (Note “3. Significant Accounting Policies”)
- Leases (Note “3. Significant Accounting Policies”)

Information on accounting estimates and assumptions that may have a significant effect on the consolidated financial statements is as follows:
- **Valuation of inventories (Note “3. Significant Accounting Policies” and Note “9. Inventories”)**
  Inventories are measured at cost. However, if net realizable value is lower than cost at the end of the reporting period, inventories are measured at the net realizable value and the difference between cost is recognized in cost of sales in principle. Further, for idle inventories outside the operating cycle, net realizable value and other items are determined by reflecting future demand and market trends. A significant decline in net realizable value due to worse-than-forecast market environment may cause losses.
- **Impairment of non-financial assets (Note “3. Significant Accounting Policies” and Note “16. Impairment of Non-financial Assets”)**
  The Group tests property, plant and equipment, goodwill, and intangible assets for impairment in accordance with Note “3. Significant Accounting Policies.” In determining recoverable amounts in impairment tests, assumptions are made for future cash flows, discount rates, and other items. Although these assumptions are determined based on the management’s best estimates and judgments, they may be affected by uncertain changes in economic conditions in the future and other factors. If a revision is necessary, it may have a significant effect on the consolidated financial statements.
- **Recoverability of deferred tax assets (Note “3. Significant Accounting Policies” and Note “19. Income Taxes”)**
  Deferred tax assets are recognized only to the extent that it is probable that future taxable income will be available against which the deductible temporary differences can be utilized. In judging the probability of taxable income, the timing and amount of taxable income are estimated based on the business plan. Although such estimates are made based on the management’s best estimates, they may differ from actual results due to uncertain changes in economic conditions in the future and other factors.
- **Valuation and accounting for provisions (Note “3. Significant Accounting Policies” and Note “23. Provisions”)**
  Provisions are measured based on the best estimates of the expenditures expected to be required to settle the obligations in the future on the reporting date. The expenditures expected to be required to settle the obligations in the future are determined by comprehensively taking into account future possible results. Since assumptions which are used for measuring these provisions may be affected by uncertain changes in economic conditions in the future and other factors, they involve the risk of causing a significant modification on the measurement of provisions prospectively.
- **Measurement of defined benefit obligations (Note “3. Significant Accounting Policies” and Note “24. Post-employment Benefits”)**
  With respect to defined benefit corporate pension plans, the net fair values of defined benefit obligations and plan assets are recognized as liabilities or assets. Defined benefit obligations are determined based on actuarial assumptions which include the estimates of discount, retirement, mortality, and salary increase rates. These assumptions are determined by comprehensively taking into account all available information, such as market trends in interest rate fluctuations. Since these actuarial assumptions may be affected by uncertain changes in the economic environment in the future, social trends, and other factors, they involve the risk of causing a significant modification on the measurement of defined benefit obligations prospectively.
- **Matters related to financial instruments (Note “3. Significant Accounting Policies” and Note “37. Financial Instruments”)**
  The Group uses significant unobservable inputs for measuring the fair values of specified financial instruments. Unobservable inputs may be affected by future uncertain changes in economic conditions and other factors. If a revision is necessary, it may have a significant effect on the consolidated financial statements.
- **Contingencies (Note “40. Contingent Liabilities”)**
  For contingencies, items that may have a significant effect on future businesses are disclosed after taking into account all available evidence as of the reporting date and considering the possibility and financial effect of the contingencies.

5. New IFRS Standards Not Yet Adopted

There are no IFRS standards and interpretations newly established or amended by the approval date of the consolidated financial statements that the Group has not yet adopted and that have a significant effect.

6. Segment Information

(1) Overview of reportable segments

The Group organized under JFE Holdings executes commercial activities through three operating companies—JFE Steel Corporation, JFE Engineering Corporation, and JFE Shoji Trade Corporation—in accordance with the characteristics of their respective businesses.

Consolidated reporting segments, one for each operating company, are characterized by their constituent products and services. There are no business segments which were consolidated for reporting.

Each segment has its own respective products and services. The steel business produces and sells various steel products, processed steel products and raw materials, and provides transportation and other related businesses such as facility maintenance and construction. The engineering business handles engineering for energy, urban environment, steel structures and industrial machines, recycling, and electricity retailing. The trading business purchases, processes, and distributes steel products, raw materials for steel production, nonferrous metal products, and food, etc.

(2) Information on reportable segments

The accounting treatments for the Group's reported business segments are generally the same as described in "3. Significant Accounting Policies."

The Group assesses segment performance on the basis of segment profit. Segment profit is profit before tax excluding one-time items of a materially significant value.

Intersegment transactions are based on market prices and the like.

Fiscal 2018 (April 1, 2018 – March 31, 2019)

(million yen)

	Steel	Engineering	Trading	Total	Adjustments (Note)	Amount recorded in consolidated financial statements
Revenue						
Revenue from external customers	2,441,696	471,673	960,292	3,873,662	–	3,873,662
Intersegment revenue	388,953	14,142	165,568	568,663	(568,663)	–
Total	2,830,649	485,815	1,125,861	4,442,326	(568,663)	3,873,662
Segment profit	161,383	20,104	35,761	217,250	2,315	219,566
Impairment losses						(10,252)
Profit before tax						209,313
Segment assets	3,951,109	416,079	756,258	5,123,448	(414,246)	4,709,201
Other items						
Depreciation and amortization	182,343	7,878	6,020	196,241	2	196,243
Impairment losses	(9,736)	(470)	(44)	(10,252)	–	(10,252)
Finance income	1,451	141	717	2,311	(228)	2,083
Finance costs	(11,399)	(701)	(2,885)	(14,986)	398	(14,588)
Share of profit of entities accounted for using equity method	38,777	1,351	1,075	41,205	1,480	42,685
Investments accounted for using equity method	268,568	10,415	13,814	292,798	22,265	315,064
Capital expenditures	306,285	11,648	11,571	329,504	1	329,505

Note: Adjustments are as follows:

- Adjustments to segment profit include corporate profit not allocated to a reportable segment: 104,233 million yen, elimination of dividend income from each reportable segment: (103,928) million yen, and share of profit of entities accounted for using equity method related to Japan Marine United Corporation: 219 million yen; elimination of other intersegment transactions: 1,791 million yen. Corporate profit is profit of the Company.
- Adjustments to segment assets: Corporate assets not allocated to a reportable segment: 61,666 million yen and elimination of intersegment receivables and payables, etc.: (475,913) million yen. Corporate assets are assets of the Company.

Fiscal 2019 (April 1, 2019 – March 31, 2020)

(million yen)

	Steel	Engineering	Trading	Total	Adjustments (Note)	Amount recorded in consolidated financial statements
Revenue						
Revenue from external customers	2,311,251	498,629	919,836	3,729,717	–	3,729,717
Intersegment revenue	370,098	13,666	164,301	548,065	(548,065)	–
Total	2,681,350	512,295	1,084,137	4,277,783	(548,065)	3,729,717
Segment profit	(8,783)	23,118	27,016	41,351	(15,998)	25,353
Impairment losses						(238,826)
Loss before tax						(213,473)

Segment assets	3,836,847	465,734	756,141	5,058,723	(412,602)	4,646,120
Other items						
Depreciation and amortization	209,031	13,302	10,244	232,578	(1,000)	231,577
Impairment losses	(233,144)	(356)	(5,325)	(238,826)	–	(238,826)
Finance income	1,437	140	1,354	2,932	(205)	2,727
Finance costs	(11,721)	(697)	(3,492)	(15,910)	636	(15,273)
Share of profit of entities accounted for using equity method	25,518	477	558	26,554	(17,772)	8,782
Investments accounted for using equity method	289,406	11,562	14,909	315,878	20,162	336,040
Capital expenditures	362,741	11,892	17,986	392,621	(1,265)	391,356

Note: Adjustments are as follows:

- Adjustments to segment profit include corporate profit not allocated to a reportable segment: 48,548 million yen, elimination of dividend income from each reportable segment: (48,365) million yen, and share of loss of entities accounted for using equity method related to Japan Marine United Corporation: (17,995) million yen; elimination of other intersegment transactions: 1,813 million yen. Corporate profit is profit of the Company.
- Adjustments to segment assets: Corporate assets not allocated to a reportable segment: 49,450 million yen and elimination of intersegment receivables and payables, etc.: (462,053) million yen. Corporate assets are assets of the Company.

(3) Information about the categories of products and services

The information is the same as information on reportable segments.

(4) Information about revenue from external customers by geographical areas

The information is provided in “27. Revenue.”

(5) Information about non-current assets (excluding financial assets, retirement benefit asset, and deferred tax assets) by geographical areas

(million yen)

	As of March 31, 2019	As of March 31, 2020
Japan	1,847,464	1,828,061
Other	144,889	160,416
Total	1,992,354	1,988,478

Note: Non-current assets are based on the geographical location of each company of the Group.

(6) Information about major customers

The information is not provided as there is no external customer that accounts for 10% or more of consolidated revenue of the Group.

7. Cash and Cash Equivalents

The breakdown of cash and cash equivalents is as follows:

(million yen)

	As of March 31, 2019	As of March 31, 2020
Cash and bank deposits with maturities of three months or less	82,283	86,679
Deposits paid	5	25
Total	82,288	86,704

Cash and cash equivalents are classified as financial assets measured at amortized cost.

The balance of cash and cash equivalents reported in the consolidated statement of financial position as of March 31, 2019 and 2020 is consistent with that reported in the consolidated statement of cash flow.

8. Trade and Other Receivables

The breakdown of trade and other receivables is as follows:

(million yen)

	As of March 31, 2019	As of March 31, 2020
Notes and accounts receivable – trade	718,931	639,997
Other	37,339	39,672
Allowance for doubtful accounts	(1,590)	(1,570)
Total	754,679	678,098

Trade and other receivables are stated as net of allowance for doubtful accounts in the consolidated statement of financial position.

Trade and other receivables are classified as financial assets measured at amortized cost.

9. Inventories

The breakdown of inventories is as follows:

(million yen)

	As of March 31, 2019	As of March 31, 2020
Merchandise and finished goods	440,417	442,257
Work in progress	45,987	47,419
Raw materials and supplies	431,407	382,925
Total	917,812	872,602

Inventories recognized as an expense in cost of sales for the fiscal years ended March 31, 2019 and 2020 amounted to 2,803,908 million yen and 2,800,612 million yen, respectively.

10. Other Financial Assets

(1) The breakdown of other financial assets is as follows:

(million yen)

	As of March 31, 2019	As of March 31, 2020
Financial assets measured at amortized cost		
Lease receivables (non-current)	464	25,021
Leasehold and guarantee deposits	11,420	11,902
Other	9,075	9,166
Allowance for doubtful accounts	(474)	(552)
Subtotal	20,485	45,537
Financial assets measured at fair value through profit or loss		
Derivative assets	21,325	26,843
Other	3,982	3,874
Subtotal	25,308	30,718
Equity financial assets measured at fair value through other comprehensive income		
Equity securities	312,311	219,561
Investments in capital	6,499	6,494
Subtotal	318,811	226,055
Total	364,605	302,311
Current assets	4,471	6,307
Non-current assets	360,133	296,004
Total	364,605	302,311

Other financial assets are stated as net of allowance for doubtful accounts in the consolidated statement of financial position.

