



Environmental Efforts

Relevant SDGs



Ideal image for 2025

Promote environmental and safety activities

(Reduce environmental impacts, protect environment and ensure safety, protect biodiversity, publish environmental and safety activity outcomes, and continue working to ensure there are zero accidents and zero disasters at suspended and abandoned mines)

Environmental Efforts (Basic Approach)

Based on its the Charter of Corporate Conduct and Basic Environmental Management Principle, the Furukawa Company Group works to reduce environmental risks associated with its business activities and engage in corporate activities that are mindful of the global environment in order to contribute to the realization of a sustainable society.

With respect to measures against global warming, the Group is promoting activities based on the Fourth Medium-Term Reduction Targets for the 10-year period starting in fiscal 2020,

which are based on Vision for 2025, and has begun discussions toward achieving carbon neutrality.

In the course of expanding our environmental conservation activities, we are implementing preventive measures, striving to improve our resilience in the face of natural disasters, and making other efforts to enhance and reinforce our capacity to respond to risks. We are also promoting initiatives to reduce the negative impact of our business activities on ecosystems, as well as activities to conserve and rehabilitate biodiversity, including ongoing greening activities and cultivating healthy forests.

PLAN & CHECK //

Key Environmental and Safety Targets and Results (Fiscal 2021)

★★★Target achieved; ★★Target partially achieved; ★Target not achieved

	Key fiscal 2021 targets	Fiscal 2021 results	Achievement
Environmental protection and safety and health activities	1 Operation and promotion of effective environmental and safety management systems by each Group company ●Promoting continuous improvement of operation in accordance with the EMS standard ●Promoting systems for compliance with relevant laws and regulations ●Promoting the conservation of equipment that impacts on the environment and safety ●Promoting the reliable gathering and efficient application of various kinds of data	●Checklists were used to check initiatives for environmental conservation and safety and health control during Environment and Safety Audits, and guidance was provided on points for improvement ●The duties of people with environment and safety responsibilities were clarified, and capabilities needed to comply with relevant laws and regulations were improved	★★★★
	2 Continuous improvement of environmental performance ●Reducing greenhouse gas emissions (by introducing "top-runner" appliances and machinery, streamlining production processes, developing and institutionalizing environmentally conscious products, etc.) ●Reducing the use of water resources (by improving the efficiency of water consumption, reusing water resources, streamlining production processes, etc.) ●Reducing total emissions including waste and converting waste into valuables (by streamlining raw material usage in order to restrict the generation of byproducts, recycle materials, etc.) ●Reducing chemical substance emissions (improving production processes, properly managing abatement equipment, etc.)	●Monthly events for internal reports on environmental performance were held based on aggregated results from each site, and feedback was provided to each place of business based on the details ●In Environment/Safety Promotion Meetings (Environment), discussions about targets were held with key people from each site	★★★★
	3 Promoting biodiversity protection activities ●Promoting specific initiatives on measures for reducing environmental risk to biodiversity ●Promoting continuous tree-planting, forest management, and animal and plant species rehabilitation activities	●New Firefly Rehabilitation Project plans were formulated for the Ashio Office ●Annual plans for the ongoing management of forests owned by the Company were formulated, and various tasks were performed	★★★★
	4 Enhancing preventive measures for eliminating accidents and disasters ●Strengthening preventive measures through thorough recurrence prevention measures and risk assessment ●Intensifying safety activities to eliminate unsafe conditions and behaviors ●Reducing facility and environmental accidents by strengthening facility and equipment inspections and proper work procedures ●Reducing occupational accident rates (Target: Severity rate of 0.03 or lower)	●The number of environmental and facility accidents was lower than the previous fiscal year, but the number of industrial accidents increased ●The severity rate was 0.01; we met our severity rate target of 0.03 or lower ●On-site inspections and online meetings were held at each place of business that experienced an accident	★
Management of abandoned mines	1 Strengthening workplaces by passing on knowledge and skills 2 Maintaining and managing mine run-off treatment facilities 3 Maintenance at final disposal sites and in shafts ●Thorough everyday inspections ●Conducting employee training to increase knowledge and skills	●Dangerous tasks were identified in order to ensure safety ●Conducting employee training to increase knowledge and skills ●Various work was performed to improve the resilience of mine run-off treatment facilities at the Ashio and Kune Mine Management Offices against torrential rain disasters	★★★★

