

# Planet

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## Establishment of a new roadmap to reduce GHG emissions

		Benchmarks	Medium- to Long-Term Targets
	Scope 1 + 2	2021 emissions 3,020 thousand tons-CO <sub>2</sub> e	- 2035: 63% reduction compared to 2021 - 2050: Carbon Net Zero
	Scope 3 (Category1)	2021 emissions 2,941 thousand tons-CO <sub>2</sub> e	- 2035: 37.5% reduction compared to 2021

## "PASSION 2026" Priority Issue Targets and Fiscal 2023 Results

	Benchmarks	FY2023		FY2024	FY2026
		Targets	Results	Targets	Medium-Term Plan
	Scope 1 + 2	2021 emissions 3,020 thousand tons-CO <sub>2</sub> e or less*	3,230 thousand tons-CO <sub>2</sub> e or less*	2,700 thousand tons-CO <sub>2</sub> e	3,020 thousand tons-CO <sub>2</sub> e or less
	Scope 3	—	- Identify sources accounting for two-thirds or more of Group-wide emissions - Set numerical reduction targets for 2024-2026	- Under way to identify sources accounting for two-thirds or more of Group-wide emissions	- Identify sources accounting for two-thirds or more of Group-wide emissions - Set emission reduction targets

\*1 Regardless of the new target setting, FY2023 target is based on the 2019 emissions, which were used as a benchmark at the formulation of "PASSION 2026"

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## 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

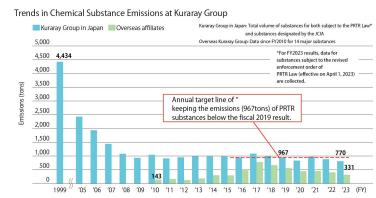
Classification	Chemical substances	Actions to be taken
POPs	Polychlorobiphenyl (PCB)	Storing, managing, reporting and processing to render harmless in accordance with the Law Concerning Special Measures against PCB Waste. (Fiscal 2027 is set as a time limit for harm-free processing)
POPs	Dioxin and the like	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)

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. (Total emissions are reported in <a href="#">Material Flow</a> . Please visit Kuraray website for emissions by each plant)
PM		Emissions of particles of soot are reported in <a href="#">Material Flow</a>
PRTR		Emissions of substances applicable to the law and to the list compiled by the Japan Chemical Industry Association are measured and reported (Total emissions are reported in <a href="#">Material Flow</a> . 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 2023, production activities were controlled due to lower demand from the previous year, resulting in a decrease in emissions to 770 tons from 894 tons in 2022, 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 2023 decreased to 331 tons from 367 tons in 2022, due in part to controlled production activities.

\*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
- Fiscal 2014: Actuals for 9 months from April to December + Actuals for January to March 2014 (or estimated value) [Partially overlaps with fiscal 2013]
- After fiscal 2015 : Actuals for 12 months from January to December

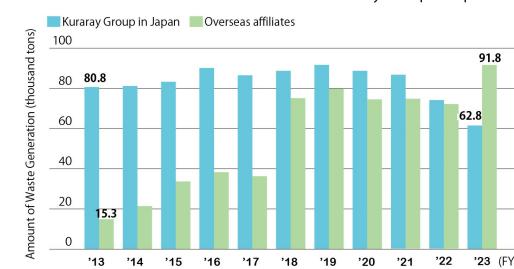
## Effective Use of Waste

The amount of waste generated by the Kuraray Group in Japan decreased significantly from 74.7 thousand tons in 2022 to 62.8 thousand tons. In 2022, the Kurashiki Plant stopped using coal-fueled in-house power generation facilities and switched to using electricity purchased from outside the company and steam from small once-through boilers. This resulted in a decrease in the amount of soot generation. In addition, we carried out measures to reduce the amount of waste generated by 6.2 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 95.2%. 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 it has remained nearly constant since then. In 2023, the amount of waste generated increased from the previous year to 91.8 thousand tons due to temporary waste generation at some production sites. 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 the Kuraray Group, which was set as the targets for reduction of environmental load in the Sustainability Medium-Term Plan for Planet, was reduced by 23.7% (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 at Kuraray Group in Japan



