Biodiversity Conservation and Nature Positive

Basic Policy

Recognizing that natural capital and biodiversity are foundational for realizing a sustainable society, the JFE Group conducts business as a member of the international community in harmony with nature. We particularly recognize biodiversity conservation as a key challenge and assess the ecological impacts associated with our business activities while working to minimize those impacts. We are also engaged in activities that contribute to biodiversity conservation and nature positive at our own production sites, construction sites, and their surrounding areas, and at suppliers, including monitoring ecosystems and carrying out conservation activities at steelworks, our key facilities, and in their surrounding areas. We are actively contributing beyond our business operations through initiatives that include the development of steel slag products that restore marine environments, joint research with local governments, and the provision of environmental education opportunities for local communities. Taking into account the interrelationships among environmental issues, such as biodiversity conservation, climate change mitigation, and resource circulation, we are pursuing initiatives such as obtaining J Blue Credit™ certification for marine environment restoration using steel slag products and reducing CO_2 emissions during resource extraction by using recycled materials.

Our core steelmaking business uses large quantities of fresh water for cooling and cleansing products and facilities. For this reason, the efficient use of water resources with due consideration to the source of the water and stakeholders in the area is a key challenge. While we have always implemented countermeasures against meteorological disasters such as droughts and floods at our manufacturing sites in Japan, we are further reinforcing them in anticipation of the increased frequency and severity of weather events associated with climate change by securing alternative means and raising the height of embankments. We also seek to identify water-related risks throughout our business sites and supply chain in Japan and overseas, such as the risk of drought at the source of water intake and pollution at the point of discharge. In areas under water stress, we will respond appropriately through dialogue with stakeholders.

Basic Approach

The JFE Group has established a basic policy to promote initiatives for biodiversity conservation and nature positive.

Guided by our corporate philosophy of contributing to society with the world's most innovative technology, the JFE Group recognizes biodiversity conservation and nature positive as essential for realizing a sustainable society and has established the following policies to guide its activities:

- Deepen recognition that our business activities depend on and impact biodiversity and natural capital and promote activities to mitigate risks.
- Promote the development of processes, products, and technologies that contribute to biodiversity conservation and nature positive.
- Collaborate with stakeholders such as local communities and supply chains and promote biodiversity conservation and nature positive efforts through diverse approaches, including integration with carbon neutrality and the circular economy.
- Foster awareness of biodiversity through employees' proactive initiatives and educational activities.
- Disclose initiatives for biodiversity conservation and nature positive and broadly share them with society

Endorsing and Participating in External Initiatives

As a member of the Keidanren Committee on Nature Conservation, the JFE Group endorses the Declaration of Biodiversity by Keidanren and Action Policy and actively engages in the conservation of nature and biodiversity.

The JFE Group is registered on the Ministry of the Environment's Nature Positive Economy Promotion Platform (NPE Platform) as an NPE Partner.

JFE Holdings has also joined the 30by30 Alliance for Biodiversity, launched by the Ministry of the Environment, business associations, nature conservation groups, and other organizations. This alliance is committed to effectively protecting at least 30% of Japan's land and sea as healthy ecosystems toward the nature positive goal of halting and reversing biodiversity loss by 2030. JFE will contribute to the conservation of biodiversity by carrying out various activities, including the conservation of its biotopes.

For further details on external initiatives, please refer to:

- **Declaration of Biodiversity by Keidanren and Action Policy (Revised Edition)** (https://www.keidanren.or.jp/en/policy/2018/084.html)
- **Nature Positive Economy Promotion Platform, Ministry of the Environment (Japanese only)** (https://policies.env.go.jp/nature/biodiversity/npeplatform/index.html)
- **Ministry of the Environment's 30by30 Alliance** (https://www.env.go.jp/nature/biodiversity/OECM.html)

In addition, JFE Holdings has endorsed the disclosure recommendations published by the Taskforce on Nature-related Financial Disclosures (TNFD), joined the TNFD Forum, and registered as a TNFD Adopter. Going forward, we will appropriately disclose information about the impacts of our business activities on the natural environment and biodiversity in line with the TNFD framework.

- **Taskforce on Nature-related Financial Disclosures (TNFD)** (https://tnfd.global/)

JFE Group Strategy for Biodiversity Conservation and Nature Positive

Evaluation of the Relationship between Business Activities and Natural Capital (Evaluation in Line with the LEAP Approach)

As a holding company, JFE Holdings is responsible for the JFE Group's comprehensive risk management under the Basic Policy for Building Internal Control Systems. Regarding initiatives for biodiversity conservation and nature positive, each operating company identifies priority areas, assesses dependencies and impacts, and evaluates risks and opportunities in line with the LEAP approach recommended by the TNFD, and the results, including priorities for action, are reflected in the Group's strategy.

The Group is conducting evaluations for future disclosures in line with the LEAP approach and organizing its initiatives and analysis results. In FY2023, we conducted a trial evaluation focusing on the steel business. In FY2024, we expanded the scope within the steel business for a more detailed examination and also evaluated the engineering business.

Process

Locate

Locating the interface with nature

Steel business: identified the location information of major manufacturing sites and mines supplying raw materials such as iron ore and coking coal and assessed the state of natural capital in the surrounding areas.
Engineering business: identified the location information of major construction sites in FY2025 and assessed the state of natural capital in the surrounding areas.
Both evaluations referred to TNFD-recommended tools such as IBAT and Resource Watch.

Evaluate

Evaluating dependencies and impacts

We applied ENCORE and other TNFD-recommended tools to identify and evaluate the dependencies and impacts of our steel and engineering businesses on important natural capital.

Assess

Assessing nature-related risks and opportunities

Based on the findings from the evaluation of the dependencies and impacts, we identified and assessed nature-related risks and opportunities for our steel and engineering businesses.

Prepare

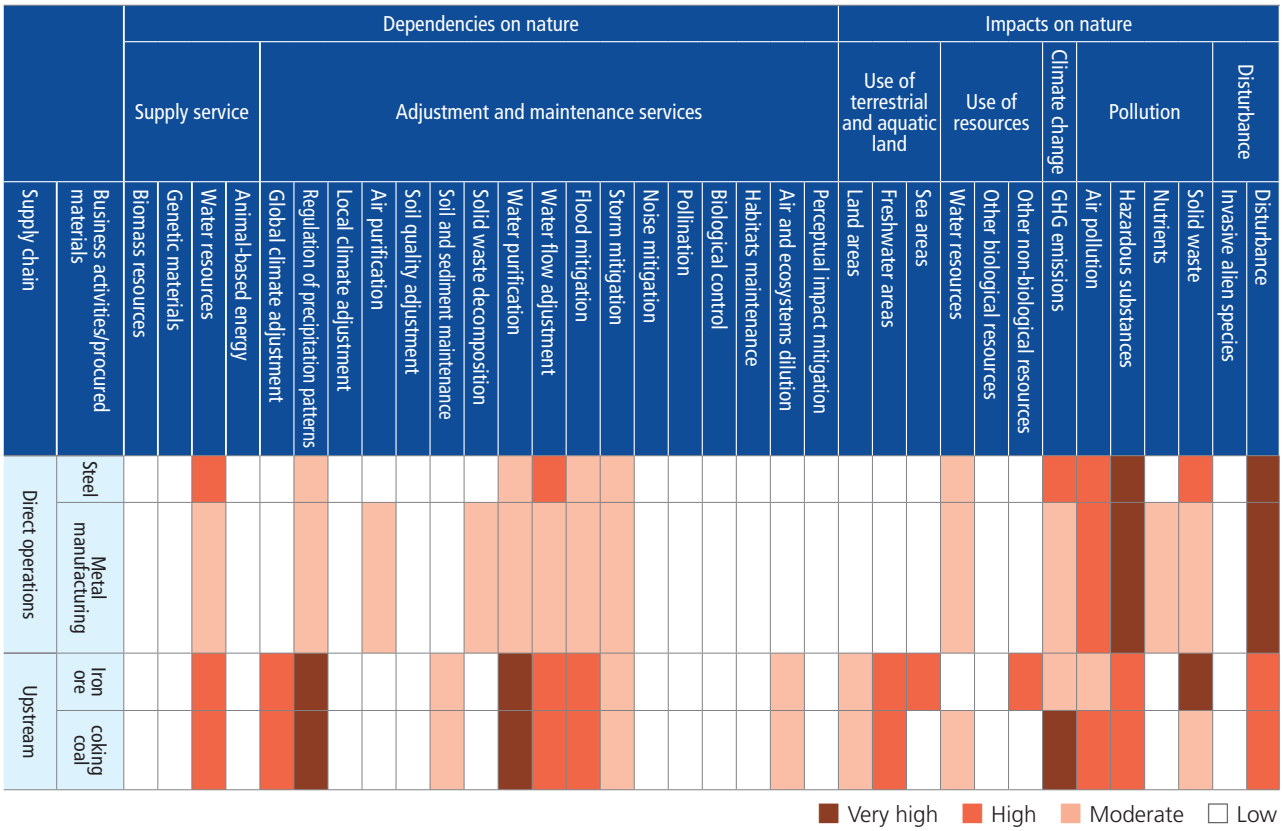
Preparing to respond and report

We have been preparing to respond to the assessed risks and opportunities.