Environmental and Safety Activity Targets for Fiscal 2022

Environmental protection and safety and health activities	1 Promoting continuous improvement of environmental performance (CO₂, water, waste, chemical substances) ●Strengthening reduction target control based on the Fourth Medium-Term Reduction Targets ●Analyzing monthly data to promote preventive measures ●Reducing volumes of chemical substances handled (1% reduction from the previous fiscal year)	
	2 Promoting training/guidance for improving on-site strengths ●Promoting training for improving understanding of relevant laws and regulations ●Promoting education for improving knowledge and skills for executing tasks ●Promoting analysis and utilization of measurement data	
	3 Enhancing preventive measures for eliminating accidents and disasters ●Reducing facility and environmental accidents by strengthening facility and equipment inspections and proper work procedures ●Intensifying safety activities to eliminate unsafe conditions and behaviors ●Promoting training to help improve sensitivity to danger ●Strengthening risk assessment implementation to reduce industrial accident rates (Target: Severity rate of 0.03 or lower)	
	4 Promoting biodiversity protection activities ●Strengthening efforts to reduce the impact of risks from business activities on ecosystems ●Promoting ecosystem conservation activities by continuous tree-planting activities, forest management, etc.	
Management of abandoned mines	1 Strengthening workplaces by passing on knowledge and skills 2 Maintaining and managing mine run-off treatment facilities 3 Maintenance at final disposal sites and in shafts	

ACTION //

[Comment from the Responsible Committee] Overview of Fiscal 2021

Practicing Environmental Conservation through Our Overall Business Activities

To help build a sustainable society, the Furukawa Company Group works to improve our production facilities and make our operations safer and more efficient. We also practice environmental conservation that is mindful of the impact our business activities as a whole have on the global environment and biodiversity.

In fiscal 2021, we took measures in response to the COVID-19 pandemic, including switching to web conferencing systems for some of the on-site inspections. Although we postponed or otherwise changed the timing of the Environmental and Safety Audits and Environment/Safety Promotion Meetings we conduct each year, we did conduct them as planned while taking measures to prevent the spread of infections.

We also implemented various prevention work to improve the resilience of suspended and abandoned mines in Japan against natural disasters, which have occurred frequently in recent years, specifically by preventing natural disasters from shutting down mine pollution prevention facilities and allowing mine run-off to flow into rivers and the like. We have also begun considering ways to take action at each of the Group's production locations on the path toward carbon neutrality.

Masayuki Kuno

Environment and Safety Management Committee Chairperson, Executive Officer, General Manager, Environment and Safety Management Department



DO //

Environmental Management

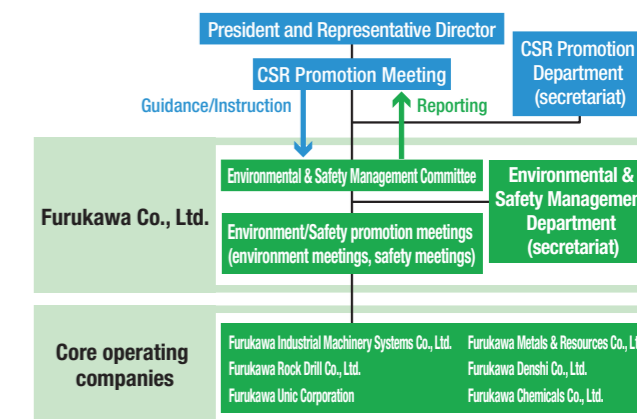
Environmental & Safety Management Committee

Important matters regarding the Group's environmental conservation and occupational safety and health control are proposed and discussed by the Environmental & Safety Management Committee, which comprises the leaders of the production sites. The committee meeting in April 2021 was held online rather than in person as a measure for preventing the spread of COVID-19. At the meeting, evaluations of environmental and safety activities in fiscal 2021, environment and safety activity targets for fiscal 2022, and the like were reported, discussed, and approved. Other matters were also discussed, including the progress of, and projections for the Fourth Medium-Term Reduction Targets, and the circumstances under which accidents and disasters occurred and the status of efforts to eliminate them. The Environmental & Safety Management Department reported on efforts to achieve carbon neutrality, and then asked relevant people for cooperation.



