

Environmental Reporting

Corporate Statements

The Kuraray Group
Code of Conduct

Compliance Handbook

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【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.

- 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 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.

Environmental Targets and Results

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

	Scope	FY2019		Evaluation	FY2020 target	Medium-term environmental target (FY2020 target)	FY2021 target
		Target	Actual performances				

	Scope	FY2019		Evaluation	FY2020 target	Medium-term environmental target (FY2020 target)	FY2021 target
		Target	Actual performances				
Global warming prevention	Kuraray Group in Japan	Reduce GHG emissions*1 by 13,000 tons-CO2e or more compared with FY2018	Reduced GHG emissions by 21,000 tons-CO2e or more compared with FY2018	☆☆☆☆	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	Reduce GHG emissions by 13,000 tons-CO2e or more compared with FY2020
		Improve GHG emission intensity index by 1 percentage point or more compared with FY2018	Decreased GHG emission intensity index by 1.7 percentage points year on year	☆	Improve GHG emission intensity index by 1 percentage point or more compared with FY2019		Improve GHG emission intensity index by 1 percentage point or more year on year
	Kuraray Group outside Japan	Improve energy*2 intensity index by 1 percentage point or more compared with FY2018	Decreased energy intensity index by 5.0 percentage point or more compared with FY2018	☆	Improve energy intensity index by 1 percentage point or more compared with FY2019	Improve energy intensity index by 1 percentage point or more year on year	Improve energy intensity index by 1 percentage point or more year on year
Management of chemical substance emissions	Kuraray Group in Japan	Reduce JCIA-designated PRTR substance emissions to less than the FY2016 level (957 tons)	JCIA-designated PRTR substance emissions: 967 tons	☆☆	Reduce JCIA-designated PRTR substance emissions to less than the FY2016 level (957 tons)	Reduce JCIA-designated PRTR substance emissions to less than the FY2016 level (957 tons)	Reduce JCIA-designated PRTR substance emissions to less than the FY2016 level (957 tons)
	Kuraray Group outside Japan	—	—	—	Complying with the chemical emissions regulations of each country and region where overseas production bases are located, and conducting quantitative management.		

	Scope	FY2019		Evaluation	FY2020 target	Medium-term environmental target (FY2020 target)	FY2021 target
		Target	Actual performances				
Reduction of waste	Kuraray Group in Japan	Reduce waste by the equivalent of 1% relative to FY2016 (900 tons), or more	Reduced waste by 2,030 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 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: 365 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)	Reduce final landfill volume to less than the FY2016 level (251 tons)
	Kuraray Group outside Japan	—	—	—	Complying with the legal requirements of each country and region where overseas production bases are located, we will continue reducing waste generation and conducting quantitative management.		
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.		
	Kuraray Group outside Japan	Improve water intensity index (except seawater) by 1% or more compared with FY2018	Decreased water intensity index (except seawater) by 5.4% or more compared with FY2018	☆	Improve water intensity index (except seawater) by 1% or more compared with FY2019	Improve water intensity index (except seawater) by 1% or more year on year	Improve water intensity index (except seawater) by 1% or more year on year

*1) FY2021 targets were set as single-year targets.

*2) Greenhouse Gas

*3) Almost all electric power and steam is purchased from external sources at the Kuraray Group 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 the Kuraray Group outside Japan.

Environmental Management System

■ Environmental Conservation Promotion System

To undertake company-wide environmental conservation activities, the Kuraray Group 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 and water resource.

■ 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 affiliates have acquired ISO 14001 (Environmental Management Systems) certificates and are continuing to operate.

Kuraray Group Environmental Policy

The Kuraray Group has established the following policy to contribute to the sustainable development of society and fulfill its responsibilities to future generations through business activities in harmony with environment.

Basic Policy

- (1) We give maximum consideration to the environment in conducting our business operations.
- (2) We conduct perpetual environmental improvement activities.
- (3) We develop technologies and products which contribute to improvement of the environment.