Steel Business

Specific Categories of Findings on the Dependencies and Impacts on Nature (Evaluate)

Regarding the dependencies and impacts of our steel business on nature, we reviewed the findings under the categories of manufacturing at our production sites and procurement from our upstream supply chain at iron ore and coking coal mining sites. Our procurement and manufacturing operations depend on natural resources, particularly related to water supply, the control of water volume, and climate adjustments. Meanwhile, our manufacturing operations impact nature through GHG emissions and pollution. The iron ore and coking coal mining conducted upstream in our supply chain also affect nature through land use, water resource use, GHG emissions, and pollution.



Assessment of Leading Manufacturing Sites (Locate)

Our assessment of major manufacturing sites, in line with the five criteria* defined by the TNFD for priority areas, found that there are areas of high conservation significance, including key biodiversity areas (KBAs), in the surrounding regions. We also conducted similar assessments for production sites of JFE Steel's domestic Group companies, evaluated the surrounding natural environment, and confirmed the results.

Manufacturing Site	Conservation Significance		Ecosystem Integrity	Degradation in Ecosystem Integrity	Water-Related Physical Risks		
	Protected Areas/KBA	STARs	Biodiversity Intactness Index	Pressures on Biodiversity	Baseline Water Stress	Riverine Flood Risk	Coastal Flood Risk
East Japan Works, Chiba	Located in proximity	1	1	5	3	2	3
East Japan Works, Keihin	Not located in proximity	1	1	5	3	2	3
West Japan Works, Kurashiki	Located in proximity	1	1	5	2	2	3
West Japan Works, Fukuyama	Located in proximity	1	2	5	2	2	3
Chita Works	Located in proximity	1	1	5	3	2	3
Sendai Works	Located in proximity	1	1	5	2	2	3

Very high ■ High ■ Moderate □ Low

In addition, the JFE Shoji Group conducted similar assessments at 48 processing sites operated by 38 companies (24 sites at 18 companies in Japan and 24 sites at 20 companies overseas). In Japan, six sites were found to be adjacent to protected areas or KBAs of high conservation significance. Overseas, sites in eight countries were found to face water risks, and in one country, a site was identified as being adjacent to indigenous peoples or local communities. These sites have been recognized as priorities for future evaluation and responses.

*Assessment based on the five criteria was performed using the following indicators and tools.

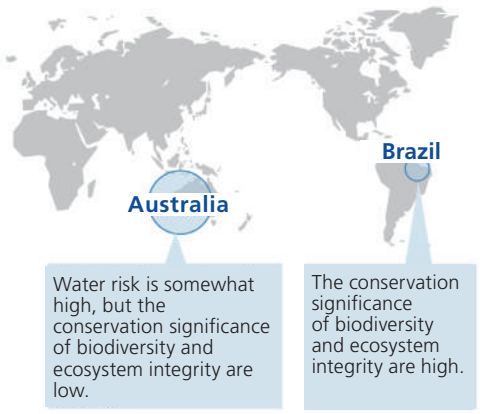
- Conservation significance: Assessed with IBAT, the proximity (within a 5-km radius) to areas of conservation significance, for example, protected areas and KBAs
- Ecosystem integrity: Assessed based on the Biodiversity Intactness Index provided by Natural History Museum
- Rapid degradation in ecosystem integrity: Assessed based on the Pressures on Biodiversity indicator provided by WWF Biodiversity Risk Filter to measure the degree of influence on nature
- Water-related physical risks: Assessed based on the Baseline Water Stress, Riverine Flood Risk, and Coastal Flood Risk indicators through the use of Aqueduct

Assessment of Raw Material Suppliers (Locate)

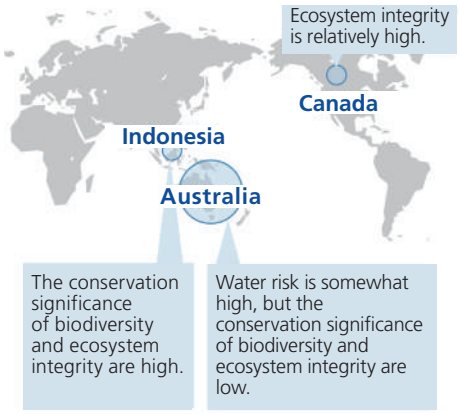
We located the interfaces of our major iron ore and coking coal suppliers in natural settings and assessed the state of nature at those sites (procurement volume of roughly 70%; 8 iron ore mines and 14 coking coal mines). Iron ore is procured from countries including Australia and Brazil. The assessment revealed that procurement mines in Australia are exposed to high water stress, making responses to water-related risks important. Although procurement volumes are relatively small, some mines in Brazil were found to be located near areas of conservation significance.

Our coking coal suppliers are mining in Australia, Canada, and Indonesia. The assessment revealed that procurement mines in Australia face relatively low levels of various risks. On the other hand, some mines in Canada and Indonesia were found to be located in regions with high ecosystem integrity.

Iron Ore (Supplier Countries and Procurement Ratios)



Coking Coal (Supplier Countries and Procurement Ratios)



Reviewing Nature-Related Risks and Opportunities (Assess and Prepare)

Following the above evaluation of dependencies and impacts, we organized the currently assumed nature-related risks and opportunities. The risks, some of which are recognized in our climate change scenario analysis, include physical risks that could materialize due to a water shortage or natural disasters and potentially trigger a decrease in production at our manufacturing sites or a lack of procurement from suppliers. Additionally, transition risks may arise if regulations concerning protected areas and pollution are tightened. On the other hand, opportunities were identified in the form of increased demand and development potential for environmentally friendly products, processes, and technologies, as well as environmental materials that contribute to resource circulation.

Meanwhile, we confirmed that JFE Steel's major iron ore and coking coal suppliers have conducted assessments concerning water resources and ecosystems and have publicly disclosed how to respond to their detected risks. We will continue to monitor the status of their response efforts as part of our supply chain management. We will also encourage more of our suppliers to adopt and observe the JFE Steel Procurement Guidelines.

As for our own material risks and opportunities, we will maintain the current measures in place and, while enhancing our assessment, we will keep a close watch on whether additional measures are necessary.

Nature-Related Risks and Opportunities in Direct Operations

	Category		Item	Impact	Magnitude	Likelihood	Time Frame	Response
Direct operations	Physical risk	Acute	Intensification of extreme weather	Suspension of operations due to infrastructure damage caused by the increased frequency and severity of natural disasters	Large	Low	Medium term	**Reinforcement of drainage facilities at steelworks and plants** •Facilities reinforced to prevent water pollution during heavy rainfall (expansion of treatment, water gates, raised manholes, etc.) •Facilities reinforced to prevent site flooding (forced drainage systems, pump trucks, raised critical equipment, etc.) •Damage mitigation through the use of weather information for torrential rains, typhoons, storm surges, etc. (minimizing damage by preemptively shutting down equipment when risks are anticipated)
		Chronic	Water shortages and ecosystem degradation	Suspension of operations due to ecosystem degradation, such as water depletion	Large	Low	Long term	**Reduced water intake and discharge by recycling water** •Formulate water management plans and monitor and manage water usage (set targets for water usage and recycling rate and track actuals monthly) •Reduce water intake and discharge by increasing recycling rates (install coagulation-sedimentation, filtration, and biological treatment to promote recycling) •Conduct water stress assessments (using Aqueduct for objective evaluation)
			Impact on surrounding ecosystems	Impacts on ecosystems through bioaccumulation and other processes when chemical substances flow into rivers, seas, and other water bodies	Medium	Low	Long term	**Wastewater treatment under strict voluntary management standards** •Implement thorough purification to reduce environmental impacts when discharging water used in the steelmaking process into public water bodies •Conclude agreements with local governments that enact stricter discharge standards than those mandated by the Water Pollution Prevention Act, and implement water quality improvement initiatives with stricter voluntary management standards to consistently meet those agreements •Conduct environmental audits (annually by the audit department, covering measurement results, responses to incidents, and the handling of complaints)

