

## External ESG Evaluations

JFE Holdings is highly regarded by ESG evaluation organizations in Japan and overseas. Particularly notable, it is a constituent of all the Japanese equity ESG indexes selected by the Government Pension Investment Fund (GPIF), the world's largest pension fund.

### FTSE Blossom Japan Sector Relative Index (Invested in by the GPIF)

JFE Holdings has been selected for four consecutive years as a constituent of the FTSE Blossom Japan Sector Relative Index, an investment index provided by FTSE Russell. This ESG index was adopted by the GPIF in March 2022. It refers to the ESG assessment made by FTSE Russell as a base and reflects management practices toward climate change risks and opportunities for some constituents that have high carbon intensity (GHG emissions per unit of revenue).



FTSE Blossom Japan

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FTSE Blossom Japan Sector Relative Index

### MSCI Japan ESG Select Leaders Index (Invested in by the GPIF)

JFE Holdings has been selected for two consecutive years as a constituent of the MSCI Japan ESG Select Leaders Index, an investment index provided by MSCI Inc. The index is based on MSCI's ESG research, which is used by over 1,000 companies around the world. This comprehensive ESG index reflects ESG risks to the market portfolio and is comprised of constituents with relatively high ESG evaluation within the industry.

#### 2023 CONSTITUENT MSCI JAPAN ESG SELECT LEADERS INDEX

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### MSCI Japan Empowering Women Index (WIN) (Invested in by the GPIF)

JFE Holdings has been selected for three consecutive years as a constituent of the MSCI Japan Empowering Women Index (WIN), an investment index provided by MSCI Inc. The index is constructed by multidimensionally calculating a gender diversity score of a constituent of the MSCI Japan IMI top 700 index and selecting companies from each industry that achieved high scores.

#### 2023 CONSTITUENT MSCI JAPAN EMPOWERING WOMEN INDEX (WIN)

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## S&P/JPX Carbon Efficient Index (Invested in by the GPIF)

JFE Holdings has been selected as a constituent of the S&P/JPX Carbon Efficient Index, jointly developed by S&P Dow Jones Indices and the Japan Exchange Group. The weighting of constituents in the index is determined by the status of corporate disclosure for environmental information and the level of carbon efficiency, or carbon emissions per unit of revenue.



## Morningstar Japan ex-REIT Gender Diversity Tilt Index (Invested in by the GPIF)

JFE Holdings is a constituent of the Morningstar Japan ex-REIT Gender Diversity Tilt Index provided by Morningstar, Inc. This index is based on the data and evaluation methods of Equileap and is designed to facilitate investment prioritizing companies that have established gender diversity policies embedded in their corporate culture and companies committed to providing equal opportunities for employees regardless of gender.

## FTSE4Good Index Series

JFE Holdings has been selected for four consecutive years as a constituent of the FTSE4Good Index Series, an investment index provided by FTSE Russell. This comprehensive ESG index in general applies the same ESG assessment scheme as that used for the FTSE Blossom Japan Index. Constituents have high absolute ESG ratings and are screened from major stocks around the world.



## MSCI ESG Leaders Indexes

JFE Holdings has been selected as a constituent of the MSCI ESG Leaders Indexes, an investment index provided by MSCI Inc., since 2018. The index is formed of major stocks around the world with high ESG evaluations within their industry, selected based on MSCI's ESG research.



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## Evaluation Based on CDP 2022

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 (from A to D-) for each area. The volume of information collected by the CDP has become one of the largest in the world, with currently over 1,101 companies in Japan responding to the questionnaires, which are widely used in various indexes by institutional investors and for socially responsible investment.

The JFE Group actively participates in CDP initiatives as a member of the CDP Reporter Service and responds to climate change and water security questionnaires every year. Our high rating reflects our complete disclosure of appropriate information for the CDP 2022 questionnaire.

