Initiatives for environmental issues

Changes in the Earth's environment would affect Mitsui Kinzoku Group's business.
We strive to reduce the negative impact on the environment brought about by our business activities because we recognize that it constitutes a great risk to our business.

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. Guidelines and action plans determined at the Meeting are spread to each site by the Environmental Safety Supervisory Manager (General manager of the Environment & Safety Dept.) under the direction of the Chief Environmental 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 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 Basic Environmental Policy is available on our website.

https://www.mitsui-kinzoku.com/en/csr/environment/environmental-policy

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.

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

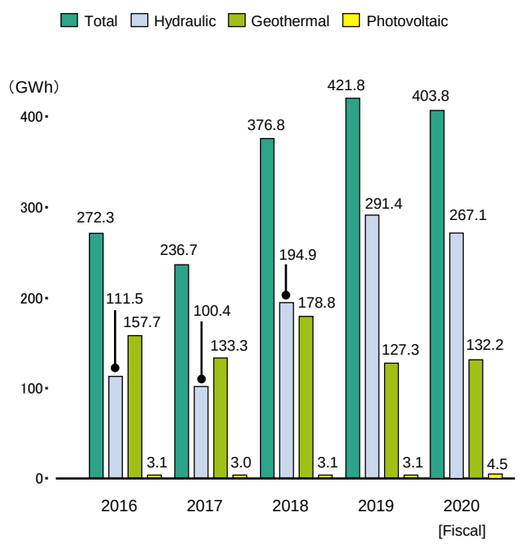
Preparation of well-organized emergency manuals for disasters and accidents and continuous improvements of them

5 Education/public relations/social contribution activities

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

(Revised in April 2018)

Total power generation using renewable energy

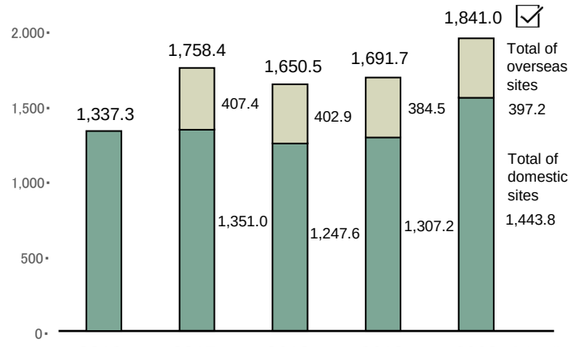


Mitsui Kinzoku Group strives for energy conservation activities, including the improvement of operations in each process through further improving energy efficiency in the smelting and electrolytic processes, the introduction of advanced facilities and enhancement of the efficiency in logistics. In addition, in order to increase the ratio of renewable energy, we are promoting the stable operation of existing power generation facilities, such as hydroelectric and solar, as well as expanding the introduction of new facilities. We are also proactively working to develop environmental contribution products and innovative technologies, which help resolve the environmental challenges faced by society, including GHG emissions reduction.

In April 2021, we established a Climate Action Team in the Corporate Planning & Control Sector. The Climate Action Team will collaborate with the Energy-Saving Committee, which is a group-wide cross-sectional organization promoting energy conservation activities, the Supreme Safety and Environmental Meeting, the CSR Committee, and each business unit, to examine group-wide policies and strategies related to climate change, and to promote initiatives in line with the TCFD* recommendations.

* Task Force on Climate-related Financial Disclosures

CO_2 emissions from energy consumption (thousand t-CO_2)



※ Emission amounts from overseas sites have been added to the total amount starting FY2017.

※ Figures for CO_2 emissions from energy consumption were calculated using emission factors derived in a manner conforming to the "Act on Promotion of Global Warming Countermeasures." CO_2 emissions derived from purchased electricity in Japan were calculated using the latest basic emission factors of electric power suppliers. For emission factors overseas, the per-country emission factors "Electricity emission factors" reported by the Greenhouse Gas Protocol Initiative were used.

※ We have received an independent practitioner's assurance for the figures for FY2020 in this information to which ☑ is attached.

※ Emissions increased in FY2020 due to the increase in the number of sites to be reported.

