Planet

Planet priority measures in the Sustainability Medium-Term Plan

			Benchmarks	2024	2026
Planet	GHG emissions	Scope1＋2	Year 2019：3.2 million tons-CO_2e	No increase in emissions compared to 2019	
		Scope3	Year 2019：0.9 million tons-CO_2e (Japan)	•Target the entire Group and identify the category dominates for more than two-thirds of emission •In fiscal 2023, formulate numerical reduction targets for fiscal 2024 and fiscal 2026	

Result in 2022 and Target in 2023

			Result in 2022	Evaluation in 2022	Target in 2023
Planet	GHG emissions	Scope1＋2	2,896 thousand tons-CO_2e	target achieved (3,230thousand ton-CO_2e or less)	No increase in emissions compared to 2019
		Scope3	•Target the entire Group and identify the category dominates for more than two-thirds of emission •In fiscal 2023, formulate numerical reduction targets for fiscal 2024 and fiscal 2026		

Environmental Management
Global Warming Prevention
Reduction of Environmental Load
Environmental Accounting
Environmental Data
Sustainability Medium-term Plan for Planet

Reduction of Environmental Load

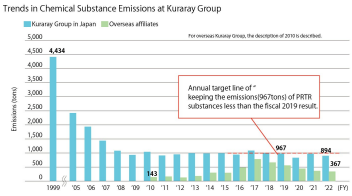
Emission Management of Chemical Substances

Based on the Law Concerning Reporting, etc. of Pollutant Release and Transfer Register (PRTR Law), the Kuraray Group in Japan surveys and ascertains the annual emissions of chemical substances subject to PRTR Law and reports the results to the national government. The Kuraray Group similarly discloses on its official website, etc. emissions of chemical substances not only covered by the PRTR Law, but also designated by the Japan Chemical Industry Association (JCIA). In addition to these chemical substances, we are taking the actions indicated in the table below with regard to persistent organic pollutants (POPs), volatile organic compounds (VOCs), hazardous atmospheric pollutants (HAPs), and particulate matter (PM).

› Environmental Data

Classification	Chemical substances	Actions to be taken
POPs	Polychlorobiphenyl (PCB)	Storing, managing, reporting and processing to render harmless in accordance with the Law Concerning Special Measures against PCB Waste. (Fiscal 2027 is set as a time limit for harm-free processing)
	Dioxin and the like	Emissions are measured for individual plants and other business units (Please visit Kuraray website)

Classification	Chemical substances	Actions to be taken
	Substances other than the above	Not applicable to Kuraray manufacturing and use
VOC HAP		Included as substances in the pollutant release and transfer register (PRTR) and emissions are measured and reported as PRTR substances. (Please visit Kuraray website for emissions by each plant)
PM		Emissions of particles of soot are reported in Material Flow
PRTR		Emissions of substances applicable to the law and to the list compiled by the Japan Chemical Industry Association are measured and reported (Please visit Kuraray website for emissions by each plant)



The Kuraray Group in Japan had made a major capital investment until around 2008 to reduce chemical substance emissions, and has achieved about an 80% reduction compared to fiscal 1999. Since then, we have set limits on the amount of Japan Chemical Industry Association (JCIA)-designated Pollutant Release and Transfer Register (PRTR) substances* based on the concept that, even if the scale of business expands, we will not increase emissions outside production sites from the base year. To achieve this target, when considering construction of new production facilities, we examine and carry out investment projects with consideration of measures to prevent an increase in chemical substance emissions. In fiscal 2022, due in part to restrained manufacturing activities, affected by the slowdown in demand following the economic slowdown from the second half of the fiscal year, resulting in an increase in emissions to 894 tons from 985 tons in 2021, achieving the target of less than 967 tons. Going forward, we will continue to take measures to prevent an increase in emissions.

The policy of the Kuraray Group outside Japan is to continue to comply with the rigorous environmental regulations of the respective countries and regions where each production site is located and to conduct quantitative control. Until fiscal 2017, total emissions were on an upward trend due to the incorporation of businesses and the construction and expansion of production facilities. However, emissions have been decreasing since fiscal 2018 due to measures to expand exhaust gas treatment equipment at some sites and improve operational control. Emissions in 2022 were 367 tons.

