

# Initiatives for environmental issues

Mitsui Kinzoku Group recognizes the negative environmental impact of its operations as a great business risk and strives to reduce it.

## Environmental management

Mitsui Kinzoku Group has established the Supreme Safety and Environmental Meeting as a place to deliberate and determine the most important matters related to safety and the environment. At this Meeting, guidelines and action plans are determined by the Chief Environmental and Safety Officer (also a director) as chairman and business line heads as members. The decisions made are then spread to each site by the Environmental and Safety Supervisory Manager (General manager of the Environment & Safety Dept.) under the direction of the Chief Environmental and Safety Officer. Each site that operates under ISO 14001 has a chief person that serves as the person responsible for managing environment and safety, and who makes sure that the required actions are being reliably executed. The Chief Environmental and Safety Officer reports to the Board of Directors on important environmental and safety issues, including the operation of the management system, and receives guidance and supervision from the Board of Directors.

## The Basic Environmental Policy and the Environmental Action Plan

In 2001, Mitsui Kinzoku Group established the Basic Environmental Policy\* and the Environmental Action Plan. In response to the Paris Agreement as well as the expansion of ESG investment, we revised the basic policy and the action plan in 2018, in order to strengthen our Group's efforts to address environmental issues. In the action plan, we have assessed the negative impacts of our business activities on stakeholders in our value chains and set targets for activities with significant impacts, on which we will focus our efforts to reduce their environmental footprint. We are incorporating the targets set in the Environmental Action Plan into the plans of each of our sites, and promoting activities to achieve them.

## The Purpose and the Vision for 2030

In 2021, Mitsui Kinzoku Group established its Group's Purpose: We promote the well-being of the world through a spirit of exploration and diverse technologies. We aim to make life easier and greener to help address environmental and social issues around the world and build a sustainable society. Our Group's Vision for 2030, which was set based on the Philosophy and the Purpose, promotes manufacturing with low environmental impact and the construction of recycling-based services. The 22 Medium-Term Management Plan, which we developed for the Vision for 2030, makes clear that each business will be evaluated from the perspective of improving our environmental and social value, including environmental impacts, and that sustainability will be considered when making business decisions.

\* The Basic Environmental Policy is available on our website.  
<https://www.mitsui-kinzoku.com/en/csr/environment/environmental-policy>

## Outline of the Environmental Action Plan

### 1 Establishment and improvement of environmental management system

Establishment and improvement of environmental management system at each site according to the form and scale of business

### 2 Reduction of environmental footprint

- Prevention of global warming
- Effective resource utilization and waste reduction
- Reduction of emissions of environmental pollutants
- Utilization of renewable energy
- Appropriate utilization and management of water resources
- Biodiversity conservation
- Thorough management of mine & plant closure

### 3 Development and provision of environmental contribution products

Development of environmental contribution products and market expansion

### 4 Emergency measures

Preparation of well-organized emergency manuals for disasters and accidents and continuous improvements of them

### 5 Education/public relations/social contribution activities

- Strengthening environmental education
- Disclosure of environmental information
- Dialogue with stakeholders

(Revised in April 2018)

## Response to climate change

Mitsui Kinzoku Group considers climate change as an important change in our external environment which would affect the continuity of our business.

As our businesses include non-ferrous smelting, electrolytic copper foil, and other businesses with high energy consumption, we are well aware of the impacts of energy consumption and greenhouse gas (GHG) emissions from business activities on climate change. In order to reduce these impacts, we have identified climate change-related issues as the materiality, including reduction of GHG emissions and energy management, and make efforts to accomplish them. In the 22 Medium-Term Management Plan, we have formulated a response to climate change as a key strategy in enhancing the Group's environmental and social value.

\* Task Force on Climate-related Financial Disclosures

## Support for the TCFD\* recommendations

We recognize that climate change and the social and economic changes surrounding it pose risks to our business. However, we also recognize that an appropriate response can lead to enhanced competitiveness and new business opportunities.

In FY2020, we started to analyze the medium-and long-term risks and opportunities posed by climate change based on the TCFD recommendations and to incorporate the results of this analysis into our business strategies. In March 2022, we also announced our support for the TCFD recommendations.

Disclosure items recommended by the TCFD are indicated with TCFD.