(2) Equity financial assets measured at fair value through other comprehensive income

The issuers and fair values of major equity financial assets measured at fair value through other comprehensive income are as follows:

(million yen)

Issuers	As of March 31, 2019
TAIYO NIPPON SANSO CORPORATION	21,289
Central Japan Railway Company	21,251
Isuzu Motors Limited	20,988
Formosa Ha Tinh (Cayman) Limited	18,178
SUZUKI MOTOR CORPORATION	17,885

(million yen)

Issuers	As of March 31, 2020
TAIYO NIPPON SANSO CORPORATION	17,814
Central Japan Railway Company	14,316
Toyota Motor Corporation	11,193
Isuzu Motors Limited	10,325
Formosa Ha Tinh (Cayman) Limited	9,213

Equity securities and investments in capital are held mainly for the purpose of maintaining and developing the Group's business. Therefore, they are designated as equity financial assets measured at fair value through other comprehensive income.

In order to promote the efficiency of held assets and to use them effectively, the Group has sold (derecognized) equity financial assets measured at fair value through other comprehensive income.

The fair value and accumulated gains or losses recognized in other comprehensive income at the time of sale are as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	**Fiscal 2019 (April 1, 2019 – March 31, 2020)**
Fair value	5,552	**23,502**
Accumulated gains or losses recognized in other comprehensive income	1,845	**8,188**

11. Other Assets and Liabilities

The breakdown of other current assets, other non-current assets, other current liabilities, and other non-current liabilities is as follows:

(1) Other current assets and other non-current assets

(million yen)

	As of March 31, 2019	**As of March 31, 2020**
Consumption taxes receivable	15,019	**28,583**
Other	81,957	**94,773**
Total	96,976	**123,357**
Current assets	86,290	**108,410**
Non-current assets	10,686	**14,946**
Total	96,976	**123,357**

(2) Other current liabilities and other non-current liabilities

(million yen)

	As of March 31, 2019	**As of March 31, 2020**
Accrued expenses	168,469	**156,906**
Other	66,130	**62,035**
Total	234,600	**218,941**
Current liabilities	222,705	**210,543**
Non-current liabilities	11,895	**8,398**
Total	234,600	**218,941**

12. Property, Plant and Equipment

The movement of carrying amount for property, plant and equipment during the year is as follows:

Fiscal 2018 (April 1, 2018 – March 31, 2019)

(million yen)

	Buildings and structures	Machinery and vehicles	Tools, furniture and fixtures	Land	Construction in progress	Other	Total
Balance at the beginning of the year	389,011	787,394	47,228	379,143	80,430	48,946	1,732,154
Acquisition	29,545	188,278	19,312	3,597	45,185	14,870	300,790
Sale or disposal	(1,126)	(3,347)	(362)	(40)	(758)	(26)	(5,661)
Depreciation	(27,907)	(122,362)	(16,382)	(18)	–	(9,223)	(175,894)
Impairment losses	(2,042)	(4,976)	(29)	(889)	(146)	(22)	(8,105)
Exchange differences on translation of foreign operations, etc.	(2,381)	(1,272)	(557)	(1,268)	(2,526)	(47)	(8,054)
Balance at the end of the year	385,098	843,715	49,209	380,524	122,185	54,496	1,835,229

Fiscal 2019 (April 1, 2019 – March 31, 2020)

(million yen)

	Buildings and structures	Machinery and vehicles	Tools, furniture and fixtures	Land	Construction in progress	Other	Total
Balance at the beginning of the year	385,098	843,715	49,209	380,524	122,185	54,496	1,835,229
Adjustments due to application of IFRS 16	–	–	–	–	–	(47,819)	(47,819)
Balance at the beginning of the year (modified)	385,098	843,715	49,209	380,524	122,185	6,676	1,787,409
Acquisition	48,308	250,184	19,537	5,569	10,480	2,559	336,639
Sale or disposal	(1,125)	(3,959)	(148)	(1,298)	(2,645)	(3)	(9,181)
Depreciation	(27,040)	(136,832)	(17,559)	(24)	–	(1,877)	(183,334)
Impairment losses	(67,196)	(145,517)	(5,453)	(37)	(10,055)	(76)	(228,336)
Exchange differences on translation of foreign operations, etc.	688	5,758	555	3,925	3,604	22	14,553
Balance at the end of the year	338,734	813,348	46,141	388,658	123,568	7,300	1,717,751

Notes: 1. Depreciation of property, plant and equipment is included in "Cost of sales" and "Selling, general and administrative expenses" in the consolidated statement of profit or loss.
2. Acquisition of construction in progress represents an increase due to new acquisition, net of transfers to each item of property, plant and equipment.

The cost, accumulated depreciation, accumulated impairment losses and carrying amount of property, plant and equipment are as follows:

(million yen)

	Buildings and structures	Machinery and vehicles	Tools, furniture and fixtures	Land	Construction in progress	Other	Total
As of March 31, 2019							
Cost	1,819,010	6,030,497	193,316	404,383	124,298	173,918	8,745,423
Accumulated depreciation and accumulated impairment losses	(1,433,911)	(5,186,781)	(144,107)	(23,858)	(2,113)	(119,421)	(6,910,194)
Carrying amount	385,098	843,715	49,209	380,524	122,185	54,496	1,835,229
As of March 31, 2020							
Cost	1,861,064	6,177,132	198,409	412,364	135,450	16,950	8,801,372
Accumulated depreciation and accumulated impairment losses	(1,522,330)	(5,363,784)	(152,268)	(23,706)	(11,882)	(9,649)	(7,083,621)
Carrying amount	338,734	813,348	46,141	388,658	123,568	7,300	1,717,751

13. Goodwill and Intangible Assets

(1) Movement of goodwill and intangible assets

The movement of carrying amount for goodwill and intangible assets during the year is as follows:

Fiscal 2018 (April 1, 2018 – March 31, 2019)

(million yen)

	Goodwill	Software	Other	Total
Balance at the beginning of the year	4,473	64,238	8,925	77,637
Acquisition	3	27,690	511	28,206
Sale or disposal	–	(434)	(3)	(437)
Amortization	–	(18,909)	(347)	(19,257)
Impairment losses	–	(129)	(25)	(154)
Exchange differences on translation of foreign operations, etc.	(31)	1,597	(545)	1,019
Balance at the end of the year	4,445	74,052	8,514	87,012

Fiscal 2019 (April 1, 2019 – March 31, 2020)

(million yen)

	Goodwill	Software	Other	Total
Balance at the beginning of the year	4,445	74,052	8,514	87,012
Adjustments due to application of IFRS 16	–	–	(30)	(30)
Balance at the beginning of the year (modified)	4,445	74,052	8,484	86,982
Acquisition	6,209	32,427	1,073	39,711
Sale or disposal	–	(1,475)	(5)	(1,481)
Amortization	–	(20,281)	(355)	(20,636)
Impairment losses	(4,043)	(4,946)	(1,302)	(10,292)
Exchange differences on translation of foreign operations, etc.	(114)	1,276	(146)	1,016
Balance at the end of the year	6,497	81,054	7,747	95,299

Note: Amortization of intangible assets is included in "Cost of sales" and "Selling, general and administrative expenses" in the consolidated statement of profit or loss.

The cost, accumulated amortization, accumulated impairment losses and carrying amount of goodwill and intangible assets are as follows:

(million yen)

	Goodwill	Software	Other	Total
As of March 31, 2019				
Cost	4,445	337,652	23,031	365,128
Accumulated amortization and accumulated impairment losses	–	(263,600)	(14,516)	(278,116)
Carrying amount	4,445	74,052	8,514	87,012
As of March 31, 2020				
Cost	10,540	364,810	23,970	399,321
Accumulated amortization and accumulated impairment losses	(4,043)	(283,756)	(16,222)	(304,022)
Carrying amount	6,497	81,054	7,747	95,299

(2) Research and development expenses

Research and development expenses recorded in "Cost of sales" and "Selling, general and administrative expenses" for the fiscal years ended March 31, 2019 and 2020 amounted to 37,271 million yen and 38,716 million yen, respectively.

14. Lease Transactions

Fiscal 2018 (April 1, 2018 – March 31, 2019)

The Group leases machinery, ships, buildings and other assets as a lessee and buildings and other assets as a lessor. Certain lease arrangements include renewal options, but no significant lease arrangements include escalation clauses. In addition, there are no material restrictions (such as restrictions related to additional borrowings and additional leases) imposed by the lease arrangements.

(1) Finance lease obligations

Future minimum lease payments for leased assets recorded under finance leases and their present value for each payment period are as follows:

(million yen)

	As of March 31, 2019	
	Future minimum lease payments	Present value
Within one year	7,977	7,427
Later than one year and within five years	29,071	27,939
Later than five years	16,392	16,008
Total	53,441	51,375
Less: Future finance costs	(2,065)	–
Total present value	51,375	51,375

(2) Operating leases

As lessee

Future minimum lease payments under non-cancellable operating leases are as follows:

(million yen)

	As of March 31, 2019
Within one year	8,462
Later than one year and within five years	20,811
Later than five years	3,990
Total	33,264

Future minimum sublease payments expected to be received under non-cancellable subleases are as follows:

(million yen)

	As of March 31, 2019
Minimum sublease payments received	14,046

Minimum lease payments under operating leases and minimum sublease payments received that are recognized as expenses are as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)
Minimum lease payments	39,231
Minimum sublease payments received	4,054

As lessor

Future minimum lease payments under non-cancellable operating leases are as follows:

(million yen)

	As of March 31, 2019
Within one year	1,130
Later than one year and within five years	3,550
Later than five years	3,488
Total	8,170

Fiscal 2019 (April 1, 2019 – March 31, 2020)

(1) Lease transactions as a lessee

The Group leases machinery, ships, buildings and other assets as a lessee. Certain lease arrangements include renewal options, but no significant lease arrangements include escalation clauses. In addition, there are no material restrictions (such as restrictions related to additional borrowings and additional leases) imposed by the lease arrangements.

(i) Disclosure on profit or loss and cash outflow for leases

(million yen)

	Fiscal 2019 (April 1, 2019 –March 31, 2020)
Depreciation of right-of-use assets	10,848
Buildings and structures	11,577
Machinery and vehicles	2,105
Tools, furniture and fixtures	1,155
Land	948
Other	26,635
Total	8,170
Interest on lease liabilities	639
Expense relating to short-term leases	4,034
Expense relating to leases of low-value assets	835
Income from subleasing right-of-use assets	1,388
Total cash outflow for leases	48,113

(ii) Disclosure on the breakdown of the carrying amounts of right-of-use assets

(million yen)

	As of March 31, 2020
Buildings and structures	32,775
Machinery and vehicles	52,139
Tools, furniture and fixtures	3,528
Land	11,145
Other	2,732
Total	102,322

Right-of-use assets increased by 20,944 million yen for the fiscal year ended March 31, 2020.