	Category		Item	Impact	Magnitude	Likelihood	Time Frame	Response
Direct operations	Transition risk	Policies and regulations	Stricter regulations toward nature positive	Increased compliance costs from tighter regulations on water use and pollution affecting ecosystems around business sites (terrestrial and aquatic)	Medium	Low	Long term	**Implementation of the following measures with the goal of Zero Major Environmental and Disaster Accidents** •Implement thorough purification to reduce environmental impacts when discharging water used in the steelmaking process into public water bodies •Conclude agreements with local governments that enact stricter discharge standards than those mandated by the Water Pollution Prevention Act, and implement water quality improvement initiatives with stricter voluntary management standards to consistently meet those agreements •Conduct environmental audits (annually by the audit department, covering measurement results, responses to incidents, and the handling of complaints) •Install NOx and SOx control equipment (e.g., low-NOx burners, exhaust gas treatment facilities) •Use dust dispersion simulations to design effective countermeasures for neighboring areas (identify sources, strategic placement of windbreak walls and nets) •Continuously monitor major emission sources of soot, dust, NOx, and SOx, and detect and remedy abnormal signs at an early stage •Periodically conduct on-site environmental audits of domestic and overseas Group companies (every 3–5 years, depending on environmental impacts and management practices) •Periodically exchange information with local residents (explain environmental measures at steelworks and regularly gather resident feedback)
		Reputation	Occurrence of accidents affecting surrounding ecosystems	Financial penalties from litigation or damage claims, increased response costs, and reduced sales due to loss of trust resulting from adverse impacts on ecosystems around business sites (terrestrial and aquatic) through water use, pollution, and other causes.	Medium	Low	Long term	
	Opportunity	Services and markets	Ecosystem restoration and environmental load reduction through steel and slag products	Increased demand for products contributing to nature positivity and reducing environmental load	Medium	High	Short term	**Expansion of supply of products that contribute to biodiversity, nature positivity, and environmental load reduction, and collaboration with municipalities and other companies** •Expand supply of eco-products such as high-tensile steel sheets and electrical steel sheets •Manufacture steel sheets free of environmentally harmful substances such as hexavalent chromium •Contribute to marine environment improvement, shallow-water habitat and tidal flat creation, and coral reef restoration through steel slag products •Joint public-private research project with Yokohama City for "Creating Abundant Seas" •Agreement with Chiba Prefecture on a demonstration project for blue carbon creation at the Hota Fishing Port •Obtained Nature Symbiosis Site certification for a seaweed bed created off Shinto, Iwakuni City, Yamaguchi Prefecture, in collaboration with Koujiro Fisheries Cooperative, the National Institute of Technology, Ube College, and Iwakuni City •Promote biodiversity verification of steel slag products through collaboration with the venture company Innoqua Inc.
		Products and services	Growing demand for resource-circulating products	Higher sales by expanding lineup of resource-circulating products	Medium	High	Medium term	**Expand lineup of environmental products supporting resource circulation** •Expand targeted products at JFE Shoji and strengthen distribution and logistics

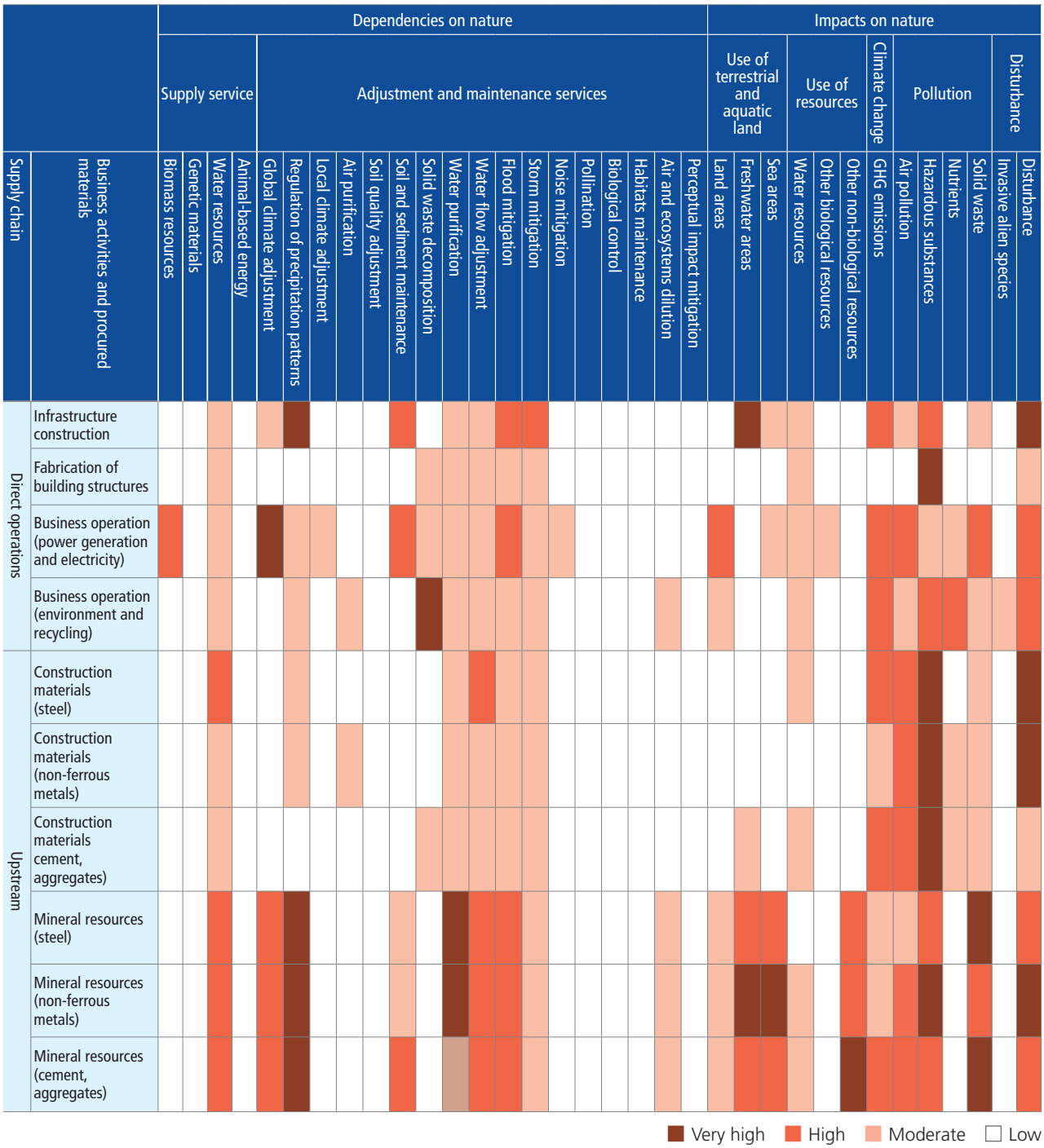
	Category		Item	Impact	Magnitude	Likelihood	Time Frame	Response
Upstream	Opportunity	Resource efficiency	Switch to environmentally conscious manufacturing systems	Reduced manufacturing costs through higher productivity and avoidance of fines and penalties by reducing the environmental impacts associated with waste treatment through waste reduction	Medium	High	Short term	**Effective use of co-products (dust, sludge, and slag) and byproduct gases generated in the steelmaking process** • Reuse iron-rich dust from blast furnaces and converters and water-treatment sludge as steelmaking raw materials • Effectively use steel slag as cement and civil engineering materials and promote its use as environmental restoration material, including Marine Stone™, which serves effectively as a base for organism attachment and as a material for improving marine environments • Recover byproduct gases generated in the steelmaking process and use them as fuel for reheating furnaces on rolling lines and for in-house power generation facilities
		Nature preservation and restoration	Biodiversity conservation at factories	Enhanced reputation among stakeholders, including local residents, by promoting initiatives on Company premises in response to growing public interest in nature and biodiversity conservation	Small	Medium	Medium term	**Biodiversity conservation initiatives on Company premises, mainly at the Chita Works** • Reproduction and conservation of the ecosystem of the Chita Peninsula, Aichi Prefecture, at Biotope Chita • Biotope Chita certified as a Nature Symbiosis Site • Chita Works certified as an Aichi Biodiversity Company • Transplanting of rare plants within planned construction areas
	Physical risk	Acute	Intensification of extreme weather	Instability of raw material procurement and increased procurement costs due to increased frequency and severity of natural disasters	Medium	Low	Medium term	**Response policy** • Diversification of procurement sources • Sharing and promoting the JFE Steel Procurement Guidelines • Monitoring suppliers' ESG-related activities **Specific measures currently implemented** • Ongoing diversification of procurement sources • Confirming proximity to critical ecosystems and the availability of water-risk response programs at each major supplier site
		Chronic	Water shortages and ecosystem degradation	Instability of raw material procurement and increased procurement costs due to ecosystem degradation such as depletion of water resources	Medium	Low	Long term	
	Transition risk	Policies and regulations	Strengthening of mining regulations	Increased procurement costs due to decline in new mine development caused by expansion of protected areas	Medium	Low	Long term	
				Increased procurement costs due to tighter regulations on environmental impacts such as pollution and water use during mining	Medium	Low	Long term	
		Reputation	Serious impacts at procurement mines	Reputational decline from sourcing at mines that seriously impact critical natural areas or local communities due to deforestation or pollution, and reduced procurement volumes due to mine shutdowns from serious impacts	Medium	Low	Long term	
		Markets	Demand for sustainable procurement	Increased compliance costs from demands by customers and investors for sustainability in raw material procurement	Low	Medium	Medium term	

Engineering Business

Specific Categories of Findings on the Dependencies and Impacts on Nature (Evaluate)

Regarding the dependencies and impacts of our engineering business on nature, we reviewed the findings under infrastructure construction and business operation categories at our sites and procurement from our upstream supply chain at iron ore and coking coal mining sites. Our procurement and infrastructure construction operations depend on the benefits provided by nature, particularly climate regulation. Meanwhile, our infrastructure construction operations impact nature through pollution and other factors. The iron ore and coking coal mining conducted upstream in our supply chain also affect nature through land use, water resource use, GHG emissions, and pollution.