CDP 2022 score: climate change: A-, water security: A-, supplier engagement: A-

## White 500 Organization under the 2023 Certified Health and Productivity Management Outstanding Organizations Recognition Program

JFE Engineering was recognized as a White 500 organization, one of the top 500 companies selected under the 2023 Certified Health and Productivity Management Outstanding Organizations Recognition Program. Sponsored by Japan's Ministry of Economy, Trade and Industry and Nippon Kenko Kaigi, the program recognizes organizations that practice excellent health management, including large enterprises and small and medium-sized companies.

The company implements effective, ongoing efforts to improve employee lifestyle habits, such as instilling exercise routines, alleviating sleep-deprivation risks, and reducing smoking rates, based on an analysis of employee health risks. Furthermore, in March 2018, it established a health management system, headed by the president, as well as the JFE Engineering Health Declaration to disclose its health management initiatives internally and externally. These efforts have been highly regarded and led to this certification.

Under this program, JFE Engineering has been recognized as a White 500 company for three consecutive years and the fifth time overall, and as an Outstanding Organization for six consecutive years.



## SOMPO Sustainability Index

JFE Holdings has been selected for 12 consecutive years as a constituent of the SOMPO Sustainability Index (former: SNAM Sustainability Index), which was launched by Sompo Asset Management Co., Ltd. The index, which comprises companies with highly regarded ESG ratings, contributes to investor asset formation by evaluating corporate value from a long-term perspective.



## DBJ Employees' Health Management Rated Loan Program

The DBJ Employees' Health Management Rated Loan Program is the world's first financing menu that bases loan conditions on DBJ's proprietary system for rating health management for the purpose of selecting and evaluating companies based on their performance in this area.

JFE Holdings' efforts in pursuing employee health management has been highly regarded, and it is rated as a top-ranking company under the program.



## DBJ Environmentally Rated Loan Program

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



JFE was rated by DBJ as a company pursuing excellent and advanced environmental initiatives in March 2016

## External Evaluations of Non-ESG Areas

### Noteworthy DX Companies 2023

JFE Holdings was selected as a Noteworthy DX Company 2023 for actively promoting DX under the Digital Transformation Stock Selection (DX Stock) 2023 program, jointly sponsored by Japan's Ministry of Economy, Trade and Industry, the Tokyo Stock Exchange, and the Information-technology Promotion Agency.

Over the years, the JFE Group has developed diverse businesses and now possesses a vast database of operational data that is among the best in the world. Combining this data as the source of value creation with cutting-edge AI, IoT, data science, and other technologies has enabled us to improve productivity and achieve stable production at our steelworks, biomass power generation plants, and other facilities. We have also been recognized for pursuing advanced initiatives on developing sites and human resource development systems for promoting DX.

The JFE Group positions DX as a key management strategy and will continue to provide new added value to external parties by taking on the challenges of innovating existing businesses and creating new ones, in addition to achieving groundbreaking improvements in productivity.



## External Awards

### Environmentally Sustainable Company, the 4th ESG Finance Awards Japan

JFE Holdings was selected as an Environmentally Sustainable Company in the 4th ESG Finance Awards Japan's Environmentally Sustainable Companies Category, presented by the Japanese Ministry of Environment. JFE Holdings has been recognized under these awards for the third consecutive year, including a special award received two years ago.

ESG Finance Awards Japan was founded to disseminate and expand ESG finance by commending institutional investors, financial institutions, intermediaries, and companies that have made an outstanding impact on the environment and society by proactively engaging in ESG finance as well as environmental and social projects. An Environmentally Sustainable Company is selected based on assessing the relative richness of disclosures regarding risks, business opportunities, and strategies, as well as governance associated with key environmental issues. The selected company must also be tackling issues through medium- to long-term strategies and have appropriate governance and management processes in place. The richness of our ESG-related information disclosure and our approach toward dialogue with stakeholders were recognized in our selection as an Environmentally Sustainable Company. We will continue to deepen our initiatives and expand our information disclosure.