(2) Lease transactions as a lessor

The Group leases buildings and other assets as a lessor and receives security deposits as a risk management strategy:

(i) Income from operating leases

(million yen)

	Fiscal 2019 (April 1, 2019 –March 31, 2020)
Lease income	10,698

(ii) Maturity analysis of non-cancellable operating lease payments

(million yen)

	As of March 31, 2020
Within one year	1,179
Later than one year and within two years	976
Later than two years and within three years	963
Later than three years and within four years	963
Later than four years and within five years	896
Later than five years	2,658
Total	7,636

(iii) Income from finance leases

(million yen)

	Fiscal 2019 (April 1, 2019 –March 31, 2020)
Finance income on the net investment in the lease	984

(iv) Maturity analysis of lease payments receivable

(million yen)

	As of March 31, 2020
Within one year	7,565
Later than one year and within two years	5,622
Later than two years and within three years	3,749
Later than three years and within four years	3,364
Later than four years and within five years	4,832
Later than five years	16,404
Total	41,538
Unearned finance income	5,813
Net investment in the lease	35,724

15. Investment Properties

(1) Movement of investment properties

The movement of carrying amount for investment properties is as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	Fiscal 2019 (April 1, 2019 – March 31, 2020)
Balance at the beginning of the year	59,682	59,425
Acquisition	508	251
Reclassification from property, plant and equipment	3,931	451
Reclassification to property, plant and equipment	(1,458)	(265)
Depreciation	(1,092)	(971)
Impairment losses	(1,933)	(4)
Sale or disposal	(213)	(728)
Balance at the end of the year	59,425	58,158
Cost (balance at the beginning of the year)	129,154	132,849
Accumulated depreciation and accumulated impairment losses (balance at the beginning of the year)	(69,471)	(73,424)
Cost (balance at the end of the year)	132,849	127,821
Accumulated depreciation and accumulated impairment losses (balance at the end of the year)	(73,424)	(69,662)

(2) Fair values

The carrying amount and fair value of investment properties are as follows:

(million yen)

	As of March 31, 2019		As of March 31, 2020	
	Carrying amount	Fair value	Carrying amount	Fair value
Investment properties	59,425	133,615	58,158	136,545

The fair value of investment properties is principally based on the real estate appraisal values provided by independent licensed real estate appraisers.

The fair value hierarchy of investment properties is categorized within Level 3 because unobservable inputs are included.

Fair value hierarchy is described in “37. Financial Instruments.”

(3) Income and expenses arising from investment properties

Rental income and direct sales expenses arising from investment properties are as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	**Fiscal 2019 (April 1, 2019 – March 31, 2020)**
Rental income	11,053	**10,698**
Direct sales expenses arising from investment properties which generated income	3,095	**3,223**
Direct sales expenses arising from investment properties which did not generate income	64	**40**

16. Impairment of Non-financial Assets

When the Group assesses whether there is an indication that non-financial assets may be impaired, in principle, the assets are classified as idle assets, leased assets, assets for various projects and assets for business use, and then those classified assets are grouped by the smallest unit that generates independent cash flows.

Fiscal 2018 (April 1, 2018 – March 31, 2019)

The carrying amount was reduced to the recoverable amount mainly for the business assets in Indonesia due to the deteriorated business environment, and the reduction was recorded as an impairment loss. Impairment losses in the consolidated statement of profit or loss totaled 10,252 million yen, consisting of 4,976 million yen of machinery and vehicles, 2,042 million yen of buildings and structures, and 3,232 million yen of investment property and others. The recoverable amount of the business assets was primarily measured at their value in use, which was calculated by discounting the future cash flows at a discount rate of 10.9%.

Fiscal 2019 (April 1, 2019 – March 31, 2020)

Major impairment losses are as follows:

JFE Steel Corporation, a consolidated subsidiary of the Company engaged in the steel business, faces an unprecedented difficult business environment including a decline in demand for steel primarily in the manufacturing sector caused by the U.S.-China trade friction, soaring material prices due to China's growing crude steel output, and increases in auxiliary and other materials and logistics costs. Over the medium to long term, a decline in demand is anticipated in the Japanese market against the backdrop of the decreasing population. Moreover, overseas markets will become increasingly competitive due to expansion in steel production capacity in emerging nations and an increase in exports from China given a decline in domestic demand. In such a climate, JFE Steel has endeavored to improve its works and manufacturing bases in Japan and strengthen manufacturing capabilities by positioning them as key measures under the Medium-Term Business Plan. However, it is expected that a significant amount of investment must be made to renovate aged facilities over a long period.

In consideration of these structural changes in the environment, JFE Steel strives to focus business resources thoroughly and selectively on products and areas that are competitive with a view to maintaining and increasing its competitive advantage in the global market and aiming to become a streamlined, resilient company. For that purpose, JFE Steel decided to shut down a blast furnace at the East Japan Works which is heavily burdened with fixed costs and implement structural reforms toward establishing an optimal production system in Japan. On the premise of the structural reforms to be implemented at Chiba and Keihin under the East Japan Works, JFE Steel calculated future cash flows of both sites in light of the current difficult business climate. As a result, the recoverable amounts were lower than the carrying amount of business assets owned by the East Japan Works. Therefore, the carrying amount was reduced to the present value of future cash flows of 350,983 million yen (Chiba: 131,151 million yen, Keihin: 219,831 million yen), and the amount of decrease of 232,418 million yen (Chiba: 146,652 million yen, Keihin: 85,766 million yen) was recorded as impairment losses.

Major assets for which impairment losses were recognized are as follows:

(million yen)

Segment	Cash-generating unit	Type	Amount
Steel business	East Japan Works (Chiba)	Machinery and vehicles	90,243
		Buildings and structures	42,813
		Construction in progress and other	13,595
		Total	146,652
	East Japan Works (Keihin)	Machinery and vehicles	55,565
		Buildings and structures	24,260
		Construction in progress and other	5,941
		Total	85,766

The recoverable amount is determined at value in use, and the value in use is determined by discounting future cash flows based on a management-approved five-year-or-less business plan and a subsequent growth rate to the present value at a pre-tax discount rate. Major assumptions used for calculating the value in use include crude steel production, shipments, selling price, iron ore and coking coal prices, future capital expenditures, pre-tax discount rate, and growth rate. The crude steel production, shipments, selling price, iron ore and coking coal prices, future capital expenditures, and other items are estimated based on observable market prices, past trends, and management's forecasts, and reflect the risks specific to the cash-generating unit. The growth rate is determined at 0.0% by taking into account the long-term average growth rate of the market or country to which the cash-generating unit belongs. Moreover, the pre-tax discount rate is determined at 4.6% and 4.3% for Chiba and Keihin under the East Japan Works, respectively, based on the weighted average cost of capital of the cash-generating unit.

Additionally, due to an economic slowdown caused by COVID-19, a significant decline in demand for steel materials was anticipated in Japan and overseas at the end of the fiscal year ended March 31, 2020. Accordingly, future cash flows were calculated on the assumption that such effect will continue for approximately six months.

17. Subsidiaries

Major subsidiaries

Overview of major subsidiaries at the end of the fiscal year ended March 31, 2020 is described in "I. Overview of the Company, 4. Overview of subsidiaries and affiliates."

18. Investments Accounted for Using Equity Method

(1) Material associates

JSW Steel Limited

JSW Steel Limited, located in Mumbai, India, engages primarily in manufacture and sales of steel products.

The condensed consolidated financial statements of JSW Steel Limited are as follows.

For JSW Steel Limited, provisional financial statements are prepared based on December 31 as the reporting date because local legislation imposes restrictions on when certain information becomes available to the Company.

However, in the accompanying notes, the condensed consolidated financial statements of JSW Steel Limited that were already released at the end of each fiscal year are disclosed. Accordingly, financial information as of September 30 is stated in the statement of financial position, and financial information for the first nine months of the reporting period ended December 31 is stated in the statement of profit or loss and the statement of comprehensive income.

(million yen)

	As of March 31, 2019	As of March 31, 2020
Current assets	456,584	572,156
Non-current assets	1,197,047	1,362,946
Total assets	1,653,631	1,935,102
Current liabilities	547,421	773,634
Non-current liabilities	616,315	600,415
Total liabilities	1,163,736	1,374,049
Total equity	489,894	561,052
Equity attributable to owners of parent	497,781	568,768
Non-controlling interests	(7,886)	(7,715)

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	Fiscal 2019 (April 1, 2019 – March 31, 2020)
Revenue	1,016,940	864,848
Profit	98,272	58,203
Other comprehensive income	(2,135)	(4,071)
Comprehensive income	96,137	54,132

An adjustment between the amount of equity attributable to owners of parent in the above condensed consolidated financial statements and the carrying amount of interests in JSW Steel Limited and the fair value of interests in JSW Steel Limited are as follows:

(million yen)

	As of March 31, 2019	As of March 31, 2020
Equity attributable to owners of parent	497,781	568,768
Ownership interest (%)	15.0	15.0
Equity attributable to the Group	74,667	85,315
Consolidation adjustment	4,443	1,920
Carrying amount of interests in JSW Steel Limited	79,110	87,235
Fair value of interests in JSW Steel Limited	168,268	77,420

Dividends received from JSW Steel Limited for the fiscal years ended March 31, 2019 and 2020 were 1,846 million yen and 2,335 million yen, respectively.

(2) Immaterial associates and joint ventures

The carrying amount of investments in immaterial associates and joint ventures is as follows:

(million yen)

	As of March 31, 2019	As of March 31, 2020
Associates	117,964	114,017
Joint ventures	117,988	134,787

Financial information on immaterial associates and joint ventures is as follows, which represents the amounts attributable to the Group based on the Group's interest in those associates and joint ventures.

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	Fiscal 2019 (April 1, 2019 – March 31, 2020)
Associates		
Profit	5,292	(9,193)
Other comprehensive income	(1,152)	4,110
Comprehensive income	4,140	(5,083)
Joint ventures		
Profit	15,185	4,725
Other comprehensive income	(79)	(17)
Comprehensive income	15,105	4,707

19. Income Taxes

(1) Deferred tax assets and deferred tax liabilities

The breakdown of deferred tax assets and deferred tax liabilities by major cause of accrual is as follows:

(million yen)

	As of March 31, 2019	**As of March 31, 2020**
Deferred tax assets		
Retirement benefit liability	34,996	**38,510**
Impairment losses	2,828	**37,137**
Accrued bonuses	14,611	**13,454**
Unused tax losses	6,561	**11,942**
Accrued expenses	9,850	**10,326**
Other	44,695	**47,431**
Total deferred tax assets	113,543	**158,803**
Deferred tax liabilities		
Net change in fair value of equity instruments designated as measured at fair value through other comprehensive income	45,065	**28,921**
Retained earnings of subsidiaries and associates	11,290	**14,223**
Reserve for tax purpose reduction entry of non-current assets	6,691	**6,605**
Other	17,438	**17,846**
Total deferred tax liabilities	80,484	**67,596**
Net deferred tax assets	33,059	**91,207**

The breakdown of changes in net deferred tax assets (liabilities) is as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	**Fiscal 2019 (April 1, 2019 – March 31, 2020)**
Balance at the beginning of the year	19,304	**33,059**
Adjustments due to application of IFRS 16	–	**558**
Balance at the beginning of the year (modified)	19,304	**33,617**
Deferred tax expense	4,183	**39,747**
Deferred taxes on items of other comprehensive income		
Effective portion of cash flow hedges	164	**19**
Net change in fair value of equity instruments designated as measured at fair value through other comprehensive income	7,013	**13,799**
Remeasurements of defined benefit plans	1,957	**2,070**
Other	434	**1,953**
Balance at the end of the year	33,059	**91,207**

Deductible temporary differences and unused tax losses for which deferred tax assets are not recognized in the consolidated statement of financial position are as follows:

(million yen)

	As of March 31, 2019	**As of March 31, 2020**
Deductible temporary differences	217,001	**340,667**
Unused tax losses	229,253	**366,250**

Unrecognized deferred tax assets for the above deductible temporary differences were 65,871 million yen and 104,328 million yen as of March 31, 2019 and March 31, 2020, respectively. Unrecognized deferred tax assets for the above unused tax losses were 8,084 million yen and 16,243 million yen as of March 31, 2019 and March 31, 2020, respectively.