Following this evaluation, we proceeded with assessments focused on infrastructure construction and upstream procurement, which have significant dependencies and impacts as well as business scale.

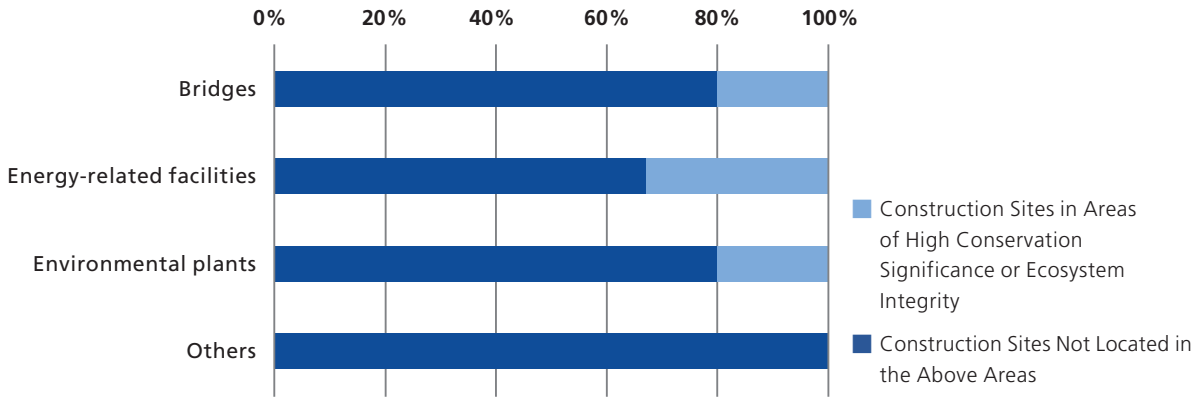


Assessment of Construction Sites (Locate)

We identified the locations of domestic construction sites of at least a certain size in 2025 and evaluated them based on the five criteria defined by the TNFD for priority areas. The evaluation found that some construction sites are in areas of high conservation significance or ecosystem integrity. Other criteria, such as water stress, were generally evaluated as low.

Roughly 20% of the construction sites are in areas of high conservation significance or ecosystem integrity, and when viewed by business type, many are energy-related facilities. At all construction sites, we confirmed that environmental assessments are conducted in advance regarding impacts on surrounding ecosystems and that additional measures are taken during construction to reduce ecosystem impacts.

Ratio of Construction Sites in Areas of High Conservation Significance or Ecosystem Integrity



Reviewing Nature-Related Risks and Opportunities (Assess and Prepare)

Following the above evaluation of dependencies and impacts, we organized the currently assumed nature-related risks and opportunities. The risks, some of which are recognized in our climate change scenario analysis, include physical risks that could materialize due to a water shortage or natural disaster and potentially trigger a decrease in production at our manufacturing sites or insufficient procurement from suppliers, apart from transition risks that might occur if regulations concerning protected areas and pollution are tightened.

Nature-Related Risks in Direct Operations

	Category		Item	Impact	Magnitude	Likelihood	Time Frame	Response
Direct operations	Physical risk	Acute	Intensification of extreme weather	Suspension of construction work and increased construction costs due to increased frequency and severity of natural disasters	Medium	Medium	Medium term	• Adoption of construction methods requiring less on-site work and development of new construction technologies • Enhance project management by using weather forecasting systems • Reduce CO_2 emissions from fuel consumption by using commercial power instead of generators
		Chronic	Water shortages and ecosystem degradation	Suspension of construction work and increased construction costs due to ecosystem degradation such as depletion of water resources	Medium	Medium	Long term	• Promote water recycling, adopt construction methods with low water use, and develop methods that account for water shortages
	Transition risk	Policies and regulations	Stricter regulations toward nature positive	Decline in new construction demand and increased compliance costs due to stricter land use regulations toward 30by30	Medium	High	Medium term	• Properly conduct construction in protected areas based on regulations and in line with the requirements of laws, municipalities, and other customers
				Increased compliance costs due to stricter regulations and monitoring requirements on environmental impacts such as pollution and ecosystem disruption during construction	Medium	Medium	Long term	• Optimize environmental assessment compliance costs by leveraging lessons learned from past construction projects • Develop efficient environmental management methods using digital technologies
		Markets and technologies	Delay in technologies addressing ecosystem considerations	Increased costs for developing and implementing technologies that contribute to nature positive and resource circulation, and loss of opportunities due to delays in response	Medium	Medium	Medium term	• Develop technologies for sorting and recycling plastics and promote new recycling businesses in collaboration with municipalities and private companies in plastic-related industries
		Reputation	Impact on surrounding ecosystems	Reputational decline due to adverse impacts on terrestrial and marine ecosystems caused by land use change, pollution, and disruption during construction	Medium	Medium	Medium term	• Plan and implement construction in line with environmental assessment results to reduce ecosystem impact risks • Reduce ecosystem impact risks through environmentally conscious initiatives during construction • Plan and implement construction based on engagement with local communities

Nature-Related Opportunities in Direct Operations

	Category		Item	Impact	Magnitude	Likelihood	Time Frame	Response
Direct operations	Opportunity	Services, markets	Efficient use of construction materials	Increased demand for repair work to extend infrastructure lifespans	Large	High	Short term	• Shorten construction periods, adopt methods requiring less on-site work, and develop new construction technologies to reduce impacts on infrastructure users
			Expansion of orders for environmental facilities	Increased demand and order opportunities for environmental facility construction such as for waste-to-energy plants	Medium	High	Short term	• Design improvements to enhance performance of existing products, develop new customers • Development of new products
			Development and implementation of ecosystem-friendly technologies	Increased demand and order opportunities through construction technologies with low environmental impact	Medium	Medium	Medium term	• Adoption of construction methods requiring less on-site work and development of new construction technologies
			Expansion of orders through national resilience measures	Expansion of order opportunities through national resilience measures to address intensifying natural disasters	Large	High	Short term	• Propose designs to customers that anticipate early restoration after disasters • Strengthen orders for seismic reinforcement and seismic isolation work on existing structures

Nature-Related Risks and Opportunities in Upstream and Downstream

	Category		Item	Impact	Magnitude	Likelihood	Time Frame	Response
Upstream	Physical risk	Acute	Intensification of extreme weather	Instability of raw material procurement and increased procurement costs due to increased frequency and severity of extreme weather events	Medium	Medium	Long term	• Consider the use of GX steel depending on construction project requirements • Require suppliers to implement GHG reduction initiatives through procurement guidelines • Develop construction technologies that reduce the use of materials with unstable procurement risks • Reduce procurement instability risks by developing new suppliers
		Chronic	Water shortages and ecosystem degradation	Instability of raw material procurement and increased procurement costs due to ecosystem degradation such as depletion of water resources	Medium	Medium	Long term	• Reduce procurement instability risks by developing new suppliers • Develop construction technologies that reduce the use of materials with unstable procurement risks • Require suppliers to reduce and effectively use resources (water, energy, raw materials, etc.) through procurement guidelines • Require suppliers to implement biodiversity conservation and sustainable use initiatives through procurement guidelines
	Transition risk	Policies and regulations	Stricter regulations on raw materials	Increased compliance and procurement costs due to stricter regulations toward nature positive in raw material mining and requirements for sustainability certification	Medium	Medium	Long term	• Reduce procurement instability risks by developing new suppliers • Develop construction technologies that reduce the use of materials with unstable procurement risks • Require suppliers to reduce and effectively use resources (water, energy, raw materials, etc.) through procurement guidelines
	Opportunity	Resource	Efficient use of construction materials	Reduction of natural impacts and cost savings in procurement through efficient use of construction materials, leading to reduced procurement volumes	Medium	Medium	Short term	• Implement environmentally conscious designs that require fewer materials • Further promote the use of recycled materials • Adoption of construction methods requiring less on-site work and development of new construction technologies
Downstream	Transition risk	Policies and regulations	Expansion of responsibility scope for impacts on nature after construction	Increased monitoring costs and reputational decline due to construction of facilities with significant natural impacts during operation (expansion of responsibility scope)	Medium	Medium	Long term	• Plan and design facilities from a life cycle perspective to reduce environmental impact risks

Measures to Address Impacts and Risks in Areas of High Conservation Significance or Ecosystem Integrity

The evaluation of construction sites in FY2025 confirmed the presence of sites in areas of high conservation significance or ecosystem integrity. Actions were taken at construction sites in these areas to avoid and mitigate impacts on ecosystems, as shown below.

Examples of Measures Implemented at Construction Sites in Areas of High Conservation Significance or Ecosystem Integrity

Example: Construction of an environmental plant in Prefecture A

The site was confirmed to be adjacent to a protected area and to have high ecosystem integrity, and the following actions were taken during construction.