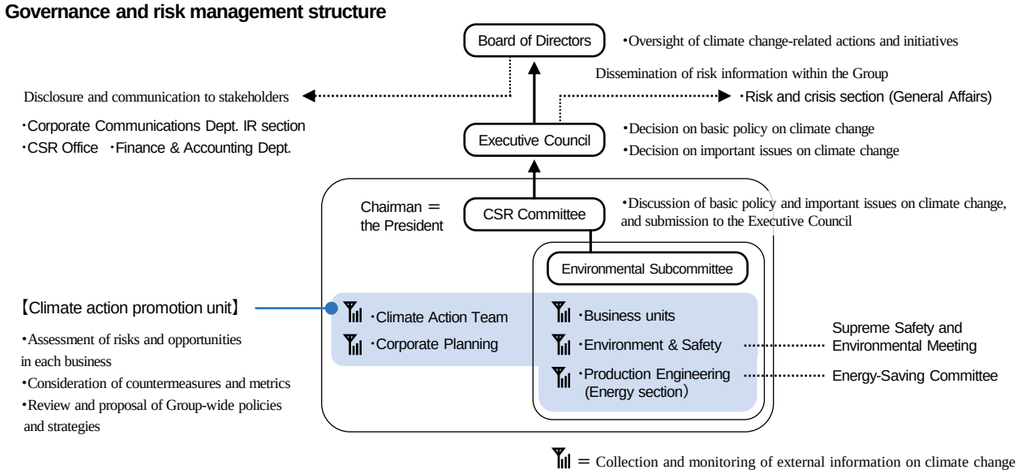
Disclosure of climate-related information in line with the TCFD recommendations

In FY2020, we participated in the support project for scenario analysis of climate risks/opportunities in line with TCFD guidance of the Ministry of the Environment of Japan. With this support, we have started the scenario analysis and are currently working on the following framework in accordance with the TCFD recommendations.

Governance

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.

Governance and risk management structure



Risk management

Mitsui Kinzoku Group has multiple businesses with different business models. The Climate Action Team assesses and identifies 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.

Metrics and targets

Mitsui Kinzoku Group recognizes that GHG emissions from energy-intensive business activities, such as non-ferrous smelting and electrolytic copper foil, are a significant risk to climate change. We have set a target of GHG emissions reduction in Scope 1 and 2, including the usage of renewable energy, by 26% from FY2013 level by FY2030.

In response to the carbon neutrality declarations made by Japan and other countries, we are currently developing our vision for FY2050 and reviewing our targets for FY2030 through backcasting, in order to reduce the risks of climate change and capture opportunities.

Strategy/Scenario analysis

In FY2020, we participated in the support project for scenario analysis of climate risks/opportunities in line with the TCFD guidance of the Ministry of the Environment of Japan. With this support, we performed a scenario analysis on the Metals Sector, which accounts for about 30% and 60% of net sales and GHG emissions of the Group respectively. We will conduct the scenario analysis on other sectors in a phased manner and expand the information disclosure of the analysis results. With respect to the Metals Sector, we will continue monitoring the external environment, conduct in-depth analysis and incorporate the sector's result into the Group's analysis.

Scenario Analysis of the Metals Sector

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 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