※Substances subject to the PRTR Law and substances designated by the Japan Chemical Industry Association

【Notes】As a result of the change in months in each fiscal year, the environmental data and information contained in this report including graphs are as follows.

- Before fiscal 2013: Actuals in 12 months from April to March of the following year
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- After fiscal 2015 : Actuals for 12 months from January to December

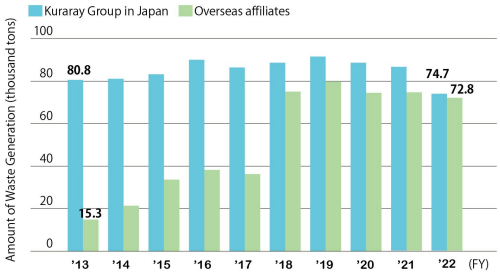
Effective Use of Waste

The amount of waste generated by the Kuraray Group in Japan decreased significantly from 88.5 thousand tons in 2021 to 74.7 thousand tons. In 2022, the Kurashiki Plant stopped using in-house power generation facilities and switched to electricity purchased from outside the company and steam from small once-through boilers. This resulted in a significant decrease in the amount of soot generation. In addition, we carried out measures to reduce the amount of waste generated by 2.5 thousand tons through the activities such as improving product yields, sorting waste, and recycling of waste into raw materials through collection at each production site and affiliated company. As a result of our efforts to effectively use of waste generated through recycling and energy recovery, the rate of effective use was 95.6%. In recent years, restrictions on waste exports have become stricter, and it remains difficult to secure waste disposal company in Japan. Going forward, we will continue to strive to implement measures to reduce the amount of waste generation.

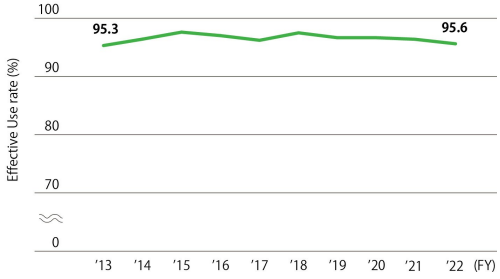
The amount of waste generated by the Kuraray Group outside Japan increased due to the acquisition of the vinyl acetate business in 2014 and the activated carbon business in 2018, but has remained nearly constant since then. In 2022, equipment issues at some production sites and production suspensions due to the cold wave in the United States resulted in the amount of waste generated decreasing from the previous year to 72.8 thousand tons. In addition, our overseas affiliates are also working on the activities to improve product yields and collect and effectively use waste materials generated in our production sites. Going forward, each production site will continue to comply with its own legal requirements and work on measures to reduce waste generation.

The sales intensity of waste generation in Kuraray Group, which was set as the targets for reduction of environmental load in the Sustainability Medium-Term Plan for Planet reduced by 28.0% (improvement) compared to 2019, far exceeding our target of the reduction (improvement) of 5% or more in 2026. Going forward, we will continue to work on reducing waste generation.

Trends in the Amount of Waste Generation at Kuraray Group in Japan



Trends in Effective Use Rate of Waste in Kuraray Group in Japan



'high-volume generators' under the Act on Promotion of Resource Recycling Related to Plastics

(high-volume generators: Industrial waste of plastic-using products, etc. 250 t/year or more)

The table below shows the affiliated companies in the Kuraray Group that fall into the category of 'high-volume generators' under the Act on Promotion of Resource Recycling Related to Plastics in FY2022. The Kuraray Group makes effective use of most of the generated industrial waste of plastic-using products, etc. through recycling and heat recovery. We will continue to implement measures to reduce the amount of waste generated by working on improving process yields and other measures, as well as promoting the effective use of the waste generated.

Wastes containing vinyl chloride generated in Kuraray Plastics Co., Ltd. are currently disposed of in landfill, as it is difficult to recycle or recover energy. We will continue to search for effective uses such as recycling and work on reducing the amount generated.