- Temporary drainage ditches and earth dikes were installed around the perimeter of the work area to prevent turbid water from flowing off the construction site
- An environmentally sound dust suppressant was applied to the soil surface, and mist was sprayed to prevent dust from soil stockpiled for long periods
- Low-noise, low-vibration hybrid excavation machinery was used wherever possible to reduce noise and vibration

Example: Construction of an energy-related facility in Prefecture B

The site was confirmed to be adjacent to a protected area and to have high ecosystem integrity, and the following actions were taken during construction.

- Important plant species identified within the development area before construction were transplanted outside the area prior to the start of work
- All excavated soil was reused for embankment work within the construction site so that it would not need to be transported off-site
- Embankments and slopes were promptly compacted and protected to prevent dust dispersion and soil runoff

Metrics and Targets

We monitor environmental performance and set targets, and many of these metrics are aligned with the TNFD framework. For the TNFD disclosure metrics that are not yet subject to monitoring and target setting, we will prepare for future data collection.

ST JFE Steel EN JFE Engineering SH JFE Shoji

Items Monitored	Target Operating Company	Metrics	Correspondence to TNFD Metrics (Global Core and Additional)	Performance
Water resources	ST EN SH	Water intake	A3.0	P.282
	ST EN	Water discharge	C2.1	P.282
	ST	Water recycling volume	A3.2	P.282
Pollution	ST EN	Hazardous substance emissions (PRTR)	C2.4	P.279
	ST EN	Hazardous substance emissions (COD)	C2.1	P.278
	ST	Hazardous substance emissions (SOx/NOx)	C2.4	P.278
Resource circulation	ST EN	Resource input volume	—	P.280
	ST EN	Co-products/waste emissions	C2.2	P.280
Use of resources	ST	Water intake and consumption from water-stressed areas	C3.0	No intake from water-stressed areas (Japan)
Risk	ST EN SH	Fines due to negative impacts on nature	C7.2	0 yen (Japan)
Opportunity	ST EN	Beautification/greening expenses at production sites	C7.3	Approx. 0.6 billion yen (Japan)

Items with Set Targets	Target Operating Company	Metrics	Correspondence to TNFD Metrics (Global Core and Additional)	Performance
Reduction of chemical substance emissions	ST	Reduction of chemical substance emissions	C2.4	P.278
Resource use	ST	Recycling of co-products	A2.1	P.280
	EN	Recycling rate at construction sites	A2.1	P.281
	EN	Recycling rate of office recyclable waste	A2.1	P.281
	SH	Expand product lineup, contributing to resource circulation	C7.4	Initiative starting in FY2025
Effective use of water resources	ST	Efficient use of water resources	A3.0	P.282

Nature-Related Management Metrics

As part of overall risk management, we identify, analyze, and evaluate water risks based on past incidents of droughts and floods affecting the JFE Group's businesses, forecast data from the Japan Meteorological Agency, and the results of our scenario analysis. In particular, we consider as key risks the damages to business sites and disruption of the supply chain caused by restrictions on water intake due to droughts or increasing severity of meteorological disasters. In response, we are further reinforcing measures such as using recycled water, securing alternative means, and strengthening drainage facilities.

ST Water Risk Assessment and Measures

JFE Steel identifies and evaluates water-related risks based on past incidents of damage caused by droughts and floods, forecast data from the Japan Meteorological Agency, and results of scenario analysis. We conduct a further evaluation of water risks around each manufacturing site from different perspectives by also using the World Resources Institute (WRI)'s Aqueduct, a mapping tool for evaluating overall water risks from droughts and floods in each region around the world. According to the WRI's assessment in June 2024, water risks at JFE's main steelworks and production sites are not designated at a high level or above, but there will be risks of water shortages and flooding due to weather conditions in the future (2030s and 2040s). JFE Steel identifies manufacturing sites under such weather risks and takes measures such as business continuity planning.

ST Raised Effluent Standards to Reduce Water Resource Pollution Risks in Iron and Steelmaking Processes

JFE Steel strives to reduce its environmental impact on waterways by thoroughly purifying water used in iron and steelmaking processes before releasing it into public waterways or sewers. The company has concluded agreements with the administrative entity in each area that set out more rigorous effluent standards, compared to those stipulated under the Water Pollution Prevention Act. It also established a strict voluntary control standard to improve water quality. For FY2025, COD*, the water quality index for wastewater, was 2.3 tonnes per day.

*Chemical Oxygen Demand (COD) is an indicator for water pollution in seas, oceans, lakes, and ponds. It represents the amount of oxygen (mg/l) consumed when pollutants present in water, such as organic matter, are oxidized.

EN Proper Management in Accordance with the Water Pollution Prevention Act and Sewerage Act

Wastewater from the JFE Engineering Yokohama head office, Tsurumi works, Tsu works, and the Kasaoka Monopile Factory is released into public waterways or sewer systems. Nitrogen, phosphorus, and COD in the wastewater are measured on a regular basis and effectively managed in accordance with the Water Pollution Prevention Act and Sewerage Act.

For more on quantitative data related to water, please refer to:
> Environmental Data (P. 273)

Main Initiatives for Biodiversity Conservation and Nature Positive

The JFE Group endorses and participates in the Challenge Zero initiative jointly sponsored by Keidanren and the Japanese government. We are also collaborating with Yokohama City on a project that uses steel slag products to improve the marine environment while also undertaking efforts for biodiversity conservation and nature positive.

> **Challenge Zero** (https://www.challenge-zero.jp/en/member/37)

ST Complete Chromate-Free Hot-Dip Galvanized Steel Sheets

Chromate treatment using hexavalent chromium (Cr^{6+}), an environmentally hazardous substance, has been employed to improve the corrosion resistance of hot-dip galvanized steel sheets, mainly used in the electrical and building materials sectors. We developed steel sheets that deliver performance equal to or greater than that of chromated steel sheets without using hexavalent chromium, and by having customers evaluate the stable performance of these products, we achieved complete chromate-free hot-dip galvanized steel sheets in 2020.

ST Contributing to Biodiversity and the Creation of an Attractive Seaside Town by Utilizing Steel Slag Products (Partnership Agreement with Yokohama City)

Silty sediment (sludge containing large amounts of organic matter) piles up on the seabed along the seaside frontage of Yamashita Park in Yokohama City, Kanagawa Prefecture, and significantly deteriorates water quality in summer. As a result, the ocean's ability to function as a spawning ground or environment for nurturing organisms has been lost.

In a joint research project with Yokohama City, JFE Steel is restoring the intrinsic ability of the waters to purify seawater with the help of marine organisms by using steel slag products to create rocky habitats that provide attachment surfaces for marine organisms and assist in improving the marine environment. Immediately after the experiment began, we observed an increase in the presence of marine organisms such as starfish and sea cucumbers around the area, and the populations continued to grow. Moreover, we estimated that 8,400 kl of seawater (equivalent to seventeen 25-meter swimming pools) is filtered per day by filter-feeding marine creatures such as bivalves and sea squirts. We also estimated their impact on the removal of COD and the reduction of CO_2 in comparison to results obtained through water purification at sewage treatment plants.

This public-private initiative to improve the marine environment has earned public recognition, with Yokohama City and JFE Steel jointly receiving the FY2021 Environmental Award of the Japan Society of Civil Engineers*1. In 2022, JFE Steel also received the Minister of Land, Infrastructure, Transport and Tourism Award at the 5th EcoPro Awards*2, sponsored by the Sustainable Management Promotion Organization (SuMPO). Following these awards, a commemorative sign displaying the results was installed near the balcony facing the waters in front of Yamashita Park so that more people can learn about the initiative.

These results are also used to raise environmental awareness among local communities through numerous exhibitions and events, including Hamatora FES*3 and Tokyo Bay Dai-Kanshasai*4.

*1 The Japan Society of Civil Engineers Award is a prestigious award with a history of over 90 years. The Environmental Award (Group-2) is given to an innovative project that has contributed to any combination of environmental preservation, improvement, and creation activities by developing or operating civil engineering technologies or systems.

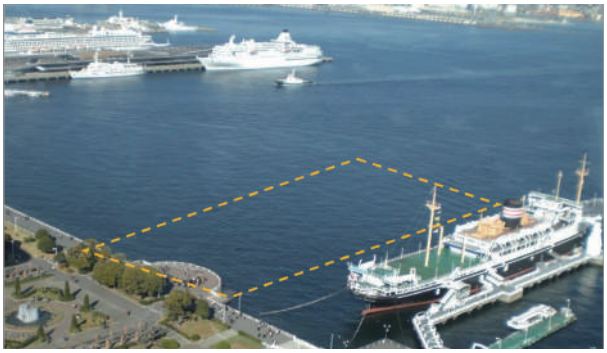
*2 The award is given to goods, services, technologies, solutions, or business models with specific and outstanding eco-friendly attributes that are widely recognized by businesses, consumers, investors, and market players in the Japanese market.