Environmental & Safety Management Committee

Environment and Safety Promotion System (FY2022)



[Environmental & Safety Management Committee]

Committee Chairperson: General Manager, Environmental & Safety Management Department
Members: General managers of each division, core operating companies' works general managers (or general managers of administration if there is no general manager of works)
Secretariat: Environmental & Safety Management Department
Meeting location: Head Office, Furukawa Co., Ltd.
Meeting frequency: Once a year

[Environment/Safety promotion meetings (environment meetings, safety meetings)]
Attended by: Environmental & Safety Management Department general manager and employees, employees with environment and safety responsibilities of core operating companies and other divisions
Secretariat: Environmental & Safety Management Department
Meeting location: As a rule, held at the Ashio Office of Furukawa Co., Ltd.
Meeting frequency: Once a year (starting in fiscal 2021, environment meetings and safety meetings are being held separately)

Environmental and Safety Audits

The Furukawa Company Group conducts annual Environmental and Safety Audits in May and June to promote a transition from corrective measures to preventive measures in an effort to improve environmental conservation, safety, and health activities at each site of business. Given the state of the spread of COVID-19, the timing of the audits for fiscal 2021 was changed to October and November.

Regarding environmental aspects, the Environmental and Safety Audits in fiscal 2021 confirmed the management of progress toward improving environmental performance at each site, the status of the response to environmental laws and regulations that impact operations, and other matters based on the Fourth Medium-Term

Reduction Targets. Regarding safety aspects, the audits confirmed the status of risk assessment implementation, the status of post efforts to analyze and prevent the recurrence of the causes of accidents and disasters, and the like, and were conducted for the purpose of providing assistance for the efforts of each works toward eliminating accidents and disasters, and to contribute to the improvement of on-site strengths.



Osaka Works of Furukawa Chemicals Co., Ltd.

Environmental Efforts

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Environment/Safety Promotion Meetings

Environment/Safety Promotion Meetings, which are attended by personnel responsible for environment and safety of the Furukawa Company Group, were previously held once each year to improve environmental conservation, safety, and health activities at each site; to further improve the development of these personnel and activities at each site, the meetings have been held separately since fiscal 2020, with Environment Meetings in November and Safety Meetings in July.

● Safety Meetings

In July 2020, a Safety Meeting was held at the Ashio Office of Furukawa Co., Ltd. At the meeting, a test was administered to confirm safety awareness, the circumstances of industrial accidents from the five previous years were reported, and guidance was provided on topics such as using the 4M method to analyze the causes of accidents. Discussions were also held in an effort to improve sensitivity to danger, and the deliberations were quite lively.



Environment/Safety Promotion Meetings (Safety Meetings)

● Environment Meetings

In November 2020, an Environment Meeting was held at Sakura Works of Furukawa Unic Corporation. At the meeting, the progress of achieving the Fourth Medium-Term Reduction Targets at each site was checked, a test was administered to check legal requirements for maintaining various facilities, and measures to correct and prevent past environmental accidents in the Group were explained in an effort to share knowledge. A report was also given on the latest circumstances with regard to emergency preparation and response at each company and site.



Environment/Safety Promotion Meetings (Environment Meetings)

The Fourth Medium-Term Reduction Targets and Results of the Second Year

In the second year (fiscal 2021) of the Fourth Medium-Term Reduction Targets for the 10-year period from fiscal 2020 to fiscal 2029, which are based on Vision for 2025, we achieved the reduction targets for CO₂ emissions, use of water resources, and total emissions including waste by promoting the introduction of "top runner" appliances and machinery and the streamlining of production processes at each works, but also due to decreases in production and the like at some works due to the pandemic.