## Metrics and targets TCFD

### Medium- and long-term CO2 emissions reduction targets

In March 2022, Mitsui Kinzoku Group revised its medium-term and long-term CO2 emissions reduction targets for energy-derived CO2 emissions in Scope 1 and 2. To achieve these targets, we promote energy-saving activities, increase renewable energy use, as well as create environmental contribution products and develop innovative technologies actively.

### Medium-term CO2 emissions reduction target

Reducing CO2 emissions by 38% globally by FY2030 (compared to the FY2013 level)

### Long-term CO2 emissions reduction target

Achieving carbon neutrality (net zero emissions) by FY2050

We are also aware of GHG emissions in the value chains, including raw materials used in manufacturing processes, transportation of raw materials, as well as use and disposal of products. Our group has multiple business models, and we are currently working to identify GHG emissions in the value chain of each of our businesses.

In FY2021, we initiated a Scope 3 survey of the current status of the Ageo Plant, which is a core location of our copper foil business. From FY2022, we will ascertain the Scope 3 emissions of the entire Group and consider them as an indicator for reducing GHG emissions as well.

## Promoting energy conservation activities

The Group is committed to energy conservation activities, including operational improvements in each process, such as further energy efficiency improvements in production activities and the introduction of advanced equipment.

From 2019 to 2021, Hachinohe Smelting Co., Ltd. used subsidies to introduce advanced facilities, including low power consumption industrial water pumps, an oxygen concentration control system, and monitors in the instrument panel room, while making efforts to improve related operational processes. The company also improved maintenance of its hot blast stoves currently in use. These multiple initiatives have led to greater energy savings than in the past.

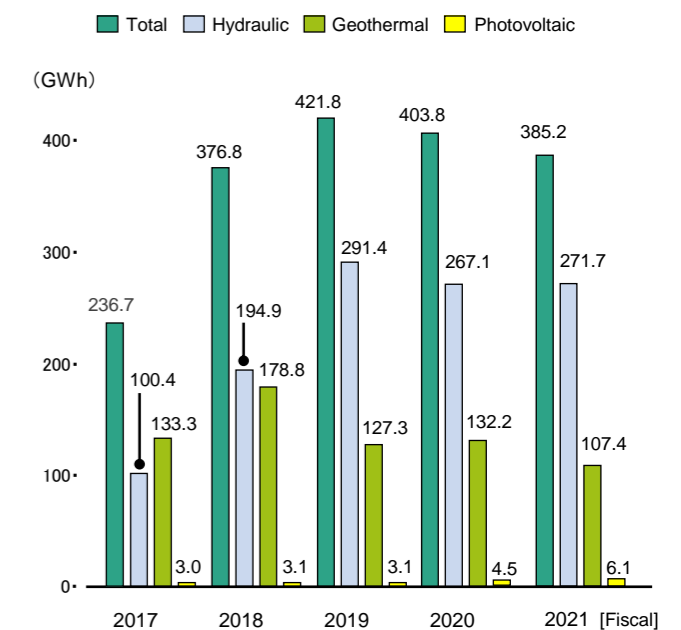
Taiwan Copper Foil Co., Ltd. reviewed its heat source system for air-conditioning in the copper foil production process. With the use of a water cooler, the company reduced its annual electricity consumption by 37.5%.

## Expanding renewable energy use

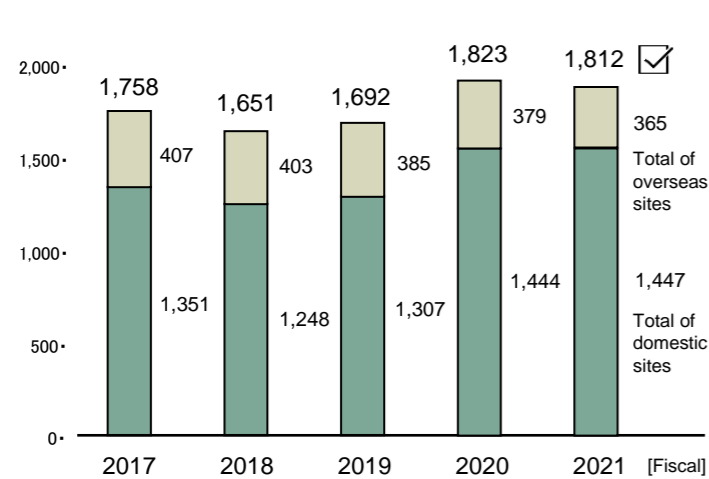
In order to increase the ratio of renewable energy, we are expanding the introduction of new renewable energy generation facilities as well as operating existing hydroelectric, solar, and other power generation facilities stably.