Please see the following for further details.

► [JFE Group selected as Environmentally Sustainable Company in the 4th ESG Finance Awards Japan \(Japanese only\)](https://www.jfe-holdings.co.jp/release/2023/02/230221.html) (<https://www.jfe-holdings.co.jp/release/2023/02/230221.html>)

### World Steel Association 2023 Steel Sustainability Champions

JFE Steel was awarded the 2023 Steel Sustainability Champions, selected by the World Steel Association. Once a year, the association commends member companies for demonstrating leadership in developing a sustainable steel industry and society and achieving outstanding results in enhancing sustainability.

The company formulated the JFE Group Environmental Vision for 2050 in 2021 and is developing ultra-innovative technologies for reducing environmental impact. In addition, it has formulated basic policies and discloses quantitative data on sustainability in diverse areas such as the environment, human rights, and occupational health and safety. It has also identified its material issues of corporate management, set KPIs, and increased the effectiveness of its indicators by periodically reviewing the appropriateness of the issues and KPIs for evaluating initiatives. JFE Steel has proactively disseminated this information to stakeholders through the JFE Group CSR Report 2022 and by other means.

These endeavors were recognized with the Steel Sustainability Champions award for the third consecutive year. Going forward, we will further strengthen CSR management, address environmental and social issues through our business activities, and contribute to the development of a sustainable society.

Please see the following for further details.

► [JFE Steel Recognized as 2023 Steel Sustainability Champion](https://www.jfe-steel.co.jp/en/release/2022/220413.html) (<https://www.jfe-steel.co.jp/en/release/2022/220413.html>)



## External Awards for Research and Development

### ■ Awards for Technologies and Product Developments (FY2022)

|                 | Prize/Award  | Project  | Sponsor  |
|-----------------|--|--|--|
| JFE Steel       | Safety and Health Excellence Recognition 2022  | Horizontal development to prevent similar accidents  | World Steel Association  |
|                 | FY2023 The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology, Awards for Science and Technology (Development Category) | Development of extra-thick high strength steel plates that made possible the construction of super large container ships   | Ministry of Education, Culture, Sports, Science and Technology |
|                 | FY2023 National Invention Award: Minister of Education, Culture, Sports, Science and Technology Award  | Invention of ultra-high-strength thin steel sheet that improves fuel economy and collision safety of automobiles   | Japan Institute of Invention and Innovation                    |
|                 | 5th EcoPro Awards, Minister of Land, Infrastructure, Transport and Tourism Award   | Public-private partnership: joint research project in developing a rich ocean—demonstrating the use of steel slag products to improve marine environment and providing environmental education | Sustainable Management Promotion Organization                  |
|                 | 57th Machinery Promotion Award, Japan Society for the Promotion of Machine Industry Chairman's Prize   | Development of an autonomous precision inspection robot  | Japan Society for the Promotion of Machine Industry            |
|                 | FY2022 Japan Institute of Energy Award (Technology Category)   | Development of a fuel and power management guidance system for steelworks  | Japan Institute of Energy                                      |
| JFE Engineering | FY2022 Energy Conservation Grand Prize, Product and Business Model Category, Minister of Economy, Trade and Industry Award   | Digital transformation service RODAS® for boiler power plants  | Energy Conservation Center, Japan                              |
|                 | 2022 FIDIC Contract Users' Awards Project of the Year  | Renovation work for the La Mesa Water Treatment Plant 1 in the Philippines   | International Federation of Consulting Engineers (FIDIC)       |



FY2022 Japan Institute of Energy Award  
(Technology Category)



Energy Conservation Grand Prize , Minister of Economy,  
Trade and Industry Award



National Invention Award



5th EcoPro Awards, Minister of Land, Infrastructure,  
Transport and Tourism Award



57th Japan Society for the Promotion of Machine Industry President's Award  
(Machine Promotion Award)

