



## Environment

11	Basic Environmental Management Policy and Structure
15	Response to Climate Change
26	Environmental Management
31	Appropriate Management of Water Resources
34	Resource Recycling
38	Reduction of Environmental Impacts
41	Biodiversity
46	Material Balance

# Basic Environmental Management Policy and Structure

Through environmental management based on three Visions, we aim to contribute to a world in which people, now and in the future, can fulfill their hopes and dreams while enjoying safe, secure, and prosperous lives.

Policies

As we strive to realize the world that we envision, we assume the important responsibility of passing on to future generations a healthy global environment in which all forms of life can thrive. To this end, the Kobelco Group has formulated long-term policies, set targets, and is promoting environmental management based on the Kobelco Group's Basic Environmental Management Policy, which consists of three Visions.

The Group has been and will continue to provide solutions to the needs of society, including those related to global environmental issues by leveraging its diversity in its people and technologies with due consideration of the environment in all aspects.

## Basic Environmental Management Policy

As an environmentally advanced corporate group, the Kobelco Group will fulfill its social responsibilities, improve its environmental capabilities, and enhance its corporate value by implementing the following initiatives.

VISION  
1

Pursuing environmentally friendly manufacturing

VISION  
2

Contributing to the environment through technologies, products, and services

VISION  
3

Coexisting and cooperating with society

## Initiatives for the Environment

Policies

Strategies and Targets

Initiatives for Implementation			Long-Term Policies	Medium-Term Environmental Management Plan (FY2024–2026)
VISION 1	Environmentally friendly manufacturing	Measures against global warming	Contribute to preventing global warming by promoting energy conservation and CO <sub>2</sub> reduction in all business activities 2030 target: Reduce CO <sub>2</sub> emissions from production processes by 30–40% (compared to fiscal 2013) 2050 vision: Taking on the challenge of achieving carbon neutrality	<ul style="list-style-type: none"><li>• Promote medium- to long-term technological development based on the roadmap and continue working on energy conservation initiatives, in order to achieve 2030 target and 2050 vision</li></ul>
		Promoting resource recycling	Continue activities aimed at zero landfill waste Target: Recycling rate of 99% (fiscal 2025) (Major by-products: Slag, sludge, and dust)	<ul style="list-style-type: none"><li>• Promote recycling by reducing the amount of waste disposed of to contribute to the achievement of the industry's recycling targets</li><li>• Carry out appropriate disposal in accordance with the Guidelines Related to Management of Iron and Steel Slag Products</li><li>• Strive to recycle waste plastics as much as possible (Upper target: Recycling rate of 80%)</li></ul>
		Appropriate management of chemical substances	Reduce hazardous substances in accordance with the Kobelco Group Policy on Controlling Hazardous Chemical Substances	<ul style="list-style-type: none"><li>• Properly manage and reduce or replace chemical substances, and properly comply with the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes, the Act on Rational Use and Appropriate Management of Fluorocarbons, and new regulations on chemical substances</li></ul>
		Reducing environmental impact	Ensure thorough voluntary controls and make continuous efforts toward reducing the environmental impact	<ul style="list-style-type: none"><li>• Continue thorough operational management and facility management in an effort to reduce environmental impact from soot/smoke and water pollution Targets: Water recycling rate: Maintain 95% or higher Groupwide Water pollution load: COD: 474 tons/year and total phosphorus: 23 tons/year</li></ul>
	Thorough risk management		Pursue systematic and deliberate efforts to reduce risks	<ul style="list-style-type: none"><li>• Enhance the autonomous environmental management system (EMS) that includes domestic and overseas business sites, subsidiaries, and subsubsidiaries</li></ul>
	Promoting environmental initiatives with full employee participation		Constantly improve the environmental awareness of all Kobelco Group employees	<ul style="list-style-type: none"><li>• Continue initiatives such as stratified training, e-learning, and environmental training for Group companies, and encourage the use of the Kobelco Eco-Life Notebook (household eco-account book), in an effort to increase environmental awareness</li></ul>
VISION 2	Contributing to the environment through technologies, products, and services		Create environmentally sustainable products and new businesses with due consideration of the environment in all technological and product development 2030 target: Contribution to CO <sub>2</sub> reduction: 78 million tons Net sales of products that contribute to CO <sub>2</sub> reduction: 550 billion yen 2050 vision: Contribution to CO <sub>2</sub> reduction: 100 million tons or more	<ul style="list-style-type: none"><li>• Contribute to the creation of a low-carbon society through the efforts of the entire Kobelco Group by working on issues related to the environment and energy fields, such as weight reduction of transportation vehicles, the creation of a hydrogen-based society, and the diversification of power sources</li></ul>
VISION 3	Coexisting and cooperating with society		Promote coexistence and cooperation with local communities from an environmental perspective	<ul style="list-style-type: none"><li>• Promote the Kobelco Green Project, centered on the three key activities of the Kobelco Forest Fairy Tale Prize, forest development, and environmental education outreach at children's centers, in an effort to cooperate and coexist in harmony with local communities</li></ul>
	Disclosure of environmental information		Take active steps to disclose environmental information and improve communication with all stakeholders	<ul style="list-style-type: none"><li>• Continue disclosing information and enhance communication with all stakeholders</li></ul>



## Basic Environmental Management Policy and Structure

### Environmental Management Structure

#### Structure

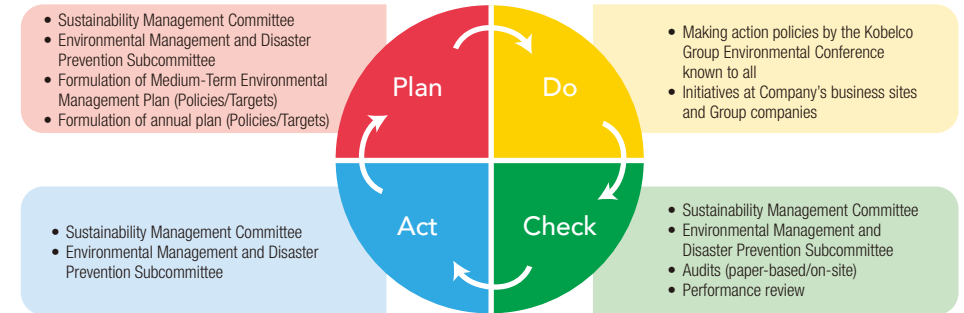
The Kobelco Group's environmental management policies, targets, initiatives, and progress are deliberated at the Environmental Management and Disaster Prevention Subcommittee, which is chaired by the executive officer responsible for Companywide environmental protection and disaster prevention, and whose members consist of managers of the Head Office's administrative departments and the respective business divisions' environmental management departments. At meetings held at least once a year, the subcommittee deliberates, reports, and evaluates policies, execution plans, and the results of efforts concerning initiatives for implementation for each of the three visions regarding environmental management. Important matters are reported and submitted to the Executive Council after the Sustainability Management Committee, to which the subcommittee reports. The management cycle is implemented with the Sustainability Management Committee at its center, and individual issues related to environmental management are further discussed by the Environmental Management and Disaster Prevention Subcommittee under this committee. With regard to climate change-related risks and opportunities, based on the recognition that we have moved to a phase of further strengthening and materializing our responses from fiscal 2024 onward, we have renamed the CO<sub>2</sub> Reduction Promotion Subcommittee to the GX Strategy Committee and strengthened its structure as an auxiliary body to the Executive Council.

#### ► Climate-Related Governance Structure

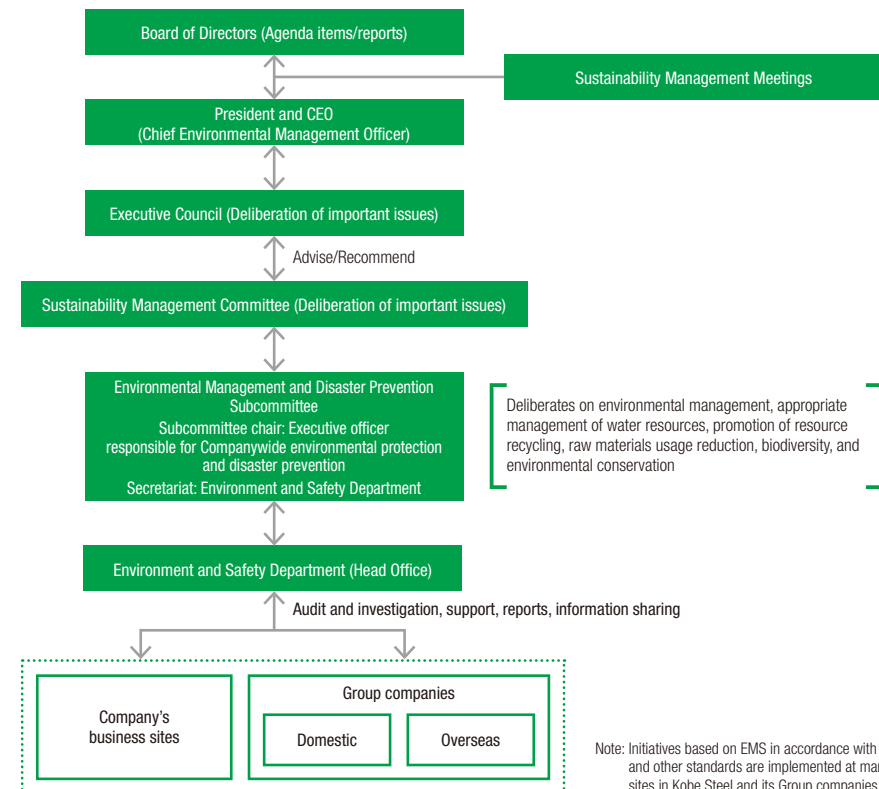
Long-term environmental policies and execution plans for achieving Medium-Term Environmental Management Plan targets are incorporated into the medium-term plan and annual budgets of each business division.

In order to raise environmental awareness among all employees, we provide a range of environmental education programs, including those aimed at sharing action policies. For example, in Japan, in addition to holding the Kobelco Group Environmental Conference once a year, which is also attended by Group companies, the Company offers e-learning and stratified training programs. In the United States and China, where many of our Group companies are located, we have assigned environmental managers to regional headquarters, in order to thoroughly ensure the promotion of environmental activities in each country and the sharing of the latest information on environmental regulations. For overseas countries other than the above two, the Head Office's Environment and Safety Department provides information and conducts on-site environmental audits to promote environmental management throughout the Group.

### ● Environmental Management Cycle (Yearly)



### ● Environmental Management Structure



## Environment

## Basic Environmental Management Policy and Structure

## Medium- to Long-Term Environmental Targets and Initiatives

Strategies and Targets

Results

The Kobelco Group is committed to environmentally friendly business practices. We established the Medium-Term Environmental Management Plan for fiscal 2024–2026, which also covers the six initiatives for implementation, following the Basic Environmental Management Policy.

Self-assessment ○: Progressing as planned △: Issues remain ×: Plan not achieved

	Initiatives for Implementation	Long-Term Policies	Targets Set Forth in the Medium-Term Environmental Management Plan (Fiscal 2021–2023)	Fiscal 2023 Results	Evaluation	Targets Set Forth in the Medium-Term Environmental Management Plan (Fiscal 2024–2026)	Initiatives for Fiscal 2024	
VISION 1 Pursuing environmentally friendly manufacturing	Measures against global warming	Contribute to preventing global warming by promoting energy conservation and CO <sub>2</sub> reduction in all business activities 2030 target Reduce CO <sub>2</sub> emissions from production processes by 30–40% (compared to fiscal 2013) 2050 vision Taking on the challenge of achieving carbon neutrality	▶ Promote medium- to long-term technological development based on the roadmap and continue working on energy conservation initiatives, in order to achieve the 2030 target and 2050 vision	<ul style="list-style-type: none"> <li>▶ Promoted energy-saving activities</li> <li>▶ Implemented initiatives in line with the Roadmap toward Carbon Neutrality in the Ironmaking Process</li> <li>▶ Succeeded in a demonstration test of a technology that can reduce CO<sub>2</sub> emissions by 25% by charging a large amount of hot briquetted iron (HBI; a type of reduced iron) of the MIDREX® Process* in the large blast furnace (BF) of Kakogawa Works and confirmed that the reduced material ratio (carbon fuel used in the BF), which determines CO<sub>2</sub> emissions from the BF, can be stably reduced to 386 kg/t-hot metal.</li> </ul> <small>* A technology related to the direct reduction steelmaking method owned by Midrex Technologies, Inc., a wholly owned subsidiary of Kobe Steel.</small>	○	▶ Promote medium- to long-term technological development based on the roadmap and continue working on energy conservation initiatives, in order to achieve the 2030 target and 2050 vision	<ul style="list-style-type: none"> <li>▶ Promote energy-saving activities</li> <li>▶ Implement initiatives in line with the Roadmap toward Carbon Neutrality in the Ironmaking Process</li> </ul>	▶ Pages 15–25
	Promoting resource recycling	Continue activities aimed at zero landfill waste Target: Recycling rate of 99% (fiscal 2025) (Major by-products: Slag, sludge, and dust) The next target is expected to be formulated in fiscal 2025.	<ul style="list-style-type: none"> <li>▶ Continue reducing the amount of waste disposed; and achieve and maintain the industry's voluntary action plan targets</li> <li>▶ Carry out appropriate disposal in accordance with the Guidelines Related to Management of Iron and Steel Slag Products</li> </ul>	<ul style="list-style-type: none"> <li>▶ The waste treatment plans formulated by each business division are making steady progress. The recycling rate in fiscal 2023 was 93%, and 99.1% for major by-products (slag, dust, and sludge), contributing to achieving the targets of the Voluntary Action Program for Environmental Protection of the Japan Iron and Steel Federation (JISF).</li> <li>▶ Implemented proper operations in accordance with the guidelines at Kakogawa Works and Takasago Works; conducted internal audits at all business locations regarding proper treatment of slag</li> </ul>	○	<ul style="list-style-type: none"> <li>▶ Promote recycling by reducing the amount of waste disposed of to contribute to the achievement of the industry's recycling targets</li> <li>▶ Carry out appropriate disposal in accordance with the Guidelines Related to Management of Iron and Steel Slag Products</li> <li>▶ Strive to recycle waste plastics as much as possible (Upper target: Recycling rate of 80%)</li> </ul>	<ul style="list-style-type: none"> <li>▶ Work on the 3Rs (Reduce, Reuse, and Recycle) in an effort to achieve the target recycling rate in fiscal 2025</li> <li>▶ Carry out appropriate disposal in accordance with the Guidelines Related to Management of Iron and Steel Slag Products</li> <li>▶ Strive to recycle waste plastics as much as possible</li> </ul>	▶ Pages 34–37
	Appropriate management of chemical substances	Reduce hazardous substances in accordance with the Kobelco Group Policy on Controlling Hazardous Chemical Substances	▶ Properly manage and reduce or replace chemical substances, and properly comply with the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes and Act on Rational Use and Appropriate Management of Fluorocarbons	<ul style="list-style-type: none"> <li>▶ Waste with high concentrations of PCBs was treated appropriately. A plan was formulated for the disposal of machinery containing low concentrations of PCBs, including those units still in use.</li> <li>▶ Through audits and other means, it was verified that action is being taken under the revised Act on Rational Use and Appropriate Management of Fluorocarbons.</li> </ul>	○	<ul style="list-style-type: none"> <li>▶ Properly manage and reduce or replace chemical substances, and properly comply with the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes, the Act on Rational Use and Appropriate Management of Fluorocarbons, and new regulations on chemical substances</li> </ul>	<ul style="list-style-type: none"> <li>▶ Dispose of waste with low concentration of PCBs following the disposal plan formulated in fiscal 2022</li> <li>▶ Fully comply with new regulations on chemical substances</li> </ul>	▶ Page 39
	Reducing environmental impact	Ensure thorough voluntary controls and make continuous efforts toward reducing the environmental impact Targets: Water recycling rate: Maintain 95% or higher Groupwide Water pollution load: COD of 474 tons/year and total phosphorus of 23 tons/year	<ul style="list-style-type: none"> <li>▶ Continue thorough operational management and facility management in an effort to reduce environmental impact from air emissions, etc.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Continued thorough management of soot/smoke and wastewater</li> <li>▶ Soot/smoke emissions (steelworks influence value) of Kakogawa Works exceeded our voluntary target value 3.0 tons/km<sup>2</sup> in July 2023</li> <li>▶ Achieved a water recycling rate of 96%</li> <li>▶ Water pollution load of COD: 227 tons/year; total phosphorus: 7 tons/year</li> </ul>	△	<ul style="list-style-type: none"> <li>▶ Continue thorough operational management and facility management in an effort to reduce environmental impact from soot/smoke and water pollution</li> </ul>	<ul style="list-style-type: none"> <li>▶ Continue thorough operational management and facility management in an effort to reduce environmental impacts, such as reducing the amount of soot/smoke and water pollution, and increasing the water recycling rate</li> <li>▶ Ensure that Kakogawa Works stably achieves its target for soot/smoke emissions by implementing measures such as maintaining dust collectors and cleaning dust protection nets</li> </ul>	▶ Pages 38–40
	thorough risk management	Pursue systematic and deliberate efforts to reduce risks	<ul style="list-style-type: none"> <li>▶ Continue on-site environmental audits by the Head Office and expand audits to Group companies and affiliated companies in an effort to promote the establishment of independent EMS</li> <li>▶ For overseas Group companies, promote the same level of environmental management as in Japan and improve risk management through activities such as on-site environmental inspections</li> </ul>	<ul style="list-style-type: none"> <li>▶ Conducted a paper-based environmental audit for all business sites of Group companies, including non-production sites in Japan. For 12 production sites, the head offices conducted on-site audits and checked the management status.</li> <li>▶ For overseas Group companies, the head offices conducted on-site audits of five business sites in China, Thailand, and South Korea.</li> </ul>	○	<ul style="list-style-type: none"> <li>▶ Enhance the autonomous EMS that includes domestic and overseas business sites, subsidiaries, and subsubsidiaries</li> </ul>	<ul style="list-style-type: none"> <li>▶ Hold interviews and meetings with domestic business locations with a comparatively low environmental risk (sales offices, maintenance facilities, etc.), which have not been subject to on-site environmental audits so far, to identify risks and improve the level of environmental management, as well as check the status by conducting on-site environmental audits</li> <li>▶ Carry out on-site environmental audits in the United States, China, the Netherlands, and Thailand to improve the level of environmental management at each company</li> </ul>	▶ Pages 26–27
	Promoting environmental initiatives with full employee participation	Constantly improve the environmental awareness of all Kobelco Group employees	<ul style="list-style-type: none"> <li>▶ Continue initiatives such as stratified training, e-learning, and environmental training for Group companies, and encourage the use of the Kobelco Eco-Life Notebook (household eco-account book), in an effort to increase environmental awareness</li> </ul>	<ul style="list-style-type: none"> <li>▶ Increased employees' environmental awareness and knowledge through the Kobelco Group Environmental Conference, stratified training, and e-learning</li> <li>▶ Launched a CO<sub>2</sub> reduction project in which each and every employee participates. In line with this, revamped and expanded the content of the Kobelco Eco-Life Notebook system.</li> </ul>	○	<ul style="list-style-type: none"> <li>▶ Continue initiatives such as stratified training, e-learning, and environmental training for Group companies, and encourage the use of the Kobelco Eco-Life Notebook (household eco-account book), in an effort to increase environmental awareness</li> </ul>	<ul style="list-style-type: none"> <li>▶ Continue initiatives such as stratified training and environmental training for Group companies to raise awareness of the environment. Update the Kobelco Eco-Life Notebook system to enhance the content and raise environmental awareness at home.</li> </ul>	▶ Page 28