We are also working to procure electricity derived from renewable energy sources. In FY2021, GECOM Corporation purchased 43% of its electricity from wind and hydroelectric sources. The company plans to continue to scale up the use of hydroelectric and other renewable energy sources next year and beyond.

## Total power generation using renewable energy



**CO2 emissions from energy consumption** (thousand t-CO<sub>2</sub>)



\* Emission amounts from overseas sites have been added to the total amount starting FY2017  
 \* Part of the data for previous fiscal years have been revised due to a review of the calculation results.  
 \* Figures for CO<sub>2</sub> emissions from energy consumption were calculated using emission factors derived in a manner conforming to the Act on Promotion of Global Warming Countermeasures. CO<sub>2</sub> emissions from purchased electricity in Japan were calculated using the latest adjusted emission factors of electric power suppliers (basic emission factors were used until FY2019). For overseas emission factors, we used the per-country emission factors, the CO<sub>2</sub> Emission Factors from Electricity for 2021 reported by IEA (Until FY2020, the Electricity Emission Factors reported by GHG PROTOCOL were used).  
 \* We have received an independent practitioner's assurance for the figures for FY2021 in this information to which  is attached.

**CO2 emissions results**

Mitsui Kinzoku Group has been improving energy consumption per unit of production through energy conservation activities and increased use of renewable energy. As a result of fluctuations in energy consumption due to variations in production volume, CO<sub>2</sub> emissions have increased or decreased. The increase in total emissions for the Group after FY2020 is due to the consolidation of Hibi Smelter. To achieve our medium- and long-term targets, we review our actions while checking our progress.

**Governance**  TCFD

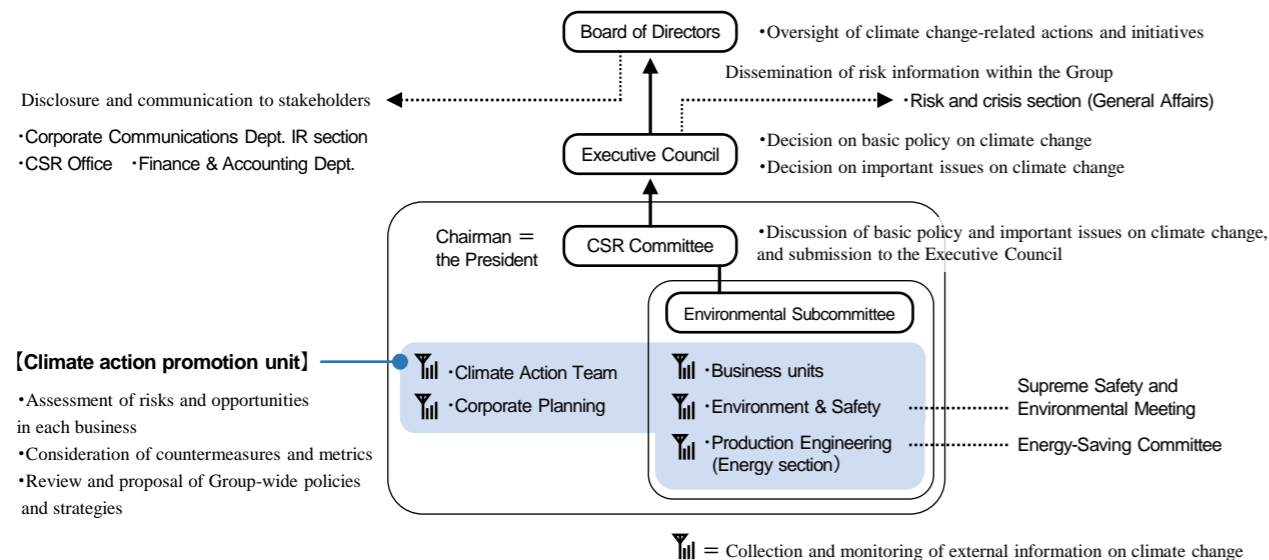
Mitsui Kinzoku Group's basic policy and important issues to address climate change are discussed by the CSR Committee, which is chaired by the President, and then deliberated and decided by the Executive Council. The Executive Council is comprised of representative directors and executive directors, deliberating from a management perspective. Decisions are reported to the Board of Directors for monitoring and oversight.