*3 Hamatora FES is the short name for the Yokohama Triathlon Festival. This is one of Japan's largest triathlon (swim, bike, and run) festivals, bringing together a variety of booths for triathlon, other sports, official event merchandise, food and beverages, and environmental PR. Organized by the World Triathlon Championship Series Yokohama Organizing Committee.

*4 A public-private partnership event in which citizens, companies, and organizations, as well as the national and local governments, work together to restore Tokyo Bay and promote co-existence with nature. Organized by the Tokyo Bay Dai-Kanshasai Executive Committee and the Tokyo Bay Renaissance Public-Private Partnership Forum.

> **FY2021 Environmental Award of the Japan Society of Civil Engineers** (https://www.jsce-int.org/node/780)

> **The 5th Eco Pro Award (Japanese only)** (https://sumpo.or.jp/seminar/awards/5th_eco-pro_award_results.html)



The dotted line indicates the area in which slag products are being used at Yokohama Bay (photo taken by Yokohama City)



Colony of sea squirts on Frontier Rock™



Signboard commemorating the partnership project (installed in September 2023)



Hamatora FES (May 2026)

ST Agreement Concluded on the Demonstration Project for Blue Carbon Creation at the Hota Fishing Port

In March 2025, JFE Steel entered into a collaboration agreement with Chiba Prefecture, the Hota Fishery Cooperative Association in Kyonan Town, and Kyonan Town for a demonstration project to restore seaweed beds.

In Chiba Prefecture, shallow coastal areas host many rocky reefs and tidal flats with widespread seaweed and seagrass beds. Recently, however, the destruction of seaweed beds has been spreading in the Uchibo coastal area. Although there are several theories about why this is happening in Chiba's coastal waters, the main causes are thought to be rising seawater temperatures and damage caused by herbivorous fish. The demonstration project began in April 2025 and is scheduled to continue through March 2028. Steel slag products (artificial stone) rich in iron, which is essential for seaweed growth, are wrapped with seed strings containing seaweed seedlings and placed in the sea. To confirm the effects of seawater temperature and herbivorous fish, which are considered causes of the destruction of seaweed beds, seaweed growth will be monitored under varying conditions, including seaweed species and water depth.

This demonstration project is intended to create blue carbon* and improve fishery productivity by enhancing the marine environment.

*Blue carbon refers to CO_2 sequestered by growing seaweed and other marine vegetation.



From left: Ms. Yoko Inoue, Director General, Environmental and Community Affairs Department, Chiba Prefecture; Mr. Eiji Katayama, General Manager, Slag Business Planning Division, JFE Steel Corporation; Mr. Harukazu Shiraishi, Mayor of Kyonan Town; Mr. Shigeo Murai, Representative Director and President, Hota Fishery Cooperative Association

Commemorative photo with participants (April 2025)

ST Advancing Biodiversity Verification of Steel Slag Products in Collaboration with Venture Businesses

JFE Steel keeps a water tank containing the coral-covered steel slag products Frontier Rock™ and Marine Block™ in the exhibition area at the reception of the head office, offering visitors the opportunity to watch coral and tropical fish while learning about our initiative to preserve the ecosystem using steel slag products. We also intend to conduct experiments inside the tank. Innoqua Inc.*1 is providing technical support for the exhibition, which has been featured by several newspapers and TV programs as an example of business collaboration in the field of the environment. JFE Steel also participates in the Setouchi Nagisa Forum*2, a seaweed-bed and tidal-flat restoration project established by Innoqua, and collaborates on marine environmental conservation in the Seto Inland Sea region using steel slag products.

*1 A venture company engaged in the development of systems for managing and nurturing corals and fish by combining its aquarist know-how with IoT and AI.

*2 Participating members include companies, universities, municipalities, and fisheries cooperatives located along the Seto Inland Sea. The project aims to conserve biodiversity and revitalize local economies through regional collaboration, beginning with the restoration of seaweed beds and tidal flats



Healthy coral attached to and steadily growing on Frontier Rock™ installed in the tank

ST The Biotope Chita Initiative to Reproduce and Conserve the Local Ecosystem

To commemorate the 80th anniversary of its opening in 2023, the JFE Steel Chita Works established and developed Biotope Chita within the plant premises to recreate and conserve the Chita Peninsula's ecosystem. Of the approximately 2 ha of site area, 1 ha had already been developed as a green belt in 2013. We are creating habitats at Biotope Chita for living organisms and conducting community-based events in collaboration with the local area.



Biotope Chita overview



Rice planting event

ST The Chita Works Certified as an Outstanding Aichi Biodiversity Company

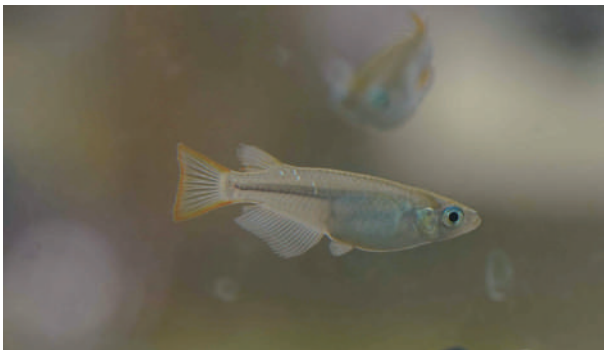
In November 2025, our Chita Works was certified as an Outstanding Aichi Biodiversity Company under the Aichi Biodiversity Company Certification Program launched by Aichi Prefecture and based on the Aichi Biodiversity Strategy 2030. The program is intended to encourage more businesses in the prefecture to play a pivotal role in preserving local biodiversity by certifying those that have implemented outstanding initiatives to do so.

We have used Biotope Chita at the Chita Works since FY2022 to create green spaces that attract the chestnut tiger butterfly, a species that migrates more than 2,000 kilometers across Japan, and we have partnered with municipalities in the Chita Peninsula of Aichi Prefecture to exchange information on butterfly arrivals. We are also engaged in conservation activities for native species such as the Japanese rice fish (Oryzias latipes) and Japanese honeybee (Apis cerana japonica). We have further strengthened our initiatives since FY2024 by undertaking ex-situ conservation of wetland plants.

Certified
Aichi Biodiversity Company



Chestnut tiger butterfly



Japanese rice fish

ST Biotope Chita Certified as a Nature Symbiosis Site

Biotope Chita, the biodiversity conservation base of the Chita Works, was certified as a Nature Symbiosis Site by the Ministry of the Environment, the Ministry of Agriculture, Forestry and Fisheries, and the Ministry of Land, Infrastructure, Transport and Tourism.

A Nature Symbiosis Site is an area that promotes biodiversity conservation through private initiatives and other efforts. The system was launched in 2023 and codified into law in 2025 under the Act on Promoting Activities to Enhance Regional Biodiversity. This legislation expanded the scope of certification to include areas where initiatives are undertaken to conserve or create natural environments for the future. In 2025, a portion of Biotope Chita (0.66 ha) was certified as a Nature Symbiosis Site as part of the Chita Peninsula Greenbelt*1. The newly certified area covers 0.8 ha developed in 2023. The area was independently certified as a "creation type" Nature Symbiosis Site in recognition of efforts to create a natural environment in which native plants and animals can live and grow.

*1 The Chita Peninsula Greenbelt (76.33 ha) is a forest belt in the coastal industrial area of the Chita Peninsula. In 2011, efforts began under the Inochi wo Tsunagu Project, a wide-area collaboration focused on biodiversity. Activities include improving the quality of green spaces, creating pathways for species to move freely between green spaces, and creating habitats for living organisms.

自然共生サイト認定
30by30

ST Initiatives for Blue Carbon Using Steel Slag Products and Acquisition of J Blue Credit™

In recent years, research on blue carbon (carbon absorbed and stored by living organisms in the ocean) has been advancing. We are also creating seaweed beds using steel slag products and measuring the total carbon absorption of these beds.

JFE Steel has been promoting the research while creating a seaweed bed using steel slag products and measuring the amount of carbon captured by the entire bed. The company has been collaborating with Koujiro Fisheries Cooperative (Iwakuni City, Yamaguchi) and the National Institute of Technology, Ube College (Ube City, Yamaguchi) on a project to create a seaweed bed and ecosystem using recycled materials in areas around Shinto, Iwakuni City, since FY2012. The initiative involves creating a seaweed bed with rich biodiversity using Marine Stone™, a grain-size-adjusted steel slag, and other steel slag products, and measuring CO_2 absorption of the created beds. Iwakuni City joined the project in FY2023. The cumulative amount of CO_2 absorbed and stored from 2018 to 2023, which totaled 81.4 tonnes, received J Blue Credit™ certification by the Japan Blue Economy Association. This was the first certification ever given to a three-party joint project by the Fisheries Cooperative, academia, and private business. The seaweed bed created through the project had the co-benefits of offering a gathering place for a diverse range of fish species. Additionally, the sea area is used for education and research.

In recognition of this initiative, the project partners and JFE Steel jointly received the Ministry of Agriculture, Forestry and Fisheries Prize at the 32nd Global Environment Award*1 in 2024 and the WAVE Award at the Blue Infrastructure Award*2 in 2025.