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## Third-party Comments

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### Yoshinao Kozuma

Emeritus Professor  
Sophia University

#### 1. Progress in the Transition Plan

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The JFE Group has shifted its transition plan into the implementation phase and is dynamically advancing its multipronged measures for decarbonization. At the core of the transition plan is the decarbonization of its steel business, where CO<sub>2</sub> emissions in FY2022 decreased by 13% compared to FY2013, putting the Group on track to achieve its short-term target of reducing emissions by 18% in FY2024. JFE's medium-term target is to reduce emissions by at least 30% from FY2013 levels by FY2030, and it is making steady progress in shifting to low-carbon steelmaking processes by implementing measures such as increasing the volume of scrap used in converter furnaces while also bolstering and introducing new electric arc furnaces. The Group is also making progress in its plan to establish a supply chain that will enable overseas procurement of direct-reduced iron in collaboration with other companies. With regard to the long-term target of achieving carbon neutrality by 2050, JFE has begun construction of a test blast furnace for carbon recycling demonstrations, an ultra-innovative technology.

One particularly interesting initiative in FY2023 is JGreeX™, a green steel material that JFE began supplying in the first half of the year. This raw material has received third-party certification for CO<sub>2</sub> reduction and has the potential to grow into a unique brand as a product that can contribute to reducing Scope 3 emissions downstream in the value chain.

Even when all industries are included, there are not many examples of companies that are proceeding with their transition plan so quickly or comprehensively. I highly commend the JFE Group for its achievements in advanced climate management.



#### 2. Evaluating Biodiversity Risks

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On the environmental front, JFE has stepped up its biodiversity initiatives. In FY2023, it began trials on systematically evaluating biodiversity risks based on scientific evidence by applying the LEAP approach recommended by the Taskforce on Nature-related Financial Disclosures (TNFD). I look forward to the full-scale disclosure of its management of the initiative as a tool for effectively managing biodiversity risks in the supply chain.

#### 3. Promoting Human Rights Due Diligence

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On the social front, the JFE Group Human Rights Basic Policy was substantially revised in April 2023, and a human rights risk management system based on implementing human rights due diligence was established. This is another commendable achievement. Currently, the scope of identification and evaluation of human rights risks is being expanded, and a greater effort is being made to include all Group companies and suppliers within the scope of management. Continuous improvement is desired in this area so as to prevent human rights risks from becoming an obstacle to corporate growth.

#### 4. Future Challenges

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Since JFE has been falling short of meeting its KPI target on workplace accidents, there is clearly room for improvement. While I can imagine the relevant departments working strenuously each day to eliminate accidents, a fundamental review of measures may be necessary to improve the situation. In addition, the scope of aggregation has yet to be expanded for several important social indicators, including the KPI for workplace accidents, and employment of people with disabilities.



## Mariko Kawaguchi

Specially appointed professor of the Graduate School of Social Design Studies, Rikkyo University

Over the past seven years, I have had the opportunity to observe the evolving process of JFE Holdings' activities as they developed. It is evident from the latest report that its initiative for decarbonization has now become a Group-wide business strategy that has also been adopted as a personal concern for employees at every business site.

First of all, it is encouraging to see the efforts being made by the Group to raise the feasibility of achieving carbon neutrality by 2050. It has created a multipronged roadmap that clearly outlines what needs to be done over the short, medium, and long term, and it has steadily put that into action. By conserving energy and developing technologies at facilities, the Group has already achieved a 13% reduction in CO<sub>2</sub> emissions against its short-term target of reducing emissions by 18% by FY2024. At the same time, JFE has begun work on initiatives such as shifting to electric arc furnaces, expanding the use of scrap, and improving the efficiency of electric arc furnaces. I understand that as a result, the Group is now within reach of achieving its medium-term target of reducing emissions by at least 30% by 2030. In addition, JFE also reported on concrete initiatives for achieving its goal of carbon neutrality by 2050, starting construction of a test blast furnace to demonstrate innovative technologies such as carbon recycling blast furnaces and hydrogen-based ironmaking. Furthermore, the locations of the initiatives are not limited to Japan but have expanded to overseas locations involving numerous collaborations with partners, which shows the growing scope and depth of its relationships with regions and stakeholders. It has become clear that although carbon neutrality by 2050 is still an abstract idea for most people, the JFE Group sees it as a concrete future.