As we enter the third year of the Fourth Medium-Term Reduction Targets, we are making efforts to gain an accurate understanding of each company's progress toward achieving the reduction targets, and to actually achieve the targets.

List of Our Products Giving consideration to Humans and the Environment Now Featured on Our Website

The Furukawa Company Group is actively undertaking initiatives to develop and institutionalize environmentally conscious products with consideration for environmental conservation and carbon neutrality to contribute to the realization of a sustainable society. We have created a list of the products giving consideration to humans and the environment that resulted from these efforts.

We intend to continue our efforts to provide products and services giving consideration to humans and the environment.

Visit the following site for a list of our products giving consideration to humans and the environment

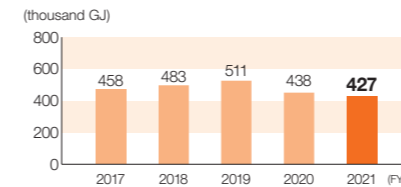
<https://www.furukawakk.co.jp/csr/environment/consideration.html>

Material Flow of the Furukawa Company Group (Fiscal 2021)

INPUT						OUTPUT		
Category	Volume used	Category	Volume used	Category	Volume used	Category	Volume used	
Total energy consumption	Volatile oil (gasoline)	30 kℓ	Fuel oil A	170 kℓ	City gas	773 thousand m ³	CO ₂ emissions	20,903 t-CO ₂
	Kerosene	205 kℓ	Liquefied petroleum gas (LPG)	314 t	Electricity	36,414 thousand kWh	Waste-water volume	474 thousand m ³
	Diesel oil	170 kℓ					Total emissions including waste	5,912 t
Total water withdrawal	Clean water	108 thousand m ³	Industrial water	562 thousand m ³	Ground-water	0 thousand m ³		

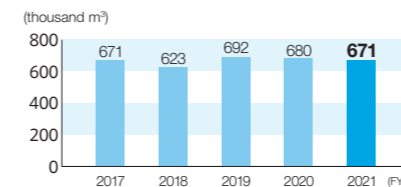
INPUT

● Energy consumption



Energy consumption decreased 3% year on year due to reduced production at some works because of the pandemic as well as efforts to reduce energy consumption, including introducing "top-runner" appliances and machinery and streamlining production processes at each works.

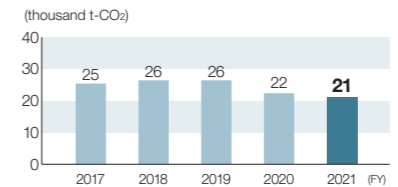
● Water resources withdrawn



Water consumption decreased 1% year on year due to installation of water-saving equipment and measures against leakage undertaken at some sites of business as well as efforts to reduce water consumption, including improving consumption efficiency, reusing water resources, and streamlining production processes.

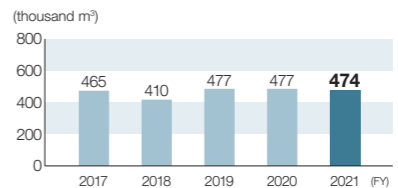
OUTPUT

● CO₂ emissions



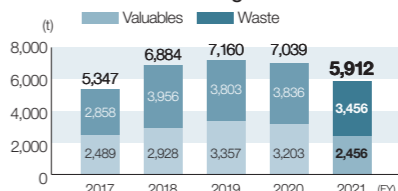
CO₂ emissions decreased 5% year on year due to the 3% year-on-year decrease in energy consumption and the CO₂ emissions factor.

● Wastewater volume



Wastewater volume slightly decreased year on year due to the 1% year-on-year decrease in water consumption.

● Total emissions including waste



Total emissions including waste decreased 16% year thanks to efforts to restrict the generation of waste and recycle waste materials, but also because of developments such as reduced production due to the pandemic. Note that valuables account for 42% of total emissions including waste.