## Environment

## Basic Environmental Management Policy and Structure

	Initiatives for Implementation	Long-Term Policies	Targets Set Forth in the Medium-Term Environmental Management Plan (Fiscal 2021–2023)	Fiscal 2023 Results	Evaluation	Targets Set Forth in the Medium-Term Environmental Management Plan (Fiscal 2024–2026)	Initiatives for Fiscal 2024	
VISION 2	Contributing to the environment through technologies, products, and services	Create environmentally sustainable products and new businesses with due consideration of the environment in all technological and product development 2030 targets Contribution to CO <sub>2</sub> reduction: 78 million tons Net sales of related products: 550 billion yen 2050 vision Contribution to CO <sub>2</sub> reduction: 100 million tons or more	<ul style="list-style-type: none"> <li>▶ Contribute to the creation of a low-carbon society through the efforts of the entire Kobelco Group by working on issues related to the environment and energy fields, such as weight reduction of transportation vehicles, the creation of a hydrogen-based society, and the diversification of power sources</li> </ul>	<ul style="list-style-type: none"> <li>▶ Contribution to CO<sub>2</sub> reduction in fiscal 2023: 61.18 million tons</li> <li>▶ Net sales of related products: 402.1 billion yen</li> <li>▶ Low CO<sub>2</sub> BF steel Kobenable® Steel and low CO<sub>2</sub> aluminum flat-rolled products and advanced materials were adopted in various fields including automobiles.</li> </ul>	○	<ul style="list-style-type: none"> <li>▶ Contribute to the creation of a low-carbon society through the efforts of the entire Kobelco Group by working on issues related to the environment and energy fields, such as weight reduction of transportation vehicles, the creation of a hydrogen-based society, and the diversification of power sources</li> </ul>	<ul style="list-style-type: none"> <li>▶ Promote efforts to achieve our CO<sub>2</sub> reduction contribution target through further sales expansion of technologies, products, and services that contribute to CO<sub>2</sub> reduction and the technological development such as multi-materials</li> </ul>	▶ Pages 22–23
VISION 3	Coexisting and cooperating with society	Promote coexistence and cooperation with local communities from an environmental perspective	<ul style="list-style-type: none"> <li>▶ Promote the Kobelco Green Project, centered on the three key activities of the Kobelco Forest Fairy Tale Prize, forest development, and environmental education outreach at children's centers, in an effort to cooperate and coexist in harmony with local communities</li> </ul>	<ul style="list-style-type: none"> <li>▶ With backing from all municipalities in which our 12 domestic business sites are located, we solicited stories for the 11th Kobelco Forest Fairy Tale Prize and received more than 569 submissions.</li> <li>▶ Carried out forest development activities twice in spring and fall at two locations, and held environmental education outreach classes at two children's centers.</li> </ul>	○	<ul style="list-style-type: none"> <li>▶ Promote the Kobelco Green Project, centered on the three key activities of the Kobelco Forest Fairy Tale Prize, forest development, and environmental education outreach at children's centers, in an effort to cooperate and coexist in harmony with local communities</li> </ul>	<ul style="list-style-type: none"> <li>▶ Continue to promote the Kobelco Green Project (consisting of the Kobelco Forest Fairy Tale Prize, forest development activities, and environmental education outreach at children's centers) to better coexist and cooperate with local communities</li> </ul>	▶ Page 45
	Disclosure of environmental information	Take active steps to disclose environmental information and improve communication with all stakeholders	<ul style="list-style-type: none"> <li>▶ Continue disclosing information and enhance communication with all stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>▶ Continued to disclose environmental information via our integrated report, ESG data book, corporate website, public monitors, and other measures. Also, we set up booths at various exhibitions and introduced the Kobelco Group's environmental technologies and products.</li> </ul>	○	<ul style="list-style-type: none"> <li>▶ Continue disclosing information and enhance communication with all stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>▶ Continue disclosing information and enhance communication with all stakeholders</li> </ul>	▶ Page 29

# Response to Climate Change

## Climate-Related Disclosures Based on TCFD Recommendations

In December 2020, Kobe Steel announced that it supports the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and decided to join the TCFD Consortium, an organization of TCFD supporter organizations in Japan.



### Basic Concept

### Policies

Taking on the challenge of realizing carbon neutrality by 2050 is one of the key issues under the Kobelco Group Medium-Term Management Plan (Fiscal 2024–2026). We are working to achieve a 30–40% reduction of CO<sub>2</sub> emissions by 2030 (compared to fiscal 2013).

Going forward, our Group will continue to pursue reduction of CO<sub>2</sub> emissions in order to contribute to the realization of “a world in which people, now and in the future, can fulfill their hopes and dreams while enjoying safe, secure, and prosperous lives” as envisioned in KOBELCO’s View of the Future.

## Climate-Related Governance

We established the GX Strategy Committee (chaired by a director, executive officer) that specializes in dealing with issues related to the risks and opportunities associated with climate change, as an auxiliary body to the Executive Council. The committee, tasked with conducting strategic reviews of climate change, studies and implements Companywide activities to address the risks and opportunities of climate change.

Assessment and management of climate-related risks and opportunities are regarded as important management issues, and important decisions of the GX Strategy Committee are subject to the approval of the relevant Executive Steering Committee. The steering committee consists of directors and executive officers, as knowledge from a wide range of perspectives and viewpoints is required for climate-related issues, including business, management, legal, and technological development.

The activities of the GX Strategy Committee and its study outcomes are reported to the Board of Directors quarterly for supervision and guidance from the Board of Directors. In this manner, we have a system where the Board of Directors has direct governance over risks related to climate change.

In addition, Sustainability Management Meetings consider carbon neutrality to be one of the key themes, and it is stepping up monitoring by regularly sharing a wide range of awareness and exchanging opinions with the business execution side, including business divisions.

## Climate-Related Governance Structure

Board of Directors		Monitors CO <sub>2</sub> reduction measures that may have a major impact on management	Quarterly
	Sustainability Management Meetings		
President and CEO		Strengthens monitoring by sharing awareness and exchanging opinions	Quarterly
Executive Council		Deliberates and decides on important matters related to CO <sub>2</sub> reduction measures	At least once per year
	Advice and proposals related to climate change		
GX Strategy Committee		Deliberates important matters related to CO <sub>2</sub> reduction measures	At least four times per year

GX Strategy Committee Chair: Director, Executive Officer  
Kazuhiko Kimoto

## Environment

## Response to Climate Change

## Climate-Related Strategy

The Kobelco Group analyzes the medium- to long-term risks and opportunities associated with climate change considering various guidelines, including the social scenarios presented by the International Energy Agency (IEA); the long-term visions formulated and announced by the Japan Iron and Steel Federation (JISF), the Japan Aluminium Association, and other industry organizations; and the energy policies of Japan. Based on the analysis results, we evaluate the appropriateness of our Group's activities.

## ■ Climate-Related Risks

As exemplified by the introduction of carbon pricing schemes, environmental regulations on climate change are becoming stricter and may have significant impact on our Group's business performance and financial position. In addition, given the increasing severity of damages from floods and typhoons, it is anticipated that the increase of natural disasters due to climate change may cause declines in production volumes and disruptions of supply chains.

## ■ Climate-Related Opportunities

There is an increasing demand for low-CO<sub>2</sub> products and services, as global awareness of climate change-related issues continues to rise. In this trend, demand for our Group's low-CO<sub>2</sub> options, such as Automotive weight-reduction materials/parts and the MIDREX® Process, is expected to increase over the medium to long term.

## Climate-Related Risks and Opportunities over the Short to Medium and Long Term

	Risks		Opportunities	
	Short to medium term (Until FY2030)	Long term (Until FY2050)	Short to medium term (Until FY2030)	Long term (Until FY2050)
Policy and legal systems	Higher costs stemming from regulatory tightening		Increased demand for technologies, products and services that contribute to CO <sub>2</sub> reduction (automotive weight reduction, MIDREX® Process, etc.)	
Market and technology transitions	Rising capital investments, R&D expenses, and operating costs associated with low-carbon technologies			
Reputation	Deterioration of corporate reputation due to insufficient or delayed information disclosure		Differentiation from other companies by establishing a reputation as a front-runner in combating climate change	
Physical risks (disasters, etc.)	Reduction of production volumes and disruptions of supply chains due to increases in floods, typhoons, and other natural disasters		Increase in demand for products due to increased public and capital investments for disaster prevention	
	Rising sea levels and high tides, leading to higher restoration expenses and lower production rates at coastal factories			

□ High risk □ Low risk □ Large opportunity □ Small opportunity

## ● Response to Risks and Opportunities (R&amp;D)

■ Reduction of CO<sub>2</sub> Emissions in Production Processes

Kobe Steel is collaborating with other steelmakers in the development projects that are promoted by the New Energy and Industrial Technology Development Organization (NEDO) (see below) in a bid to further reduce CO<sub>2</sub> emissions in the ironmaking process and to realize practical application of these developments. The project for hydrogen utilization in the ironmaking process was selected for funding by Japan's Green Innovation Fund. We are committed to implementing similar initiatives aimed at carbon neutrality by 2050.

Project Name	Participating Companies	Technologies Being Developed
Green Innovation Fund project / Project for hydrogen utilization in the ironmaking process	Nippon Steel Corporation JFE Steel Corporation Kobe Steel, Ltd. The Japan Research and Development Center for Metals	<ul style="list-style-type: none"> <li>Development of hydrogen reduction and low-carbon technologies using BF</li> <li>Development of impurity removal technology for electric arc furnaces (EAF) using direct reduced iron (DRI) (technology for controlling the concentration of impurities in a large-scale test EAF at the same level as the BF method)</li> </ul>

■ Contribution to Reduction of CO<sub>2</sub> Emissions through Technologies, Products, and Services

Our current lineup of products that help reduce CO<sub>2</sub> emissions includes automotive weight-reduction materials/parts and heat pumps. We will continue developing technologies to further contribute to CO<sub>2</sub> reduction with these solutions. We are also striving to develop new technologies, products, and services that help reduce CO<sub>2</sub> emissions, including the development aimed at maintaining and strengthening the competitiveness of MIDREX-H2™ (100% hydrogen direct reduction) and the demonstration tests for hydrogen utilization systems.

▶ H2 Green Steel contracts with Midrex and Paul Wurth for the world's first commercial 100% hydrogen direct reduced iron plant, and Kobe Steel partners with H2 Green Steel for equity investment

▶ MIDREX Flex™ direct reduction plant selected by thyssenkrupp Steel

▶ Midrex and Primetals to supply MIDREX H2 Plant for Blast Green Steel

## Response to Climate Change

### ● Impacts on Business, Strategy, and Finance

According to the Greenhouse Gas Emissions Calculation and Reporting System, Kobe Steel is one of the largest emitters of greenhouse gases in Japan. Our Company pays the carbon tax, Tax for Climate Change Mitigation (289 yen per ton of CO<sub>2</sub> emissions from the use of coal, oil, LPG, and LNG), and in the future, if the carbon tax is increased or new taxes are imposed with the introduction of carbon pricing, it is expected to have a significant impact on our business. Accordingly, we are constantly monitoring these trends. If regulations or taxes are imposed on CO<sub>2</sub> and other emissions in the future, our Group's business activities, particularly those related to steel, will be restricted, which may have an impact on our Group's business performance with a decrease in sales, an increase in costs, etc.

The Kobelco Group has been promoting energy conservation efforts as a measure to mitigate the impact of carbon pricing. Our Group invested approximately 0.44 billion yen in energy conservation capital investments in fiscal 2023.

Examples of investments in fiscal 2023 include updating transformers to high-efficiency models at Takasago Works. For other initiatives, please refer to "Examples of Energy-Saving and CO<sub>2</sub> Reduction Initiatives in the Kobelco Group (Fiscal 2023)" on page 25.

In addition, our Group is engaged in the development of various technologies related to the reduction of CO<sub>2</sub> emissions in production processes and contribution to reduction of CO<sub>2</sub> emissions through technologies, products, and services in order to contribute to the reduction of CO<sub>2</sub> emissions by society as a whole. In fiscal 2023, we spent approximately 7.14 billion yen on research and development related to climate change.

#### ▶ Environmental Management

### ● Scenario Analysis

In order to better understand future climate-related risks and opportunities, we carried out short- to medium-term (2030) and long-term (2050) scenario analysis.

Our scenario analysis is based on the IEA's 2°C scenario (SDS: Sustainable Development Scenario) and 1.5°C scenario (NZE: Net Zero Emissions by 2050 Scenario) as well as the 4°C scenario presented by the Intergovernmental Panel on Climate Change (IPCC) in its Sixth Assessment Report. For our analyses and evaluations, we also refer to long-term visions published by industry organizations to which we belong, such as JISF and the Japan Aluminium Association. For the electric power business, which is closely related to Japan's energy policy, we conduct scenario analysis based on the energy policy of the national government. We also regularly review our analysis and evaluation of risks and opportunities based on changes in the external environment.

### Impact on Business

Since more than 90% of the Group's CO<sub>2</sub> emissions originate from the steelmaking process, medium- to long-term trends in the steel industry will have the greatest impact on the Group's business. According to the JISF Long-Term Vision for Climate Change Mitigation—A Challenge towards Zero-Carbon Steel, there is a certain correlation between economic growth and the amount of steel stock per capita, and the total amount of steel stock increases as the population increases. Therefore, the demand for steel is expected to continue to increase along with the world's economic growth and population growth.

Steel production can be broadly divided into production with natural resources (iron ore, mainly using BF and DRI) and production with reused scrap (mainly using EAF). According to JISF predictions, the reuse of scrap is expected to increase significantly due to the increase in the total amount of steel stock. On the other hand, demand for steel cannot be met by reused scrap alone. Accordingly, production using natural resources (iron ore) will continue to require the same level of production as at present.

Amid growing interest in the response to climate change and the disclosure of relevant information, the importance of CO<sub>2</sub> reduction efforts in the steel industry is expected to continue increasing. For this reason, we anticipate that our stakeholders, including national and local governments, investors, and customers, will pay greater attention to our efforts to reduce CO<sub>2</sub> emissions from our own facilities and expand the sale of our low-CO<sub>2</sub> options.



## Environment

## Response to Climate Change

## Risks and Opportunities

One of our Group's core businesses is the manufacture and sale of steel products, which falls under the industry category of energy-intensive basic materials. Our Group's CO<sub>2</sub> emissions from energy use in fiscal 2023 totaled 15.6 million tons (total of Scope 1 and Scope 2), which ranks high even in Japan's manufacturing industry. Accordingly, we recognize that the trends of future national climate change policies, laws, and regulations, including carbon pricing, are transition risks that may have a significant impact on our business operations.

In May 2021, the Kobelco Group announced in its Medium-Term Management Plan (Fiscal 2021–2023) that it will take on the challenge of realizing carbon neutrality by 2050 and aim to increase corporate value through this transition. Our Group has set the 2030 target and the 2050 vision from two angles: (1) reducing CO<sub>2</sub> emissions in the Group's own production processes, and (2) contributing to the reduction of CO<sub>2</sub> emissions through the Group's distinctive technologies, products, and services.

Regarding the reduction of CO<sub>2</sub> emissions in our own production processes, we will promote CO<sub>2</sub> reduction initiatives and mitigate risks by formulating roadmaps for carbon neutrality in the ironmaking processes and in the electric power business. On the other hand, regarding the contribution to the reduction of CO<sub>2</sub> emissions through the Group's distinctive technologies, products, and services, we will make the most of opportunities by formulating a roadmap for the contribution to the reduction of CO<sub>2</sub> emissions through the MIDREX® Process.

As for physical risks, the Japan Meteorological Agency (JMA) and various research institutes have reported that, as global warming progresses, the amount of precipitation tends to rise due to the increase of water vapor in the atmosphere, and damage caused by heavy rain and typhoons tends to become more severe. The risk of production halts and supply chain disruptions stemming from severe typhoons and heavy rains in recent years is also becoming more and more evident. Our Company recognizes that further intensification of typhoons, floods, and other natural disasters caused by climate change poses a risk that could have a significant impact on its operations and lead to suspension of production activities.

In terms of Companywide risk management, our Group has defined "climate-related regulations" and "natural disaster preparation and recovery" as Top Risks that are expected to have a particularly severe impact when an event occurs, and is working to strengthen its risk management.

As for opportunities, demand for low-CO<sub>2</sub> products and services is increasing amid growing international interest in climate-related issues. Along with this, we expect demand for products that contribute to a reduction in CO<sub>2</sub> emissions, such as automotive weight-reduction materials/parts and the MIDREX® Process, to grow over the medium to long term.

