

# Environmental Reporting

Corporate Statements

The Kuraray Group  
Code of Conduct

Compliance Handbook

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## Environmental Accounting

- Total investments for the current period: ¥35.7 billion
- Total research and development expenses for the current period: ¥14.3 billion

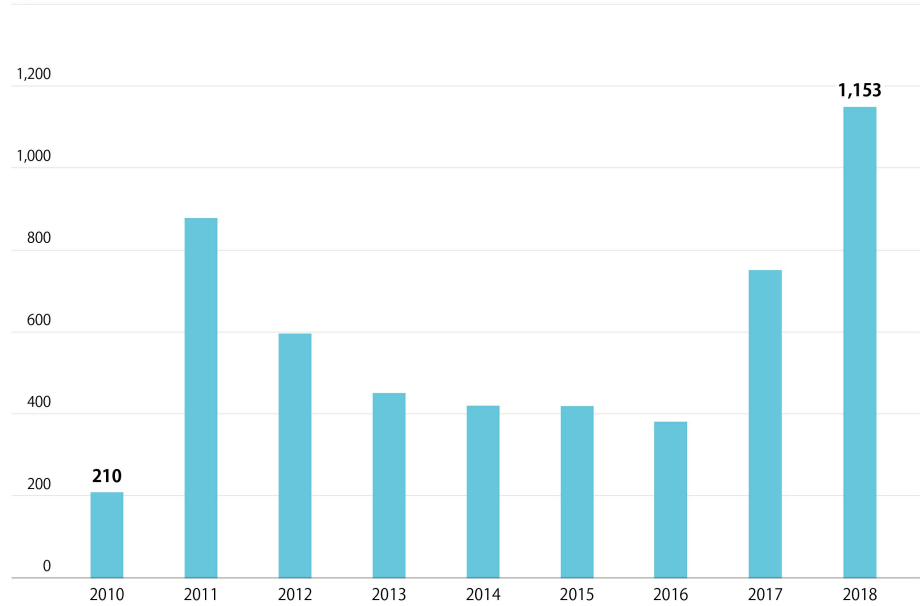
### Costs for Environmental Conservation (Millions of yen)

Category		Investments	Cost	Principal activities
Costs within the sites	Pollution prevention costs	641	1,335	Operating cost of environmental facilities, measures to prevent emissions of toxic chemical substances
	Global environmental preservation costs	74	12	Cost of energy conservation activities
	Resource recycling costs	265	676	Recycling costs and waste processing costs
	<b>Total</b>	<b>980</b>	<b>2,023</b>	
Upstream and downstream costs		-	111	Recycling and reuse of packaging materials, improvement of container packaging
Administrative costs		103	90	ISO 14001, environmental measurements, environmental education
Research and development costs		69	177	Development of environmentally friendly products
Social activity costs		-	0	Afforestation, beautification, provision of environmental information to host community residents
Environmental damage costs		-	-	
<b>Total</b>		<b>1,153</b>	<b>2,402</b>	

Note: Environmental damage costs are included in pollution prevention costs.

#### Trends in Capital Expenditures for Environmental Facilities

(Millions of yen)



#### Environmental Preservation Effects (Kuraray)

Category		Unit	FY2016	FY2017 <sup>1)</sup>	FY2018 <sup>2)</sup>	Increase/decrease 2)-1)
Pollution prevention effect	SOx emissions	Tons	330	407	350	▲ 57
	NOx emissions	Tons	1,705	1,855	1,779	▲ 76
	Soot and dust emissions	Tons	27	33	31	▲ 2
	PRTR substance emissions	Tons	905	976	902	▲ 74
	COD load	Tons	532	514	554	40
Global environment preservation activities	GHG emissions	1,000 tons-CO <sub>2</sub>	1,250	1,319	1,310	▲ 9
	Energy consumption	1,000 kL	413	434	433	▲ 1
		(crude oil equivalent)				
Resource recycling activities	Landfill and/or simple incineration	Tons	866	849	875	26
	Rate of effective waste utilization	%	97.1	96.7	97.8	1.1
	Water resource usage*	million m <sup>3</sup>	72	71	72	1

Category		Unit	FY2016	FY2017 <sup>1)</sup>	FY2018 <sup>2)</sup>	Increase/decrease 2)-1)
	Total discharge of wastewater*	million m <sup>3</sup>	64	64	65	1

\* Excluding seawater

For detailed environmental data, please visit the site below.

> Environmental data

#### (1) Basis for environmental accounting calculations

- Reporting period: January 1, 2018 to December 31, 2018
- Scope covered: Kuraray sites

#### (2) Environmental conservation cost calculation criteria

- Depreciation: Straight-line method
- Standard for allocating costs: In principle, 100% of costs are allocated to individual environmental conservation items. However, a portion of costs is allocated on a pro-rata basis.

#### (3) Standard for calculating environmental conservation effects

- Effects are calculated in a simple comparison with the total environmental load of the previous fiscal year and are not adjusted for production volume.

#### (4) Standard for calculating economic effects (benefits) of environmental conservation measures.

- Although material effects such as income from recycling are known, benefits are deducted from environmental conservation costs.

### Sites certified according to Environmental Management System (as of the end of December 2018)

#### (1) ISO14001

- |   |  |
|---|--|
| • Kuraray Niigata Plant   | • EVAL Europe NV                         |
| • Kuraray Kashima Plant   | • Kuraray Europe GmbH                    |
| • Kuraray Okayama Plant   | • Kuraray Europe GmbH Division Troisdorf |
| • Kuraray Kurashiki Plant (including Kurashiki Research Center) | • OOO TROSIFOL                           |
| • Kuraray Tsukuba Research Center                               | • Kuraray America, Inc.                  |
| • Kuraray Saijo Plant   | • Kuraray Asia Pacific Pte. Ltd.         |
| • Kuraray Tsurumi Plant   | • Kuraray Korea Ltd.                     |
| • Kuraray Plastics 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                   |

\*1 Includes the following affiliates located within the Kuraray plant sites:

Kuraray Kuraflex Co., Ltd., Kuraray Okayama Spinning Co., Ltd., Kuraray Tamashima Co., Ltd., Kuraray Saijo Co., Ltd., Kuraray Techno Co., Ltd., and Kuraray Noritake Dental Inc.

#### (2) RC14001

- Kuraray America, Inc.
- MonoSol, LLC

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- Kuraray Niigata Plant
- Kuraray Kashima Plant
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- Kuraray Kurashiki Plant (including Kurashiki Research Center)
- Kuraray Tsukuba Research Center
- Kuraray Saijo Plant
- Kuraray Tsurumi Plant
- Kuraray Plastics Co., Ltd. (Ibuki Plant)
- Kuraray Fastening Co., Ltd. (Maruoka Plant)
- EVAL Europe NV
- Kuraray Europe GmbH
- Kuraray Europe GmbH Division Troisdorf
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- MonoSol, LLC

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## Product Information

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## R&D

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## Sustainability

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## Investor Relations

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