Transition risks and opportunities

Subcategory	Predicted impact on business <Risks>	Predicted impact on business <Opportunities>
Increase in carbon pricing	● The introduction of carbon taxes or increases in the coal tax rate could increase costs for raw material procurement, product manufacturing, and logistics ● The nonferrous metal industry is at risk of incurring a larger cost burden than other industries as it consumes a large amount of energy for mining, ore processing, and melting	● We can establish low-coke smelting technology through methods such as developing beneficiation techniques to improve metal grades
Changes in energy costs	● Electricity prices and energy prices from crude oil and similar are predicted to increase due to changes in the supply-demand balance ● It will be necessary to make investments toward increasing energy efficiency in the manufacturing process for nonferrous metals which have particularly high energy consumption	● The company can gain an advantage in terms of total energy output level by increasing the ratio of recycled materials and eliminating the process from mining to concentration (beneficiation) ● We can reduce the price of energy by strengthening the demand response of the electrolytic process as a means to level out the large fluctuations in renewable energy
Changes in product prices/ demand	● Tighter regulations on mining for metals with increased demand due to trends toward electrification and renewable energy may lead to increases in response costs ● Higher market prices due to increased costs for mining raw materials will accelerate the substitution of other products in place of Mitsui Kinzoku's, resulting in lower sales	● Demand for zinc, platinum, copper, nickel, lithium, and cobalt may increase due to progress in electrification, etc. ● Demand will increase for the following materials in the following areas: zinc/platinum for automobiles, copper for energy-related facilities and equipment, lithium/cobalt/nickel for battery materials ● Demand for copper used in renewable energy-related facilities and equipment will grow with the spread of renewable energy over society as a whole
Changes in reputation with customers	● Increased interest from client companies in environmental measures such as RE100 will lead to a preference for companies who have made advances in such measures. Because of this, additional response costs will be incurred due to the need to make manufacturing processes low-carbon, and PL/BS will be impacted as a result	● Proactive efforts to address ESG issues can be expected to lead to enhanced competitiveness and a stronger advantage for the company ● We can strengthen competitiveness from increased collection and use of environmentally friendly raw materials and switching to a product lineup with high added value from an environmental perspective

Physical risks and opportunities

Subcategory	Predicted impact on business <Risks>	Predicted impact on business <Opportunities>
Extreme weather conditions	● Extreme weather could have a significant impact on production sites and supply chains, leading to shutdowns, suspension of logistics functions, and increased response costs ● Extreme weather may affect tailings dams and lead to violations of laws and regulations due to spillage of hazardous substances ● Insurance premiums for weather insurance will increase	● Other sites may be substituted into BCP plans for other plants even if a certain site has been damaged by leveraging the strengths of having multiple sites (zinc/lead) ● We can use permits for industrial waste treatment to contribute toward local communities and the company's revenue through active initiatives toward disposing waste from natural disasters ● Processing costs may be reduced if demand is secured for slag as a construction material for seawalls and breakwaters
Increase in average temperatures	● Increased heat stress and an increase in infectious diseases may lead to lower productivity for workers, as well as accidents ● Higher temperatures may cause forest fires that damage infrastructure, etc.	● We could differentiate itself from domestic and overseas competitors by using IOT and Digital Transformation initiatives to improve working environments, enhance productivity, and maintain stable operations

∗ Only items with a "high" impact rating have been listed.

Direction for countermeasures

Impact estimation items	4˚C scenario	2˚C scenario		Countermeasures corresponding to risks and opportunities
Increases in carbon pricing	Carbon tax is not introduced in the 4˚C scenario	▼▼▼	Risk	Implementation of ambitious target settings (e.g. SBT targets)
			Risk	Introduction of internal carbon pricing
			Risk	Development of low-coke, carbon-free smelting technology and creation of industry rules
			Op.	Development of carbon-absorbing technology such as blue carbon
Changes in energy cost	Loss ▼	▼	Risk	Establishment of target figures for renewable energy introduction rates
			Risk	Establishment of long-term targets for the reduction of energy used
			Op.	Improvement of the rate of recycled materials (energy conservation)
			Op.	Strengthening of demand response measures
			Op.	Introduction of renewable energy generation equipment to the roofs of plant buildings and unused company land
			Op.	Development toward off-grid buildings with hydrogen storage alloys
Changes in demand for copper, lead and zinc	Profit ▲	▲▲	Op.	Investment toward developing products using copper and other metals
			Op.	Recycling of metal scrap collected from customers
			Op.	Improvement of the rate of recycled materials (collection of lithium and other valuable metals)
			Op./ Risk	Reevaluation of portfolios in consideration of multiple scenarios
Extreme weather conditions	▼▼	▼	Risk	Company-wide systemization of spare parts management aimed toward swift recovery after incurring damages
			Risk	Construction work toward disaster preparedness at closed mines
			Risk	Development of low-environmental burden/low-cost processing technologies at closed mines
			Risk	BCP sophistication, including verification of the cost-effectiveness of disaster prevention measures
			Op.	Strengthened processing of waste from natural disasters
			Op.	Formulation of product sales strategies tailored to national land resilience needs
Increased average temperatures	▼	▼	Risk	Implementation of FA operations at high-temperature work sites in the smelters
			Risk	Development of a system for remote control of mining machinery

∗ Countermeasures to address each item include those already underway and those still under consideration.