## Kobelco Group's Targets and Vision

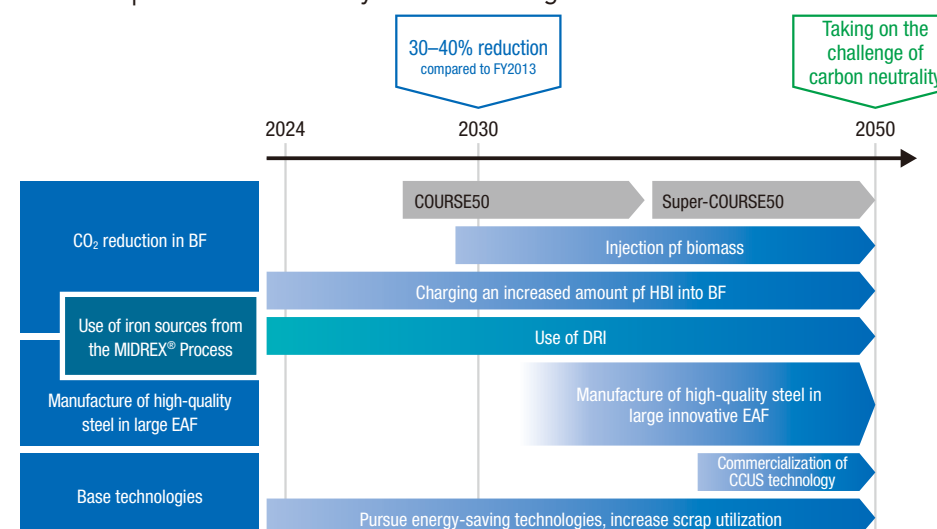
	2030 Target	2050 Vision
<b>Reduction of CO<sub>2</sub> emissions</b> in production processes	<b>30–40%</b> (compared to fiscal 2013) <sup>1</sup>	<b>Taking on the challenge of achieving carbon neutrality</b>
<b>Contribution to reduction of CO<sub>2</sub> emissions<sup>2</sup></b> through technologies, products, and services	<b>78 million tons<sup>3</sup></b> (Net sales: 550 billion yen)	<b>100 million tons or more</b>

<sup>1</sup> Most of the reduction targets are associated with iron and steel making processes.

<sup>2</sup> Our Group contributes to the reduction of CO<sub>2</sub> emissions in various areas of society through its distinctive technologies, products, and services.

<sup>3</sup> Revised upward from 61 million tons

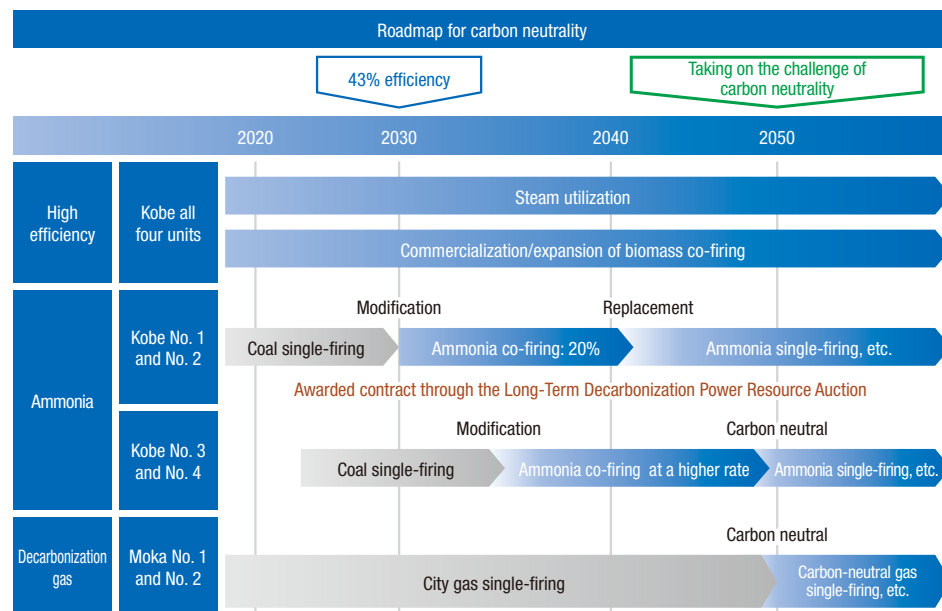
## Roadmap for Carbon Neutrality in the Ironmaking Process



## Environment

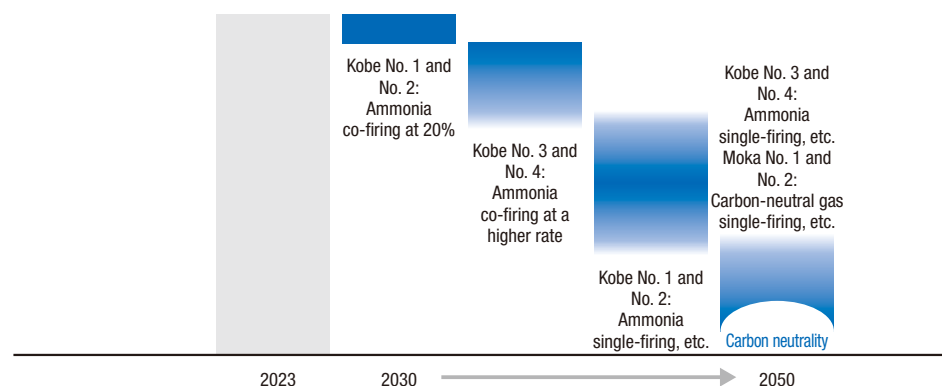
## Response to Climate Change

## ■ Roadmap for Carbon Neutrality in the Electric Power Business



## Steps for carbon neutrality in line with the roadmap

★ Assuming the operating conditions are the same as in fiscal 2023



## Climate-Related Risk Management

In regard to climate-related risks, we have identified (1) transition risks (policies and regulations) and (2) physical risks (preparations for and recovery from natural disasters) as Top Risks, which are risks that may have a material impact on the Group and its stakeholders and require a Groupwide response. We are working to strengthen risk management by appointing Risk Owners to each risk category.

► Risk Management: Basic Concept and Management Structure

## Environment

## Response to Climate Change

## Climate-Related Metrics and Targets

## ● Metrics

The Kobelco Group sets specific metrics for CO<sub>2</sub> reduction activities, such as reduction of CO<sub>2</sub> emissions in production processes (Metric A) and contribution to reduction of CO<sub>2</sub> emissions through technologies, products, and services (Metric B), and sets and manages targets for each.

Kobe Steel positions these two metrics as non-financial key performance indicators (KPIs) and manages them. Non-financial KPIs including CO<sub>2</sub> reduction are discussed annually at the Executive Council as important items in the budget, and then they are discussed and approved by the Board of Directors.

## ● Energy Consumption

## Energy Consumption

The star (★) symbol indicates items that have received third-party assurance.

	Unit	Fiscal 2021	Fiscal 2022	Fiscal 2023
Energy consumption	PJ	192	187	185★
Consolidated net sales	Millions of yen	2,082,582	2,472,508	2,543,142
Energy intensity (per consolidated net sales)	GJ / Millions of yen	92	75	73
Products (crude steel, aluminum rolled products, copper rolled products)	Million t	7.2	6.7	6.4
Energy intensity (Per product)	GJ / t-product	26.6	27.9	28.8

## Calculation method

- Calculations made based on Keidanren Carbon Neutrality Action Plan. However, figures for Kobelco Power Kobe Inc., Kobelco Power Kobe No. 2 Inc., and Kobelco Power Moka Inc. (the three subsidiaries of the Electric Power Business) are calculated based on the Act on Rationalization of Energy Use and Shift to Non-fossil Energy.
- Energy consumption does not include energy consumption associated with the generation of electricity sold externally by the three subsidiaries of the Electric Power Business and the Steelworks of Kobe Steel (192 PJ).

## Boundary

- Kobe Steel, 17 domestic consolidated subsidiaries, 13 overseas consolidated subsidiaries, and 1 coke manufacturing plant of equity-method affiliate
- Japan: April 1 to March 31
- Overseas: January 1 to December 31

## Calorific conversion factors

- Agency for Natural Resources and Energy, "List of Standard Calorific Value and Carbon Emission Factor for Fossil Fuel Energy Sources" (Comprehensive Energy Statistics) (revised on January 31, 2020)
- However, the three subsidiaries of the Electric Power Business apply the Act on Rationalization of Energy Use and Shift to Non-fossil Energy.

## Use of Electricity from Renewable Energy

	Unit	Fiscal 2021	Fiscal 2022	Fiscal 2023
Use of electricity from renewable energy	MWh	—	—	16,762

## ● Greenhouse Gas Emissions (Scope 1, 2, and 3)

Energy-Derived CO<sub>2</sub> Emissions (Scope 1 and 2)

The star (★) symbol indicates items that have received third-party assurance.

	Unit	Fiscal 2021	Fiscal 2022	Fiscal 2023
<b>Scope 1</b> Emissions from the use of our own fuel (direct emissions)	Million t-CO <sub>2</sub>	15.3	14.7	14.7★
<b>Scope 2</b> Emissions associated with the use of electricity, heat, and steam supplied by other companies (indirect emissions)	Million t-CO <sub>2</sub>	0.8 <sup>1</sup>	0.8 <sup>1</sup>	0.9★
<b>Scope 1+2<sup>2</sup></b>	Million t-CO <sub>2</sub>	16.1	15.5 <sup>1</sup>	15.6★
Consolidated net sales	Millions of yen	2,082,582	2,472,508	2,543,142
CO <sub>2</sub> emission intensity from energy use per net sales	t-CO <sub>2</sub> / Millions of yen	7.7 <sup>1</sup>	6.3	6.1
Products (crude steel, aluminum rolled products, copper rolled products)	Million t	7.2	6.7	6.4
CO <sub>2</sub> emission intensity from energy use	t-CO <sub>2</sub> / t-product	2.2	2.3	2.4

## Calculation method

- Calculations made based on Keidanren Carbon Neutrality Action Plan. In addition, figures for Kobelco Power Kobe Inc., Kobelco Power Kobe No. 2 Inc., and Kobelco Power Moka Inc. (the three subsidiaries of the Electric Power Business) are calculated based on the Act on Promotion of Global Warming Countermeasures.
- Scope 1 and Scope 1+2 do not include CO<sub>2</sub> emissions associated with the generation of electricity sold externally by the three subsidiaries of the Electric Power Business and the Steelworks of Kobe Steel (15.1 million t-CO<sub>2</sub>).
- The accounting of Scope 2 emissions has been changed from location-based accounting to market-based accounting, and the figures for fiscal 2021 and fiscal 2022 have been restated accordingly.

## Boundary

- Kobe Steel, 17 domestic consolidated subsidiaries, 13 overseas consolidated subsidiaries, and 1 coke manufacturing plant of equity-method affiliate
- Japan: April 1 to March 31
- Overseas: January 1 to December 31

CO<sub>2</sub> emission factors

- Fuels: Carbon emissions factor in National Greenhouse Gas Inventory Report of JAPAN (NIR) 2022 x CO<sub>2</sub> conversion factor (44/12)
- Electricity: For Japan, the adjusted emission factors for each electricity supplier based on the Greenhouse Gas Emissions Calculation and Reporting Manual (for calculating the greenhouse gas emissions of specified emitters) — FY2022 results — are applied. For overseas, emission factors based on "IEA Emissions Factors 2023 edition" are applied.
- However, the three subsidiaries of the Electric Power Business Unit apply the Greenhouse Gas Emissions Calculation and Reporting Manual for both fuels and electricity.
- Electricity: The adjusted emission factors for each electricity supplier based on the Greenhouse Gas Emissions Calculation and Reporting Manual (for calculating the greenhouse gas emissions of specified emitters) — FY2022 results — are applied.
- City gas: The adjusted emission factors for each city gas supplier based on the Greenhouse Gas Emissions Calculation and Reporting Manual (for calculating the greenhouse gas emissions of specified emitters) — FY2023 results — are applied.

<sup>1</sup> Due to the revision of the calculation method, the figures for fiscal 2021 and fiscal 2022 have been revised retroactively.

<sup>2</sup> The totals may not match as a result of rounding.

## Environment

## Response to Climate Change

Breakdown of Greenhouse Gas Emissions (Unit: Thousand t-CO<sub>2</sub>)

Category	Fiscal 2021	Fiscal 2022	Fiscal 2023
Energy-derived CO <sub>2</sub> emissions (Scope 1)	15,292	14,687	14,731
Non-energy-derived CO <sub>2</sub> emissions	948 <sup>1</sup>	887	835
Methane (CH <sub>4</sub> )	13 <sup>1</sup>	12 <sup>1</sup>	16
Nitrous oxide (N <sub>2</sub> O)	19 <sup>1</sup>	27 <sup>1</sup>	58
Hydrofluorocarbons (HFC)	—	—	—
Perfluorocarbons (PFC)	—	—	—
Sulfur hexafluoride (SF <sub>6</sub> )	18	16	23
Nitrogen trifluoride (NF <sub>3</sub> )	—	—	—
Total <sup>2</sup> for non-energy-derived CO <sub>2</sub> emissions and greenhouse gases other than CO <sub>2</sub>	997 <sup>1</sup>	942 <sup>1</sup>	931

Calculation method for non-energy-derived CO<sub>2</sub> emissions and greenhouse gases other than CO<sub>2</sub>

- Calculated based on the Act on Promotion of Global Warming Countermeasures.
- Boundary is Kobe Steel, 3 consolidated subsidiaries in Japan, and 1 coke manufacturing plant of an equity-method affiliate, which are subject to reporting under the Act on Promotion of Global Warming Countermeasures. April 1 to March 31 of each fiscal year.

1 Due to improvements in the accuracy of the calculation process and expanded boundary, the figures for fiscal 2021 and fiscal 2022 have been revised retroactively.

2 The totals may not match as a result of rounding.

Other Indirect Emissions in the Supply Chain (Scope 3) (Unit: Thousand t-CO<sub>2</sub>)

The star (★) symbol indicates items that have received third-party assurance.

Category	Fiscal 2021	Fiscal 2022	Fiscal 2023	Calculation Method
1 Purchased goods and services	6,446 <sup>1</sup>	5,811 <sup>1</sup>	5,124★	The Company's usage of main raw materials (iron ore, coking coal, purchased coke, aluminum, copper, and titanium) multiplied by CO <sub>2</sub> emission factors
2 Capital goods	113	144	209	Capital investment cost multiplied by CO <sub>2</sub> emission factors
3 Fuel- and energy-related activities not included in Scope 1 or Scope 2	305	338	388	Annual consumption of electricity, steam, fuel, etc., multiplied by CO <sub>2</sub> emission factors
4 Upstream transportation and distribution	217	225	191	Calculated using the calculation method for energy-derived CO <sub>2</sub> emissions related to freight transportation by shippers as stipulated in the Act on Rationalizing Energy Use and Shift to Non-fossil Energy
5 Waste generated in operations	30	30	29	The amount of waste for each type multiplied by CO <sub>2</sub> emission factors
6 Business travel	1	1	2	Number of employees multiplied by CO <sub>2</sub> emission factors
7 Employee commuting	5	5	5	Number of employees multiplied by CO <sub>2</sub> emission factors
10 Processing of sold products	2,705	2,563	2,482	Calculated by multiplying the production volume of main steel products by CO <sub>2</sub> emission factors associated with processing each type of steel product
11 Use of sold products	21,478	17,696	18,480	Lifetime emissions for the main machinery products sold by Kobe Steel (energy used during use: electricity) are calculated based on units sold, expected average life, average power consumption, and CO <sub>2</sub> emission factors for electricity.
12 End-of-life treatment of sold products	63	60	57	Calculated by multiplying CO <sub>2</sub> emission factors by the production volume of crude steel, aluminum, and copper products
Total <sup>2</sup>	31,363 <sup>1</sup>	26,873 <sup>1</sup>	26,967	

## Calculation method

Calculated based on Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain (published by the Ministry of the Environment and the Ministry of Economy, Trade and Industry).

## Boundary

Kobe Steel, April 1 to March 31 of each fiscal year

Source of CO<sub>2</sub> emission factors

- Categories 1, 3, and 10: "IDEA Ver. 3.4 (April 30, 2024)" IDEA Lab, The Research Institute of Science for Safety and Sustainability, National Institute of Advanced Industrial Science and Technology (AIST)
- Categories 2, 5, 6, 7, and 12: "Database of Emissions Unit Values for Calculation of Greenhouse Gas Emissions, etc. (Ver. 3.4), by Organizations Throughout the Supply Chain"
- Category 11: National average in Japan for "emission factors by electric utility" (published by the Ministry of the Environment and the Ministry of Economy, Trade and Industry)

1 Due to improvements in the accuracy of the calculation process, the figures for fiscal 2021 and fiscal 2022 have been revised retroactively.

2 The totals may not match as a result of rounding.

Note: Category 8 is contained in Scope 1 and 2. Categories 9, 13, 14, and 15 are not applicable.



## Response to Climate Change

### ● Targets and Results on Risk and Opportunity

In May 2021, the Kobelco Group announced in its Medium-Term Management Plan (Fiscal 2021–2023) that it would take on the challenge of realizing carbon neutrality by 2050 and aim to increase corporate value through this transition. Our Group has set the 2030 target and 2050 vision from two angles: (1) reducing CO<sub>2</sub> emissions in the Group's own production processes, and (2) contributing to the reduction of CO<sub>2</sub> emissions through the Group's distinctive technologies, products, and services.

#### Metric A: Reduction of CO<sub>2</sub> Emissions in Production Processes

- 2050 Vision: Taking on the challenge of achieving carbon neutrality
- 2030 Target: Reducing CO<sub>2</sub> emissions from production processes 30–40%<sup>1,2</sup> (compared to fiscal 2013) (initial year for the target: fiscal 2019)

**Results:** CO<sub>2</sub> emissions in fiscal 2023 were nearly identical to the previous fiscal year. As a result, there was a 20% reduction<sup>1,2</sup> compared to fiscal 2013.