The breakdown by expiration date of unused tax losses for which deferred tax assets are not recognized in the consolidated statement of financial position is as follows:

(million yen)

	As of March 31, 2019	**As of March 31, 2020**
Year 1	171	**109,540**
Year 2 to Year 5	148,915	**115,379**
Later than 5 years	78,053	**140,447**
No specified expiration date	2,112	**882**
Total	229,253	**366,250**

Taxable temporary differences arising from investments in subsidiaries and associates for which deferred tax liabilities were not recognized as of March 31, 2019 and March 31, 2020 amounted to 94,548 million yen and 50,023 million yen, respectively.

Deferred tax liabilities are not recognized for such temporary differences, where the Group is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future.

Deferred tax assets of 1,371 million yen and 131,818 million yen were recognized as of March 31, 2019 and March 31, 2020, respectively, for taxable entities that incurred net loss in the current or previous period, and whose recoverability of deferred tax assets depends on future taxable income.

In assessing the recoverability of deferred tax assets, the Group considers the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning strategies.

(2) Income tax expense

The breakdown of income tax expense is as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	**Fiscal 2019 (April 1, 2019 – March 31, 2020)**
Current tax expense	43,671	**19,564**
Deferred tax expense	(4,183)	**(39,747)**
Total	39,488	**(20,183)**

(3) Reconciliation of effective tax rate

The breakdown by major cause of a difference between the effective statutory tax rate and the burden ratio of corporation tax, etc. after application of tax effect accounting is as follows:

(%)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	**Fiscal 2019 (April 1, 2019 – March 31, 2020)**
Effective statutory tax rate	30.0	**30.0**
(Reconciliation)		
Items permanently not tax-deductible, such as entertainment expenses	0.8	**(0.6)**
Items permanently not taxable, such as dividend income	(0.2)	**0.3**
Share of profit (loss) of entities accounted for using equity method	(6.1)	**1.2**
Tax credits	(2.5)	**0.0**
Changes in valuation allowance	(0.8)	**(21.8)**
Other	(2.2)	**0.4**
Burden ratio of corporation tax, etc. after application of tax effect accounting	18.9	**9.5**

20. Trade and Other Payables

The breakdown of trade and other payables is as follows:

(million yen)

	As of March 31, 2019	As of March 31, 2020
Notes and accounts payable – trade	522,098	477,048
Accounts payable – other	62,840	80,204
Total	584,939	557,252

Trade and other payables are classified as financial liabilities measured at amortized cost.

21. Bonds Payable, Borrowings, and Lease Liabilities

(1) The breakdown of bonds payable, borrowings, and lease liabilities is as follows:

(million yen)

	As of March 31, 2019	As of March 31, 2020
Short-term borrowings (Note 1)	135,601	123,505
Current portion of long-term borrowings (Note 1)	103,371	122,846
Commercial papers (Note 1)	83,000	88,999
Bonds payable (Note 2)	109,706	230,066
Long-term borrowings (Note 1)	1,040,824	1,097,012
Lease liabilities	51,375	151,877
Total	1,523,879	1,814,308
Current liabilities	329,400	376,473
Non-current liabilities	1,194,478	1,437,835
Total	1,523,879	1,814,308

Bonds payable, borrowings, and lease liabilities are classified as financial liabilities measured at amortized cost.

Bonds payable and borrowings are not subject to financial covenants that have significant effects on the financing activities of the Group.

(Note 1) The weighted average interest rate and repayment date for the balance of short-term borrowings, current portion of long-term borrowings, commercial papers and long-term borrowings as of March 31, 2020 are as follows:

	Average interest rate (%)	Repayment date
Short-term borrowings	2.41	–
Current portion of long-term borrowings	1.05	–
Commercial papers	0.00	–
Long-term borrowings	0.85	April 20, 2021 to March 22, 2078

(Note 2) Terms and conditions of issuance of bonds are summarized as follows:

(million yen)

Company name	Issue	Date of issuance	As of March 31, 2019	As of March 31, 2020	Interest rate (%)	Collateral	Redemption date
The Company	The 17th unsecured bond	June 8, 2011	29,974	**30,524**	1.326	None	June 8, 2021
The Company	The 21st unsecured bond	March 13, 2014	9,973	**9,978**	0.804	None	March 13, 2024
The Company	The 22nd unsecured bond	September 19, 2014	19,945	**19,955**	0.703	None	September 19, 2024
The Company	The 23rd unsecured bond	May 23, 2017	9,970	**9,980**	0.090	None	May 23, 2022
The Company	The 24th unsecured bond	March 1, 2018	9,963	**9,972**	0.110	None	March 1, 2023
The Company	The 25th unsecured bond	May 21, 2018	19,922	**20,168**	0.260	None	May 21, 2025
The Company	The 26th unsecured bond	November 22, 2018	9,956	**9,966**	0.150	None	November 22, 2023
The Company	The 27th unsecured bond	May 27, 2019	–	**29,899**	0.170	None	May 27, 2024
The Company	The 28th unsecured bond	May 27, 2019	–	**9,959**	0.260	None	May 27, 2026
The Company	The 29th unsecured bond	May 27, 2019	–	**19,909**	0.365	None	May 25, 2029
The Company	The 30th unsecured bond	September 20, 2019	–	**9,959**	0.120	None	September 20, 2024
The Company	The 31st unsecured bond	September 20, 2019	–	**29,886**	0.250	None	September 18, 2026
The Company	The 32nd unsecured bond	September 20, 2019	–	**19,906**	0.320	None	September 20, 2029
Total	–	–	109,706	**230,066**	–	–	–

(2) Assets pledged as collateral and corresponding secured obligations

Assets pledged as collateral

(million yen)

	As of March 31, 2019	**As of March 31, 2020**
Cash and cash equivalents	763	**852**
Trade and other receivables	–	**10,300**
Property, plant and equipment	13,519	**12,644**
Right-of-use asset	–	**161**
Investments accounted for using equity method	1,376	**2,332**
Other financial assets (non-current)	294	**679**
Other non-current assets	171	**–**
Total	16,124	**26,970**

Note: Industrial foundation's assets of property, plant and equipment as mortgage

(million yen)

	As of March 31, 2019	As of March 31, 2020
Property, plant and equipment	11,152	10,351

In addition, shares of consolidated subsidiaries have been pledged as collateral.

(million yen)

	As of March 31, 2019	As of March 31, 2020
Shares of consolidated subsidiaries (book value posted on the non-consolidated financial statements of the consolidated subsidiaries)	553	553

Corresponding secured obligations

(million yen)

	As of March 31, 2019	As of March 31, 2020
Trade and other payables	252	164
Bonds payable, borrowings, and lease liabilities (current)	882	960
Bonds payable, borrowings, and lease liabilities (non-current)	10,568	12,427
Total	11,702	13,552

Note: Those corresponding to the industrial foundation's assets in the above obligations

(million yen)

	As of March 31, 2019	As of March 31, 2020
Bonds payable, borrowings, and lease liabilities (current)	559	559
Bonds payable, borrowings, and lease liabilities (non-current)	6,133	5,574
Total	6,692	6,133

22. Other Financial Liabilities

The breakdown of other financial liabilities is as follows:

(million yen)

	As of March 31, 2019	As of March 31, 2020
Financial liabilities measured at amortized cost		
Deposits received	93,763	85,377
Other	18,091	14,713
Subtotal	111,855	100,090
Financial liabilities measured at fair value through profit or loss		
Derivative liabilities	4,383	5,621
Total	116,238	105,712
Current liabilities	99,097	89,465
Non-current liabilities	17,140	16,246
Total	116,238	105,712

23. Provisions

The breakdown and movement of provisions are as follows:

Fiscal 2019 (April 1, 2019 – March 31, 2020)

(million yen)

	Provision for loss on specified business	Other provisions	Total
Balance at the beginning of the year	13,448	31,327	44,775
Increase during the year	796	12,561	13,357
Interest expense incurred over the discount period	162	(0)	161
Decrease due to intended use	(4,245)	(12,751)	(16,997)
Decrease due to reversal	–	(3,224)	(3,224)
Exchange differences on translation of foreign operations and others	–	176	176
Balance at the end of the year	10,161	28,087	38,248
Current liabilities	–	12,507	12,507
Non-current liabilities	10,161	15,579	25,740
Total	10,161	28,087	38,248

Provision for loss on specified business

A provision for loss on specified business is provided for possible losses on a certain specific business of industrial waste disposal at an estimated amount of losses to be incurred from the following fiscal year onwards.

These expenses are expected to be paid primarily after one year; however, the timing of the payment is subject to change due to future business plans and other factors.

24. Post-employment Benefits

The Group has adopted mainly retirement lump-sum payment plans, defined benefit pension plans and defined contribution pension plans. Retirement lump-sum payment plans and defined benefit pension plans are exposed to general investment risk, interest rate risk, inflation risk and other risks. However, the Group determines that those risks are immaterial.

The defined benefit pension plans are operated by corporate pension funds legally separated from the Group. The corporate pension funds and pension fund trustees are required by laws and regulations to act in the best interests of the plan participants, and are responsible for managing the plan assets in accordance with the designated policies.

(1) Reconciliation of defined benefit obligations and plan assets

The reconciliation of the defined benefit obligations and plan assets to the retirement benefit liability and asset recognized in the consolidated statement of financial position is as follows:

(million yen)

	As of March 31, 2019	**As of March 31, 2020**
Funded defined benefit obligations	202,208	**197,765**
Plan assets	(137,259)	**(125,241)**
Subtotal	64,948	**72,524**
Unfunded defined benefit obligations	52,670	**55,272**
Total	117,619	**127,796**
Amounts recognized in the consolidated statement of financial position		
Retirement benefit liability	133,999	**143,316**
Retirement benefit asset	(16,380)	**(15,520)**
Net defined benefit liability (asset) recognized in the consolidated statement of financial position	117,619	**127,796**

(2) Reconciliation of defined benefit obligations

The movement of defined benefit obligations is as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	**Fiscal 2019 (April 1, 2019 – March 31, 2020)**
Balance at the beginning of the year	259,347	**254,878**
Current service cost	14,533	**14,842**
Interest expense	1,688	**1,502**
Remeasurements		
Actuarial losses arising from changes in demographic assumptions	57	**615**
Actuarial losses arising from changes in financial assumptions	1,864	**(2,215)**
Experience adjustments	1,302	**540**
Past service cost	15	**70**
Benefits paid	(23,485)	**(18,605)**
Exchange differences on translation of foreign operations, etc.	(445)	**1,408**
Balance at the end of the year	254,878	**253,037**

The weighted-average duration of defined benefit obligations is as follows:

(years)

	As of March 31, 2019	**As of March 31, 2020**
Weighted-average duration	11.0	**11.0**

(3) Reconciliation of plan assets

The movement of plan assets is as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	**Fiscal 2019 (April 1, 2019 – March 31, 2020)**
Balance at the beginning of the year	147,465	**137,259**
Interest income	862	**758**
Remeasurements		
Return on plan assets (excluding interest income)	(3,002)	**(8,055)**
Contribution to the plan by employer	2,084	**2,201**
Benefits paid	(10,099)	**(8,809)**
Effects of business combinations and disposals	–	**2,025**
Exchange differences on translation of foreign operations, etc.	(51)	**(138)**
Balance at the end of the year	137,259	**125,241**

The Group expects to contribute 2,118 million yen to its defined benefit plans in the fiscal year ending March 31, 2021.