I also noticed interesting ongoing initiatives in JFE's products and mechanisms. JGreeX™, which the Group began supplying in FY2023, is a green steel material that has been certified as CO<sub>2</sub>-free by allocating the volume of CO<sub>2</sub> reduced by JFE based on the mass balance approach. This interesting mechanism visualizes the Group's CO<sub>2</sub> reductions in the form of a green product. Moreover, JFE also envisions a mechanism where this green steel is used to build vessels that transport its materials. It is a breakthrough business model that is circular and effective, in which the Group's own efforts contribute to decarbonizing its entire supply chain.

The report also introduces many eco-friendly products and projects over a remarkably wide range of fields, such as steel slag products with blue carbon credit certification for creating seaweed beds, electrical steel sheets used in energy-saving products, wind power generation, and PET recycling. Many of these are the result of JFE's own efforts as well as collaboration with a broad range of stakeholders, including companies, research institutions, NGOs, and municipalities, in Japan and overseas. The Group is adopting the outside-in approach to resolve issues in the field through partnerships called for by the SDGs. I expect that this clear decarbonization strategy and efforts for commercialization in the highly carbon-intensive steel industry will serve as the driver for decarbonizing other industries and the economy as a whole.

With regard to measures for adapting to climate change, there is growing interest in and demand for disaster prevention measures due to the increasing frequency of extreme weather events. In addition to enhancing the Group's own disaster prevention measures, society's need will continue to increase for resilient material infrastructure that is resistant to wind and flood. I look forward to the development of unique technologies and products based on ideas originating in the field.

That said, judging from the extreme weather conditions we are experiencing lately, it seems that even a 1.5°C scenario, let alone a 4.0°C scenario, would result in severe climate conditions. I hope the JFE Group will review its scenarios and consider accelerating its activities.



In the area of biodiversity, the Group is recognized as a certified enterprise under the Aichi Biodiversity Company Certification Program and many of its ecosystem preservation initiatives are underway domestically, while the opportunity and risk assessment for disclosing information recommended by the TNFD is particularly noteworthy. The general public has not yet recognized biodiversity risks, and even the steel industry views these risks as less urgent for its core business than climate change. Mining and mine development, however, have traditionally been recognized by experts as a source of ecosystem destruction and pollution as well as human rights violations. This study of risks and opportunities is a key step for integrating biodiversity into JFE's core business. I hope the Group will accelerate these efforts and demonstrate the same leadership in disclosing biodiversity information (TNFD) as it has for climate change (TCFD). In the social aspect of its activities, JFE's efforts on human rights due diligence since FY2021 are commendable, but I believe its human rights risk map merits further scrutiny given the aforementioned risks from mining. Meanwhile, it is significant that a new policy category has been titled "human capital" instead of "human resources." Human capital is a resource that will generate future returns. Consider how investments for human capital might reach beyond conventional human resource management. My suggestion to JFE is to start with formulating a medium- to long-term strategy for human capital, just as it has done with the strategic roadmap for climate change.

I have observed a steady evolution over the years in how the JFE Group incorporates sustainability into its management and business activities, leading to expanding content in both breadth and depth. I think it would be a good idea to organize the report in multiple layers by listing key points for its management strategies, long-term targets, and results for the reporting year, and to present information on products and technologies by gathering the data into categories. This might more clearly distinguish the strategy as the skeletal framework supporting the "muscles" of business practices. The public might then recognize how sustainability has indeed developed into the business "muscle" that drives corporate management. I have high expectations that this will further accelerate the initiatives of the JFE Group.