- 1 Total for Scope 1 and 2
- 2 The boundary of the reduction target is Kobe Steel and its major subsidiaries. For fiscal 2023, the boundary covered approximately 95% of the entire Group's results. The boundary has been expanded since fiscal 2024. CO<sub>2</sub> emissions in covered range: 18.4 million tons in fiscal 2013 and 14.8 million tons in fiscal 2023

**Initiative:** In the wake of the oil crisis, which spanned from the 1970s to the 1990s, Japan's steel industry moved to utilize energy more effectively by installing waste heat recovery systems and conserving energy while switching to continuous process flows and streamlined processes. From the 1990s, the steel industry took steps to effectively use waste materials, focused on upgrading waste heat recovery systems and increasing the efficiency of equipment. In recent years, industry players have introduced highly efficient gas turbine power plants.

Our Group also has maintained a consistent approach in advancing various energy conservation and CO<sub>2</sub> reduction measures through proactive capital investments. For example, we installed highly efficient gas turbine power generation facilities that use gas from blast furnaces at Kakogawa Works over the period of fiscal 2009–2014, resulting in a substantial reduction of CO<sub>2</sub> emissions.

In the ironmaking process, we have completed a technical test and verified that CO<sub>2</sub> emissions in the blast furnace process can be reduced by approximately 25% by charging a large quantity of DRI in the form of hot briquetted iron (HBI) manufactured with the MIDREX® Process into the blast furnace. Going forward, we will further pursue the potential of HBI charging technology and AI-based blast furnace operation technology to reduce CO<sub>2</sub> emissions from blast furnaces and reach our target for 2030. In addition, we will accelerate the study of large innovative electric arc furnaces capable of producing high-grade steel as we move toward our 2050 vision to achieve carbon neutrality.

### Metric B: Contribution to Reduction of CO<sub>2</sub> Emissions through Technologies, Products, and Services

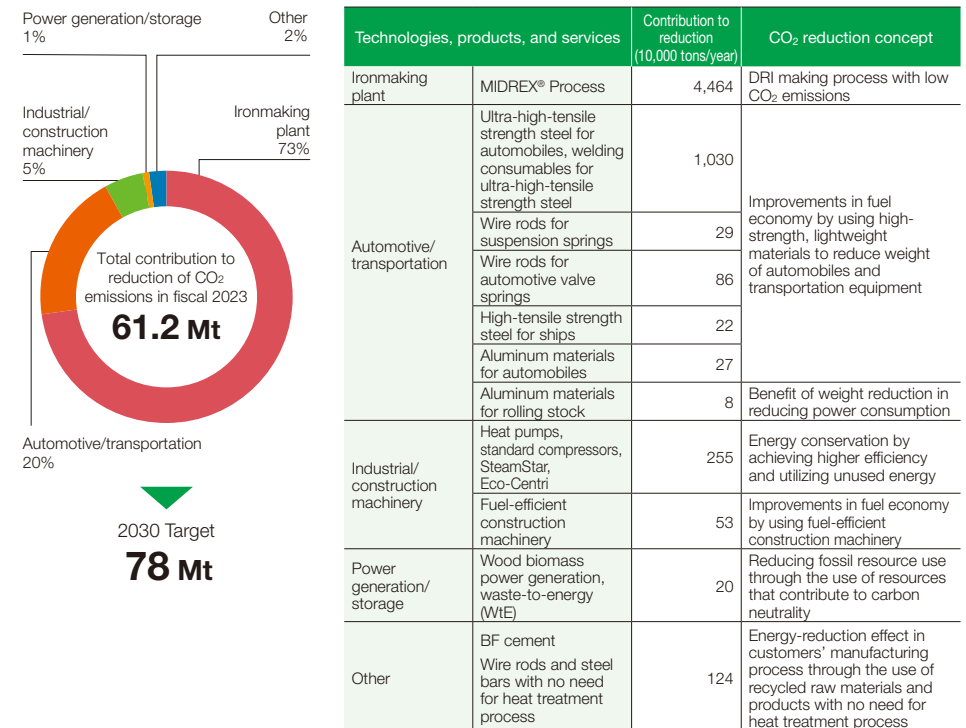
The Kobelco Group has a variety of technologies, products, and services products and services that contribute to CO<sub>2</sub> reduction. By expanding sales of these, we will contribute to the reduction of CO<sub>2</sub> during use.

- 2050 Vision: Contribution to CO<sub>2</sub> reduction: 100 million tons or more
- 2030 Target: Contribution to CO<sub>2</sub> reduction: 78 million tons\*,  
Net sales of related products: 550 billion yen

\* The 2030 target for contribution to CO<sub>2</sub> reduction has been revised upward from 61 million tons.

**Results:** Our Group's contribution to reduction of CO<sub>2</sub> emissions through its technologies, products, and services in fiscal 2023 was 61.2 million tons, as approved by the GX Strategy Committee. Net sales of related products was 402.1 billion yen.

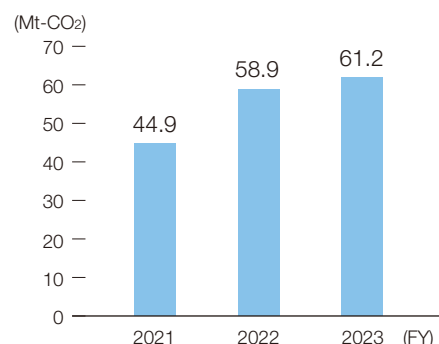
#### Total Contribution to Reduction of CO<sub>2</sub> Emissions



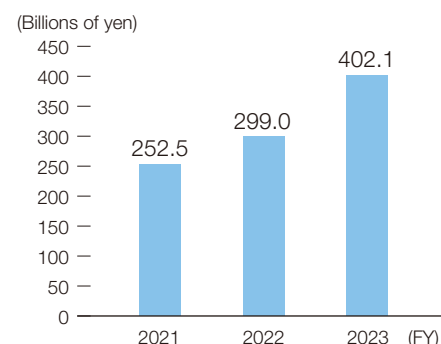
Note: The calculation uses some of the data from "IDEA Ver. 3.3, AIST."

## Environment

## Response to Climate Change

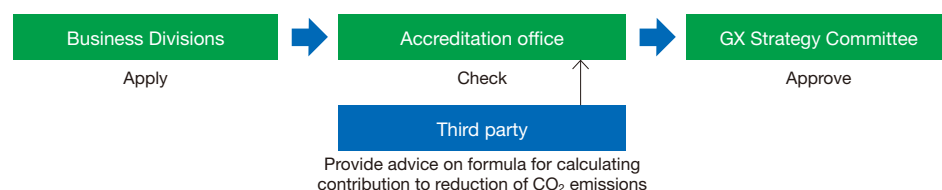
Contribution to Reduction of CO<sub>2</sub> Emissions by Year

Net Sales of Related Products



**Initiative:** Regarding the contributions to reduction of CO<sub>2</sub> emissions through technologies, products, and services, the Group has an internal accreditation system in place. For the formulas used in accreditations, we receive advice from Kiyotaka Tahara, the Director of the Research Laboratory for IDEA at the Research Institute of Science for Safety and Sustainability, Department of Energy and Environment, Advanced Industrial Science and Technologies (AIST), which ensures their fairness and objectiveness.

Accreditation Flow

Other Major Technologies, Products, and Services That Contribute to CO<sub>2</sub> Reductions

Technologies, Products, and Services		CO <sub>2</sub> Reduction Concept
Automotive/transportation	Fuel-cell bipolar plates materials, titanium for aircraft components	Improvement of fuel economy by reducing weight of automobiles and transportation equipment, effects of replacing gasoline-powered automobiles for next-generation vehicles
Hydrogen utilization	High-purity Hydrogen Oxygen Generator (HHOG)	Effects of reducing fossil resource consumption through hydrogen utilization
Power generation/storage	Conversion of sludge to fuel and its utilization at coal-fired thermal power plants (planned)	Reducing fossil resource use through the use of resources that contribute to carbon neutrality

## ● Progress of Qualitative and Quantitative Targets for Metric A and Metric B (including 2030 Targets)

Initiatives for Implementation	Long-Term Policies	Medium-Term Targets	Fiscal 2023 Results Self-Assessment ○: Progressing as planned △: Issues remain ×: Plan not achieved	
Measures against global warming	Contribute to preventing global warming by promoting energy conservation and CO <sub>2</sub> reduction in all business activities <b>2030 Target</b> Reduce CO <sub>2</sub> emissions from production processes by 30–40% (compared to fiscal 2013) <b>2050 Vision</b> Taking on the challenge of achieving carbon neutrality	Promote medium-to long-term technological development based on the roadmap and continue working on energy conservation initiatives, in order to achieve the 2030 target and 2050	Implemented initiatives in line with the Roadmap toward Carbon Neutrality in the Ironmaking Process Fiscal 2023 results: 20% reduction (compared to fiscal 2013)	○
Contributing to the environment through technologies, products, and services	Create environmentally sustainable products and new businesses with due consideration of the environment in all technological and product development <b>2030 Target</b> Contribution to CO <sub>2</sub> reduction: 78 million tons Net sales of related products: 550 billion yen <b>2050 Vision</b> Contribution to CO <sub>2</sub> reduction: 100 million tons or more	Contribute to the creation of a low-carbon society through the efforts of the entire Kobelco Group by working on issues related to the environment and energy fields, such as the weight reduction of transportation vehicles, the creation of a hydrogen-based society, and the diversification of power sources	<b>Fiscal 2023 results</b> Contribution to CO <sub>2</sub> reduction: 61.18 million tons Net sales of related products: 402.1 billion yen	○

## Environment

## Response to Climate Change

## Climate-Related Organizations to Which We Belong

As a member of the Global CCS Institute and the Carbon Recycling Fund Institute, we actively acquire the latest information on Carbon Capture, Utilization, and Storage (CCUS) technology and work on technological development and research on CO<sub>2</sub> separation, capture, recycling, and sequestration for future practical use.

Climate-Related Organizations to Which We Belong	Description
Global CCS Institute	The Global CCS Institute is an international think tank whose mission is to accelerate the deployment of Carbon Capture and Storage (CCS), a vital technology to tackle climate change and deliver climate neutrality. The institute is headquartered in Melbourne, Australia, with offices in Tokyo, Washington, D.C., Brussels, Beijing, and London. ▶ <a href="#">Global CCS Institute</a>
Carbon Recycling Fund Institute	The Carbon Recycling Fund Institute aims to address the global warming issue and improve energy access throughout the world. The institute promotes innovation in carbon recycling by public relations and sponsoring research and development in the field. ▶ <a href="#">Carbon Recycling Fund Institute</a>

In addition, each of the following industry groups to which the Kobelco Group belongs have formulated actions plans for carbon neutrality. Our Group will contribute to the achievement of the targets set out in the action plans of each industry group to which we belong by pursuing energy savings and CO<sub>2</sub> reduction in production processes.

Industry Groups	2030 Industry Targets for Reducing CO <sub>2</sub> Emissions from Production Processes in the Carbon Neutrality Action Plan
The Japan Iron and Steel Federation	30% reduction compared to fiscal 2013
Japan Aluminium Association	31% reduction compared to fiscal 2013
Japan Copper and Brass Association	33% reduction compared to fiscal 2013
The Japan Society of Industrial Machinery Manufacturers	10% reduction compared to fiscal 2013
Japan Construction Equipment Manufacturers Association	8% reduction compared to the three-year average result of fiscal 2020 to fiscal 2022 (energy intensity)

## Policies and Commitments to Ensure Consistency with the Initiatives of Industry Associations

In order to respond to climate change in a consistent manner, Kobe Steel has established a Groupwide governance system centered on the Sustainability Management Committee.

The Sustainability Management Committee informs and educates employees about our Group Corporate Philosophy, ESG policies, and various initiatives to ensure that employees fully understand our corporate policies concerning these matters.

We collect information not only on the policies set by the Japanese government but also on industry targets and initiatives related to our business, as well as trends in regulations in the countries where we conduct business. Such information is shared with internal stakeholders, including directors and management.

When the Kobelco Group engages in any activities that may influence the national government, local governments, industry associations, etc., all members of the Group shall report such activities to the Sustainability Management Committee in advance. The committee shall confirm whether such activities are consistent with the Group Corporate Philosophy and ESG policies. The committee shall report such activities to the Executive Council and the Board of Directors for oversight in accordance with the importance of such activities.

In addition, if the efforts of industry associations/groups are not in line with the Group Corporate Philosophy or ESG policies, Kobe Steel shall put forward its opinions to industry associations/groups and work to ensure that their initiatives are consistent with its policies.

## Environment

## Response to Climate Change

Initiatives to Save Energy and Reduce CO<sub>2</sub> Emissions

At each business site, we are promoting energy conservation and reduction of CO<sub>2</sub> emissions.

● Examples of Energy-Saving and CO<sub>2</sub> Reduction Initiatives in the Kobelco Group (Fiscal 2023)

Production Facility / Company Name	Location	Examples of Initiatives
Kakogawa Works, Kobe Steel, Ltd.	Kakogawa, Hyogo Prefecture	Repaired heating furnace recuperator
Moka Plant, Kobe Steel, Ltd.	Moka, Tochigi Prefecture	Reviewed ventilation fan operation
Chofu Works, Kobe Steel, Ltd.	Shimonoseki, Yamaguchi Prefecture	Switched pumps to inverters Stopped use of cooling fans by improving operations
Daian Works, Kobe Steel, Ltd.	Inabe, Mie Prefecture	Switched a portion of plant lighting to LED lighting
Ibaraki Plant, Kobe Steel, Ltd.	Ibaraki, Osaka Prefecture	Switched a portion of plant lighting to LED lighting Switched to electric forklifts
Saijo Plant, Kobe Steel, Ltd.	Higashihiroshima, Hiroshima Prefecture	Switched to high-efficiency compressor
Fukuchiyama Plant, Kobe Steel, Ltd.	Fukuchiyama, Kyoto Prefecture	Switched a portion of plant lighting to LED lighting Reviewed cooling tower operation methods
Takasago Works, Kobe Steel, Ltd.	Takasago, Hyogo Prefecture	Switched a portion of plant lighting to LED lighting Updated to high-efficiency transformers
Kobe Corporate Research Laboratories, Kobe Steel, Ltd.	Kobe, Hyogo Prefecture	Updated to high-efficiency HVAC systems Switched a portion of lighting to LED lighting
Amagasaki Works, Kobelco Wire Company, Ltd.	Amagasaki, Hyogo Prefecture	Updated to high-efficiency boiler Introduced waste heat recovery compressor Updated to high-efficiency transformers Switched pumps to inverters
Rope Plant, Onoe district, Kobelco Wire Company, Ltd.	Kakogawa, Hyogo Prefecture	Switched a portion of plant lighting to LED lighting Updated water pump to high-efficiency type Switched electric motors to inverters Updated to high-efficiency HVAC systems
Rope Plant, Nishikinohama district, Kobelco Wire Company, Ltd.	Kaizuka, Osaka Prefecture	Switched a portion of ceiling lighting to LED lighting Reviewed drying furnace operation methods
Toyama Works, Nippon Koshuha Steel Co., Ltd.	Imizu City, Toyama Prefecture	Optimized electricity and fuel use
Koshuha-Foundry Co., Ltd.	Hachinohe, Aomori Prefecture	Switched dust collectors to inverters
Kobelco Aluminum Wire Co., Ltd.	Sakai, Osaka Prefecture	Switched a portion of plant lighting to LED lighting
Kobelco Leadmikk Co., Ltd.	Kitakyushu, Fukuoka Prefecture	Switched a portion of lighting to LED lighting Updated to high-efficiency HVAC systems

Production Facility / Company Name	Location	Examples of Initiatives
Shinko Industrial Co., Ltd.	Kurayoshi, Tottori Prefecture	Switched a portion of lighting to LED lighting
Hanshin Yosetsu Kizai Co., Ltd.	Okayama, Okayama Prefecture	Switched a portion of lighting to LED lighting
Harima Plant, Kobelco Compressors Corporation	Harima Town, Hyogo Prefecture	Switched a portion of plant lighting to LED lighting Updated to high-efficiency boiler
Harima Plant, Kobelco Eco-Solutions Co., Ltd.	Harima Town, Hyogo Prefecture	Switched to high-efficiency compressor Updated to high-efficiency HVAC systems
Kobelco Power Kobe Inc.	Kobe, Hyogo Prefecture	Improved efficiency by reducing the air/fuel ratio Reduced fan power by cleaning the fan, etc.
Kobelco Power Kobe No. 2 Inc.	Kobe, Hyogo Prefecture	Reduced fan power by cleaning the fan, etc. Improved efficiency through inspection and repair of heat exchangers
Hiroshima Factory, Kobelco Construction Machinery Co., Ltd.	Hiroshima, Hiroshima Prefecture	Switched a portion of lighting to LED lighting Introduced electricity generated from renewable energy to the Itsukaichi Factory
Okubo Factory, Kobelco Construction Machinery Co., Ltd.	Akashi, Hyogo Prefecture	Introduced solar power generation systems at the Parts Center
Kobelco Spring Wire (Foshan) Co., Ltd. (KSW)	China	Reused steam residual heat
Kobelco Millcon Steel Co., Ltd.	Thailand	Switched compressors to inverters
Kobelco Precision Technology Sdn. Bhd.	Malaysia	Switched to high-efficiency compressor
Singapore Kobelco Pte. Ltd.	Singapore	Installed solar panels
Kobelco MIG Wire (Thailand) Co., Ltd. (KMWT)	Thailand	Updated to high-efficiency HVAC systems Switched a portion of office and plant lighting to LED lighting
Thai Kobelco Welding Co., Ltd.	Thailand	Updated to high-efficiency HVAC systems Switched a portion of plant lighting to LED lighting
Kobelco Construction Machinery (China) Co., Ltd.	China	Updated electric motors that consume large amounts of energy Updated blowers that consume large amounts of energy
Kobelco Construction Machinery Southeast Asia Co., Ltd.	Thailand	Saved power by cutting standby power consumption of welding machines Saved power by using the timer of the ventilation fan
Kobelco Construction Equipment India Pvt. Ltd.	India	Introduced solar power generation



# Environmental Management

## Management Structure

Structure

For our environmental management structure, please refer to page 12.