**Risk management**  TCFD

Mitsui Kinzoku Group has multiple businesses with different business models. The Climate Action Team identifies and assesses risks and opportunities related to climate change in collaboration with each business unit, including scenario analysis, based on the findings of internal and external surveys and in accordance with the framework of the TCFD recommendations.

The results of the scenario analysis are reported to top management at the Executive Council. Each business unit is responsible for promoting countermeasures based on the results, while the Climate Action Team is tasked with monitoring the progress of the countermeasures. In line with the achievements, the team evaluates and identifies risks and opportunities afresh for the next cycle, in cooperation with the business units. By constantly implementing this risk management cycle, we formulate and promote business strategies with a view to addressing climate change.

**Governance and risk management structure**



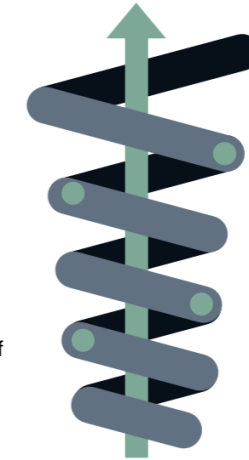
**Risk Management Process / Integration of scenario analysis and business strategy**

**3 Review of countermeasure implementation**

- Confirm the results and enhancements of the medium-term management plan and business strategies
- Review of response to physical risks

**1 Identification of key risks and opportunities, and consideration of countermeasures**

- Information gathering on climate change
- Business analysis and identification/assessment of risks and opportunities
- Consideration of climate-related group-wide direction and business strategies
- Consideration of group-wide direction for physical risk response



**4 Review key risks and opportunities, and reconsider countermeasures**

- Update climate-related information
- Review risks and opportunities
- Revise group-wide direction and business strategies as necessary
- Improve group-wide BCP

**2 Implementation of countermeasures**

- Incorporate countermeasures into the medium-term management plan and business strategies
- Formulate and promote group-wide BCP in response to physical risks

(Important issues at each step are determined by the Executive Council.)

**Strategy/Scenario analysis**  TCFD

Mitsui Kinzoku Group operates many businesses globally and recognizes that climate-related risks and opportunities differ between businesses. Therefore, we conduct scenario analysis starting with businesses that are relatively likely to be affected by climate change. Specifically, we rank businesses from these perspectives: amount of CO<sub>2</sub> emissions, magnitude of change in the business environment due to climate change, and amount of sales. We work on scenario analysis by deepening our understanding of the climate-related risks and opportunities of the target business and focusing on the integration of analysis and business strategy.

**Scenario definition**

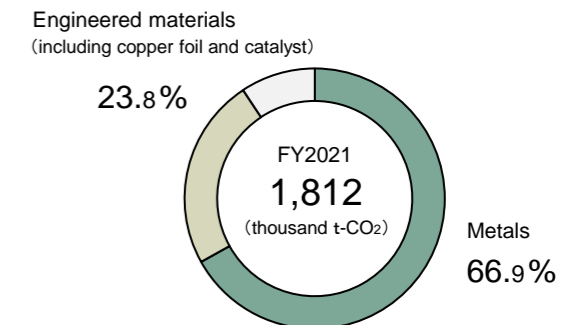
Assumed period	2030s	
Scenario definition	4°C scenario	4°C scenario 3.2 - 5.4 °C higher than pre-Industrial Revolution levels if no additional measures against global warming are taken.
	Over 2°C (2.7°C - 4°C) scenario	Over 2°C (2.7°C - 4°C) scenario 2.7 - 4.0°C higher than pre-Industrial Revolution levels if no additional measures against global warming are taken.
	2°C scenario	0.9 - 2.3°C higher than pre-Industrial Revolution levels if strict measures are taken (1.5°C scenario partially adopted).

In FY2020, we conducted a scenario analysis of the metals business, which accounts for about 70% of our total CO<sub>2</sub> emissions, and in FY2021, we analyzed our copper foil business, which is the second largest CO<sub>2</sub> emitter after the metals business, and the catalyst business, which provides automotive exhaust gas purification catalysts that are affected by the shift to electric vehicles.