### <'high-volume generators' under the Plastic Resource Circulation Act>

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

The table below shows the business operator in the Kuraray Group that fall into the category of 'high-volume generators' under the Plastic Resource Circulation Act in FY2023. The Kuraray Group makes effective use of most of the generated industrial waste of plastic-using products, etc. through recycling and heat recovery. In addition, waste and other materials containing vinyl chloride generated by some of our affiliated companies are being disposed of by final disposal (in landfill) due to the difficulty of recycling and energy recovery, but we are switching some of the waste to uses that can be utilized as effectively as possible. 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.

Company*	Amount of waste (ton)	Effective use (ton)	Final disposal (ton)	effective utilization rate	Final disposal rate
Kuraray Co., Ltd.	20,978	20,747	24	98.90%	0.11%

\*In 2023, there were no affiliated companies other than Kuraray Co., Ltd. that were classified as "high-volume

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- After fiscal 2015 : Actuals for 12 months from January to December

## Effective Use of Water Resources

The Kuraray Group, including our overseas 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 2023, water consumption (excluding seawater) of the Kuraray Group in Japan decreased from 2022 to 62.1 million m<sup>3</sup> per year. The Niigata Plant was affected by temporary restrictions on water intake from rivers and other sources due to drought caused by low precipitation in summer. 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 also 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 are continuing to implement measures to reduce water consumption, such as improving product yield and reusing recovered water. However, water consumption in 2023 was 19.7 million m<sup>3</sup>, higher than those in 2022 due to an increase in water consumption for exhaust gas cleaning equipment to comply with chemical substance emission regulations at some production sites.

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 22.0% (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 water usage.

Trends in Water Usage at Kuraray Group



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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>

Kurashiki Plant	<ul style="list-style-type: none"><li>-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.</li><li>-Cleanup of Tamekawa Park in Tamashima (The Tamekawa Park is the home of Daruma pond frogs, an endangered species.)</li><li>-Cleaning up coastal areas along the production sites to reduce plastic waste into the oceans.</li><li>-Implemented proper wastewater management in compliance with the Act on Special Measures concerning Conservation of the Environment of the Seto Inland Sea</li></ul>
Okayama Plant	<ul style="list-style-type: none"><li>-Participated in Kojima Bay cleanup activity hosted by Okayama City, Okayama Prefecture</li><li>-Participation in activities to collect marine waste, organized by the NPO Green Partner Okayama.</li></ul>
Saijo Plant	<ul style="list-style-type: none"><li>-Cooperation in preserving the Kamo River fishway.</li><li>-Joined Saijo City Groundwater Conservation Association</li></ul>
Niigata Plant	<ul style="list-style-type: none"><li>-Participated in the "Kigyo-no-Morizukuri (development of forest by corporations)" campaign promoted by Niigata Prefecture</li><li>-Participated in the cleanup activity hosted by the Tainai City Council for Social Welfare</li></ul>
Kashima Plant	<ul style="list-style-type: none"><li>-Promoting greening at the production site</li><li>-Protection of wild birds through the maintenance of wooded areas at the production site</li><li>-Cleanup activities on roads around the production site</li></ul>
Tsurumi Plant	<ul style="list-style-type: none"><li>-Cleanup activities on roads and coastal area around the production site</li><li>-Started biodiversity-themed activities in collaboration with Okayama, Kurashiki, and Saijo Plants</li></ul>
Kuraray America, Inc.	Cleanup of waterways and protection of the surrounding environment as part of the Bay Cleanup Trash Bash
MonoSol, LLC	Cleanup activities along the Indiana Dunes National Lakeshore

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