▶ Basic Environmental Management Policy and Structure: Environmental Management Structure

## Thorough Risk Management

### Basic Concept

Policies

The Kobelco Group identifies environmental risks in its business activities and takes steps to reduce these risks, while properly managing risks in accordance with daily operating procedures. Through environmental audits and other activities, the Group continues to ensure thorough compliance with laws and regulations and reinforces environmental management.

### Targets

Strategies and Targets

The Kobelco Group set the following two targets in the Medium-Term Environmental Management Plan (Fiscal 2021–2023):

- Continue on-site environmental audits by the Head Office and expand audits to Group companies and affiliated companies in an effort to promote the establishment of independent EMS
- For overseas Group companies, promote the same level of environmental management as in Japan and improve risk management through activities such as on-site environmental inspections

### Results

Results

### Environmental Audits at Business Locations of Kobe Steel and Domestic Group Companies

The Kobelco Group conducts audits based on checklists of risks for each business location every year to ensure compliance with laws and regulations at Kobe Steel and all business locations of domestic Group companies.

On-site environmental audits had been conducted regularly at 11 business locations of Kobe Steel and 28 business locations of 20 domestic Group companies with high environmental risks. These are strict on-site environmental audits to check documents, such as measurement records and various reports, and inspect work sites for waste storage and other conditions. The audits also entail interviews with personnel in charge.

We implement on-site environmental audits regularly once every three to five years at overseas Group companies. During these audits, the environmental manager at the regional headquarters, who is well-versed in local laws and regulations, or a local consultant is appointed to review compliance with environmental laws and regulations as well as to reduce risks.

A total of 29 overseas Group companies are subject to on-site environmental audits: six in the United States, nine in China, 13 in Asia excluding China, and one in Europe (as of April 2024). During on-site environmental audits, we grasp the actual state of environmental management and identify problem areas locally on-site, based on which necessary corrective measures are undertaken.

In fiscal 2023, we conducted paper-based environmental audits of all the Group's business sites, including non-production sites in Japan, and the head offices conducted on-site environmental audits at 12 production sites to confirm the status of environmental management. For overseas Group companies, the head offices conducted on-site environmental audits of five business sites in Thailand, South Korea, and China.

### Results of Environmental Audits in Fiscal 2023

- Paper-based audits: 11 business locations of Kobe Steel and 387 business locations of 87 domestic Group companies
- On-site environmental audits: Four business locations of Kobe Steel, eight business locations at eight domestic Group companies, and five overseas Group companies



On-site environmental audit (Saijo Plant)

### Status of Compliance (Fiscal 2023)

At Company business locations and Group companies in Japan, there was one case where air quality values exceeded regulation standards, and one case where water quality values exceeded regulation standards. Both of the cases were discovered by self-inspections and reported promptly to relevant authorities, with actions taken. No fines or punishments were imposed.

In fiscal 2023, certain overseas Group companies exceeded the regulation values for wastewater and exhaust gases and had leaks of acid from pipes, but no fines or penalties were levied.

## Environmental Management

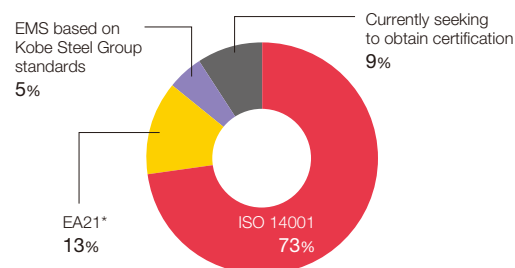
### Major Initiatives

### Results

#### Strengthening Environmental Management (Promoting an EMS)

The Group has introduced EMS compliant with ISO 14001 or other standards and is working to strengthen environmental management through the plan-do-check-act (PDCA) cycle. Kobe Steel, Ltd. has obtained certification at all 11 business locations (an integrated certification for Fujisawa Office, Ibaraki Plant, Saijo Plant, and Fukuchiyama Plant) and the Engineering Business. The percentage of locations that have obtained certification for EMS at all 45 main production sites is 87%.

In November 2023, Kobelco Eco-Solutions Co., Ltd. received a temporary suspension of its ISO 14001 certification, and the certification itself expired at the end of December 2023 during the suspension period. On February 21, 2024, the company received notice that the suspension was lifted and after a subsequent renewal review, the company's certification was reinstated in June 2024.



\* Environmental Activity Evaluation Program (Eco-Action 21): A certification and registration program formulated by the Ministry of the Environment, for more accessible EMS based on ISO 14001.

► Environmental Data

Each business location periodically conducts drills for possible emergency situations. Issues are identified in follow-up meetings after the drills and steps are taken to improve responsiveness.



Training on handling materials in response to the scenario of an oil leak (Kobelco Construction Machinery Co., Ltd.)

#### Strengthening Environmental Management at Overseas Group Companies

Our overseas business locations also have EMS in place, just like our business locations and Group companies in Japan. Kobe Steel aims to further strengthen environmental management by sharing information among business divisions at Kobe Steel and with overseas business locations.

In the United States and China, where many Group production sites are located, regional headquarters for the respective regions, Kobe Steel USA Inc. and Kobelco (China) Holding Co., Ltd., have environmental managers who are well-versed in local laws and regulations to assist other Group companies and take steps to mitigate risks.

#### Assessment of Environmental Risks in Investment Projects

The Kobelco Group established systems for checking compliance with environmental laws and regulations as well as environmental risks associated with investment projects at each business location. In addition, we employed an environmental checklist system through which the head offices double-check the laws and risks pertaining to projects that entail particularly large investments.

These checks are to confirm that, for example, chemical storage tanks are not installed underground in order to prevent soil contamination and check whether or not effective measures are in place for preventing leaks in cases when storage tanks are located near drainage channels.

## Environment

## Environmental Management

## Promoting Environmental Initiatives with Full Employee Participation

## Basic Concept

## Policies

We will work to improve environmental awareness through Eco-Office activities to create an energy-efficient and comfortable work environment and to sustain environmental education/learning to enable all employees to take action for the environment.

## Targets

## Strategies and Targets

The Kobelco Group's targets in the Medium-Term Environmental Management Plan (Fiscal 2021–2023) involve raising environmental awareness by continuing measures such as stratified training, e-learning, and environmental training for Group companies, as well as encouraging the use of the Kobelco Eco-Life Notebook.

## Results

## Results

In fiscal 2023, we increased employees' environmental awareness and knowledge through the Kobelco Group Environmental Conference, stratified training, and e-learning. Also, we promoted environmental awareness among employees in their home lives through the Kobelco Eco-Life Notebook.

## Kobelco Group Environmental Conference

The Kobelco Group Environmental Conference is held every year for the purposes of sharing environmental information and promoting cross-divisional environmental initiatives. In fiscal 2023, participants confirmed their commitment to steadily make efforts toward Kobe Steel's carbon-neutral strategy, shared useful examples of ways to reduce the environmental burden at the business locations where they work, and reviewed changes to environmental laws and regulations.



Kobelco Group Environmental Conference  
(Held in a hybrid format, with in-person venue and online participation)

## Environmental Training and Study

Since fiscal 2006, we have continually incorporated environmental training and study into our stratified training program for employees in specific positions at respective business locations. Additionally, we provide e-learning programs regularly via the intranet.

In fiscal 2023, we provided stratified education and e-learning on compliance with environmental laws and regulations, environmental management, and "Taking on the Challenge of Realizing Carbon Neutrality by 2050."

## Environmental Training and Study at Overseas Business Locations

In the United States and China, we hold environmental seminars and networking events for employees in charge of environmental management at Group companies in order to advance their skills and share information on the latest developments in environment-related laws and regulations. Employees who will be transferred to overseas business locations are given environmental training prior to their departure with the aim of heightening the consciousness of environmental risks, ensuring compliance with local laws and regulations, and preventing environmental problems.



Environmental networking event in December 2023

## Promoting Environmental Qualifications

In order to strengthen environmental management and raise environmental awareness, we are encouraging employees to acquire environmental qualifications (such as for pollution control managers or qualified persons for energy management).

## Employees Acquiring Environmental Qualifications in Fiscal 2023 (Kobe Steel, Ltd.)

Qualification	Number of Qualified Personnel	Qualification	Number of Qualified Personnel
Pollution Control Manager (Air)	291	Pollution Control Manager (Dioxins related)	64
Pollution Control Manager (Water)	230	Pollution Control Chief Manager	3
Pollution Control Manager (Noise and vibration related)	152	Qualified Person for Energy Management	261
Pollution Control Manager (Dust)	49	Certified Environmental Measurer	19

## Environment

### Environmental Management

#### Disclosure of Environmental Information

##### Basic Concept

##### Policies

The Kobelco Group actively discloses environmental information to communicate its environmental management initiatives to stakeholders. At our business locations, we work on environmental communication, including regularly holding dialogue with community members.

##### Targets

##### Strategies and Targets

The Kobelco Group set targets in the Medium-Term Environmental Management Plan (Fiscal 2021–2023) to continue initiatives such as the disclosure of information in an effort to communicate with all stakeholders.

##### Results

##### Results

In fiscal 2023, we disclosed environmental information via our integrated report, corporate website, public monitors, and other measures. Also, we set up booths at various exhibitions and introduced our Group's environmental technologies and products.

#### Issuing the Integrated Report

We disclose environmental information as important non-financial information.

► [Kobelco Group Integrated Report](#)

#### Communication with Local Communities

In order to help people understand our efforts to reduce environmental impacts, we regularly hold briefings for local residents at the Kakogawa Works, Kobe Wire Rod & Bar Plant, and Kobe Power Plant.

Toll-free phone numbers (only available in Japan) have also been set up at Kakogawa Works and the Kobe Wire Rod & Bar Plant to answer environment-related inquiries. We will continue to value the opinions of local community members.

► [Toll-free phone numbers for environment-related inquiries \(in Japanese only\)](#)

#### Disclosing Environmental Information via Public Monitors

Kakogawa Works and the Kobe Wire Rod & Bar Plant (including the Kobe Power Plant) provide real-time information on the environment, including soot and smoke emissions from the steelworks, through monitors set up in various locations.

	Locations of Public Monitors
Kakogawa Works environmental information	Kakogawa City Hall, Harima Town Office Beppu Community Center, Onoe Community Center
Environmental information of Kobe Wire Rod & Bar Plant	Nadahama Science Square, Nadahama Garden Baden



## Environment

## Environmental Management

## Environmental Accounting

## Basic Concept

## Policies

The Kobelco Group is making efforts to reduce its environmental impacts.

We disclose information to better grasp the costs and benefits associated with our environmental conservation activities, and to deepen stakeholder understanding of our efforts.

## Environment-Related Investments and Results

## Results

We invest in the installation and continual maintenance of environmental equipment and pursue environmental measures on a variety of fronts in order to mitigate environmental impacts.

In fiscal 2023, we invested approximately 0.51 billion yen in facilities to reduce CO<sub>2</sub> emissions and prevent air and water pollution.

In fiscal 2023, we spent a total of approximately 42.5 billion yen.

Moreover, we invested about 28% of total expenses, or roughly 12.0 billion yen, in research and development for technology development, including making automobile weight-reduction proposals that combine competitiveness of cutting-edge materials such as high-tensile strength steel and aluminum with automotive solution technologies, demonstrating our strengths as a company that operates steel, aluminum, and welding businesses. Of these, we invested approximately 7.1 billion yen as R&D expenses related to climate change.

We will continue to implement measures to reduce environmental impacts.

## Breakdown of Capital Investment and Expenses (Kobe Steel, Ltd.)

## Results

(Millions of yen)

Item			Fiscal 2021		Fiscal 2022		Fiscal 2023	
			Capital Investment	Expense	Capital Investment	Expense	Capital Investment	Expense
Expenses in business areas	Environmental expenses	Air pollution prevention	220	9,090	620	11,290	120	1,180
		Water pollution prevention	80	4,660	150	5,490	200	5,990
	Resource recycling expenses	Waste recycling/processing, yield improvement	—	9,400	0	12,810	0	10,170
	Climate-related expenses	Energy-saving investment	350	—	350	—	190	—
Management activities expenses	EMS registration/renewal		—	40	—	40	—	70
	Environmental impact monitoring/measuring		—	280	—	460	—	320
	Personnel expenses for environmental measures/organization		—	1,930	—	1,970	—	1,790
R&D expenses	Development of eco products and reduction of environmental impact of manufacturing processes		—	10,260	—	11,640	—	11,970
		Of which, R&D related to climate change	—	4,760	—	6,200	—	7,140
Social activities expenses	Environmental organization support, advertising		—	10	—	20	—	20
Other expenses	Pollution levy		—	280	—	350	—	330
Total			650	36,000	1,120	44,100	510	42,500

# Appropriate Management of Water Resources

## Basic Concept

### Policies

The Kobelco Group's manufacturing sites use large quantities of water for cooling, cleaning, and other purposes, and we recognize that water shortages constitute a risk. There is also the risk of operations being impacted by flood damage, such as torrential rain, which is becoming increasingly severe. The risk of water shortages and flood damage at our domestic production sites has been found to be low in assessments using Aqeduct provided by World Resources Institute (WRI). Even so, the Group is working to reduce water consumption and increase the water recycling rate by improving the efficiency of water use and recycling water in production processes in preparation for any eventuality.

Additionally, we recognize that the environment and living organisms in public waters may be impacted by the violation of environmental laws and regulations, ordinances, and agreements pertaining to wastewater. To address wastewater risks, we not only comply with regulations but also strive to reduce the discharge of pollutants into public water areas by cleaning up wastewater from the production process with a treatment system suitable for the characteristics of the wastewater.

## Management Structure

### Structure

The Environmental Management and Disaster Prevention Subcommittee deliberates, reports, and evaluates policies, action plans, and results of initiatives concerning the appropriate management of our Group's water resources at least once a year. This management cycle is properly implemented. Important matters are reported and submitted to the Executive Council through the Sustainability Management Committee (chaired by the executive vice president and representative director), to which the subcommittee reports.

► Basic Environmental Management Policy and Structure: Environmental Management Structure

## Targets

### Strategies and Targets

We have set the following targets for water shortage and wastewater risks and are working to address issues for each.

### Initiatives to Address Water Shortage Risk

#### Water recycling rate target: Maintain 95% or higher

The Kobelco Group is working to conserve water through such measures as efficient use of water in manufacturing processes and more extensive use of wastewater recycling.

### Initiatives to Address Wastewater Risk

#### Water pollution load targets: COD of 474 tons/year and total phosphorus of 23/tons/year or less.

For pollution load, which is an indicator of wastewater pollution, we have set targets for chemical oxygen demand (COD) and total phosphorus for business sites in Japan located in areas with water pollution risk, and are working to prevent such contamination.

## Results

### Results

### Improvement of Water Recycling Rate and Reduction of Water Pollution Load

At each business location, we are recycling water to use again at the site after purifying wastewater from each production process through coagulation sedimentation, sand filtering, and other means. Additionally, by purifying water with a treatment system suitable for wastewater from the manufacturing process, we are working to promote the use of recycled water and reduce the pollution load of wastewater discharged into public water areas.

In fiscal 2023, the water recycling rate was 96%, thus exceeding the target.

The water pollution load was COD of 227 tons/year and total phosphorus of 7 tons/year, thus exceeding the targets.

## Appropriate Management of Water Resources

Water Intake, Discharge, and Recycling Rate Data for the Past Three Years<sup>1</sup>(10,000 m<sup>3</sup>)

Item	Fiscal 2021	Fiscal 2022	Fiscal 2023
Water withdrawal by source			
Freshwater (tap water and industrial water provided by the waterworks bureau in each area) <sup>2</sup>	5,067	5,106	5,086
Groundwater	525	550	573
Seawater for cooling	263,576	337,340	396,960
Water withdrawal total <sup>3</sup>	269,169	342,996	402,620
Water discharge total by discharge destination			
Rivers	190	201	214
Sea water	266,145	339,894	399,542
Sewage	71	67	59
Discharge total	266,406	340,162	399,815
Discharge by each treatment method <sup>4</sup>			
No treatment (including discharge to sewage)	426	440	436
Simple treatment	902	867	878
Standard treatment	21	20	18
Advanced treatment	1,481	1,493	1,522
Freshwater withdrawal and discharge			
Water withdrawal total	5,067	5,106	5,086
Water discharge total	2,829	2,822	2,855
Consumption	2,763	2,834	2,805
Total recycled water	125,392	129,129	132,468
Recycling rate <sup>5</sup>	Target: 95% or higher	96%	96%

<sup>1</sup> Aggregates the boundary of 100% of Kobe Steel's production sites. It also includes domestic Group companies of a certain scale or larger (water use of 1,000 thousand m<sup>3</sup>/year or more).

The amount of wastewater at the target business sites covers more than 99% of the Kobelco Group in Japan.

<sup>2</sup> The water withdrawal sources for tap water and industrial water are mainly rivers.

<sup>3</sup> The sum of the breakdown figures and the total might not match due to rounding of each item.

<sup>4</sup> Simple treatment: Removing pollutants and floating particles by physical process (e.g., precipitation)

Standard treatment: Decomposes organic matter by biologic treatment

Advanced treatment: Treat suspended particles, colloids and dissolved matter (nutrients, heavy metals, inorganic pollutants, and other pollutants after simple and standard treatment)

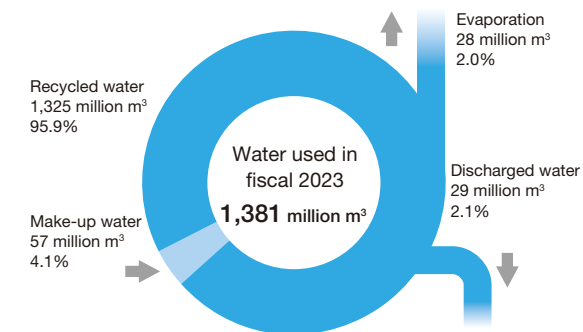
<sup>5</sup> The recycling rate is calculated as: (Total recycled freshwater) / (Total recycled freshwater + Total freshwater withdrawal). The calculation of total recycled freshwater includes some estimates based on equipment specifications.

