

Environmental Reporting

Corporate Statements

The Kuraray Group
Code of Conduct

Compliance Handbook

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Environmental Management

We believe that the Kuraray Group's mission as a material and intermediate material manufacturer is as follows:

- Contributing to society by providing the materials and intermediate materials needed to create a low carbon society and an eco-friendly society; and
- Producing these items with as low an environmental impact as possible.

Based on this mindset, we consistently work through global manufacturing to implement environmental improvement activities, such as promoting measures against global warming, reducing chemical substance emissions, and ensuring the beneficial use of resources.

【Note】

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

Environmental Targets and Results

☆☆☆: Largely achieved, ☆☆☆: Achieved, ☆: Need to be improved

	Scope	FY2018		FY2019 target	Medium-term environmental target (FY2020 target)	Evaluation
		Target	Actual performances			

	Scope	FY2018		FY2019 target	Medium-term environmental target (FY2020 target)	Evaluation
		Target	Actual performances			
Global warming prevention	Kuraray Group in Japan	Reduce GHG emissions*1 by 13,000 tons-CO2e or more compared with FY2017	Reduce GHG emissions by 13,000 tons-CO2e or more compared with FY2017	Reduce GHG emissions by 13,000 tons-CO2e or more compared with FY2018	Improve GHG emission intensity index by 1 percentage point or more year on year	☆☆
		Improve GHG emission intensity index by 1 percentage point or more compared with FY2017	Improved GHG emission intensity index by 3.5 percentage points year on year	Improve GHG emission intensity index by 1 percentage point or more compared with FY2018		☆
	Overseas affiliates	Improve energy*2 intensity index by 1 percentage point or more compared with FY2017	Improve energy intensity index by 3.6 percentage point or more compared with FY2017	Improve energy intensity index by 1 percentage point or more compared with FY2018	Improve energy intensity index by 1 percentage point or more year on year	☆☆☆☆
Management of chemical substance emissions	Kuraray Group in Japan	Reduce JCI A-designated PRTR substance emissions to less than the FY2016 level (957 tons)	JCI A-designated PRTR substance emissions: 1,004 tons	Reduce JCI A-designated PRTR substance emissions to less than the FY2016 level (957 tons)	Reduce JCI A-designated PRTR substance emissions to less than the FY2016 level (957 tons)	☆
Reduction of waste	Kuraray Group in Japan	Reduce waste by the equivalent of 1% relative to FY2016 (900 tons), or more	Reduced waste by 2,327 tons	Reduce waste by the equivalent of 1% relative to FY2016 (900 tons), or more	Reduce waste by the equivalent of 1% relative to FY2016 (900 tons), or more	☆☆☆☆
		Reduce final landfill volume to less than the FY2016 level (251 tons)	Final landfill volume: 330 tons	Reduce final landfill volume to less than the FY2016 level (251 tons)	Reduce final landfill volume to less than the FY2016 level (251 tons)	☆
	Overseas affiliates	—	—	Complying with the legal requirements of each country where overseas production bases are located, we will continue reducing waste generation and conducting quantitative management.		—

	Scope	FY2018		FY2019 target	Medium-term environmental target (FY2020 target)	Evaluation
		Target	Actual performances			
Effective utilization of water resources	Kuraray Group in Japan	—	—	Considering the geographical conditions of Kuraray plants in Japan, we will not set a numerical target for the time being. However, we will continue to watch the water usage and save it as much as possible.		—
	Overseas affiliates	Improve water intensity index (except seawater) by 1% or more compared with FY2017	Improve water intensity index (except seawater) by 24.3% or more compared with FY2017	Improve water intensity index (except seawater) by 1% or more compared with FY2018	Improve water intensity index (except seawater) by 1% or more year on year	☆☆☆☆

*1) Greenhouse Gas

*2) Almost all electric power and steam is purchased from external sources at Kuraray's affiliates outside Japan. Because the source of supply has a large effect on GHG emissions (changes in emission factor), energy consumption is evaluated without incorporating the impact of the supply source in order to properly evaluate the activities of our affiliates outside Japan.

Environmental Management System

■ Environmental Conservation Promotion System

To undertake company-wide environmental conservation activities, Kuraray has established the Environmental Conservation Working Team (WT) and Global Warming WT within the CSR Committee, promoting measures against global warming, managing chemical substance emissions and ensuring the beneficial use of wastes.

■ Kuraray Group Environmental Basic Policy

The Kuraray Group has established the Kuraray Group Environmental Basic Policy, and is engaged in activities for environmental preservation. Furthermore, continuous improvements in its environmental activities are made by implementing a Plan-Do-Check-Act (PDCA) cycle and improving it in the plants, group companies and head office in accordance with Kuraray Environmental Activity Management Rules. The Kuraray Group's plants and group companies have acquired certificates under ISO 14001 (Environmental Management Systems) and are undertaking environmental conservation activities by implementing the PDCA cycle. Kuraray has worked on updating the ISO 14001 system to the 2015 version, and the transition completed by May 2018 (with a deadline set at September 2018).

Kuraray Group Global Environmental Basic Policy

In order to contribute to sustainable growth in society and fulfill our responsibility to future generations through sustainable corporate activities that are in harmony with the environment, the Kuraray Group has defined the following basic policy.