Company	Amount of waste (ton)	Effective use (ton)	Final disposal (ton)	effective utilization rate	Final disposal rate
Kuraray Co., Ltd.	22,200	21,880	55	98.60%	0.25%

Company	Amount of waste (ton)	Effective use (ton)	Final disposal (ton)	effective utilization rate	Final disposal rate
Kuraray Saijo Co., Ltd.	360	360	1	99.80%	0.20%
Kuraray Plastics Co., Ltd.	340	110	230	33.01%	66.99%

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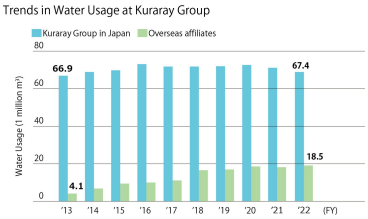
Effective Use of Water Resources

The Kuraray Group, including its oversees affiliates, is not engaged in production activities in areas where our business activities significantly impact on local water resources. However, we have been engaging in business activities recognizing that water resources are vital.



In 2022, water consumption (excluding seawater) of the Kuraray Group in Japan decreased from 2021 to 67.4 million m^3 per year. In October 2021, Kurashiki Plant switched to industrial water supplied by Okayama Prefecture. This was because river water intake became impossible due to flooding measures in the Takahashi River basin. Accordingly, water consumption decreased as a result of efforts to conserve water and utilize water resources effectively. Even though Kuraray production sites in Japan are well located in terms of water resources, we believe that it is necessary to conduct business activities by considering the long-term prospects for water supply, such as the risk of a water shortage caused by climate change due to global warming. We continue to reuse water by such as reusing coolant water for boiler water. We will keep track of water consumption trends while continuously reducing our water consumption and effectively using water resources.

The water consumption of the Kuraray Group outside Japan has increased since 2014 due to the incorporation of businesses through M&A, such as the acquisition of the vinyl acetate business and the activated carbon business, but it has since remained nearly constant. The Kuraray Group outside Japan continued to implement measures to reduce water consumption, such as improving the yield and reusing recovered water. However, in 2022, water consumption increased at some production sites where production quantity increased. As a consequence, water consumption rose slightly to 18.5 million m^3 from 2021.

The sales intensity of water usage in overseas Kuraray Group, which was set as the targets for reduction of

environmental load in the Sustainability Medium-Term Plan for Planet reduced by 25.6% (improvement) compared to 2019, far exceeding our target of the reduction (improvement) of 5% or more in 2026. Going forward, we will continue to work on reducing water usage.

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Conservation of Biodiversity

The Kuraray Group believes that continuing our efforts to implement measures in global warming prevention, control of chemical substance emissions, reduction and effective use of waste, and effective use of water resources will lead to biodiversity conservation. We formulated the Action Policy for Biodiversity Conservation and have been promoting activities and the development of technologies and sale of products that contribute to biodiversity conservation. Refer to following examples of environmental conservation activity, , employee volunteers at some Kuraray plants engage in forest conservation activities, cleanup activity, and endangered species protection activities, in cooperation with local governments and others.

Examples of environmental conservation activities

(Some activities have been suspended for 2020-2022 due to the spread of COVID-19 infection).

Kurashiki Plant	-Established an area called “Kotori-no-Mori (little birds’ forest)” on the premises to conserve the forest and create an environment where wild birds can live. -Cleanup of Tamekawa Park in Tamashima (The Tamekawa Park is the home of Daruma pond frogs, an endangered species.) -Cleaning up coastal areas along the production sites to reduce plastic waste into the oceans. -Implemented proper wastewater management in compliance with the Act on Special Measures concerning Conservation of the Environment of the Seto Inland Sea
Okayama Plant	-Participated in Kojima Bay cleanup activity hosted by Okayama City, Okayama Prefecture -Participation in activities to collect marine waste, organized by the NPO Green Partner Okayama.
Saijo Plant	-Cooperation in preserving the Kamo River fishway. -Joined Ehime Environmental Conservation Association and Saijo City Groundwater Conservation Association
Niigata Plant	-Participated in the “Kigyo-no-Morizukuri (development of forest by corporations)” campaign promoted by Niigata Prefecture -Participated in the cleanup activity hosted by the Tainai City Council for Social Welfare
Tsurumi Plant	-Clean-up activities on roads around the production site.
Calgon Carbon Corporation	-Clean-up activities in the Pittsburgh Botanical Gardens.