Data on Water Pollution Load\*

Item	Targets	Fiscal 2021	Fiscal 2022	Fiscal 2023
Water discharge total	—	2,664.06 million m <sup>3</sup>	3,401.62 million m <sup>3</sup>	3,998.15 million m <sup>3</sup>
COD	474 t or less	244 t	213 t	227 t
Total phosphorus	23 t or less	3 t	4 t	7 t

\* All 10 business sites in areas with risks related to total volume regulations are aggregated, and their wastewater accounts for more than 99% of the Group's total (Japan).

Water Recycling Status (including domestic Group companies with significant water use)



Each Kobelco Group business site remains aware of regulatory water quality requirements and evaluates their compliance with these levels. Please see below for water discharge data for each business site, including the results of water quality measurements.

► Environmental Data

### ● Development of Water Management Plans in the Group

Of the Kobelco Group's 32 major production sites in Japan, 19 that account for 59% have formulated water management plans, monitor water intake, discharge, and recycling; and are working to properly manage water resources and reduce environmental impact.

### ● Initiatives to Reduce Water Usage at Business Sites

At Kakogawa Works, we are promoting the effective use of water resources, such as by monitoring withdrawal and discharge through continuous measurement of flow rates at drains, and by recycling water to use again at the site after purifying wastewater from each production process through coagulation sedimentation, sand filtering, etc. In this way, the water recycling rate reaches approximately 97%.

## Environment

### Appropriate Management of Water Resources

#### Contributing to a More Vibrant Ocean

While water quality has improved in the Seto Inland Sea (Harima Sea) due to wastewater regulations, the discoloration of seaweed and the decrease in fish catch due to lack of nutrients have become serious issues.

In response to this situation, the Act on Special Measures concerning Conservation of the Environment of the Seto Inland Sea was revised, and in 2022, Hyogo Prefecture formulated its Nutrient Management Plan. Kakogawa Works has been selected as a “nutrient increase action implementer (nitrogen),” and will contribute to the creation of a vibrant ocean by operating in accordance with the plan.

#### Collaboration with External Bodies to Reduce Water Use

In Toyama Prefecture, where Nippon Koshuha Steel Co., Ltd. is located, the amount of water allocated to companies is ensured, but in order to leave enough water for snow clearing, every year the prefecture calls on factories, workplaces, offices, and snow-clearing equipment managers to voluntarily save water from December to February. In order to do its part, Nippon Koshuha Steel is working to reduce its water usage as much as possible.

#### Prevention for Flood Damage and Other Natural Disasters

As the type and severity of a natural disaster can vary by site, each site regularly checks the latest hazard maps provided by local authorities and preventions for the risk accordingly.

#### Evaluation of Water Shortage and Water Stress

Every year, each business site estimates the amount of water it expects to use in the subsequent fiscal year and determines whether the amount of contracted industrial water meets its needs. When a water shortage is anticipated, each business site secures substitute water resources and evaluates how this will affect production.

The Head Office evaluates water stress of the region where the business sites are located with WRI Aqueduct and reports problems (if any) to the necessary directors and officers.

In the WRI Aqueduct assessment for fiscal 2023, none of the Group's business sites or Group companies in Japan are located in regions of high water stress or above and no production sites posed issues. In addition, we have secured a certain volume of water from the supply sources, and believe that the risk of water withdrawal affecting production is low.

At Kakogawa Works, for example, the risk of water intake affecting production is thought to be low because upstream from the water used is the Gongen Dam (total storage capacity: 11.12 million m<sup>3</sup>), constructed to ensure a stable supply of industrial water from the Kakogawa River as well as the Kakogawa Weir (total storage capacity: 1.96 million m<sup>3</sup>) and Heiso Dam (total storage capacity: 9.40 million m<sup>3</sup>), which were constructed to ensure the flow rate of industrial water.

#### ● Assessment of Supply Chain Water Shortages and Water Stress

As well as identifying risks from past cases of flood damage in areas from which we procure raw materials, we analyze water risk in those areas using WRI Aqueduct, and are working to diversify raw materials suppliers based on the results of this risk analysis.

#### Expenses Associated with Water-Related Risks and Investment to Mitigate Water-Related Risks

R&D expenses for water treatment-related projects and water pollution prevention projects used for the prevention of abnormal water discharge or inspection/maintenance of water treatment facilities are presented below.

(Millions of yen)

Item	Fiscal 2021		Fiscal 2022		Fiscal 2023	
	Capital Investment	Expense	Capital Investment	Expense	Capital Investment	Expense
Expenses for water pollution prevention	80	4,660	150	5,490	200	5,990
R&D expenses for water treatment-related projects	—	320	—	470	—	1,230

#### Compliance with Laws and Regulations

In order to comply not only with the regulatory limits stipulated by laws and regulations but also with stricter regulatory limits stipulated by agreements with local governments, we continue to develop management standards and make necessary capital investments. In preparation for emergencies, we have established emergency response procedures and conduct drills regularly.

There was one case in Japan where water quality values exceeded regulation standards. The case was discovered by self-inspections and promptly reported to the relevant authorities, with action taken. No fines or punishments were imposed.

In fiscal 2023, certain overseas Group companies exceeded the regulation values for wastewater and had leaks of acid from pipes, but no fines or penalties were levied.



# Resource Recycling

## Promotion of Resource Recycling (Waste Reduction)

### Basic Concept

### Policies

To make effective use of limited resources, the Kobelco Group implements measures to control waste. We add value to by-products created during manufacturing processes, develop and introduce new applications for materials, and actively pursue recycling. The Group also reduces paper consumption by reviewing packaging specifications for products to be shipped for the reuse of packaging/shipping supplies, and by actively promoting digitization and IT adoption in documents used at office work across the entire Group. Additionally, we have set recycling targets for the main forms of waste, and are seeking to improve the recycling rate in order to reduce the final disposal amount.

### Management Structure

### Structure

For our environmental management structure, please refer to page 12.

▶ Basic Environmental Management Policy and Structure: Environmental Management Structure

### Targets

### Strategies and Targets

We actively promote yield improvement and reduction of auxiliary material consumption. We have set the fiscal 2025 target of achieving a recycling rate of 99% for major by-products (slag, dust, and sludge).

### Results

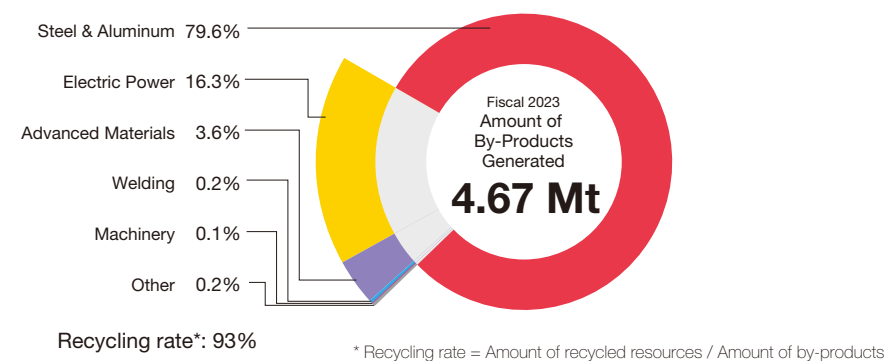
### Results

The recycling rate of by-products (slag, dust, and sludge) in fiscal 2023 was 99.1%, exceeding the target.

In fiscal 2023, a total of 4.67 million tons of by-product materials were generated by the Kobelco Group and the recycling rate was 93%. We will continue to reduce final landfill disposal volume by controlling the amount of by-products produced, increasing recycling, and developing new recycling technologies and offering added value.

Note: Target data covers 99% or more of the amount of by-products generated by the Kobelco Group in Japan.

### By-Products Generated (including domestic Group companies in Japan)



Among this, the recycling rate of major by-products (slag, dust, and sludge) in fiscal 2023 was 99.1%, exceeding the target. We will continue to work on raising the recycling rate of by-products and reducing final disposal amounts in order to achieve these targets.

## Environment

## Resource Recycling

## Recycling Rate of Major By-Products: Slag, Dust, and Sludge (Kobe Steel, Ltd.)

	Targets for fiscal 2025	Fiscal 2021	Fiscal 2022	Fiscal 2023
Recycling rate of three main items	99.0%	99.3%	99.2%	99.1%

Amount of By-Products, Recycled Resources, and Landfill Disposal over the Past Three Years (including domestic Group companies)<sup>1</sup>

	Fiscal 2021	Fiscal 2022	Fiscal 2023
Amount of by-products (t)	4,051,021	4,576,542	4,667,668
Amount of recycled resources (t)	3,901,504	4,411,651	4,336,499
Amount of landfill disposal (t)	119,932	124,363	137,448
Other (volume reduction, t)	29,585	40,528	193,721
By-product recycling rate <sup>2</sup>	96%	96%	93%
Amount of specially controlled industrial waste generated (t)	21,136	19,597	18,414
Amount (rate) of specially controlled industrial waste generated (%) <sup>3</sup>	0.52%	0.43%	0.39%

1 The information above covers more than 99% of the waste generated by the Kobelco Group in Japan.

2 By-products (total) recycling rate = Amount of recycled resources / Amount of subject to treatment

3 Rate = Amount of specially controlled industrial waste generated / Amount of by-products generated

## Transportation Amount\* of Specially Controlled Industrial Waste Disposed of over the Past Three Years (including domestic Group companies)

	Fiscal 2021	Fiscal 2022	Fiscal 2023
Transportation amount of specially controlled industrial waste (t)	16,935	15,333	14,023

\* Amount of specially controlled industrial waste for which processing is outsourced

## Data on Main Resources Used at Kobe Steel, Ltd. over the Past Three Years

Main Raw Materials	Unit	Fiscal 2021	Fiscal 2022	Fiscal 2023
Iron ore	10,000 t	1,047	933	897
Coking coal/coke	10,000 t	492	497	471
Aluminum ingots, copper ingots, etc.	10,000 t	43	46	42
Total	10,000 t	1,630	1,475	1,410

## Environment

## Resource Recycling

## Major Initiatives

## Results

## Promoting the Recycling of Steel Slag

Of the by-products produced, steel slag, which is produced in large amounts, is recycled more than 99% into construction and other materials, thereby contributing to a recycling-oriented society. Most steel slag products are designated as specified procurement items under the Act on Promoting Green Procurement for public work projects as materials that benefit environmental conservation. Going forward, we will continue to expand the applications of steel slag products that contribute to carbon neutrality and biodiversity.

Application	Details
Cement materials 	Granulated BF slag is pulverized into a fine powder and used as a raw material for cement. This reduces CO <sub>2</sub> emissions generated in the cement manufacturing process because the firing process of clinker is no longer required. The use of BF cement mixed with 45% fine BF slag powder reduces CO <sub>2</sub> emissions per ton of cement by approximately 320 kg.
Roadbed material 	Roadbed material is made by pulverizing/granulating steel slag and ash stone. It has hydraulic properties and provides strong support. The roadbed material can contribute to conservation of the natural environment by being utilized as a substitute for natural resources.
Ground improvement material 	By using steel slag to improve soft soil, it is possible to build stronger ground and contribute to national resilience. In addition, replacing cement solidifiers with steel slag will also lead to a reduction in CO <sub>2</sub> during material manufacturing.
Steel slag artificial stone 	Steel slag artificial stone is a form of artificial stone made by solidifying steel slag with cement. Steel slag is expected to make a contribution to absorb and hold CO <sub>2</sub> by helping to restore marine resources by providing nutrients in the form of iron and other substances contained within the slag to encourage luxuriant seaweed growth. Steel slag is already being used in submerged bank construction work contracted by the City of Kobe.

## Major Initiatives in the Business Divisions (Japan)

Business Divisions	Examples of Initiatives to Reduce the Generation of By-Products/Waste and Decrease Landfill Disposal
Steel & Aluminum	Reduction of steel slag generation and development of new applications Development of recycling technologies for dust Recycling of arc furnace ash Reuse of aluminum scrap generated in the plant
Welding	Recycling sorted waste flux into roadbed material Reuse of product packaging materials
Advanced Materials	Reduction of steel slag generation and development of new applications Reuse of aluminum scrap generated in the plant Reuse of wooden pallets Conversion of coreless furnace dust and soot into recyclable materials
Machinery	Reduction of waste wood and waste plastics by reducing the weight of reusable shipping cartons and shock-absorbing materials
Electric Power	Recycling of coal ash and gypsum, which is a by-product of flue gas desulfurization equipment Study on facilities underway to create facilities that utilize sewage sludge fuel

## Initiatives at Overseas Group Companies

Company Name	Examples of Initiatives to Reduce the Generation of Waste and Decrease Landfill Disposal
Kobelco Spring Wire (Foshan) Co., Ltd. (KSW)	Reuse of lubricants
Kobelco Automotive Aluminum Rolled Products (China) Co., Ltd.	Reuse of pallets used to transport products
Kobelco Precision Technology Sdn. Bhd. (KPTEC)	Recycling of oil drums
Singapore Kobelco Pte. Ltd. (SKPL)	Recycling of metal scraps, paper, and waste plastics
Kobelco Aluminum Products and Extrusions, Inc. (KPEX)	Reuse of aluminum scraps
Thai Kobelco Welding Co., Ltd. (TKW)	Reuse of packaging materials
Kobelco MIG Wire (Thailand) Co., Ltd. (KMWT)	Reuse of packaging materials
Kobe Aluminum Automotive Products (China) Co., Ltd. (KAAP-C)	Reuse of aluminum scraps
Kobe Aluminum Automotive Products, LLC (KAAP)	Reuse of aluminum balls for shot blasting and caustic soda

## Environment

## Resource Recycling

## Initiatives to Control Waste Generation and Recycling in Collaboration with Outside Entities

Initiative	Details
Initiatives to effectively use underutilized energy in local communities: From conversion of sewage sludge to fuel to hydrogen production and supply	<ul style="list-style-type: none"> <li>Kobelco Eco-Solutions Co., Ltd., which has wastewater sludge treatment technology, and the Kobe Power Plant plan to turn wastewater sludge into fuel and use it as wastewater fuel at the power plant. (Using wastewater fuel is an appropriate method for the pulverized coal-fired power generation business.)</li> <li>We plan to use wastewater fuel as a portion of the fuel for generating electric power to produce hydrogen from the green electricity generated using the wastewater sludge fuel, which will be supplied to fuel-cell vehicles (FCVs). This initiative will contribute to the spread of FCVs, reduction of CO<sub>2</sub> emissions in local communities, and improvement in air quality.</li> </ul>
Study group for expanding usage of steel slag	<ul style="list-style-type: none"> <li>In a study group established by Hyogo Prefecture (Hyogo Eco-Town Promotion Council), we are conducting research to expand the use of steel slag in industry-government-academia collaboration/cooperation. The Kobelco Group participates as a member of the following research working group.</li> <li>The Construction Method for Disaster Risk Reduction Working Group aims for the practical utilization of a low-cost and effective reinforcement method for old road fill, whose aseismatic performance is decreased. Working toward actual use of fill mixed with steel slag, we are conducting aseismatic reinforcement tests using it.</li> </ul> <p>For more information, please see the following:</p> <p>▶ <a href="#">Hyogo Eco-Town Promotion Council</a> (in Japanese only)</p>
Demonstration project on gasification and methanolization of waste plastics	<ul style="list-style-type: none"> <li>The demonstration project for gasification and methanolization of waste plastics proposed by five companies, including Kobelco Eco-Solutions Co., Ltd., Daiei Kankyo Co., Ltd., DINS Kansai Co., Ltd., MITSUBISHI GAS CHEMICAL COMPANY, INC., and Mitsubishi Kakoki Kaisha, Ltd., was selected for funding by the Ministry of the Environment's "FY2022 Subsidy for Carbon Dioxide Emission Control Measures Project Costs: Demonstration Project for Construction of Resource Circulation Systems for Plastics and Other Technologies to Support a Decarbonized Society." This project was the first of its kind in Japan selected. The need to establish plastics recycling methods is rapidly increasing from the viewpoint of environmental protection, especially in terms of marine plastics, which has become a social problem around the world. This demonstration project aims to build a resource recycling system through chemical recycling of previously discarded plastics.</li> </ul> <p>For more information, please see the following:</p> <p>▶ <a href="#">Started Japan's first demonstration project for gasification and methanolization of waste plastics</a> (in Japanese only)</p>

## Initiatives to Control and Recycle Industrial Waste Containing Plastic Products

Based on the Act on Promotion of Resource Circulation for Plastics, we have set a goal of "strive to recycle target waste as much as possible (target: recycling rate of 80%)." We are aiming to achieve this by reducing the emission of used plastic products and industrial waste and outsourcing disposal to treatment companies that perform recycling and heat recovery. The recycling rate in fiscal 2023 was 79.5%. We will continue with our initiatives to control waste generation and recycling.

# Reduction of Environmental Impacts

## Reduction of Environmental Impacts

### Basic Concept

### Policies

As part of its environmental management policies, the Kobelco Group is committed to environmentally friendly manufacturing. We pursue this commitment on a variety of fronts—including improvements to sustainable manufacturing processes, updates to equipment, introduction of efficient state-of-the-art equipment, and introduction of pollution control equipment—to reduce environmental impact from soot and other sources. We will continue to implement these initiatives.

### Management Structure

### Structure

For our environmental management structure, please refer to page 12.

▶ Basic Environmental Management Policy and Structure: Environmental Management Structure

## Air Pollution Measures

### Policies

The Kobelco Group is working to control air pollutant emissions by introducing low-NOx combustion facilities along with enforcing appropriate management of exhaust gas treatment facilities and dust collectors.

### Targets

### Strategies and Targets

The Kobelco Group set the target in the Medium-Term Environmental Management Plan (Fiscal 2021–2023) of reducing environmental impact from soot and smoke, through meticulous operational management and facility management.

### Results

### Results

We have taken measures to limit sulfur oxide (SOx) emissions during manufacturing processes, such as conserving energy to reduce fuel consumption, using low-sulfur fuels, and switching to city gas, while also implementing exhaust-related measures, such as desulfurization. Likewise, to reduce nitrogen oxide (NOx) emissions, we have implemented low-NOx combustion technology and energy-saving measures.

In fiscal 2023, we continued to control emissions by thoroughly managing soot and smoke.