Guiding Principles

- (1) Reduce greenhouse gas emissions
Actively promote the improvement of energy efficiency, fuel conversion, and the utilization of sustainable energy such as biomass fuel. Continuously engage in the reduction of greenhouse gas emissions.
- (2) Reduce emission of hazardous chemicals into the environment
Promote replacement with less hazardous chemicals and continuously reduce emissions, and strive to minimize the emission of hazardous chemicals into the air, water, and soil.
- (3) Reduce the volume of waste
Promote reduction, reuse, and recycling of waste, and strive to minimize the volume of waste resulting from business operations.
- (4) Promote efficient utilization of water resources
Recognizing that water is a limited resource, strive to minimize the amount of water necessary for business operations by promoting the optimization of operation conditions and recycling.
- (5) Develop and provide environmental improvement technologies and products with low environmental load
Strive to develop and provide technologies that reduce the environmental load throughout the entire lifecycle, and contribute to the environment.

- (6) Reduce environmental load in procurement (raw materials, supplies, and equipment) and logistics
Strive to procure environment-friendly materials, supplies, and equipment, while at the same time reducing the environmental load in the logistics process (transportation and storage).
- (7) Consideration to biodiversity
Give maximum consideration to biodiversity, and strive to preserve biodiversity and engage in the sustainable use of biological resources.
- (8) Proactively disclose environmental information and promote dialogue with society
Proactively disclose corporate information regarding the environment (including risk information), and promote dialogue with the local community and society as a whole in order to build mutual understanding and trust.
- (9) Increase employee awareness of the environment and improve the level of environmental management
Increase employee awareness and understanding of the environment through training and internal communications. Improve the level of environmental management by deploying environment activity management systems and environmental accounting.

■Environmental Impact Management

In fiscal 2019, 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 Kuraray Group in Japan, 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 Medium-term Environmental Plan

The Kuraray Group has been engaged in a three-year Medium-term Environmental Plan that started in 2018, for which a Production Intensity Index* is used to directly reflect the results of environmental improvement efforts at production sites.

As the Medium-term Environmental Plan was scheduled to complete in 2020, we are originally supposed to formulate the new plan, and the new plan should have been started from 2021. However, as the outlook of the global economy and the business environment became uncertain due to the spread of COVID-19, we changed the initial year of the next Medium-term Environmental Plan to fiscal 2022, in accordance with the change of the initial year of the Medium-Term Management Plan to fiscal 2022.

In fiscal 2021, we set environmental targets for a single fiscal year, which take over the policy of the former Medium-term Environmental Plan until fiscal 2020. Specific numerical targets are presented in “Environmental target and performance.”

With regard to global warming prevention, the Paris Agreement, an international framework on climate change, will enter the implementation phase in 2020. In Japan, a long-term national strategy has been formulated based on the Paris Agreement with a view to realizing a “carbon-free society” with milestones in 2030 and 2050.

Progress has also been seen in discussions and activities within the production industry on marine plastic pollution and other global environmental problems. As a materials manufacturer, we have joined the Japan Initiative for Marine Environment (JaIME), and participates in discussions and exchanges of information on its activities. In light of these changes in the external environment, the Kuraray Group will steadily strive to improve the environment by thoroughly implementing the PDCA cycle for environmental improvement activities. The targets are shown in the table “Environmental Targets and Results.”

* Production Intensity Index = Converted

Production Volume/Environmental Load

Converted production volume: Production volume converted from the production volume of each product as the production volume of the reference product using a conversion factor determined based on the environmental load intensity of each product in the reference year.