TOPICS

List of Our Products Giving consideration to Humans and the Environment Now Featured on Our Website

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TOPICS

Forests owned by the company

Furukawa Co., Ltd. owns roughly 2,200 ha of forest around Japan. The company makes efforts to ensure the healthy growth of forests by working with local forest cooperatives to systematically remove and thin trees, clear away undergrowth, trim branches, and the like.

The Kune Forest of the Tenryu-ku of Hamamatsu City in Shizuoka Prefecture has been certified by the Forest Stewardship Council (FSC) of Japan. The Kune Forest and other forests owned by the company absorb roughly 8,000 t-CO₂ per year, which is equivalent to roughly 38% of the Furukawa Company Group's CO₂ emissions in fiscal 2021.

The company is working with local forest cooperatives to construct new access roads in the forests for healthy forest control and to improve work efficiency and facilitate the transportation of thinned wood.



Kune Forest (Tenryu-ku, Hamamatsu City, Shizuoka Prefecture)



Environmental Efforts

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Management of Chemical Substances

In fiscal 2021, we handled 15 chemical substances that are required to be reported under the PRTR* system, the same number as in the previous fiscal year. We were able to decrease atmospheric emissions of xylene, toluene, ethylbenzene, 1,2,4-trimethylbenzene, and other substances due to reduced production in each segment during COVID-19 pandemic as well as efforts to reduce chemical substance emissions, including improving production processes and properly managing of exclusion devices.

Emission and Transfer of Substances Required to Be Reported under the PRTR System

Numbers in blue: Decreased from the previous fiscal year Numbers in red: Increased from the previous fiscal year (unit: kg/year; or mg-TEQ/year for dioxin only)

Substance number	Chemical substance	Emissions						Volume transferred					
		Atmosphere		Public waters		Soil		Landfill at works		Transfer to sewer		Outside of works	
		FY2020	FY2021	FY2020	FY2021	FY2020	FY2021	FY2020	FY2021	FY2020	FY2021	FY2020	FY2021
53	Ethylbenzene	28,534	24,064	0	0	0	0	0	0	0	0	1,894	1,713
75	Cadmium and its compounds	0	0	0	0	0	0	0	0	0	0	7	2,798
80	Xylene	40,491	32,486	0	0	0	0	0	0	0	0	3,672	3,766
87	Chromium and chromium (III) compounds	2	1	0	0	0	0	0	0	0	0	34	17
243	Dioxins	2.7	4.9	0	0	0	0	0	0	0	0	0.21	0.06
272	Copper salts (water-soluble, except complex salts)	0	0	0	0	0	0	0	0	6	7	0	0
296	1,2,4-trimethylbenzene	5,005	3,759	0	0	0	0	0	0	0	0	485	477
297	1,3,5-trimethylbenzene	1,302	1,012	0	0	0	0	0	0	0	0	168	162
300	Toluene	38,317	36,255	0	0	0	0	0	0	0	0	1,445	1,172
308	Nickel	0	0	0	0	0	0	0	0	0	0	0	0
332	Arsenic and its inorganic compounds	5	8	0	0	0	0	0	0	0	0	1,769	2,452
374	Hydrogen fluoride and its water-soluble salts	0	0	7	3	0	0	0	0	0	0	1,477	1,277
412	Manganese and its compounds	5	5	0	0	0	0	0	0	0	0	30	26
438	Methylnaphthalene	13	11	0	0	0	0	0	0	0	0	0	0
453	Molybdenum and its compounds	0	0	0	0	0	0	0	0	0	0	0	0

* PRTR: Pollutant Release and Transfer Register

Environmental Accounting

Environmental Conservation Costs

The Furukawa Company Group endeavors to conserve the environment and improve environmental efficiency by tracking costs required for environmental conservation in reference to the Ministry of the Environment's Environmental Accounting Guidelines.