(4) Major breakdown of plan assets

The breakdown of the total plan assets by major category is as follows:

(million yen)

	As of March 31, 2019			**As of March 31, 2020**		
	With quoted market price in an active market	With no quoted market price in an active market	Total	**With quoted market price in an active market**	**With no quoted market price in an active market**	**Total**
Equity instruments						
Domestic stocks	56,979	474	57,453	**47,741**	**268**	**48,009**
Foreign stocks	6,524	667	7,191	**6,017**	**698**	**6,715**
Debt instruments						
Domestic bonds	16,222	3,423	19,645	**16,043**	**3,003**	**19,047**
Foreign bonds	3,038	2,229	5,267	**2,965**	**2,218**	**5,184**
Cash and deposits	3,122	–	3,122	**5,185**	**–**	**5,185**
Life insurance general accounts	–	42,942	42,942	**–**	**39,431**	**39,431**
Other	–	1,636	1,636	**–**	**1,667**	**1,667**
Total	85,886	51,373	137,259	**77,953**	**47,288**	**125,241**

The Group's management policy for the plan assets is to secure stable returns in the medium and long term for ensuring future payments of defined benefit obligations pursuant to internal regulations. Specifically, the target rate of returns and the asset mix ratio by investment asset class are determined within the acceptable risk range every fiscal year, and the plan assets are managed with the asset mix ratio maintained.

(5) Actuarial assumptions

Major actuarial assumptions are as follows:

(%)

	As of March 31, 2019	**As of March 31, 2020**
Discount rate	Mainly 0.5	**Mainly 0.6**
Anticipated rate of salary increase	Mainly 0.9 to 3.0	**Mainly 0.9 to 3.0**

Note: The sensitivities of defined benefit obligations due to changes in the discount rate as of each fiscal year are as follows. Each of these sensitivities assumes that other variables are held constant; however, they do not always change independently. Negative figures indicate a decrease in defined benefit obligations, while positive figures indicate an increase.

The Group does not expect any significant changes in the anticipated rate of salary increase.

(million yen)

	Change in assumptions	As of March 31, 2019	**As of March 31, 2020**
Discount rate	Increase by 0.5%	(12,681)	**(12,580)**
	Decrease by 0.5%	13,673	**13,616**

(6) Defined contribution pension plans

Contributions to the defined contribution pension plans are as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	**Fiscal 2019 (April 1, 2019 – March 31, 2020)**
Contributions to the defined contribution pension plans	3,774	**3,329**

25. Equity and Other Equity Items

(1) Share capital

(i) Authorized shares

The number of authorized shares as of April 1, 2018, March 31, 2019 and March 31, 2020 was 2,298,000 thousand common shares.

(ii) Fully paid and issued shares

The movement of the number of issued shares is as follows:

	Number of issued common shares (thousand shares)
As of April 1, 2018	614,438
Increase (decrease)	–
As of March 31, 2019	614,438
Increase (decrease)	–
As of March 31, 2020	**614,438**

Note: All the shares issued by the Company are non-par value common shares that have no restrictions on the rights.

(2) Treasury shares

The movement of the number of treasury shares is as follows:

	Number of shares (thousand shares)
As of April 1, 2018	37,919
As of March 31, 2019	38,590
As of March 31, 2020	**38,601**

Note: Treasury shares as of March 31, 2019 and March 31, 2020 include the Company shares held in trust accounts for employee stock ownership plans.

(3) Capital surplus and retained earnings

Under the Companies Act of Japan, at least one-half of the proceeds from issuance of shares shall be credited to share capital, while the remainder of the proceeds shall be credited to capital reserves included in capital surplus. In addition, the Companies Act of Japan provides that one-tenth of the dividends of retained earnings shall be appropriated as capital reserves or as retained earnings reserves until their aggregate amount equals one-quarter of share capital.

26. Dividends

(1) Amounts of dividends paid

Fiscal 2018 (April 1, 2018 – March 31, 2019)

Date of resolution	Type of share	Total amount of dividends (million yen)	Dividend per share (yen)	Record date	Effective date
Ordinary General Meeting of Shareholders held on June 21, 2018	Common stock	28,834	50	March 31, 2018	June 22, 2018
Board of Directors Meeting held on October 30, 2018	Common stock	25,950	45	September 30, 2018	November 30, 2018

Note: The total amount of dividends of 25,950 million yen includes dividends of the Company shares held in trust accounts for employee stock ownership plans of 27 million yen.

Fiscal 2019 (April 1, 2019 – March 31, 2020)

Date of resolution	Type of share	Total amount of dividends (million yen)	Dividend per share (yen)	Record date	Effective date
Ordinary General Meeting of Shareholders held on June 21, 2019	Common stock	28,831	50	March 31, 2019	June 24, 2019

Note: The total amount of dividends of 28,831 million yen includes dividends of the Company shares held in trust accounts for employee stock ownership plans of 30 million yen.

Date of resolution	Type of share	Total amount of dividends (million yen)	Dividend per share (yen)	Record date	Effective date
Board of Directors Meeting held on November 12, 2019	Common stock	11,532	20	September 30, 2019	December 6, 2019

Note: The total amount of dividends of 11,532 million yen includes dividends of the Company shares held in trust accounts for employee stock ownership plans of 11 million yen.

(2) Of the dividends for which the record date belongs to the fiscal year, those dividends for which the effective date will be after the end of the fiscal year

Fiscal 2018 (April 1, 2018 – March 31, 2019)

Date of resolution	Type of share	Total amount of dividends (million yen)	Source of funds for dividends	Dividend per share (yen)	Record date	Effective date
Ordinary General Meeting of Shareholders held on June 21, 2019	Common stock	28,831	Retained earnings	50	March 31, 2019	June 24, 2019

Note: The total amount of dividends of 28,831 million yen includes dividends of the Company shares held in trust accounts for employee stock ownership plans of 30 million yen.

Fiscal 2019 (April 1, 2019 – March 31, 2020)

There is no applicable item.

27. Revenue

(1) Disaggregation of revenue

Fiscal 2018 (April 1, 2018 – March 31, 2019)

(million yen)

	Steel Business	Engineering Business	Trading Business	Elimination of intersegment revenue	Total
Region					
Japan	1,861,015	450,628	550,678	(251,297)	2,611,024
Other	969,633	35,187	575,182	(317,365)	1,262,637
Total	2,830,649	485,815	1,125,861	(568,663)	3,873,662
Transfer of goods or services					
At a point in time	2,595,794	3,904	1,125,801	(542,751)	3,182,749
Over time	234,854	481,910	59	(25,912)	690,912
Total	2,830,649	485,815	1,125,861	(568,663)	3,873,662

Fiscal 2019 (April 1, 2019 – March 31, 2020)

(million yen)

	Steel Business	Engineering Business	Trading Business	Elimination of intersegment revenue	Total
Region					
Japan	1,780,582	473,539	504,159	(231,157)	2,527,123
Other	900,767	38,756	579,977	(316,908)	1,202,594
Total	2,681,350	512,295	1,084,137	(548,065)	3,729,717
Transfer of goods or services					
At a point in time	2,456,287	4,205	1,084,075	(521,463)	3,023,105
Over time	225,062	508,090	62	(26,602)	706,612
Total	2,681,350	512,295	1,084,137	(548,065)	3,729,717

(2) Contract balances

(million yen)

	As of April 1, 2018	As of March 31, 2019	As of March 31, 2020
Receivables from contracts with customers	728,275	718,931	639,997
Contract assets	126,935	124,039	142,075
Contract liabilities	53,588	59,060	44,813

The amount recognized as receivables that was included in the opening balance of contract assets was 100,460 million yen and 85,824 million yen as of March 31, 2019 and 2020, respectively.

The amount recognized as revenue that was included in the opening balance of contract liabilities was 40,847 million yen and 45,878 million yen as of March 31, 2019 and 2020, respectively.

(3) Remaining performance obligations

(million yen)

	As of March 31, 2019	As of March 31, 2020
Transaction price allocated to performance obligations that are unsatisfied or partially unsatisfied as of the end of the fiscal year	1,040,707	932,447
Expected timing of revenue recognition		
Within one year	404,960	377,370
Over one year	635,747	555,076

28. Selling, General and Administrative Expenses

The breakdown of selling, general and administrative expenses is as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	Fiscal 2019 (April 1, 2019 – March 31, 2020)
Employee benefit expenses	137,593	136,824
Product shipping-related expenses	97,190	92,056
Provision of allowance for doubtful accounts	219	120
Other	122,319	127,991
Total	357,323	356,992

29. Employee Benefit Expenses

Employee benefit expenses are as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	Fiscal 2019 (April 1, 2019 – March 31, 2020)
Employee benefit expenses	486,211	**492,785**

Employee benefit expenses include salaries, bonuses, legal welfare expenses and retirement benefit expenses, and are recorded in "Cost of sales" and "Selling, general and administrative expenses."

30. Share-based Payment

The Company has instituted a share-based payment plan through which a portion of the compensation of directors (excluding outside directors) and executive officers (excluding non-residents under income tax law) (hereinafter referred to collectively as the "Directors/Officers") of the Company and its operating companies is provided in the form of employee stock ownership plans. The Group's objective is to establish a clear link between compensation and the Group's operating performance and equity value and encourage the sharing of value with shareholders, thereby creating a greater incentive to contribute toward enhancing shareholder value over the medium and long term.

The plan is a compensation plan whereby shares in the Company are acquired through a trust funded by cash contributed by the Company, and the Company's shares and an amount of cash equivalent to the market price of the Company's shares (hereinafter referred to as the "Company's Shares") are provided through the trust to the Directors/Officers, pursuant to the Stock Grant Regulations for Officers established by the Company and its operating companies.

The Company's Shares are granted to the Directors/Officers, in principle, upon their retirement.

Compensation under the plan is granted to the Directors/Officers as consideration for their execution period of duties, provided the Directors/Officers have been in office for at least a month during the period specified as follows (the "Execution Period"):

- Directors of the Company: From the date of the Ordinary General Meeting of Shareholders of the Company for the respective year to the date of the Ordinary General Meeting of Shareholders of the Company for the following year
- Others: From April 1 of the respective year to March 31 of the following year

The Company and its operating companies calculate points equivalent to the performance-linked portion and the service-length portion for each Execution Period and grant them to the Directors/Officers.

The points granted for each Execution Period are accumulated until retirement, and the number of the Company's Shares is calculated by converting the accumulated points as "one point = one share."

Part of the plan that provides the Company's shares is accounted for an equity-settled share-based payment transaction while part of the plan that provides cash is accounted for a cash-settled share-based payment transaction.