JFE Steel is also participating in the Creating Tidal Flats Using Recycled Resources in the Inner Harbor of Fukuyama Port project with Hiroshima University, The Chugoku Electric Power Co., Inc., and Fukuyama City, Hiroshima Prefecture. The project calculates the amount of carbon absorbed by microalgae growing on the tidal flats. The calculated carbon absorption of 17.6 t-CO_2 from February 2023 to January 2024 received J Blue Credit™ certification from the Japan Blue Economy Association. Going forward, JFE Steel will continue to contribute to creating multifaceted environmental value, including CO_2 absorption, water purification, and enhanced biodiversity, by expanding the applications of steel slag products.

*1 The Global Environment Award recognizes environmental preservation and related efforts that will help establish a circular society for a "harmonic coexistence between industrial development and the environment of the Earth."

*2 Established to help ensure that valuable waterfront spaces in ports are passed on to future generations in an even richer state and contribute to the expansion of blue infrastructure aimed at achieving carbon neutrality.

› The 32nd Global Environment Award (Japanese only) (https://www.sankei-award.jp/eco/jusyou/)

› Selection of Award-Winning Initiatives for the 3rd National Sea Restoration and Blue Infrastructure Awards (Japanese only) (https://www.wave.or.jp/doc/2026/doc/2025_blueinfra_shou.pdf)



School of rockfish gathered around the steel slag seaweed bed



Excellent place for education and research
(photo from the National Institute of Technology, Ube College)



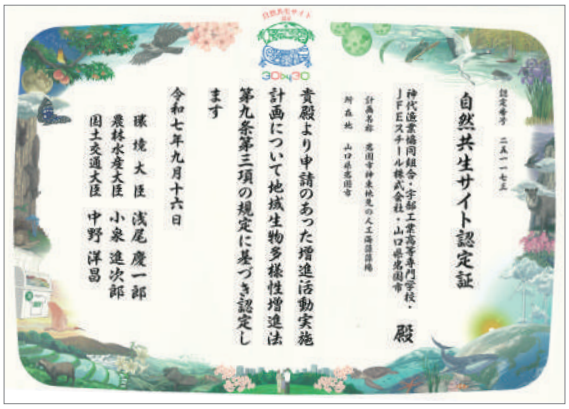
Blue Infrastructure Awards ceremony

From left: Atsushi Kurata, Director, Agriculture, Forestry and Fisheries Department, Iwakuni City; Kenji Sugimoto, Professor, National Institute of Technology, Ube College; Hiroshi Fujimoto, Representative Director and President, Koujiro Fisheries Cooperative; and Kentaro Iwai, Slag Planning Department, JFE Steel Corporation

ST Restoring Marine Ecosystems Using Steel Slag Products and Certification as a Nature Symbiosis Site by the Ministry of the Environment

Marine Stone™ is a grain-size-adjusted steel slag that controls the generation of hydrogen sulfide from silty sediment in enclosed coastal seas and improves the environment in which organisms can live. Its effectiveness in improving marine environments is widely recognized, and the joint project with Hiroshima University has received external commendations. The project to create a seaweed bed and ecosystem using recycled materials in areas around Shinto, Iwakuni City, was certified as a Nature Symbiosis Site by the Ministry of the Environment, the Ministry of Land, Infrastructure, Transport and Tourism and by the Ministry of Agriculture, Forestry and Fisheries. The Nature Symbiosis Site scheme certifies areas where biodiversity is conserved through private initiatives and other efforts, as part of measures to achieve the Ministry of the Environment's 30by30 target, which aims to effectively conserve at least 30% of land and sea as healthy ecosystems by 2030. The project was recognized for enhancing biodiversity, generating blue carbon, and utilizing the created seaweed beds as sites for environmental awareness, education, and research, leading to our first certification in an actual sea area.

Meanwhile, Frontier Rock™, an artificial stone made from a steel slag hydrated matrix, has also demonstrated excellent performance as a base for seaweed beds and fishing reefs. A submerged bank built on the seabed off the coast of Minami-Izu Town, Shizuoka Prefecture, has become a gathering place for large perennial seaweeds as well as useful fishery resources such as lobsters and a wide variety of fish.



Nature Symbiosis Site Certificate



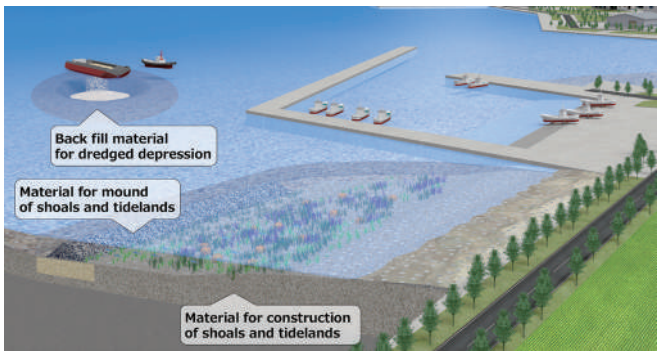
School of fish attracted to the submerged bank made of Frontier Rock™

ST Calcia Improvement Material

Calcia improvement material is a slag product that uses converter-type steelmaking slag as raw material and is manufactured by controlling composition and adjusting particle size. Dredged soil mixed with calcia improvement material is called calcia-improved soil.

Calcia-improved soil can also be used for creating shallow waters, tidal flats, and embankment material and as back fill material for deep excavation pits left by marine sand extraction. It contributes to improving the marine environment. To date, it has been used as the main embankment material for creating a shallow area (incidental facilities at the sediment disposal site, Tokuyama-Kudamatsu Port). In the Seto Inland Sea, studies are also underway to explore its use as backfill for deep excavation pits to restore former marine sand extraction sites.

› **Contribution of Steel Slag Products** (P. 136)



Application of Calcia-Improved Soil for Marine Environmental Improvement

ST Environmental Conservation and Nature Positive Designated as a Priority Area under the Policy on Social Contribution

In 2026, JFE Steel established the JFE Steel Policy on Social Contribution Activities. In promoting social contribution activities, it designated environmental conservation and nature positive as one of its priority areas, closely aligned with its business strategy. In addition to providing products, technologies, and services that contribute to these areas, JFE Steel will also undertake activities to advance environmental conservation and nature positive beyond its business operations.

EN Initiatives in the Engineering Business for the Preservation of the Natural Environment and Biodiversity

In engineering projects, at waterfronts, in mountainous areas, and in large-scale construction efforts, customers and related organizations often conduct preliminary surveys in advance, depending on the importance of conserving the surrounding environment, and various environmental protection conditions may be imposed on the work, including measures for protecting living organisms.

JFE Engineering respects the proposed conditions and thoughtfully considers biodiversity conservation by keeping the impact of construction work at a minimum. For example, it may propose a construction method that minimizes the impact of noise or drainage pollution. For its works, the status of biodiversity on its premises and in surrounding areas is checked, and necessary measures are taken to ensure preservation.

The JFE Engineering Group also undertakes initiatives that contribute to conserving the natural environment and biodiversity, including the construction of sewage treatment plants that help improve water quality in developing countries (P. 174), as well as initiatives that help address marine plastic pollution,* such as plastic recycling (P. 129), horizontal recycling of PET bottles (P. 131), and the construction and operation of waste-to-energy plants in developing countries (P. 132).

*JFE Engineering Group initiatives that contribute to addressing marine plastic pollution include the construction and operation of waste-to-energy plants in developing countries and are in alignment with the Ministry of the Environment's National Action Plan for Marine Plastic Litter, formulated in 2019. Furthermore, J&T Recycling Corporation, a group company of JFE Engineering, supports the activities of the Japan Clean Ocean Material Alliance (CLOMA), which was established to support activities that address the problem of marine plastic litter. As a member of CLOMA, the company is recycling PET bottles and plastics.

EN Completion of the Largest Sewage Treatment Plant in Hanoi, Vietnam —Contributing to the Improvement of Water Quality in Public Water Areas in Hanoi

JFE Engineering Corporation, in a joint venture with Tsukishima JFE Aqua Solution Co., Ltd., has completed the construction of the largest sewage treatment plant in Hanoi, the Yen Xa Wastewater Treatment Plant, for which the joint venture was awarded the contract by the City of Hanoi, Vietnam. The two companies were responsible for the detailed design and construction of the project. The work was completed in May 2025, and the completion ceremony was held in grand fashion on August 19.

In Vietnam, rapid urbanization accompanying accelerated economic growth has led to severe water pollution of rivers caused by domestic wastewater, and the development of sewage treatment facilities has become a pressing priority. Although the government has set a target of 100% sewerage coverage by 2050, the sewage treatment rate in urban areas remains low at around 20%.

This project consisted of constructing a sewage treatment facility designed to support a national objective. The plant is equipped with nitrogen and phosphorus removal technologies, has a daily treatment capacity of 270,000 m^3, and serves around one million people. Construction began in 2019 and, despite the impact of the COVID-19 pandemic, continued steadily, with completion achieved approximately six years later.