Total investments for fiscal 2021 reached ¥545 million. The Group invested in work to update the wastewater pipes of tailings dams at suspended and abandoned mines, work on facilities in shafts, work on soundproofing facilities at works, and other pollution prevention work. Our investments reinforced preventative measures; as a result, pollution prevention costs account for roughly 70% of the total.

Costs totaled ¥1,068 million, the breakdown of which is mainly the costs for promoting environmental conservation activities such as the thorough maintenance and management of pollution control equipment and conservation of forests.

Environmental Conservation Costs (Categories Corresponding to Business Activities)		(Millions of yen)	
Category	Content of the principal activities	Investments	Costs
(1) Business area costs		530	850
Pollution prevention cost	Cost for preventing air pollution and water pollution	402	570
Global environment conservation cost	Cost for saving energy and maintenance and management of forests owned by the Company	121	68
Resource circulation cost	Cost for recycling, waste processing, and effective use of water	7	212
(2) Upstream and downstream costs	Cost for recycling, recovering and re-commercialization of products from the market	0	8
(3) Administration cost	Cost for operating ISO 14001 standards, environmental education, cleanup and greening of business sites	0	63
(4) R&D cost	R&D cost to develop products that contribute to environmental conservation	15	145
(5) Social activity costs	Cost associated with various social activities including cleanup of neighborhood areas, planting of greenery, etc.	0	2
(6) Environmental remediation cost	Cost allocated for recovery from environmental degradation due to business activities	0	0
Total		545	1,068

Environmental Conservation Benefit

Environmental conservation benefit category	Environmental performance indicator (unit)	FY2020	FY2021	Difference from the previous fiscal year
Environmental conservation benefit related to resources input into business activities	Total energy input volume (thousand GJ)	438	427	Reduced by 11000
	Input volume of water (thousand m ³)	680	671	Reduced by 9000
Environmental conservation benefit related to waste or environmental impact originating from business activities	Volume of greenhouse gas emissions (t-CO ₂)	21,930	20,903	Reduced by 1,027
	Total emissions including waste (t)	7,039	5,912	Reduced by 1,127

Economic Impacts of Environmental Conservation

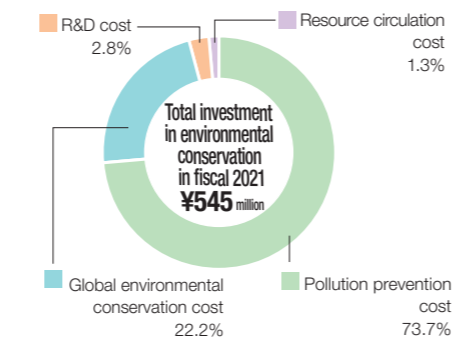
The reduction of electric power purchasing costs, due to the operation of turbine generators of the Osaka Works of Furukawa Chemicals Co., Ltd. was ¥43 million in fiscal 2021.

The economic impact derived from resource circulation (gains on sale of valuables, etc.) was ¥128 million.

Economic Impacts of Environmental Conservation (Material Impacts)

Content of the benefit		Amount
Resource circulation (gains on sale of valuables, etc.)	Gains on sale of stainless steel, iron, etc.	128
Energy-saving effect	Reduction of electric power purchasing costs due to the operation of steam turbine generators	43
Total		171

Breakdown of Environmental Conservation Cost Invested



Response to Climate-Related Risks

The Environmental & Safety Management Department of Furukawa Co., Ltd. evaluates envisioned climate-related risks at the Group's works and in the areas around suspended and abandoned mines after investigating sites and meeting with key people to gain a full understanding of the state of management.

The department has used damage from past disasters, hazard maps, and other resources to envision the state of damage and formulate measures for responding to heavy rains that could cause a river to overflow near the Yoshii Works of Furukawa Rock Drill Co., Ltd., and to torrential rains and heavy snow that could cut off infrastructure at the Ashio Office, which manages suspended and abandoned mines.

In an effort to minimize the impact of natural disasters on operations and surrounding environments, the department has strengthened the emergency contact network, clarified roles and responsibilities to enable the prompt and appropriate implementation of countermeasures, and establish a system that enables swift responses to risks.