In fiscal 2022 and fiscal 2023, the value was higher than usual because of maintenance on desulfurization and denitration equipment at the Kakogawa Works' sintering plant to bypass the equipment while complying with regulation values and conventions.

### Data on Soot and Smoke Load\*

Item	Fiscal 2021	Fiscal 2022	Fiscal 2023
SOx emissions	876 kNm <sup>3</sup>	1,681 kNm <sup>3</sup>	1,568 kNm <sup>3</sup>
NOx emissions	4,212 kNm <sup>3</sup>	4,430 kNm <sup>3</sup>	4,307 kNm <sup>3</sup>

\* Aggregates the boundary of 100% of Kobe Steel's production sites. It also includes major domestic Group companies whose energy consumption is 1,500 kL/year of heavy oil equivalent.

For business locations that have paid the current portion of the pollution load levy, the aggregation period for SOx emissions is January to December.

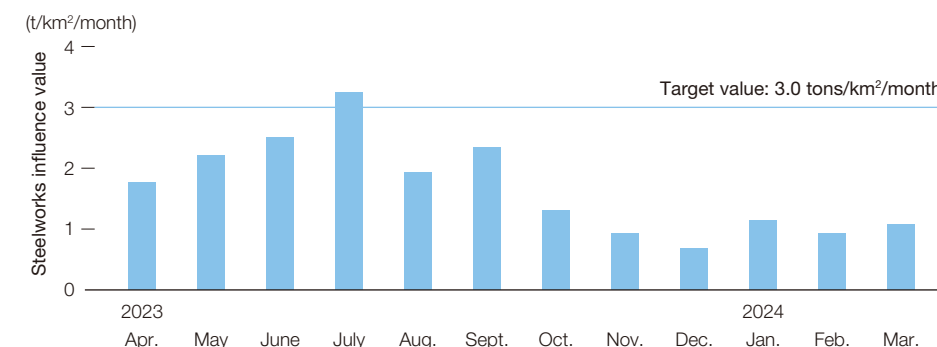
### Major Initiatives

### Results

## Measures to Counter Dust at Kakogawa Works

At Kakogawa Works, voluntary targets for dustfall in three neighboring locations have been set at 3.0 tons/km<sup>2</sup>/month or less. In fiscal 2023, we steadily implemented existing initiatives and regularly cleaned dust prevention nets at site boundaries, but exceeded the target value in July. The main cause of this exceedance was identified as dust emanating from the conveyor belt that transports raw materials to the steel mill. As a result of changing the composition of raw materials in order to make effective use of by-products generated in-house, the proportion of fine particles that are prone to dust generation increased, and the dust collection capacity was insufficient, resulting in blockage of the inside of the dust collection duct and dust generation. In this regard, measures were taken to increase the dust collection capacity of the conveyor belt (completed at the end of November 2023).

### Steelworks Influence Value Related to Dustfall (Kakogawa Shinko Building)





## Reduction of Environmental Impacts

### Appropriate Management of Chemical Substances

#### Policies

We established the Kobelco Group Policy on Controlling Hazardous Chemical Substances to ensure the appropriate handling of chemical substances from procurement to manufacturing and quality control.

#### Kobelco Group Policy on Controlling Hazardous Chemical Substances

We will comply with all domestic laws and regulations related to the handling of chemical substances and implement the following actions:

- Request suppliers to handle chemical substances properly at the time of procurement of raw materials;
- Identify the risks to employees' health caused by chemical substances and ensure a safe working environment;
- Properly manage chemical substances used in processes and reduce their use in order to mitigate environmental impacts; and
- Comply with the laws and regulations of the countries and regions to which products are shipped, and respond appropriately and promptly to customer requests regarding chemical substances contained in products.

In addition to accurately assessing the use, disposal, and transfer of chemical substances covered under the PRTR Law<sup>1</sup> and Chemical Substance Control Law<sup>2</sup>, we engage in activities to limit the use and output of such substances. In addition, waste electrical equipment containing PCB and equipment using fluorocarbons are appropriately stored and managed in accordance with the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes and the Act on Rational Use and Appropriate Management of Fluorocarbons, respectively.

- 1 Law Concerning Pollutant Release and Transfer Register (PRTR): Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof  
2 Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.

#### Targets

#### Strategies and Targets

The targets of the Kobelco Group's Medium-Term Environmental Management Plan (Fiscal 2021–2023) are to engage in appropriate management, reduction, and substitution activities for chemical substances, as well as to take appropriate measures in compliance with the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes and the Act on Rational Use and Appropriate Management of Fluorocarbons.

#### Results

#### Results

In fiscal 2023, we thoroughly investigated equipment containing low-concentration PCB currently in-use and outsourced processing for some following our disposal plan.

Regarding specified fluorocarbons, we confirmed they are managed appropriately through audits and other means.

With regard to Class 1 Designated Chemical Substances stipulated in the PRTR Law, we are taking appropriate measures such as disseminating information within the Group in light of the fact that these substances have significantly changed due to the revision of laws and regulations. The annual transfer and release of substances subject to PRTR reporting over the past three years is presented in the table below. Following revisions to the PRTR Law in fiscal 2023, the number of substances subject to reporting and the amount of substances transferred outside business sites have increased.

#### Annual Transfer and Release of Substances Subject to PRTR Reporting over the Past Three Years

	Fiscal 2021	Fiscal 2022	Fiscal 2023
Substances subject to reporting	47	47	56
Air emissions	437 t	363 t	388 t
Releases to public water areas	63 t	48 t	59 t
Drainage	0.5 t	0.5 t	0.6 t
Transfers outside the premises (waste)	625 t	543 t	3,007 t

Notes: 1. The information above covers 99% of the Kobelco Group's release and transfer of chemical substances in Japan.

2. The above figures for fiscal 2021 and fiscal 2022 have been corrected due to revisions to the number of substances and air emissions subject to reporting.

#### Air Emissions of Volatile Organic Compounds (VOC) and Other Hazardous Substances over the Past Three Years (including emissions by domestic Group companies)

(Unit: t/year)

		Fiscal 2021	Fiscal 2022	Fiscal 2023
VOCs		428	357	374
Other hazardous substances	Lead	0	0	0
	Manganese and its compounds	0.1	0.3	0.3

Notes: 1. Calculated for VOCs relevant to the Kobelco Group, out of those specified as Class 1 Designated Chemical Substances in Appended Table 1 of the Ordinance for Enforcement of the Law Concerning Pollutant Release and Transfer Register

2. The information above covers 99% of the environmental impact of the Kobelco Group in Japan.

#### Major Initiatives

#### Results

#### Examples of Initiatives to Reduce Chemical Substance Use and Output

Production Facility / Company Name	Location	Activities
Kakogawa Works	Kakogawa, Hyogo Prefecture	In titanium pickling, use of waste acid is controlled by reducing the number of plates that pass through
Shinko Aluminum Wire Co., Ltd.	Sakai, Osaka Prefecture	Promotes in-line wiping to reduce the workload of degreasing and cleaning

## Environment

## Reduction of Environmental Impacts

Kobelco Group Annual Transfer and Release of Hazardous Substances Subject to PRTR Reporting  
(Aggregation results for fiscal 2023)

Unit: kg (mg-TEQ for dioxins)

Control Number <sup>1</sup>	Substance	Release <sup>2</sup>	Transfer <sup>3</sup>
1	Zinc compounds (water-soluble)	630	2,200
20	2-aminoethanol	0	22
31	Antimony and its compounds	1,000	430
53	Ethylbenzene	51,000	18,000
57	Ethylene glycol monoethyl ether	120	52
74	Para-alkylphenols (limited to those with eight carbon atoms of the alkyl group)	0	0
80	Xylene	72,000	21,000
85	Glutaraldehyde	0	0
87	Chromium and chromium (III) compounds	100	58,000
88	Chromium (VI) compounds	0	550
104	Chlorodifluoromethane	6,300	0
132	Cobalt and its compounds	24	2,100
144	Inorganic cyanide compounds (except complex salts and cyanates)	28	450
186	Dichloromethane; methylene dichloride	28,000	1,000
207	2, 6-Di-tert-butyl-4-cresol	0	0
240	Styrene	0	0
243	Dioxins	110	0
262	Tetrachloroethylene	31,000	17,000
270	Terephthalic acid	0	0
272	Copper salts (water-soluble, except complex salts)	350	23
273	1-dodecanol	0	0
277	Triethylamine	8,100	170
281	Trichloroethylene	3,800	2,000
300	Toluene	130,000	15,000
308	Nickel	3.9	4,200
309	Nickel compounds	1,200	38,000
321	Vanadium compounds	19	8,400
333	Hydrazine	18	0
349	Phenol	0	0
374	Hydrogen fluoride and its water-soluble salts	34,000	6,500
389	Hexadecyltrimethylammonium chloride	0	0
392	Hexane	78	0

Control Number <sup>1</sup>	Substance	Release <sup>2</sup>	Transfer <sup>3</sup>
400	Benzene	31	0
405	Boron compounds	880	250
407	Poly (oxyethylene) alkyl ether (alkyl C=12-15)	3,800	22,000
408	Poly (oxyethylene) alkyl ether (limited to those with eight carbon atoms of the alkyl group)	38	3,700
410	Poly (oxyethylene) alkyl ether (limited to those with nine carbon atoms of the alkyl group)	970	0
412	Manganese and its compounds	6,200	130,000
438	Methylnaphthalene	140	0
448	Methylenebis (4,1-phenylene) diisocyanate	0	0
453	Molybdenum and its compounds	840	20,000
459	Tris (2-chloroethyl) phosphate	0	0
460	Tritolyl phosphate	0	0
581	Salts of alkyl (benzyl) (dimethyl) ammonium (limited to those with 12 to 16 carbon atoms of the alkyl group and mixtures thereof)	2,300	0
594	Ethylene glycol monobutyl ether (also known as Butyl CELLOSOLVE™)	15,000	2,300
626	Diethanolamine	0	300
627	Diethylene glycol monobutyl ether	6,000	140
667	Silicon carbide	0	2,600,000
668	Lithium carbonate	0	0
691	Trimethylbenzene	39,000	8,300
693	Trimethoxy (3-[oxiran-2-ylmethoxy] propyl) silane	0	290
697	Lead and its compounds	9.6	4,900
708	(1-hydroxyethane-1,1-diyl) diphosphonic acid and its potassium and sodium salts	3,300	0
731	Heptane	550	1,800
737	Methyl isobutyl ketone	1,700	650
746	N-Methyl-2-pyrrolidone	2,700	0

<sup>1</sup> The control number is a unique serial number given to each designated chemical substance. As a general rule, it will not be changed even if the Cabinet Order is amended.

<sup>2</sup> Total releases to air and public water areas

<sup>3</sup> Total transfers outside the premises and to sewage

## Water Pollution Measures

For our water pollution measures, please refer to page 31.

► Appropriate Management of Water Resources

# Biodiversity

In recent years, the need to protect nature has become increasingly important based on the recognition that the destruction of natural environment around the world greatly damages our economic activities.

Amid this growing momentum, in September 2023 the Taskforce on Nature-related Financial Disclosures (TNFD), a framework for disclosing nature-related information, issued a formal version of its recommendations. The recommendations outline the four pillars of disclosure as governance, strategy, risk and impact management, and metrics and targets. In addition, the TNFD also presents the LEAP approach, including scoping, as a risk assessment method.

The Kobelco Group will steadily promote the disclosure of nature-related risks in its business activities in line with this framework.

## Governance

### Management Structure

The TNFD recommendations call for companies to disclose the governance of the nature-related dependencies, impacts, risks, and opportunities associated with their business activities.

As part of our biodiversity management structure, we have established a Biodiversity Response Team within the Environmental Management and Disaster Prevention Subcommittee under the Sustainability Management Committee (chaired by the executive vice president and representative director).

Since the Kobelco Group engages in a wide range of businesses, including materials, machinery, and electric power, team members are recruited equally from each business division. The team investigate the relationship between business activities and natural capital, and extensively examines risks and opportunities related to biodiversity. The results of the activities of the Biodiversity Response Team are reported to the Board of Directors through the Sustainability Management Committee. If, as a result of detailed analysis, some significant nature-related risks are found that will be impacts to the business activities of the Kobelco Group, we will take necessary measures to reduce those risks with the guidance of the Board of Directors.

In order to secure incentives for the supervisory performance of these executives, we revised our directors' remuneration system in April 2024 and introduced a system in which a portion of remuneration is linked to external evaluations based on our ESG initiatives.

► Basic Environmental Management Policy and Structure: Environmental Management Structure

### Kobelco Biodiversity Guidelines

Recognizing that conserving the earth's diverse ecosystems is an important theme of our environmental activities, the Group formulated the Kobelco Biodiversity Guidelines in December 2010, under which we are working to conserve and contribute to biodiversity through its business activities.

Recognizing the importance of conserving biodiversity, we will carry out activities based on the following guidelines.

1. We will make every effort to minimize the impact that our business activities have on biodiversity on an ongoing basis.
2. We will actively develop technologies, products, and services that contribute to biodiversity.
3. We will disclose details of our biodiversity initiatives and share information with the public.
4. We will carry out biodiversity activities in partnership with local communities.
5. We will ensure that all of our employees actively take biodiversity into consideration at all times.

### Alliances and Participation in Initiatives

As a member of Keidanren (Japan Business Federation), we endorse the Declaration of Biodiversity by Keidanren and Action Policy, which were revised in December 2023, and participate in the Keidanren Initiative for Biodiversity Conservation.

## Environment

### Biodiversity

#### Understanding the Current Situation of Nature-Related Dependencies and Impacts

The TNFD recommendations include identifying nature-related dependencies, impacts, risks, and opportunities and disclosing their impact on the company's operations, strategy, and financial planning. For this reason, TNFD recommends that companies describe the business activities and priority regions in the value chain. This section summarizes the Kobelco Group's business activities, including supply chains, and their dependencies and impacts on natural capital.

The TNFD recommendations encourage the use of the LEAP approach, including scoping, to advance risk assessment. Scoping is the process of narrowing down the key business areas in which the risk assessment will be conducted. LEAP is an acronym for Locate, Evaluate, Assess, and Prepare, indicating the stages of risk assessment.

We are currently in the process of analyzing scoping and Locate. Going forward, we will further examine the aspects that may pose a risk to the continuity of the Group's business activities.

#### Overview of Dependencies and Impacts Related to Business Fields and Nature (Scoping)

Since the Kobelco Group's business activities are wide ranging, we have created a heat map as a

matrix diagram first using Exploring Natural Capital Opportunities, Risks and Exposure (ENCORE\*), a database recommended by the TNFD, to provide an overview of the impact on nature and the magnitude of dependencies on nature at each stage of raw materials procurement, production, and use in each business field, such as steel, aluminum, and materials.

We recognized that the assessment using ENCORE alone is insufficient as it represents general content common to the established sectors and sub-industries, and does not reflect the characteristics of the Group.

Based on this, in the following sections, we analyzed the impact of the Group's business sites, greenhouse gas (GHG) emissions, water use, waste, air pollution other than GHG, and the impact on nature of the supply chain bases (raw materials procurement) of the steel business, which is highly dependent on water resources and has a large business scale.

\* A tool that assesses the magnitude of impacts on nature and the extent of dependencies on nature of production processes based on the Global Industry Classification Standards (GICS) jointly developed by the Natural Capital Finance Alliance (NCFA), a network of financial institutions in the field of natural capital, and the UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC), which contains 11 sectors and 157 sub-industries.

Business Category/ Description	Ratio to Net Sales in Fiscal 2023 (%)	Stage of Value Chain	Impacts on Nature (Negative)													Dependencies on Nature									
			Changes in Use of Land, Freshwater Area, and Ocean			Climate Change	Use/Restoration of Resources			Pollution / Pollution Removal					Invasive Non-Native Species	Supply Services		Adjustment and Maintenance Services							
			Land use area	Freshwater use area	Seabed use area	GHG emissions	Water usage	Extraction of other biological resources	Extraction of other non-living resources	Generation and emissions of solid waste	Emissions of non-GHG air pollutants	Emissions of harmful soil and water pollutants	Emissions of nutrient contamination in soil and water	Disruption (Noise and light)		Water resources	Biomass and other resources	Pollution remediation	Noise abatement	Water flow adjustment	Global climate adjustment	Disaster Mitigation			Soil and sediment retention
Steel	35.72%	Raw materials procurement	M	H	—	VH	M	—	H	VH	H	H	—	H	VL	H	L	VH	VL	H	H	H	M	VH	M
		Production	L	—	—	H	M	—	—	M	H	VH	—	VH	—	H	—	M	VL	H	VL	M	M	M	L
		Use, recycling, disposal	L	VH	M	H	L	—	—	M	L	H	—	VH	L	M	—	M	VL	M	M	H	H	VH	H
Aluminum	7.76%	Raw materials procurement	M	VH	—	M	L	—	H	H	H	VH	M	VH	L	H	VL	VH	VL	H	H	H	M	VH	M
		Production	L	—	—	M	L	—	—	M	H	VH	M	VH	—	M	—	M	—	M	VL	M	M	M	L
		Use, recycling, disposal	L	—	—	M	M	—	—	L	M	H	—	VH	—	M	—	M	VL	M	VL	M	M	VL	M
Aluminum, steel castings and forgings, copper, and titanium	10.86%	Raw materials procurement	M	VH	—	M	M	—	H	H	H	VH	M	VH	L	H	VL	VH	VL	H	H	H	M	VH	M
		Production	L	—	—	M	M	—	—	M	H	VH	M	VH	—	M	—	M	VL	M	VL	M	M	M	M
		Use, recycling, disposal	L	VH	M	H	M	—	—	M	M	H	—	VH	L	M	—	M	VL	M	M	H	H	VH	H
Welding (welding rods and wires)	3.56%	Raw materials procurement	M	H	—	H	M	ND	VH	L	H	H	—	H	VL	H	L	VH	VL	H	H	H	M	VH	H
		Production	L	—	—	M	L	—	—	M	H	VH	M	VH	—	M	—	M	—	M	VL	M	M	M	L
		Use, recycling, disposal	L	VH	—	H	L	—	—	M	L	H	—	VH	L	M	—	M	VL	M	M	H	H	VH	H
Machinery	7.41%	Production	L	—	—	L	M	—	—	L	M	M	—	M	—	M	—	M	VL	M	VL	M	M	VL	L
Engineering	5.87%	Design and manufacturing	M	VH	M	M	L	—	—	M	L	H	—	VH	L	M	—	M	VL	M	M	M	M	VH	H
		Operation	M	—	—	H	M	—	—	M	M	H	H	H	M	M	—	VH	VL	M	VL	VL	L	M	VL
Electric power	13.24%	Raw materials procurement	M	H	H	VH	M	—	H	M	H	H	—	H	VL	H	L	VH	VL	H	H	H	M	VH	M
		Production	M	M	—	VH	M	—	—	H	VH	VH	—	VH	—	H	—	M	VL	H	M	M	L	—	M
		Use, recycling, disposal	M	L	L	VL	VL	—	—	L	VL	L	—	L	—	VL	—	—	VL	VL	VL	M	M	VL	L
Construction machinery	15.58%	Raw materials procurement	L	—	—	H	M	—	—	M	H	VH	—	VH	—	H	—	M	VL	H	VL	M	M	M	L
		Production	L	—	—	L	M	—	—	L	L	M	—	M	—	M	—	M	VL	M	VL	M	M	VL	L
		Use, recycling, disposal	L	VH	M	H	L	—	—	M	L	H	—	VH	L	M	—	M	VL	M	M	H	H	VH	H

**Environment****Biodiversity****High-Level Analysis of the Natural Impacts of Our Operations and Key Supply Chain Locations**

Under the TNFD recommendations, we will carry out risk assessments focusing on areas that are important for business activities (material locations) and places that pose a high risk to nature (sensitive locations).