Environmental contribution products

Mitsui Kinzoku Group believes that in order to realize a sustainable society, it is important to provide products and develop businesses to reducing environmental footprint, in addition to the initiatives for reducing GHG emissions and waste. We assess the environmental impacts of our products throughout their life cycle from raw materials to disposal (life cycle assessment (LCA)*) and define the products that can contribute to reducing energy consumption, effective resource utilization, reducing environmental footprint and solving social issues, as "environmental contribution products."

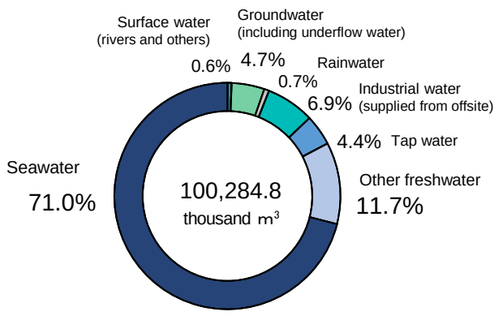
In FY2020, we began to build an internal system for implementing LCA and operate a system to certify environmental contribution products. By actively developing and releasing the environmental contribution products, we aim to deliver social value while enhancing our corporate value.

∗ LCA = Life Cycle Assessment
A method of measuring the use of resources and the emissions and assessing their impacts on the environment for the entire life cycle of a product from the procurement of raw materials to production, distribution, use and disposal.

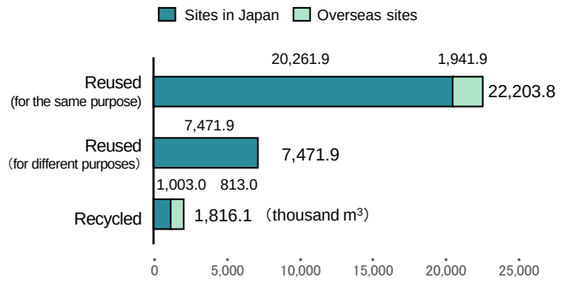
Appropriate utilization and management of water
Mitsui Kinzoku Group strives to reduce and recycle water used in the business operations. We are also implementing countermeasures by assessing risks from multiple perspectives, including physical risks such as drying up of water resources and lack of sufficient amounts of water, as well as regulatory risks related to water use. To date, no water risk has emerged that would affect our business activities.

Prevent air and water pollution
Each manufacturing site of Mitsui Kinzoku Group monitors the following in accordance with laws, regulations and ordinances and voluntary standards: Sulfur oxide (SOx) emissions produced on the combustion of fossil fuels containing sulfur, nitrogen oxide (NOx) emissions from boilers, incinerators and other combustion equipment, and particulate matter, as well as water quality including BOD and COD which indicate the level of organic material in wastewater. We work on gathering and managing the monitoring results from each site and sharing the initiatives and the technologies within the Group.

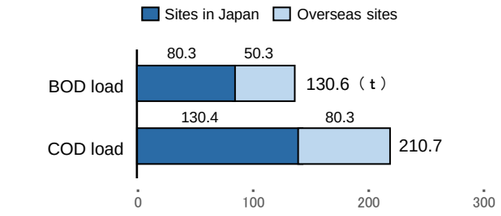
Breakdown of water use (FY2020)



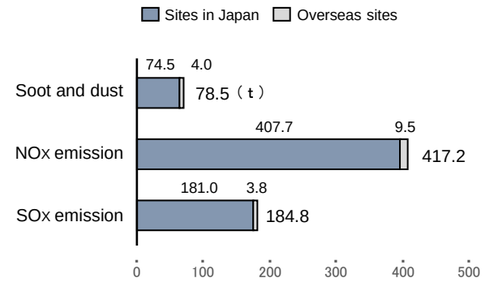
Amount of circulated water usage (FY2020)