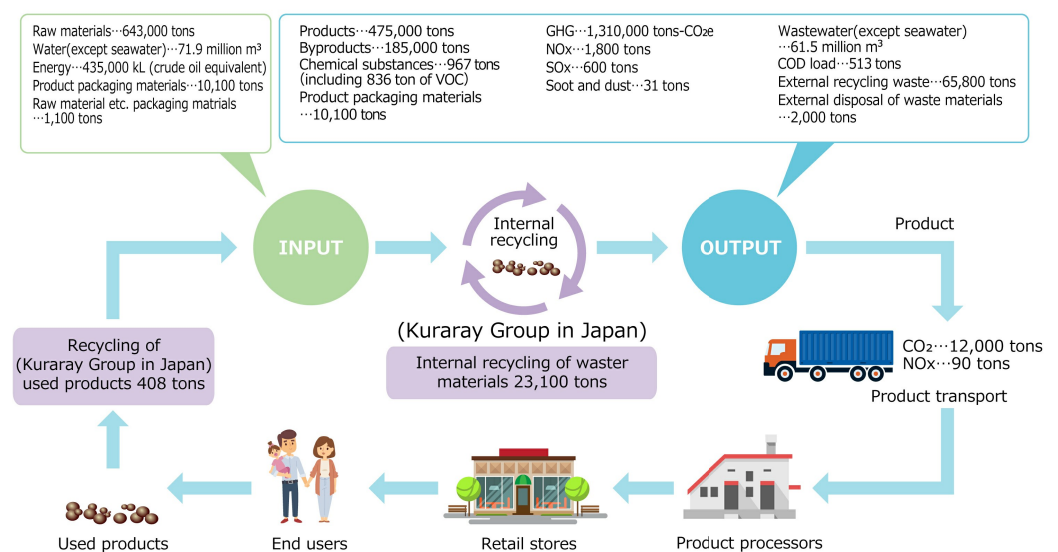
Environmental Load: GHG Emissions Volume (Japan), Energy Consumption Volume (outside Japan), etc.

Converted production volume per environmental load unit. Figures are an index based on fiscal 2016 as 100. In order to 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 energy, chemical substances and water resources required for its business activities. We make quantitative surveys on the used raw materials, resources, products supplied outside the Group and emitted substances every year to help reduce environmental load associated with our business activities.

Material Flow in Business Activities (Fiscal 2019, Kuraray Group in Japan)



■Collaboration with industry associations

The Kuraray Group has joined Japan Chemical Fibers Association (board member), Japan

Chemical Industry Association (member), and Japan Petrochemical Industry Association (member) to enhance our environmental management efforts, and engages in a broad range of activities, such as reduction of GHG emissions, energy conservation, reduction of chemical substance emissions, and prevention of marine plastic pollution, in cooperation with the industry in order to address global environmental issues.

Environmental management system certifications (as of the end of December 2019)

(1) ISO14001

Kuraray Niigata Plant	EVAL Europe NV
Kuraray Kashima Plant	Kuraray Europe GmbH
Kuraray Okayama Plant	Kuraray Europe GmbH Division
Kuraray Kurashiki Plant (including Kurashiki Research Center)	Troisdorf OOO TROSIFOL
Kuraray Tsukuba Research Center	Kuraray America, Inc.
Kuraray Saijio Plant	Kuraray Asia Pacific Pte.Ltd.
Kuraray Tsurumi Plant	Kuraray Korea Ltd.
Kuraray Plastic Co., Ltd. (Ibuki Plant)	Calgon Carbon Suzhou
Kuraray Fastening Co., Ltd. (Maruoka Plant)	Chemviron S.A. Feluy Chemviron Carbon Chemviron Italia SRL Chemviron France SAS

* This includes the following group companies which reside within business sites and plants:

Kuraray Kuraflex Co., Ltd. (Okayama Plant), Kuraray Okayama Spinning Co., Ltd., Kuraray Saijo Co., Ltd., Kuraray Tamashima Co., Ltd., Kuraray Saiji Co., Ltd., Kuraray Techno Co., Ltd., Kuraray Noritake Dental Inc.

(2) RC14001

Kuraray America, Inc.
MonoSol, LLC

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