Expenses recognized for the plan as "Selling, general and administrative expenses" in the consolidated statement of profit or loss are as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	Fiscal 2019 (April 1, 2019 – March 31, 2020)
Equity-settled	170	**54**
Cash-settled	64	**(16)**
Total	234	**37**

The carrying amount of liabilities for the plan is as follows:

(million yen)

	As of March 31, 2019	As of March 31, 2020
Other non-current liabilities	64	**21**

The number of points granted and the weighted-average fair value of points at the grant date for the equity-settled portion of the plan are as follows:

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	Fiscal 2019 (April 1, 2019 – March 31, 2020)
Number of points granted (points)	79,832	**29,880**
Weighted-average fair value of points at the grant date (yen)	2,136	**1,867**

Note: The fair value of points granted approximates the share price at the grant date, and thus represents the share price at the grant date.

31. Other Income

The breakdown of other income is as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	Fiscal 2019 (April 1, 2019 – March 31, 2020)
Dividend income		
Equity financial assets measured at fair value through other comprehensive income	8,544	9,478
Rental income	6,982	6,765
Gain on sale of investments in subsidiaries	–	80
Other	15,350	14,493
Total	30,877	30,818

The breakdown of dividend income from equity financial assets measured at fair value through other comprehensive income is as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	Fiscal 2019 (April 1, 2019 – March 31, 2020)
Financial assets derecognized during the year	56	650
Financial assets held as of the reporting date	8,487	8,828

32. Other Expenses

The breakdown of other expenses is as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	Fiscal 2019 (April 1, 2019 – March 31, 2020)
Loss on retirement of fixed assets	14,462	20,251
Loss on sale of investments in subsidiaries	53	–
Other	14,839	20,072
Total	29,355	40,323

33. Finance Income and Finance Costs

(1) Finance income

The breakdown of finance income is as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	Fiscal 2019 (April 1, 2019 – March 31, 2020)
Interest income		
Financial assets measured at amortized cost	2,083	2,727
Total	2,083	2,727

(2) Finance costs

The breakdown of finance costs is as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	Fiscal 2019 (April 1, 2019 – March 31, 2020)
Interest expenses		
Financial liabilities measured at amortized cost	13,447	14,325
Other	201	161
Other	939	786
Total	14,588	15,273

34. Other Comprehensive Income

The amount arising during the year, reclassification adjustments to profit or loss and tax effects for each component of other comprehensive income are as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	**Fiscal 2019 (April 1, 2019 – March 31, 2020)**
Remeasurements of defined benefit plans		
Amount arising during the year	(6,228)	**(7,045)**
Before tax effects	(6,228)	**(7,045)**
Tax effects	1,957	**2,070**
Remeasurements of defined benefit plans	(4,270)	**(4,975)**
Net change in fair value of equity instruments designated as measured at fair value through other comprehensive income		
Amount arising during the year	(30,105)	**(62,943)**
Before tax effects	(30,105)	**(62,943)**
Tax effects	7,013	**13,799**
Net change in fair value of equity instruments designated as measured at fair value through other comprehensive income	(23,091)	**(49,143)**
Exchange differences on translation of foreign operations		
Amount arising during the year	(4,445)	**(3,080)**
Reclassification adjustments	–	**–**
Before tax effects	(4,445)	**(3,080)**
Tax effects	–	**–**
Exchange differences on translation of foreign operations	(4,445)	**(3,080)**
Effective portion of cash flow hedges		
Amount arising during the year	4,638	**286**
Reclassification adjustments	(5,186)	**(350)**
Before tax effects	(547)	**(63)**
Tax effects	164	**19**
Effective portion of cash flow hedges	(383)	**(44)**
Share of other comprehensive income of investments accounted for using equity method		
Amount arising during the year	(11,948)	**(8,659)**
Reclassification adjustments	692	**20**
Share of other comprehensive income of investments accounted for using equity method	(11,255)	**(8,638)**
Total other comprehensive income	(43,446)	**(65,882)**

35. Earnings per Share

(1) Basic earnings per share and diluted earnings per share

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	**Fiscal 2019 (April 1, 2019 – March 31, 2020)**
Basic earnings (losses) per share (yen)	283.81	**(343.39)**
Diluted earnings (losses) per share (yen)	283.76	**(343.39)**

(2) Basis for calculation of basic earnings per share and diluted earnings per share

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	**Fiscal 2019 (April 1, 2019 – March 31, 2020)**
Profit (loss) attributable to owners of the parent company (million yen)	163,509	**(197,744)**
Amount not attributable to common shareholders of the parent company (million yen)	–	**–**
Profit (loss) used in calculation of basic earnings per share (million yen)	163,509	**(197,744)**
Profit adjustments (million yen)	–	**–**
Profit (loss) used in calculation of diluted earnings per share (million yen)	163,509	**(197,744)**
Weighted average number of common shares used in calculation of basic earnings per share (thousand shares)	576,117	**575,854**
Impact of dilutive potential common shares (thousand shares)		
Share-based payments (thousand shares)	114	**–**
Weighted average number of common shares used in calculation of diluted earnings per share (thousand shares)	576,231	**575,854**

Notes: 1. The Company shares held in trust accounts for employee stock ownership plans are included in treasury shares, which are excluded from the calculation of the weighted average number of shares used in the calculation of basic earnings per share. The weighted average number of treasury shares excluded from the calculation of basic earnings per share for the fiscal years ended March 31, 2019 and 2020 is 378,000 and 589,000, respectively.

2. A total of 118,000 shares of share-based payments have a reverse dilution effect and are not included in the calculation of diluted earnings per share for the fiscal year ended March 31, 2020.

36. Supplemental Information to the Consolidated Statement of Cash Flow

(1) Movement of liabilities arising from financing activities

Fiscal 2018 (April 1, 2018 – March 31, 2019)

(million yen)

Liabilities arising from financing activities	Opening balance	Changes from financing cash flows	Non-cash changes		Closing balance
			Increase due to new leases	Other (Note)	
Short-term borrowings	117,700	18,752	–	(852)	135,601
Current portion of long-term borrowings	172,410	(171,184)	–	102,145	103,371
Current portion of bonds	14,996	(15,000)	–	3	–
Commercial papers	6,000	77,000	–	–	83,000
Bonds payable	79,778	30,000	–	(72)	109,706
Long-term borrowings	954,972	184,196	–	(98,344)	1,040,824
Lease obligations	45,371	(8,317)	14,106	215	51,375
Total	1,391,229	115,447	14,106	3,096	1,523,879

Note: Item "Other" in the non-cash changes mainly includes the transfer of long-term borrowings due within one year to current portion of long-term borrowings and the transfer of bonds payable due within one year to current portion of bonds.

Financial Information

Fiscal 2019 (April 1, 2019 – March 31, 2020)

(million yen)

Liabilities arising from financing activities	Opening balance	Changes from financing cash flows	Non-cash changes		Closing balance
			Increase due to new leases	Other	
Short-term borrowings	135,601	(11,500)	–	(595)	123,505
Current portion of long-term borrowings (Note 1)	103,371	(102,865)	–	122,340	122,846
Commercial papers	83,000	5,999	–	–	88,999
Bonds payable	109,706	120,000	–	360	230,066
Long-term borrowings (Note 1)	1,040,824	181,569	–	(125,380)	1,097,012
Lease liabilities (Note 2)	157,087	(42,603)	36,377	1,016	151,877
Total	1,629,591	150,599	36,377	(2,259)	1,814,308

Notes: 1. Item "Other" in the non-cash changes of current portion of long-term borrowings and long-term borrowings mainly includes the transfer of long-term borrowings due within one year to current portion of long-term borrowings.
2. "Lease obligations" presented for the fiscal year ended March 31, 2019 was renamed "Lease liabilities" in line with the application of IFRS 16 Leases. Further, due to the application of the standard, lease liabilities increased by 105,711 million yen at the beginning of the fiscal year ended March 31, 2020.

(2) Cash flows from operating activities

Item "Other" in cash flows from operating activities for the fiscal year ended March 31, 2020 mainly consists of impairment losses (238,826 million yen).

37. Financial Instruments

(1) Capital management

The Group's capital management principle is to enhance capital efficiency and ensure sound financial conditions in order to achieve sustainable growth and the medium- to long-term improvement of corporate value.

The Group's major indicators for capital management are as follows:

	As of March 31, 2019	As of March 31, 2020
ROE *1	8.6%	(11.1)%
D/E Ratio *2	68.2%	96.4%
Debt / EBITDA multiple*4	3.6x	6.7x

Notes: 1. *1 ROE = Profit attributable to owners of parent / Equity attributable to owners of parent
2. *2 D/E Ratio = Bonds payable, borrowings, and lease liabilities / Equity attributable to owners of parent
For debt with an equity component*3, a portion of its issue price is deemed to be equity attributable to owners of parent, as assessed by rating agencies.
3. *3 Debt with an equity component (subordinated loans)

(million yen)

Borrowing date	Amount borrowed	Assessment of equity content	Amount deemed to be equity
June 30, 2016	200,000	25%	50,000
March 19, 2018	300,000	25%	75,000

4. *4 Debt / EBITDA multiple = Bonds payable, borrowings, and lease liabilities / EBITDA
EBITDA: Business income + Depreciation and Amortization

These indicators are monitored as necessary and appropriate.
The Group is not subject to material capital regulation.

(2) Basic policy on financial risk management

The Group is exposed to financial risks (credit risk, liquidity risk, foreign exchange risk, interest rate risk, and market price fluctuation risk) in the course of business activities. In order to mitigate these risks, the Group conducts risk management under certain policies. The Group uses derivative transactions to avoid or mitigate the risks described later and does not use them for speculative purposes.

(3) Credit risk

(i) Credit risk management

Trade receivables held by the Group are exposed to the credit risks of customers. To manage such risks, each company of the Group conducts regular reassessments of the financial standing of business partners.

The Group does not have excessive concentration of credit risk on any particular counterparty.

(ii) Maximum exposure to credit risk

Other than undrawn loan commitments and guaranteed obligations, the Group's maximum exposure to credit risk is the carrying amount of financial assets less impairment losses in the consolidated statement of financial position.

The maximum exposure to the credit risk of loan commitments and financial guarantee contracts is as follows:

(million yen)

	As of March 31, 2019	**As of March 31, 2020**
Loan commitments	1,170	**1,456**
Financial guarantee contracts	50,344	**52,275**

(iii) Movement of allowance for doubtful accounts

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)		
	Allowance for doubtful accounts measured at an amount equal to 12-month expected credit losses	Lifetime expected credit losses	
		Allowance for doubtful accounts for trade receivables, contract assets, and lease receivables	Allowance for doubtful accounts for credit-impaired financial assets
Balance at the beginning of the year	214	886	1,637
Increase during the year	57	390	108
Decrease during the year (intended use)	(130)	(2)	(148)
Decrease during the year (reversal)	(45)	(438)	(538)
Other	(14)	58	29
Balance at the end of the year	81	894	1,089

(million yen)

	Fiscal 2019 (April 1, 2019 – March 31, 2020)		
	Allowance for doubtful accounts measured at an amount equal to 12-month expected credit losses	**Lifetime expected credit losses**	
		Allowance for doubtful accounts for trade receivables, contract assets, and lease receivables	**Allowance for doubtful accounts for credit-impaired financial assets**
Balance at the beginning of the year	**81**	**894**	**1,089**
Increase during the year	**46**	**282**	**229**
Decrease during the year (intended use)	**(0)**	**(2)**	**(102)**
Decrease during the year (reversal)	**(58)**	**(328)**	**(76)**
Other	**(6)**	**52**	**22**
Balance at the end of the year	**62**	**898**	**1,161**

Note: An increase during the year and decrease during the year (reversal) in allowance for doubtful accounts for trade receivables, contract assets, and lease receivables (lifetime expected credit losses) resulted from an increase and decrease in trade and other receivables mainly due to sale and collection.