- (1) We will consider the environment as far as possible in the course of our corporate operations.
- (2) We will work to improve the global environment and ensure its sustainability.
- (3) We will develop technologies and products that contribute to the goal of improving the global environment.

■ Environmental Impact Management

In fiscal 2018, no leak accidents of chemical substances and wastes that cause severe damage to the environment were reported. The statutory effluent standard of drainage to public waters is strictly observed by the domestic Kuraray Group, and there was no incident causing significant impact on public waters including rivers, underground waters and marine waters. The transportation of hazardous wastes, which includes transportation of waste containing polychlorinated biphenyls (PCBs) to outside disposal companies, is handled appropriately in accordance with the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes (Act on Special Measures Against PCB Waste).

■ Carrying Out the Mid-term Environmental Plan

The Kuraray Group is engaged in a three-year Mid-term Environmental Plan that started in 2018. Instead of Environmental Efficiency*¹, our previously employed evaluation index based on sales, we are using a Production Intensity Index*² that directly reflects the results of environmental improvement efforts at production sites.

We will implement the Mid-term Environmental Plan until 2020. We will conduct a review of the plan for the next term in 2021 and onward, setting new goals and making greater progress than before with initiatives to evaluate the environmental impact of the whole of our products' life cycles, in addition to the environmental burden due to our corporate activities.

With regard to initiatives for preventing global warming, the Paris Agreement was enacted as an international framework regarding climate change problems from 2020 onward, and plans have also been formulated in Japan for measures to prevent global warming. Progress has also been seen in discussions within the production industry on marine plastic pollution and other global environmental problems. As a material manufacturer, Kuraray has joined the Japan Initiative for Marine Environment (JaIME), and is gathering information on the ideal measures to take. The Kuraray Group will strive to make steady improvement in the environment by thoroughly implementing the PDCA cycle for environmental improvement activities, while responding to these changes in the external landscape.

The targets are shown in the table "Environmental Targets and Results."

*1) Environmental Efficiency = Net sales/environmental load

Environmental Load: Volume of GHG emissions, chemical substance emissions, waste generation, etc.

Regardless of the reduction in GHG emissions in the production process, the absolute amount of emissions may be increased in response to an expansion of business activities, failing to provide adequate evaluation of the reduction efforts. Kuraray introduced Environmental Efficiency as an indicator since it incorporates Net Sales and Environmental Load to evaluate "how efficiently the company conducted production activities," and promoted activities to improve this indicator until fiscal 2017.

*2) Production Intensity Index = Converted Production Volume/Environmental Load

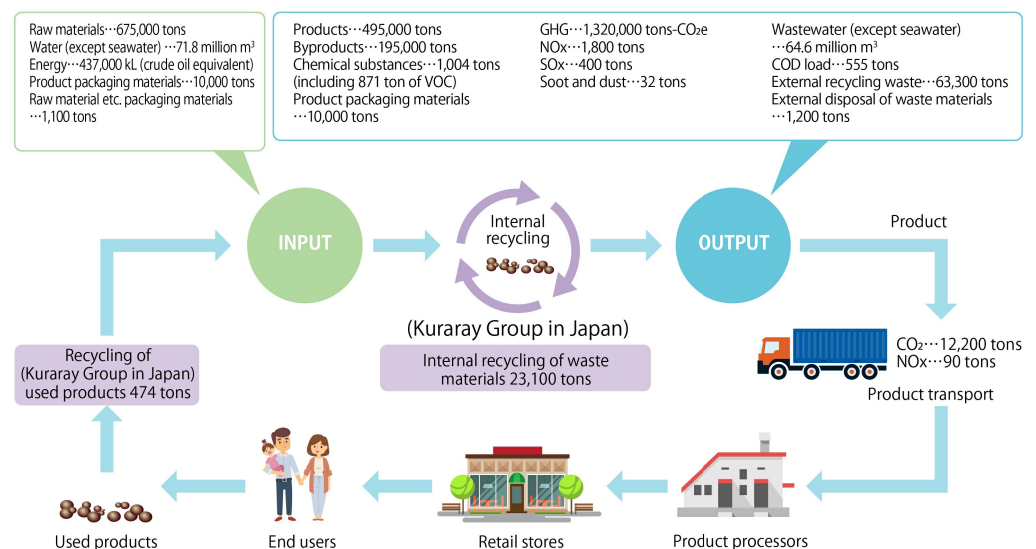
Environmental Load: GHG Emissions Volume (Japan), Energy Consumption Volume (outside Japan), etc.

Production volume per environmental load unit. Figures are an index based on fiscal 2016 as 100. The business structure has undergone significant changes since about 2014 due to incorporating new businesses, which has also caused a fluctuation in Environmental Efficiency (= Net Sales / Environmental Load). In order to directly reflect the results of GHG emissions reduction efforts, Kuraray newly introduced an “Intensity Index” of converted production volume to evaluate “how efficiently the company conducted production activities.” While reviewing the conversion coefficient in accordance with a change in the business environment, it helps reflect on-site environment improvement activities more clearly. Starting from fiscal 2018, Kuraray aims to improve this “Intensity Index” as an environmental objective.

■Material Flow in Business Activities

The Kuraray Group uses a large amount of energy, chemical substances and water resources in the course of its business activities. We make quantitative surveys on the used resources and emitted substances every year to help reduce environmental load associated with our business activities .

Material Flow in Business Activities (Fiscal 2018, Kuraray Group in Japan)



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