The main risks under the 2°C scenario are higher operating costs due to the introduction of carbon taxes and higher energy prices, shift to more environmentally friendly products in line with society's growing interest in decarbonization, and lower demand for products for fossil fuel-dependent commodities such as automobiles with internal combustion engines. The main opportunities are to be the growth in demand for products for a decarbonized society.

Under the 4°C scenario, physical risks such as severe extreme weather events and water shortages are assumed, but the impacts are not expected to be significant in relative terms.

**Breakdown of CO2 emissions**



\* The engineered materials unit was calculated based on the organization in FY2021.  
 \* Details of the breakdown for each business are on page 121.

**Summary of scenario analysis results for copper foil and catalyst businesses**

Impact estimation items	Risks	Opportunities	4°C	2°C	Countermeasures
<b>Increase in carbon pricing and energy costs</b>	<ul style="list-style-type: none"> <li>Increasing operating costs due to institutionalization of carbon pricing, such as carbon taxes and emissions trading</li> <li>Increasing operating costs due to rising fossil fuel prices</li> </ul>	—	Loss ▼	▼	<ul style="list-style-type: none"> <li>Promote energy conservation activities in manufacturing processes</li> <li>Expand installation of renewable energy power generation facilities and use of renewable energy-derived electricity</li> <li>Reduction of GHG emissions through purchase of non-fossil certificates</li> </ul>
<b>Raw materials</b>	<ul style="list-style-type: none"> <li>Raw material costs and supply instability due to growing demand for materials related to renewable energy for decarbonization</li> <li>Increasing competition due to demand for technologies to reduce the weight of raw materials</li> </ul>	—	—	▼	<ul style="list-style-type: none"> <li>Seek appropriate procurement conditions by monitoring medium-term price trends of Cu and metals for anti-corrosion treatment</li> <li>Efforts to reduce the amount of precious metals used as raw materials in catalyst products</li> </ul>
<b>Changes in demand for key products</b>	<ul style="list-style-type: none"> <li>Demand for emission gas purification catalyst products will decline as sales of internal combustion engine vehicles (ICEVs) decrease due to stricter fuel efficiency regulations</li> </ul>	<ul style="list-style-type: none"> <li>Increasing catalyst products used in HEVs, PHEVs, etc.</li> <li>Growing markets for new catalyst-related products for decarbonization applications</li> </ul>	▼	▼	<ul style="list-style-type: none"> <li>Shift to development and supply of catalyst products optimized for HEVs, PHEVs, etc.</li> <li>Develop new catalyst products and create new businesses for the decarbonized society</li> </ul>
<b>Changes in customer reputation and needs</b>	<ul style="list-style-type: none"> <li>Customers with advanced decarbonization initiatives will preferentially use raw materials and components from RE100 or SBT-certified companies, and will not use those with high GHG emissions.</li> </ul>	—	▼	▼	<ul style="list-style-type: none"> <li>Reduce GHG emissions intensity in manufacturing processes and shift to products that contribute to GHG emissions reduction in customer processes (e.g., provide copper foil Micro Thin™ with thinner carrier)</li> </ul>
<b>Water shortages</b> (Physical risk)	<ul style="list-style-type: none"> <li>Restrictions on production activities due to water shortage (some overseas sites)</li> </ul>	—	▼	▼	<ul style="list-style-type: none"> <li>Improvement of operation system in preparation for power supply restrictions</li> <li>Study of efficient use of water to prepare for drought conditions, construction of related installations</li> </ul>

**Incorporating the scenario analysis into the management plan**

Based on the results of the scenario analysis, we are studying and promoting countermeasures to minimize the decline in earnings caused by risks and to realize opportunities through the creation of new products and new businesses. Many of these actions are expected to be taken from a long-term perspective, and we have incorporated them into our medium-term management plan that started in FY2022 and are steadily working on them.

The Metals Sector has made CO<sub>2</sub> emissions reduction its top priority based on the scenario analysis conducted in FY2020. In FY2021, a carbon-neutral preparatory project was initiated in the sector. In this project, we examined measures to reduce CO<sub>2</sub> emissions, ranked their effects and degree of certainty, and incorporated them into the 22 Medium-Term Management Plan.

**Appropriate use and management of water**

Water is an essential resource of the earth and essential to the production process of our Group. The Mitsui Kinzoku Group's Environmental Action Plan calls for appropriate management of water intake, wastewater discharge, and wastewater quality at each site. We are committed to making proper use of water resources and conserving the aquatic environment, as well as reducing water use and recycling.