Therefore, we are investigating the presence or absence of nature-related risks at directly operated business locations and mines that are major steel-related supply chains, by using existing tools.

**● Directly Operated Business Locations**

We used IBAT<sup>1</sup> to evaluate the potential impacts that operations of the Kobelco Group's production sites have on regions important to preserving the biodiversity of the surrounding area.

The results confirmed that there are no protected natural areas (including wetlands registered under the Ramsar Convention, UNESCO natural world heritage sites, or sites under IUCN<sup>2</sup> protected area categories 1 [protected areas] to 3 [natural monument or feature]) within a three kilometer radius of our production sites.

<sup>1</sup> Integrated Biodiversity Assessment Tool: A tool that can access basic data and the latest information on nature conservation

<sup>2</sup> International Union for Conservation of Nature

Results of the analysis using WRI Aqueduct found that none of the Group's business sites or Group companies in Japan are located in regions of high water stress or above. We have confirmed that there are overseas Group companies with high water stress or above, but we have confirmed that water consumption is low or that water is recycled.

**● Supply Chain**

We used IBAT to assess the possibility that operations at major iron ore and coal mines, among our suppliers of raw materials, could affect important points in biodiversity conservation of the surrounding area. As a result, we confirmed that none of the major mines of suppliers are located inside any area falling under IUCN protected area categories 1 (protected areas) to 3 (natural monument or feature). However, we know that some mines are in close proximity to protected areas.

We have confirmed that the mines in close proximity to these nature conservation areas are working to protect the environment and biodiversity.

In addition, we ask our raw material suppliers to support and cooperate with our initiatives, such as actively addressing global environmental issues including resource depletion, climate change, environmental pollution, and biodiversity, as well as taking into account local environmental issues while ensuring the health and safety of people in the regions concerned.

▶ [Building Responsible Supply Chains](#)

**Measures to Mitigate Dependence/Impact on Biodiversity****● Measures against Global Warming**

To mitigate impacts on biodiversity, such as changes in ecosystems brought about by climate change, we have created a roadmap for reducing CO<sub>2</sub> in the steelmaking process and electric power business aiming for carbon neutrality by 2050, and are now carrying out activities under this roadmap.

**● Appropriate Management of Water Resources**

To lower our dependence on water resources, we are working to reduce our use of water in production processes by optimizing water use, and by reusing and recycling water. Our goal is to maintain a water recycling rate of at least 95%.

We also set targets for water pollution load including COD and total phosphorus targeting our business sites located in enclosed coastal sea areas with wastewater risks.

▶ [Appropriate Management of Water Resources](#)

**● Controlling Waste Generation and Promoting Recycling**

To make effective use of limited resources, we have implemented measures to control waste. Along with these, we are working to add value to by-products created during manufacturing processes, develop and introduce new applications of materials, and actively pursue recycling.

We have set the fiscal 2025 target of achieving a recycling rate of 99% for major by-products (slag, dust, and sludge) resulting from our production activities.

▶ [Reduction of Environmental Impacts](#)



## Environment

### Biodiversity

#### Nature-Related Contributions

##### Products/Activities That Contribute to Biodiversity

###### ● Steel Slag

Seaweed beds, which are marine ecosystems, have an important function of improving water quality and providing an area for spawning and breeding fish. Furthermore, in recent years, attention has been focused on the properties of marine algae that easily store CO<sub>2</sub>, and there is a growing movement to conserve these areas in order to reduce the volume of the carbon cycle.

Steel slag has earned a favorable reputation from fishery operators, since demonstration testing has shown it to be effective in the restoration of the marine environment, including seaweed flourishing. As a result, iron and steel slag hydrated matrix has been adopted as a material for the construction of submerged breakwaters in the Suma district.

In Osaka Bay, blue carbon ecosystems such as seaweed beds and tidal flats are not connected in the inner part of the bay. For this reason, Osaka Prefecture and Hyogo Prefecture jointly established the Members of the Osaka Bay Blue Carbon Ecosystem Alliance (MOBA) in order to realize the concept of connecting the Osaka Bay coast as a corridor for blue carbon ecosystems. We participate in this initiative as a member and are expanding the possibilities of seaweed bed creation using slag.

Going forward, we will continue to promote the use of steel slag products as materials for marine and port construction, taking advantage of our experience in using these products to improve marine environments.

###### ● Reducing CO<sub>2</sub> Emissions with the DRI Method

The MIDREX® Process, a proprietary technology of the Kobelco Group, is a technology using direct reduction with natural gas to obtain DRI without melting the raw ore. In combination with an EAF, the MIDREX® Process makes it possible to produce steel with 20% to 40% less CO<sub>2</sub> emissions compared to the conventional blast furnace–electric arc furnace method, contributing to the reduction of CO<sub>2</sub> emissions in the steel industry. Furthermore, we have developed processes that use hydrogen instead of natural gas (MIDREX Flex™ and MIDREX H2™), which contributes to significant reductions in CO<sub>2</sub> emissions.



Submerged breakwater construction material  
(Filling material: Iron and steel slag hydrated matrix)

###### ● CO<sub>2</sub> Reduction Led by the Engineering Business

The Engineering Business aims to reduce CO<sub>2</sub> emissions mainly in plant design related to public works.

For example, the business generates biogas at sewage treatment plants, replaces fossil fuels by turning sewage into peat, and engages in wood biomass power generation.

###### ● CO<sub>2</sub> Reduction Led by the Machinery Business

The Machinery Business sells compressors for ship engines that use LNG as fuel, contributing to the reduction of ship CO<sub>2</sub> emissions.

Compressors are said to account for approximately 25% of the electricity used in factories in Japan. By supplying our customers with standard air compressors with world-class energy-saving performance, the business is contributing to the reduction of CO<sub>2</sub> emissions around the world.

###### ● Contributions to Biodiversity of the Electric Power Business

The Electric Power Business contributes to the reduction of CO<sub>2</sub> emissions and air pollution associated with fuel use on ships by supplying shore power to vessels at anchor.

In addition, the business supplies steam to sake breweries and other neighboring companies in Kobe, contributing to energy conservation and reduction of CO<sub>2</sub> emissions in the local community.

In terms of fuel transportation, it introduced coal bulk carriers with low environmental impact in 2021.

###### ● Contributions to Biodiversity of the Welding Business

The Welding Business contributes to the realization of a carbon-neutral society by developing automatic welding systems using the KI-700 portable welding robot and specialized welding consumables for LNG fuel tanks and new welding methods for offshore wind power generation.

In addition, from the viewpoint of reducing environmental impact, the business has developed SE Wire, which are non-copper coated solid wires. SE Wire helps reduce environmental impacts by omitting the copper plating process, and also contributes to the improvement of the welding work environment by reducing the amount of spatter and fumes generated during welding.

In addition, it is striving to make effective use of packaging resources, to recover and reuse them by increasing the capacity of wire packaging forms for welding, and to use recycled raw materials for plastic spools.

## Environment

### Biodiversity

#### ● Contributions to Biodiversity of the Aluminum Business

The Aluminum Business strives to recycle aluminum scrap, using it as a raw material in the manufacturing of aluminum products. In addition, the business is promoting resource conservation by developing technology to extract aluminum from aluminum dross, which is generated as a by-product during manufacturing.

#### ● Participation in Hyogo Prefecture's Nutrient Management Plan

While water quality has improved in the Seto Inland Sea around Hyogo Prefecture (Harima Sea) due to wastewater regulations, the discoloration of seaweed and the decrease in fish catch have become serious issues. In response to this situation, the Act on Special Measures concerning Conservation of the Environment of the Seto Inland Sea was revised, and in 2022, Hyogo Prefecture formulated its Nutrient Management Plan. Under this plan, Kakogawa Works has been selected as a "nutrient increase action implementer (nitrogen)," and will contribute to the creation of a vibrant ocean by operating in accordance with the plan.

#### Creating a Biotope in Nadahama Science Square

At Nadahama Science Square (Nada Ward, Kobe City), which is a facility for communication with local residents, we set up a biotope and grow *Sanguisorba tenuifolia*, *Pulsatilla cernua*, and chrysanthemum—all of which are rare flora registered in Hyogo Prefecture's Red Data Book for 2020—along with others. We work to preserve biodiversity and regularly hold nature observation events for local children through our association with NPO Rokko Nature Learning and specialists.

We will preserve the biotope and contribute to the maintenance of a rich ecosystem.



Biotope in Nadahama Science Square

#### Kobelco Green Project

As an environmental and social contribution activity, we promote forest development activities that contribute to the conservation and promotion of biodiversity, as well as the Kobelco Forest Fairy Tale Prize, which nurtures children's love for nature, and environmental education outreach activities at children's centers.



▶ [Forest Fairy Tale Prize website](#) (in Japanese only)

Since 2011, we have been carrying out forest development activities at two locations (approx. 5.6ha) in Hyogo Prefecture led by employee volunteers.

At the Kobelco Forest in Miki City (4.7ha), we participate in the Corporate Forest Creation Project promoted by Hyogoken Ryokka Suishin Kyokai (Public Interest Incorporated Association) and help with activities at the Hyogo Prefectural Mikiyama Forest Park to create more abundant forests.

Additionally, at the ECOWAY Forest in Kobe's Nada Ward (0.9ha), we participate in the Ministry of Land, Infrastructure, Transport and Tourism's Rokko Mountain Range Greenbelt Development Project to help prevent landslide disasters, to preserve and nurture diversity in ecosystems and species, and to promote better urban environments and scenic views. These activities are led by the NPO Rokko Nature Learning and specialists. Specific activities include forest thinning, underbrush clearing, and tree planting to develop a forest comprised of trees of various ages and species, which helps to preserve and promote biodiversity.



▶ [History of forest development activities](#) (in Japanese only)

# Material Balance

We promote environmental management taking the environment into consideration at every stage of our operations. As part of this approach, the Kobelco Group continuously strives for greater energy efficiency; effective use of by-product gases, waste heat, water, and other resources; and the recycling of by-products.

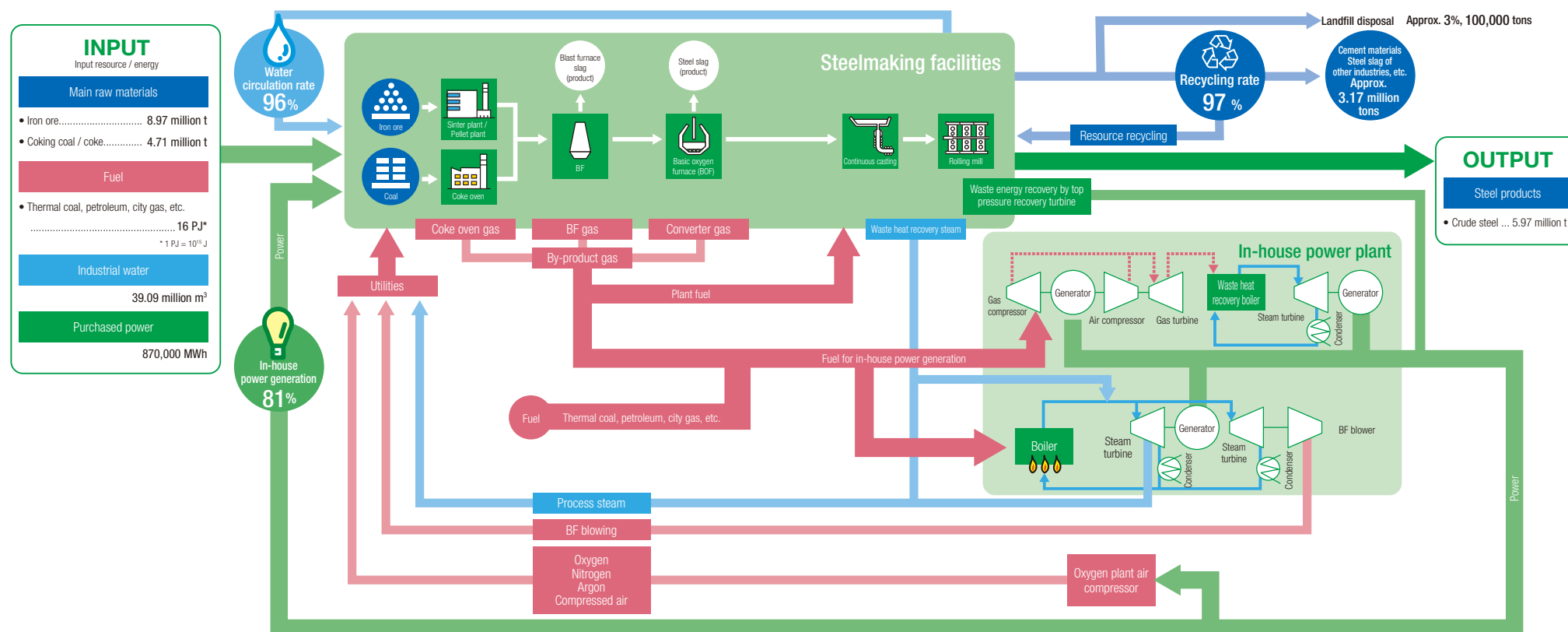
## Steel Business

At our Company, 95% of the energy used is consumed by the Steel Business. In fiscal 2023, this business division used 8.97 million tons of iron ore; 4.71 million tons of coking coal and coke; 16 PJ<sup>1</sup> of fuels such as coal, oil, and city gas; and 870,000 MWh of purchased power. Nearly all of the by-product gases—including coke oven gas, blast furnace gas, and converter gas—derived

from production processes are effectively reused as fuel for reheating steel or for use in in-house power plants. In addition, by-products produced during production processes, such as iron and steel slag,<sup>2</sup> dust, and sludge, are also turned to effective use as raw materials in applications such as cement and roadbeds. Together with in-company reuse, 97% of the by-products are recycled in this manner. In the future, Kobe Steel will continue to carry out environmentally friendly manufacturing practices throughout all aspects of its operations, striving for more efficient use of resources and energy and advancing the development of new technologies to that end.

1 1 PJ = 10<sup>15</sup> J

2 Iron slag and steel slag are by-products separated and recovered during iron and steel refining. They are also called blast furnace slag and steelmaking slag.



## Environment

## Material Balance

## ● Welding Business

Using metal wire rods, hoops, fluxes, soluble glass, and other raw materials, the Welding Business produces welding electrodes and welding wires. In fiscal 2023, the Fujisawa, Ibaraki, Saijo, and Fukuchiyama plants used a total of 130,000 tons of raw materials, 54,000 MWh of electricity, and 0.2 PJ of city gas and other fuels to manufacture 130,000 tons of products. This generated 11,000 tons of by-products, of which 97% was successfully recycled.

## Resource and Energy Use in the Welding Business (Fiscal 2023)

Input		Output	
Raw materials		Products	
Wire rods, hoops, fluxes, soluble glass, etc.	130,000 t	Welding rods, welding wires, etc.	130,000 t
Energy		By-products	
Purchased power	54,000 MWh	Amount produced	11,000 t
City gas, etc.	0.2 PJ	Recycling rate*	97%

\* Recycling rate indicates the rate of waste that is not consigned to landfills of the total amount of waste generated.

## ● Aluminum and Copper Businesses

Using ingots and scrap as raw materials, the Aluminum and Copper businesses produce a variety of aluminum and copper products. In fiscal 2023, the business segments used 420,000 tons of raw materials, 480,000 MWh of electricity, and 3.7 PJ of city gas and other fuels to create 410,000 tons of products.

During melting and casting, 29,000 tons of by-products, such as slag, dust, and wastewater sludge, were produced. However, 90% of these by-products were successfully recycled.

## Resource and Energy Use in the Aluminum and Copper Businesses (Fiscal 2023)

Input		Output	
Raw materials		Products	
Aluminum ingots, copper ingots, etc.	420,000 t	Aluminum and copper products	410,000 t
Energy		By-products	
Purchased power	480,000 MWh	Amount produced	29,000 tons
City gas, etc.	3.7 PJ	Recycling rate*	90%

\* Recycling rate indicates the rate of waste that is not consigned to landfills of the total amount of waste generated.

## Data on Main Resources Used at Kobe Steel, Ltd. over the Past Three Years

Main Raw Materials	Unit	Fiscal 2021	Fiscal 2022	Fiscal 2023
Iron ore	10,000 t	1,047	933	897
Coking coal/coke	10,000 t	534	497	471
Aluminum ingots, copper ingots, etc.	10,000 t	49	46	42
Total	10,000 t	1,630	1,475	1,410