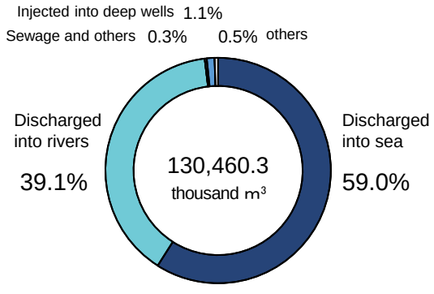
Emissions to the water (FY2020)



Emissions to the atmosphere (FY2020)



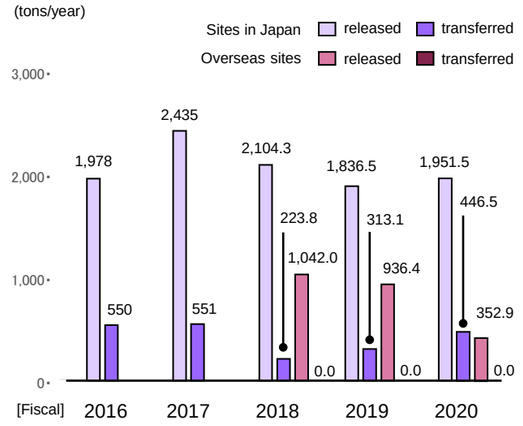
Breakdown of wastewater (FY2020)



∗ In FY2020, the total amount and breakdown of water use, wastewater, and raw materials used changed due to the increase in the number of sites to be reported.

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.

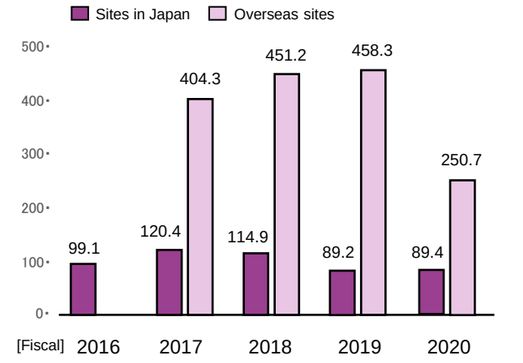
Volume of chemical substances released and transferred



∗ Added the amounts of overseas sites from FY2018.
∗ Revised the values for FY2019 disclosed last year.

Initiatives to reduce waste
We strive to reduce the amount of waste generated in our business activities, and also conduct efforts to develop technology toward reusing and recycling.
In the Environmental Action Plan revised in 2018, we are committed to reducing the generation of waste throughout the Group and set a target basic at each business site.
Of the amount of byproducts in FY2020, 51% within Japan and 16% overseas were recycled and used either within or outside of our Group.

Amount of waste generation (thousand tons)



∗ Added the amounts of overseas sites from FY2017.
∗ The major waste of overseas sites is tailings generated from mines.
∗ Revised the values for sites in Japan for FY2019 disclosed last year.

Use of recycled raw materials
Mitsui Kinzoku Group works on the recycling of waste by using resources as effectively as possible. 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.

Topic Efforts for 3R in Kyushu Miike Area
In FY2020, the Miike Rare Metal Plant of the Engineered Powders Division of Mitsui Kinzoku and Miike Smelting Co., Ltd. established a process to effectively utilize byproduct chloride compounds, in cooperation with local companies.
Hydrochloric acid produced as a byproduct in another company's manufacturing process was previously disposed of by a waste disposal operator. The Miike Rare Metal Plant uses the byproduct in its material melting process and has subsequently reduced the amount of hydrochloric acid purchased for use in the process. The chlorine solution byproduct of this process had been neutralized and discharged as wastewater. However, by reusing it for neutralizing exhaust gas and in the washing process at Miike Smelting, we have reduced the amount of neutralizer and wastewater. This initiative has enabled us and the local companies to effectively utilize the byproduct chloride compounds. Going forward, we will further increase the rate of reuse, thereby promoting our 3R activities.

Breakdown of usage by type of raw material (FY2020)