At our manufacturing sites, we monitor water use, wastewater discharge, and reuse/recycling volumes to ensure efficient water use. In particular, at smelting sites that use a large amount of water, we promote the reuse of ore dressing water and cooling water, as well as the use, reuse, and recycling of seawater and rainwater.

**Reduction of water pollutants**

Each manufacturing site monitors the status of its wastewater, including BOD and COD, which indicate the amount of organic matter in the wastewater, under stricter voluntary standards to ensure compliance with laws, regulations and ordinances. Mitsui Kinzoku Group also collects and manages the monitoring results from each site on a group-wide basis as well as shares emission reduction efforts and technologies.

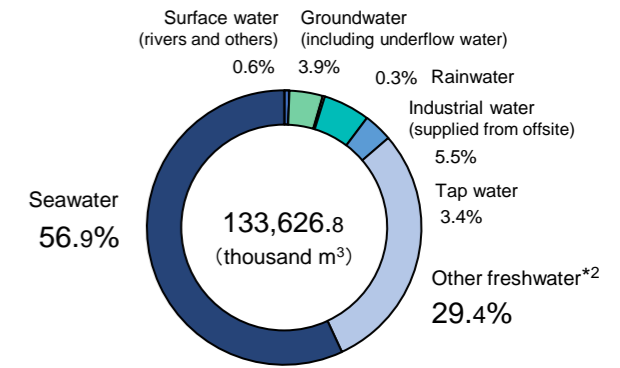
**Survey of water stressed areas and impacts on business**

Mitsui Kinzoku Group uses World Resources Institute (WRI)'s AQUEDUCT Water Risk Atlas to assess water withdrawals in water-stressed areas for each manufacturing site in Japan and overseas. The sites with water stress rated as Extremely High (>80%) and High (40-80%) are primarily auto component manufacturing sites with low water withdrawals and a manageable impact on the business. We will continue to promote activities such as improving water use efficiency.

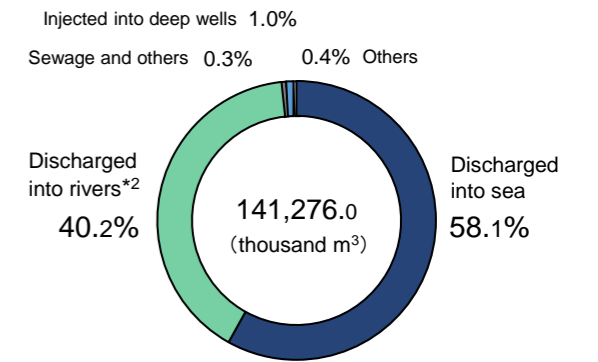
Although water shortages are anticipated in the future at some of our overseas locations based on the TCFD scenario analysis, the impact on our business is not expected to be significant at this time.

We will continue monitoring and work to conserve water resources and minimize the impact on our business.

**Breakdown of water withdrawal\*1 (FY2021)**



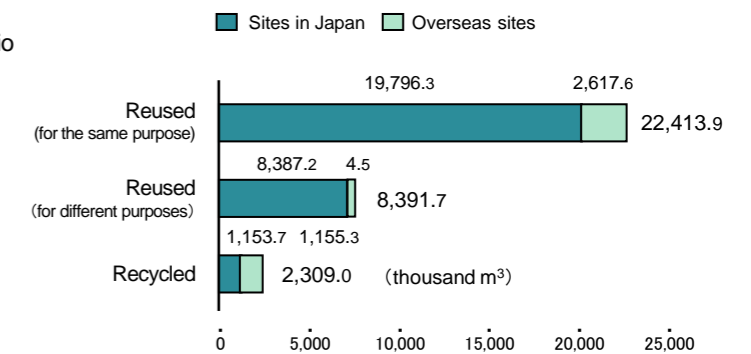
**Breakdown of wastewater (FY2021)**



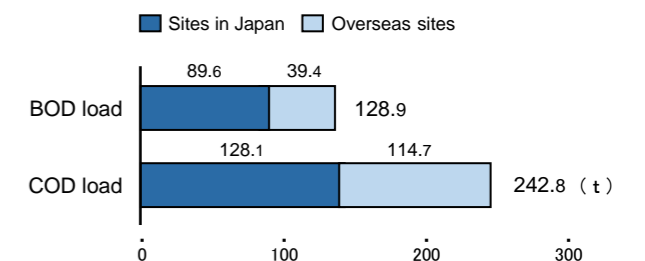
\*1 Changed to Water Withdrawal from FY2022, recorded as Water Use by FY2021