(iv) Carrying amounts (before deducting allowance for doubtful accounts) of financial assets and receivables for which allowance for doubtful accounts is provided

(million yen)

	As of March 31, 2019	As of March 31, 2020
Financial assets with allowance for doubtful accounts measured at an amount equal to 12-month expected credit losses	38,096	33,649
Trade receivables, contract assets, and lease receivables	847,344	817,203
Credit-impaired financial assets	1,111	1,180

(v) Analysis of credit risk

Credit risk ratings are almost similar among financial assets with allowance for doubtful accounts measured at an amount equal to 12-month expected credit losses.

Past due information on trade receivables, contract assets, and lease receivables is as follows:

(million yen)

	As of March 31, 2019	As of March 31, 2020
Not past due	830,481	800,830
Past due within 30 days	10,442	8,351
Past due between 30 days and 90 days	4,194	3,703
Past due over 90 days	2,225	4,318
Total	847,344	817,203

(4) Liquidity risk

(i) Liquidity risk management

Liquidity risk is the risk that the Group may become unable to meet its payment obligations on their due date, including for trade payables and borrowings, owing to deterioration in the financing environment and other factors.

The Group raises the necessary funds mainly through bank loans and the issuance of commercial papers and bonds, taking into consideration the stability and cost of funds, while the due dates of those obligations are managed so as to avoid concentration of payments in view of the liquidity risk. In addition, the Group manages the funds of the domestic Group companies intensively and efficiently in an attempt to mitigate the liquidity risk.

The Group is also maintaining sufficient liquidity by setting commitment lines with financial institutions (700,000 million yen at the end of the fiscal year ended March 31, 2020).

(ii) Financial liabilities (including derivative financial instruments) by maturity date

As of March 31, 2019

(million yen)

	Carrying amount	Contractual cash flows	Within one year	Between one year and two years	Between two years and three years	Between three years and four years	Between four years and five years	Over five years
Non-derivative financial liabilities								
Trade and other payables	584,939	584,939	584,939	–	–	–	–	–
Bonds payable and borrowings	1,472,503	1,540,838	336,214	137,135	141,858	277,747	90,319	557,562
Installment payables	8,000	8,036	4,018	1,509	1,506	1,002	–	–
Subtotal	2,065,443	2,133,814	925,172	138,644	143,364	278,750	90,319	557,562
Derivative financial liabilities	4,383	(1,492)	150	39	(338)	(343)	(535)	(465)
Total	2,069,826	2,132,322	925,323	138,684	143,026	278,406	89,783	557,097

As of March 31, 2020

(million yen)

	Carrying amount	Contractual cash flows	Within one year	Between one year and two years	Between two years and three years	Between three years and four years	Between four years and five years	Over five years
Non-derivative financial liabilities								
Trade and other payables	557,252	557,252	557,252	–	–	–	–	–
Bonds payable and borrowings	1,662,431	1,740,217	368,367	195,499	315,113	92,323	133,332	635,581
Installment payables	4,000	4,018	1,509	1,506	1,002	–	–	–
Lease liabilities	151,877	157,373	41,914	39,226	17,286	11,413	10,745	36,787
Subtotal	2,375,561	2,458,862	969,045	236,232	333,401	103,736	144,077	672,368
Derivative financial liabilities	5,621	(125)	1,590	(319)	(308)	(336)	(386)	(365)
Total	2,381,183	2,458,736	970,635	235,913	333,093	103,399	143,691	672,003

Note: In line with the application of IFRS 16, lease liabilities by maturity date have been disclosed since the fiscal year ended March 31, 2020. Lease obligations by maturity date for the fiscal year ended March 31, 2019 are presented in "14. Lease Transactions (1) Finance lease obligations."

(5) Foreign exchange risk

(i) Foreign exchange risk management

Financial instruments denominated in foreign currencies held by the Group are exposed to foreign exchange rate fluctuation risk. Hedge transactions, including forward exchange contracts, are entered into as necessary for the net balance of foreign currencies received from exports of products, etc. and foreign currencies paid for imports of raw materials, etc. under transactions denominated in the relevant foreign currencies.

(ii) Foreign exchange sensitivity analysis

The financial impact on profit before tax in the case of a 1% appreciation of Japanese yen against foreign currencies for financial instruments held by the Group at the end of each fiscal year is as follows. The analysis is based on the assumption that all other variables are held constant.

The sensitivity does not include the effects of translating financial instruments and the assets and liabilities of foreign operations denominated in the functional currency into the presentation currency.

(million yen)

	Currency	Fiscal 2018 (April 1, 2018 – March 31, 2019)	**Fiscal 2019 (April 1, 2019 – March 31, 2020)**
Impact on profit before tax	U.S. dollar	(465)	**(496)**

(6) Interest rate risk

(i) Interest rate risk management

Borrowings and bonds payable with floating interest rates held by the Group are exposed to interest rate fluctuation risk. Hedge transactions, including interest rate swaps, are entered into for certain borrowings and bonds payable to cope with interest rate fluctuations and to reduce interest rate payments.

(ii) Interest rate sensitivity analysis

The financial impact on profit before tax in the case of a 1% increase in interest rate for financial liabilities with floating interest rates held by the Group at the end of each fiscal year is as follows. The analysis is based on the assumption that all other variables are held constant.

The sensitivity does not include borrowings with floating interest rates which are converted to fixed rates by derivative transactions, including interest rate swap agreements.

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	**Fiscal 2019 (April 1, 2019 – March 31, 2020)**
Impact on profit before tax	(7,857)	**(6,783)**

(7) Share price fluctuation risk

(i) Share price fluctuation risk management

Equity instruments (stock) held by the Group are exposed to market price fluctuation risk. Most of the equity instruments are equities of the companies with which business relationships are maintained, and the fair values of such equities are regularly monitored.

(ii) Share price fluctuation sensitivity analysis

The financial impact on other comprehensive income (before tax) in the case of a 1% decrease in quoted price for each financial instrument (stock) with an active market held by the Group at the end of each fiscal year is as follows.

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	**Fiscal 2019 (April 1, 2019 – March 31, 2020)**
Impact on other comprehensive income (before tax)	(2,546)	**(1,694)**

(8) Carrying amounts and fair values of financial instruments

(million yen)

	As of March 31, 2019		**As of March 31, 2020**	
	Carrying amount	Fair value	**Carrying amount**	**Fair value**
Long-term borrowings	1,040,824	1,050,235	**1,097,012**	**1,104,809**
Bonds payable	109,706	110,895	**230,066**	**229,226**

The fair value of financial assets and financial liabilities measured at amortized cost excluding long-term borrowings and bonds payable are not included as they are close to their carrying amount.

Financial instruments measured at fair value on a recurring basis are also not included as the fair value and the carrying amount are equal.

The fair value of long-term borrowings is determined by discounting the total of principal and interest to present value with the estimated interest rate on a similar new loan.

The fair value of bonds payable is based on market prices.

Long-term borrowings and bonds payable are categorized as Level 2 within the fair value hierarchy.

(9) Fair value hierarchy of financial instruments

The fair value hierarchy of financial instruments measured at fair value on a recurring basis after initial recognition is categorized into the following three levels depending on the observability and materiality of inputs used in the measurement.

Level 1: Fair value measured using market prices in active markets for identical assets or liabilities

Level 2: Fair value measured using observable inputs other than those categorized within Level 1, either directly or indirectly

Level 3: Fair value measured using significant unobservable inputs.

When two or more inputs are used for the measurement of fair value, the level of fair value measurement is determined based on the lowest level input that is significant to the entire measurement.

Transfers between levels of the fair value hierarchy are determined at the end of each fiscal year.

There were no transfers between Level 1 and Level 2 for the fiscal years ended March 31, 2019 and 2020.

As of March 31, 2019

(million yen)

	Level 1	Level 2	Level 3	Total
Financial assets				
Financial assets measured at fair value through profit or loss				
Derivative assets	–	21,325	–	21,325
Other	–	3,982	–	3,982
Equity financial assets measured at fair value through other comprehensive income				
Equity securities	254,609	–	57,701	312,311
Investments	–	–	6,499	6,499
Total	254,609	25,308	64,201	344,119
Financial liabilities				
Financial liabilities measured at fair value through profit or loss				
Derivative liabilities	–	4,383	–	4,383
Total	–	4,383	–	4,383

As of March 31, 2020

(million yen)

	Level 1	Level 2	Level 3	Total
Financial assets				
Financial assets measured at fair value through profit or loss				
Derivative assets	–	26,843	–	26,843
Other	–	3,874	–	3,874
Equity financial assets measured at fair value through other comprehensive income				
Equity securities	169,472	–	50,089	219,561
Investments	–	–	6,494	6,494
Total	169,472	30,718	56,583	256,774
Financial liabilities				
Financial liabilities measured at fair value through profit or loss				
Derivative liabilities	–	5,621	–	5,621
Total	–	5,621	–	5,621

- **Equity securities and investments**

  Listed equity securities are categorized within Level 1 as their fair value is determined based on the market price.

  Unlisted equity securities and investments in capital are categorized within Level 3 as their fair value is determined using the comparable peer company analysis or other appropriate valuation techniques, where one or more significant inputs are not based on observable market data. The major significant unobservable input is a discount for illiquidity. The fair value decreases as a discount for illiquidity due to unlisted nature increases. A 30% illiquidity discount has been applied.

- **Derivative assets and derivative liabilities**

  Derivative transactions, such as forward exchange contracts and interest rate swaps, are categorized within Level 2 as their fair value is determined based on the quoted prices from counterparty financial institutions.

The fair value of financial instruments categorized within Level 3 is determined by each Group company which directly holds the relevant equity securities and other instruments, in accordance with the valuation policy and procedures for fair value measurements established by the Group. The results of fair value measurements are approved by an appropriate responsible person.

The movement of financial instruments measured at fair value on a recurring basis that are categorized within Level 3 for the fiscal years ended March 31, 2019 and 2020 is as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	**Fiscal 2019 (April 1, 2019 – March 31, 2020)**
Balance at the beginning of the year	67,435	**64,201**
Other comprehensive income (Note)	(2,637)	**(8,229)**
Acquisition	578	**1,722**
Sale	(235)	**(79)**
Other	(938)	**(1,031)**
Balance at the end of the year	64,201	**56,583**

Note: The amount is included in "Net change in fair value of equity instruments designated as measured at fair value through other comprehensive income" in the consolidated statement of comprehensive income.