The project was financed by a yen loan provided by the Japan International Cooperation Agency (JICA). The facility incorporates Japanese technologies, including rapid filtration for water treatment and pipe jacking with electromagnetic detection for construction, thereby realizing the export of high-quality infrastructure.

Going forward, JFE Engineering will continue to contribute to the improvement of living environments overseas and to the realization of a sustainable society as a leading company in the field of water and sewage treatment plants, by providing Japanese technologies as well as our accumulated expertise and experience.

Project Overview

Client	City of Hanoi, Vietnam
Site location	Thanh Tri District, Hanoi
Scope	Construction of a new wastewater treatment plant
Contract amount	Approx. 12.0 billion yen (JFE Engineering share)
Completion	May 2025



Scene from the completion ceremony

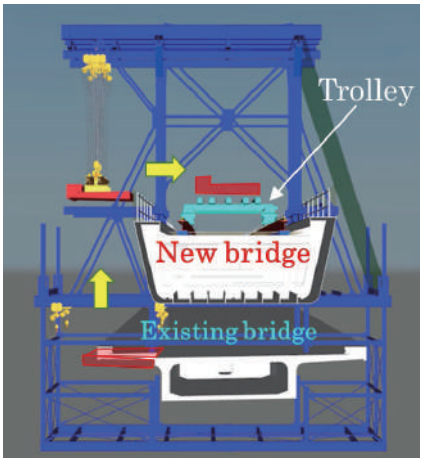

Panoramic View of the Yen Xa Wastewater Treatment Plant

EN Biodiversity Conservation in the Reconstruction of the Tedori River Bridge

The reconstruction of the Tedori River Bridge is described under the heading "Toward Realizing Longer Service Life Bridges" in the Initiatives to Transition to a Circular Economy section of this Sustainability Report 2026. The project is characterized not only by the use of stainless clad steel but also by the adoption of a special reconstruction method necessitated by local site constraints. The bridge is located at the mouth of the Tedori River, and the sandy beach beneath the girders is inhabited by the Iso-komori spider (Lycosa ishikariana) and the Little Tern, both listed as endangered species (Category II). We therefore developed a reconstruction method that avoids bringing heavy machinery onto the sandy beach to protect these rare species.

The construction method begins by assembling the new bridge on top of the existing one before its removal and then installing a removal frame on the new bridge. Using this frame, the girders are cut in mid-air, lifted onto the new girders, placed on transport vehicles, and carried out of the bridge area. This reconstruction method was developed by JFE Engineering, combining multiple techniques derived from similar experiences in urban expressway reconstruction and widening projects and applied to the site after full-scale construction trials.

› Toward Realizing Longer Service Life Bridges (P. 139)



Schematic of the girder removal procedure



Removal frame



On-site construction status
(removal of existing girders in mid-air using a removal frame)

EN JFE Engineering: Biotope for Children's Learning Experience

JFE Engineering has conducted some renovation work at the JFE Dragonfly Path in the Tsurumi Works, and since 2009 it has been inviting local residents and children to learn about the ecosystem at a biotope, Dragonfly Pond, located along this path.

The JFE Dragonfly Path Fan Club, a group mainly composed of neighborhood residents, has organized a research event that involved capturing dragonflies to help children learn about dragonfly ecology and the local natural environment.

We are also a founding member of the How Far Do Dragonflies Fly Forum, which aims to improve the quality of green spaces in the Keihin coastal area and contribute to biodiversity. The forum brings together companies, residents, governments, and experts and conducts research activities such as capture, tagging, and release of dragonflies that fly in 20 green spaces and biotopes scattered throughout the Keihin coastal area and inland areas to track their movements. The JFE Dragonfly Path also serves as a research site.

These activities were certified in 2024 by the Ministry of the Environment as a Nature Symbiosis Site under the designation "Yokohama/Keihin Forest."



Dragonfly Pond serving as a biotope

EN Participation in Kanagawa Prefecture's Reforestation Partner Program

In March 2023, the JFE Engineering Group's J&T Recycling Corporation expressed its support for the Kanagawa Reforestation 50 Year Plan and signed a memorandum of understanding with Kanagawa Prefecture on the Reforestation Partner Program, an initiative launched by the prefecture.

The company's intent is to use the program as part of its environmental protection and harmony activities while supporting the prefecture's vision. Under the partnership, the company's employees volunteer to help thin trees and take part in other efforts for conserving forests, a valuable source of water for future generations.

The Reforestation Partner Program grants naming rights to participants for parts of the prefecture-owned forests, one of which is now called the J&T Kankyo Miracle Forest (with the word "miracle" expressed in kanji, meaning the "future is coming"). J&T Recycling Corporation is constantly enhancing its ESG initiatives to improve the environment.



New employees pruned trees in a volunteer activity



J&T Kankyo Miracle Forest



Valuation report on CO_2 absorption by the forest

For details about the Reforestation Partner Program, please refer to:

› **Website for Kanagawa Prefecture (Japanese only)** (https://www.pref.kanagawa.jp/docs/pb5/partner.html)

EN Participation in Beach Cleanup Activities with Sea Turtle Network Mie

In 2017, the Governor of Mie Prefecture, the chair of Sea Turtle Network Mie, and the head of JFE Engineering's Tsu Works signed Mie Prefecture's first Mie Biodiversity Partnership Agreement to protect wildlife and raise awareness. Since then, JFE Engineering has supported the initiative by providing 5,000 awareness-raising leaflets each year and participating in beach cleanups.



Leaflet (front)



Leaflet (back)

● Beach Cleanup (Primarily Conservation Activities for Loggerhead Sea Turtles*)

Because April through August is the breeding season for the Kentish plover, the official bird of Mie Prefecture, large-scale beach cleanups during this period could cause parent birds to abandon their nests, thereby disrupting breeding. We therefore conduct beach cleanups several times between September and March along the coast, from around the Tsu Works to Yokkaichi.



Beach cleanup

*The loggerhead sea turtle is listed as Threatened IB (Endangered, EN) on the Ministry of the Environment Red List. According to the Sea Turtle Conservation Handbook (2006) by the Ministry's Nature Conservation Bureau, juvenile loggerhead turtles hatched on Japanese beaches use the Kuroshio Current to cross the Pacific, with many reaching waters off the Baja California peninsula. After maturing there, the turtles cross the Pacific again toward the coast of Japan and lay eggs on beaches. Conserving loggerhead turtles in Japan, an important nesting area, therefore also contributes to protecting populations across their trans-Pacific habitat.

EN Marine Environmental Conservation through Participation in Refresh Setouchi (Kasaoka City Coastal Cleanup Campaign)

JFE Engineering participates in the Kasaoka City Coastal Cleanup Campaign under Refresh Setouchi, organized by the Setouchi Umi-no-Michi Network Promotion Council, which comprises municipalities and other organizations along the Seto Inland Sea, thereby promoting co-existence with local communities and conservation of the natural environment. This ongoing activity has been primarily led by the Chugoku Branch. Participation increased following the establishment of the Kasaoka Monopile Factory, and the initiative has now expanded across departments.

Kasaoka City has a rich natural environment with extensive tidal flats and shallow coastal waters and is an important habitat for the tri-spine horseshoe crab, a species listed as Endangered Category I and regarded as a living fossil.

The horseshoe crab's habitat is shrinking year by year due to such factors as coastal reclamation, and marine litter washed ashore can affect spawning grounds and larval habitat. In light of these conditions, cleanup activities not only help to beautify the coast but also help to conserve valuable ecosystems, including horseshoe crab habitats.

JFE Engineering also supports conservation in collaboration with the community by participating in the Kasaoka City Horseshoe Crab Environmental Support Group, an initiative that promotes nature conservation with the horseshoe crab as its symbol.

JFE Engineering is engaged in businesses closely connected to the marine environment, including the manufacture of offshore wind power equipment such as monopiles as well as port and marine structures such as jackets, caissons, and cranes.

Because our business is closely related to the marine environment, we regard conducting business activities in harmony with this environment as a key management concern. We will continue to contribute to marine environmental conservation and the maintenance of biodiversity through collaboration with local communities.



Beach cleanup

Initiatives for Realizing Nature Positive in the Keihin Waterfront Area

The shared urban space under OHGISHIMA2050 is envisioned as a green, future-oriented venue for demonstration and interaction of advanced technologies supporting DX and GX. In collaboration with Kawasaki City, we are exploring the creation of a nature-positive urban space that fosters biodiversity.

As part of land use initiatives in the Keihin area, we are considering the promotion of CCUS projects by leveraging the expertise and know-how cultivated in advanced CCS projects, contributing to ecosystem conservation through businesses that support carbon neutrality. Land use conversion in the Keihin area involves dismantling large idle facilities such as steelmaking shops and coke plants. Through the recycling of scrap, concrete, and other materials, we are working to reduce environmental impact. At Ohgishima, we have continued operations as a steelworks rich in greenery, conducting extensive greening initiatives to create a people- and environment-friendly site. In land use conversion as well, we will aim to realize an urban environment that takes biodiversity and resource circulation into consideration.



Shared urban space (concept)