\*2 Other freshwater includes spring water generated from mines in domestic mining areas (26,042.1 thousand m<sup>3</sup>, 19.5% of total water withdrawal). The water is not used for production purposes and discharged into rivers under the control of the Group. Before FY2021, it was not accounted for water withdrawal, but only for wastewater discharge.

**Amount of circulated water usage (FY2021)**



**Emissions to the water (FY2021)**



### Toward a recycling-based society

Along with global economic growth, demand for resources and energy is expanding. As a result, the amount of waste is increasing and environmental problems are becoming more serious. Accordingly, there is a growing need to shift from the conventional Linear Economy based on mass-production, mass-consumption, mass-disposal to a Circular Economy over the medium to long term. Mitsui Kinzoku Group is committed to effective use of resources, reduction of waste and environmental pollutants, as well as introduction of environmental contribution products to meet the demands of society and achieve sustainable growth.

### Effective use of resources

Mitsui Kinzoku Group strives to manufacture products by recycling waste and other recycled raw materials in order to make effective use of resources.

During this process, it is essential that we establish and improve separation and purification technologies in accordance with the materials, as well as make technological improvements and renew existing manufacturing equipment for each production process. At the same time, we develop and intensify a network\* for collecting recycled raw materials.

The Environmental Action Plan includes group-wide efforts to increase the use of reused and recycled raw materials.

### Waste reduction

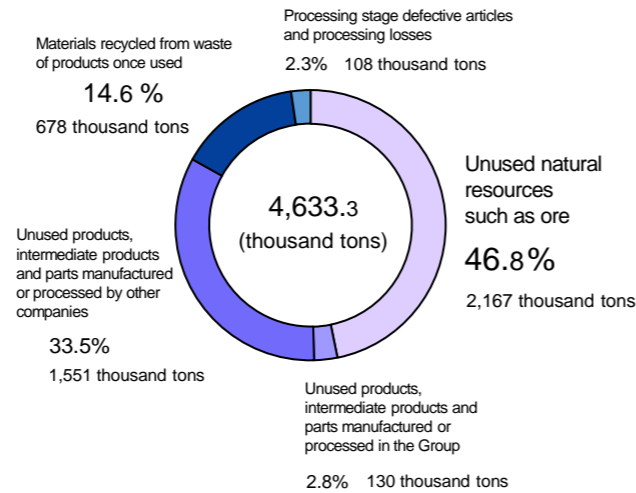
Each manufacturing site of the Group strives to reduce waste through minimization and efficiency of resources used. We work to reduce the final disposal volume by improving the recovery rate of valuable resources, promoting the 3Rs of packaging materials, and improving the yield rate of manufacturing processes. The Environmental Action Plan calls for setting a Waste Intensity Target at each site and group-wide efforts to reduce waste generation.

Of the amount of byproducts in FY2021, 55% within Japan and 12% overseas were recycled and used either within or outside of our Group.

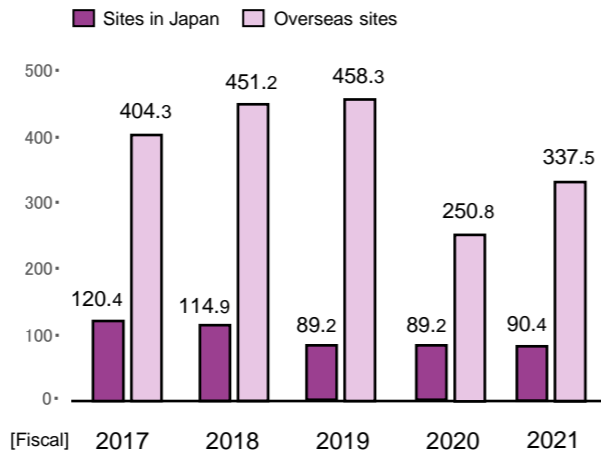
The major waste of overseas sites is tailings generated from mines. In FY2020, mining-related production declined due to COVID-19, resulting in a decrease in mining waste generated. In FY2021, production partially recovered, resulting in an increase in mining waste.