(10) Derivative transactions and hedging activities

Derivative transactions used by the Group carry risks of market price fluctuations in the future, including that of currencies, interest rates, etc. The Group uses derivatives that are only based on actual demand, such as export and import transactions, borrowings and bonds payable. Accordingly, these risks are limited within the scope of loss of opportunity gains. Furthermore, as the Group only conducts derivative transactions primarily with financial institutions with high credit ratings, the risk of failure to perform contracts due to bankruptcy of the counterparty, etc., is considered to be close to non-existent. The Company has established the internal rule on derivative transactions, and conducts transactions related to derivatives pursuant to the rule. On each actual transaction, the Company conducts a transaction upon authority by the Corporate Officer for Finance pursuant to the rule stated above. Balances, market prices and losses/gains on valuation of derivatives are to be reported to the management council regularly. The consolidated subsidiaries also conduct derivative transactions pursuant to the respective internal rules.

If the risk management objective for a hedging relationship is altered, the application of hedge accounting is discontinued.

(i) Fair value hedges

The Group uses interest rate swaps primarily to hedge the fluctuation risk of the fair value of bonds payable and borrowings, and designates those interest rate swaps as fair value hedges.

The amount recognized in profit or loss for the hedge ineffectiveness portion and the portion excluded from the assessment of hedge effectiveness was immaterial for the fiscal years ended March 31, 2019 and 2020.

(ii) Cash flow hedges

The Group uses forward exchange contracts and interest rate swaps primarily to hedge the fluctuation risk of the cash flows associated with foreign exchange fluctuations in foreign currency denominated transactions and interest rate fluctuations in borrowings, and designates such derivative transactions as cash flow hedges.

The amount recognized in profit or loss for the hedge ineffectiveness portion and the portion excluded from the assessment of hedge effectiveness was immaterial for the fiscal years ended March 31, 2019 and 2020.

(iii) Fair value of hedging instruments to which hedge accounting is applied

(million yen)

	As of March 31, 2019		As of March 31, 2020	
	Assets	Liabilities	Assets	Liabilities
Fair value hedges				
Interest rate swap transactions	1,703	–	1,035	–
Option contracts	7,737	–	15,265	–
Subtotal	9,441	–	16,301	–
Cash flow hedges				
Forward exchange transactions	371	428	516	1,198
Interest rate swap transactions	–	2,035	–	1,341
Cross-currency interest rate swap transactions	11,009	1,850	9,348	2,965
Commodity futures transactions	–	–	215	43
Commodity collar transactions	–	3	–	–
Subtotal	11,381	4,317	10,081	5,549
Total	20,822	4,317	26,382	5,549

The fair value of the hedging instrument as an asset is recognized in "Other financial assets (current assets)" and "Other financial assets (non-current assets)" in the consolidated statement of financial position. The fair value of the hedging instrument as a liability is recognized in "Other financial liabilities (current liabilities)" and "Other financial liabilities (non-current liabilities)" in the consolidated statement of financial position.

(iv) Notional amount and average price of hedging instruments to which hedge accounting is applied

The notional amount of hedging instruments to which hedge accounting is applied

(million yen)

	As of March 31, 2019		As of March 31, 2020	
	Within one year	Over one year	Within one year	Over one year
Fair value hedges				
Interest rate swap transactions	–	70,000	20,000	50,000
Option contracts	–	27,265	–	27,265
Cash flow hedges				
Forward exchange transactions	78,398	4,164	99,028	7,366
Interest rate swap transactions	1,000	136,728	12,993	123,734
Cross-currency interest rate swap transactions	8,376	99,521	22,868	89,626
Commodity futures transactions	–	–	6,066	–
Commodity collar transactions	946	–	–	–

The average forward exchange rate of major currencies under forward exchange transactions and the average paid interest rate under interest rate swap transactions and cross-currency interest rate swap transactions are as follows:

	As of March 31, 2019	As of March 31, 2020
Cash flow hedges		
Forward exchange transactions		
U.S. dollar	110.34 yen	109.02 yen
Euro	126.64 yen	124.09 yen
Interest rate swap transactions		
Receive floating / pay fixed	0.29%	0.29%
Cross-currency interest rate swap transactions		
U.S. dollar	101.31 yen	101.88 yen
Receive floating / pay fixed	0.29%	0.28%

(v) Carrying amount of hedged items in fair value hedges and accumulated amount of fair value hedge adjustments

As of March 31, 2019

(million yen)

	Line item of the consolidated statement of financial position	Carrying amount		Including accumulated amount of fair value hedge adjustments	
		Assets	Liabilities	Assets	Liabilities
Interest rate swap transactions	Bonds payable, borrowings, and lease obligations	–	71,703	–	1,703
Option contracts	Other financial assets	18,178	–	(9,087)	–

As of March 31, 2020

(million yen)

	Line item of the consolidated statement of financial position	Carrying amount		Including accumulated amount of fair value hedge adjustments	
		Assets	Liabilities	Assets	Liabilities
Interest rate swap transactions	Bonds payable, borrowings, and lease liabilities	–	71,035	–	1,035
Option contracts	Other financial assets	9,213	–	(18,052)	–

(vi) Other components of equity and gains or losses on hedging instruments of cash flow hedges

Fiscal 2018 (April 1, 2018 – March 31, 2019)

(million yen)

	Forward exchange transactions	Interest rate swap transactions	Cross-currency interest rate swap transactions	Commodity futures transactions	Commodity collar transactions	Total
Balance at the beginning of the year	924	(975)	(577)	94	–	(533)
Hedging gains or losses recognized in other comprehensive income	(305)	(838)	4,394	–	(2)	3,247
Reclassification adjustments to profit (Note)	182	389	(4,203)	–	–	(3,630)
Reclassification amount to cost of non-financial assets	(743)	–	–	(94)	–	(838)
Balance at the end of the year	58	(1,424)	(386)	–	(2)	(1,755)

Fiscal 2019 (April 1, 2019 – March 31, 2020)

(million yen)

	Forward exchange transactions	Interest rate swap transactions	Cross-currency interest rate swap transactions	Commodity futures transactions	Commodity collar transactions	Total
Balance at the beginning of the year	58	(1,424)	(386)	–	(2)	(1,755)
Hedging gains or losses recognized in other comprehensive income	(104)	331	48	(73)	(1)	200
Reclassification adjustments to profit (Note)	162	154	(562)	–	–	(245)
Reclassification amount to cost of non-financial assets	(118)	–	–	43	3	(71)
Balance at the end of the year	(2)	(938)	(900)	(30)	–	(1,871)

Note: Major line items for reclassification adjustments in the consolidated statement of profit or loss for the fiscal year ended March 31, 2019 are "Other income" for forward exchange transactions and "Finance costs" for interest rate swap transactions and cross-currency interest rate swap transactions.

Major line items for reclassification adjustments in the consolidated statement of profit or loss for the fiscal year ended March 31, 2020 are "Other expenses" for forward exchange transactions and "Finance costs" for interest rate swap transactions and cross-currency interest rate swap transactions.

(11) Transfer of financial assets

As of March 31, 2019 and March 31, 2020, trade receivables transferred without satisfying conditions for derecognition of financial assets of 6,977 million yen and 6,241 million yen were recognized in "Trade and other receivables," respectively, and the amounts received due to the transfer of 6,977 million yen and 6,241 million yen were recognized in "Bonds payable, borrowings, and lease liabilities," respectively.

With regard to these trade and other receivables, the Group will assume the payment obligations in case the drawer of the notes or the debtor fails to make payment. For this reason, it has been determined that the Group holds almost all of the risks and rewards related to ownership of the transferred assets.

38. Related Parties

Compensation for key management personnel is as follows:

(million yen)

	Fiscal 2018 (April 1, 2018 – March 31, 2019)	**Fiscal 2019 (April 1, 2019 – March 31, 2020)**
Compensation and bonuses	1,744	**1,523**
Share-based payment	145	**41**
Post-employment benefits	3	**3**
Total	1,892	**1,569**

39. Commitments

Commitments for the acquisition of assets after the reporting date are as follows:

(million yen)

	As of March 31, 2019	**As of March 31, 2020**
Acquisition of property, plant and equipment	251,365	**239,716**

40. Contingent Liabilities

(1) Guarantees of obligations

Guarantees for borrowings from financial institutions to companies other than subsidiaries are as follows:

(million yen)

	As of March 31, 2019	**As of March 31, 2020**
Joint ventures	17,286	**15,146**
Associates	857	**938**
Other	20,595	**26,869**
Total	38,738	**42,953**

In addition to the above, guarantees of obligations that may arise in the future for associates are as follows:

(million yen)

	As of March 31, 2019	**As of March 31, 2020**
Guarantee limit for associates	11,605	**9,322**

(2) Litigation, etc.

There is no applicable item.

41. Subsequent Events

There is no applicable item.

(2) Other

(Significant lawsuits, etc.)

There is no applicable item.

(Quarterly information for the fiscal year ended March 31, 2020)

(Cumulative period)	Three months ended June 30, 2019	Six months ended September 30, 2019	Nine months ended December 31, 2019	**Fiscal year ended March 31, 2020**
Revenue (million yen)	927,409	1,871,292	2,791,524	**3,729,717**
Profit (loss) before taxes (million yen)	27,514	42,782	42,600	**(213,473)**
Profit (loss) attributable to owners of parent (million yen)	19,740	31,934	26,922	**(197,744)**
Basic earnings (losses) per share (yen)	34.28	55.46	46.75	**(343.39)**

(Accounting period)	First quarter (April 1, 2019 – June 30, 2019)	Second quarter (July 1, 2019 – September 30, 2019)	Third quarter (October 1, 2019 – December 31, 2019)	**Fourth quarter (January 1, 2020 – March 31, 2020)**
Basic earnings (losses) per share (yen)	34.28	21.17	(8.70)	**(390.15)**

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Independent Auditor's Report

The Board of Directors
JFE Holdings, Inc.

Opinion

We have audited the accompanying consolidated financial statements of JFE Holdings, Inc. and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at March 31, 2020, and the consolidated statements of income, comprehensive income, changes in equity, and cash flows for the year then ended, and notes to the consolidated financial statements.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at March 31, 2020, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRSs).

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in Japan. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in Japan, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of Management, the Corporate Auditor and the Board of Corporate Auditors for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with IFRSs, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern and disclosing, as required by IFRSs, matters related to going concern.

The Corporate Auditor and the Board of Corporate Auditors are responsible for overseeing the Group's financial reporting process.

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Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with auditing standards generally accepted in Japan, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion.
- Consider internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances for our risk assessments, while the purpose of the audit of the consolidated financial statements is not expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation in accordance with IFRSs.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the Corporate Auditor and the Board of Corporate Auditors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Corporate Auditor and the Board of Corporate Auditors with a statement that we have complied with the ethical requirements regarding independence that are relevant to our audit of the financial statements in Japan, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

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Interest Required to Be Disclosed by the Certified Public Accountants Act of Japan

Our firm and its designated engagement partners do not have any interest in the Group which is required to be disclosed pursuant to the provisions of the Certified Public Accountants Act of Japan.

Convenience Translation

The U.S. dollar amounts in the accompanying consolidated financial statements with respect to the year ended March 31, 2020 are presented solely for convenience. Our audit also included the translation of Japanese yen amounts into U.S. dollar amounts and, in our opinion, such translation has been made on the basis described in Note 3 to the consolidated financial statements.

Ernst & Young ShinNihon LLC
Tokyo, Japan

[June 19, 2020]

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The JFE GROUP REPORT and JFE Group CSR REPORT can also be viewed on smartphones.

- JFE GROUP REPORT 2020
- CSR REPORT 2020

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