The Kabura River, which runs next to the Yoshii Works of Furukawa Rock Drill Co., Ltd. (left)



The entrance to the solar power plant at the Ashio Office

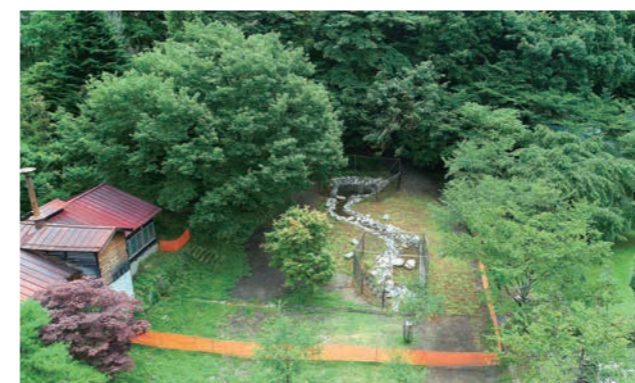
Promotion of Biodiversity Protection Activities

Cancelation of the Ashio Cherry Tree-Planting Drive and Furukawa-no-mori Tree-Planting Drive

As a measure to prevent the spread of the novel coronavirus, we canceled the Group's distinct greening activities in 2021 as we did in 2020. Specifically, we canceled the Ashio Cherry Tree-Planting Drive, through which we aim to plant 1,000 cherry saplings on company property in the Ashio area, and the Furukawa-no-mori Tree-Planting Drive on land owned by the company in the Matsuki area of Ashio-machi, Nikko City, Tochigi Prefecture (Sponsor: The Tochigi Furukawa Association, an organization of Furukawa Group companies in Tochigi Prefecture).

Although we have canceled both drives for two consecutive years, we intend to continue the activities in the future.

Firefly Rehabilitation Project at the Site of the Former Kune Mine and the Former Ashio Copper Mine



A firefly pond under construction on company-owned land in Ashio-machi, Nikko City

As living creatures that reflect the state of the environment, fireflies are said to be symbols of healthy water environments. With the aim of rehabilitating the environment to enable fireflies to live sustainably, and to pass that environment on to the next generation, our Environmental & Safety Management Department has continued rehabilitation efforts at the site of the former Kune Mine in the Tenryu-ku of Hamamatsu City in Shizuoka Prefecture, where it is said that genji-botaru fireflies (Luciola cruciata) danced in the past. Thanks to the department's efforts, it is now possible to see the fireflies in flight from late June to early July every year.

We also launched firefly rehabilitation activities at the site of the

Ashio Copper Mine in Ashio-machi, Nikko City, Tochigi Prefecture in fiscal 2022.

In the course of developing the rehabilitation area, we incorporated the concept of biotopes (habitats) to simulate the riparian environment the fireflies prefer, using gabions to create channel revetments and planting trees that naturally grow near water—Japanese alders and willows—along the banks to preserve darkness and block light from entering the space.

We intend to continue rehabilitation activities for plant life and creatures in pursuit of biodiversity.

Safety Control Measures at Suspended and Abandoned Mines

The Group's basic policy toward managing suspended and abandoned mines is to continue safety-oriented operations; accordingly, we formulated medium- and long-term plans for mine run-off treatment and use them to systematically implement prevention work.

Extremely intense, localized downpours and other natural disasters have occurred frequently in recent years, and external factors cause power outages, block roads, and create other impediments to operations. In response, we have made efforts to improve resilience—the ability to bounce back from disasters—to keep mine run-off treatment facilities in service even during disasters.

At the Ashio Mine in Nikko City, Tochigi Prefecture, we improved the storerooms for emergency generator fuel to increase fuel storage capacity to three days' worth.

Additionally, at the Kune Mine in Hamamatsu City, Shizuoka Prefecture, we added three sludge tanks and made efforts to improve emergency generator capacity.



A new fuel storeroom at the Ashio Mine



New sludge tanks at the Kune Mine