\* Network for collecting raw materials: P.28-29 (initiatives of the Metals Sector)

Breakdown of usage by type of raw material (FY2021)



Amount of waste generation (thousand tons)



\* Waste generation excluding reuse, recycling and heat utilization.  
 \* Revised the values for sites in Japan for FY2020 disclosed last year.  
 \* The major waste of overseas sites is tailings generated from mines.

### Reduction of chemical substance emissions

Each manufacturing site of the Group files the release and the transfer amount of chemical substances to the government under the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (Law concerning Pollutant Release and Transfer Register [PRTR]). The management of hazardous chemical substances contained in products has become an essential requirement. We also respond to the guidelines for chemical substances contained in products, such as the RoHS Directive and the REACH regulations required by customers.

We aim to reduce the emission amount of environmental pollutants in accordance with the Environmental Action Plan, including our overseas sites. We continuously strive to collect and replace chemical substances that may cause environmental pollution. Thus we focus on reducing and removing use of such chemical substances from our products.

### Prevent air pollution

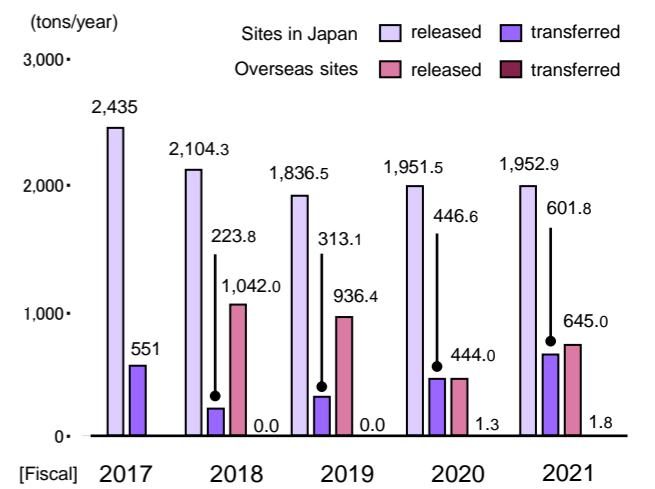
Mitsui Kinzoku Group monitors sulfur oxides (SOx), nitrogen oxides (NOx), and soot and dust emissions into the atmosphere at each manufacturing site and facility according to stricter voluntary standards in accordance with laws and regulations.

SOx is generated during the combustion of sulfur-containing fossil fuels such as oil and coal, and NOx from combustion equipment such as boilers and incinerators. We also collect and manage these monitoring results from each site across the Group and share emission reduction efforts and technologies.

### Plastic emissions reduction

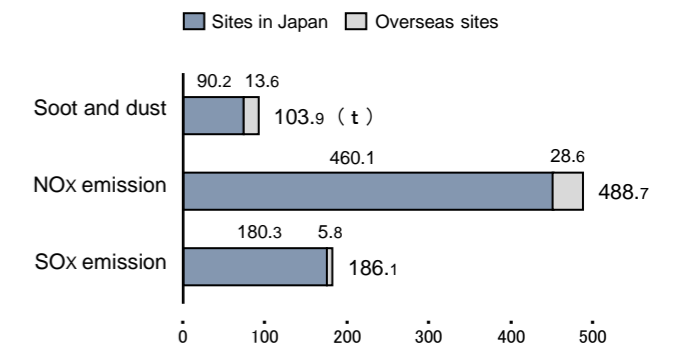
Plastic waste is having an increasingly serious impact on the environment around the world. Mitsui Kinzoku Group is striving to reduce the amount of plastic waste generated through measures including reducing the use of plastic in manufacturing processes, promoting the 3Rs of plastic packaging materials, and purchasing plastic products based on the perspective of emission control. In addition, we promote recycling and reuse of plastic waste generated. 71% of plastic waste was effectively utilized by various recycling methods in FY2021. We will further analyze the plastic use and disposal situation to consider further reduction and recycling.

Volume of chemical substances released and transferred



\* Added the amounts of overseas sites from FY2018.  
 \* Revised the values for FY2020 disclosed last year.

Emissions to the atmosphere (FY2021)



Amount of plastic waste generated (FY2021)

Breakdown and percentage of recycling

