



# With the Environment

The Maxell Group views addressing the Earth’s environmental issues, including global warming, as an urgent task. Accordingly, we have introduced a Groupwide environmental management system and are advancing concerted efforts to address these issues.

## ▲ Our Environmental Management Policy

Amid expectations for corporations to make greater contributions to realizing a sustainable society, as evinced by the Sustainable Development Goals of the United Nations and the adoption of the Paris Agreement, the Maxell Group must make an even greater contribution to preserving the Earth’s environment while continuing efforts to enhance its corporate value.

In accordance with its Environmental Conservation Action Guidelines,\*1 the Group will promote efforts to address such issues as the prevention of global warming. Drawing on the opportunities presented by the transition to a holding company structure, the Group has placed the president to be in charge of operating environmental management systems. The Group is also steadily working to respond to laws and regulations, such as the REACH regulations and RoHS Directive, and strengthen its compliance. At the same time, the Group has been enhancing its focus on activities geared toward achieving environmental results in accordance with ISO 14001: 2015.

\*1 [https://www.maxell.co.jp/csr/csr2/csr\\_guideline.html](https://www.maxell.co.jp/csr/csr2/csr_guideline.html) (in Japanese only)

## ▲ Preparation of the Maxell Group’s Long-Term CO<sub>2</sub> Reduction Plan

The Maxell Group is moving forward with energy-saving initiatives with the aim of reducing CO<sub>2</sub> emissions 30% compared with fiscal year 2013 levels by fiscal year 2030. In fiscal year 2018, we examined concrete measures for reducing CO<sub>2</sub> emissions, thereby clarifying our targets and the gap we need to overcome to reach these targets. We determined that the introduction of independent solar power generation would provide a means for balancing profit improvement with the achievement of our CO<sub>2</sub> reduction targets. During fiscal year 2019, we will decide on the locations where such power generation will be introduced.

Also, in January 2019, we began participating in the Japan Climate Initiative (JCI).\*2 Going forward, we will continue to examine the introduction of even more initiatives to achieve essentially zero CO<sub>2</sub> emissions by 2050.

\*2 <https://japanclimate.org/english/>

## ▲ The Maxell Group FY2019–2020 Environmental Action Plan

Based on the idea that business performance and environmental activities are intrinsically linked, we have adopted achievement indices for our environmental activities (per unit of net sales basis: cost/net sales) linked to business operations and performance. By combining these indices with those that demonstrate improvement efforts (production output level basis: amount used/yield), we are working to further increase employee motivation to achieve our environmental targets. In fiscal year 2018, we made particularly solid achievements with our efforts to reduce energy consumption, leading to a ¥10.8 million improvement in profits year on year.

Further, in fiscal year 2018, we had no major environment-related accidents, fines, or complaints. Also, following the enactment of the Law Concerning the Discharge and Control of Fluorocarbons, we carried out a legal inspection of our fluorocarbon emissions. Through this inspection, we discovered that our fluorocarbon emissions are at a level that does not need to be reported by law.

### Quantitative Action Goals\*3

Evaluation criteria: Target achieved Achievement rate of 95% or higher Achievement rate of less than 95%

No.	Action Target	Segment*4	FY2018			FY2019	FY2020	
			Target	Result	Evaluation	Target	Target	
1	Net sales ratio of eco-friendly, CSR/CSV products (%)	Japan / Overseas	95 or higher	96		95	95	
2	Percentage of eco-friendly, CSR/CSV products registered using new assessments (%)	Japan / Overseas	100	100		100	100	
3	Percentage of eco-friendly, CSR/CSV products brought to market (%)	Japan / Overseas	90 or higher	100		90	90	
4	“Eco mind” education enrollment rate (%)	Japan / Overseas	100	100		100	100	
5	CO <sub>2</sub> emissions reduction rate (%) (base year: 1990)	Japan	50 or higher	64		50	50	
6	Maintenance of zero emissions (annual) (target: manufacturing bases) (Quantity of final disposal: less than 5 tons; final disposal rate: less than 1%)	Japan	18	18		19	20	
7	Energy	Per unit of production x 10 <sup>-3</sup> (kL/million yen)	Plants in Japan and overseas	447 or lower	386		379	342
		Plants in Japan	409 or lower	365		355	316	
	Per unit of net sales x 10 <sup>-2</sup> (%)	Plants in Japan	141 or lower	139		147	130	
		Offices in Japan and overseas	18 or lower	17		18	18	
8	Waste	Per unit of production x 10 <sup>-4</sup> (t/million yen)	Plants in Japan and overseas	479 or lower	457		447	410
		Per unit of net sales x 10 <sup>-4</sup> (%)	Plants in Japan and overseas	611 or lower	626		631	596
		Recycle rate (%)	Plants in Japan and overseas	70 or lower	76.4		70	70
9	Water use	Per unit of production x 10 <sup>-2</sup> (m <sup>3</sup> /million yen)	Plants overseas	600 or lower	611		600	583
		Per unit of sales x 10 <sup>-4</sup> (%)	Plants overseas	487 or lower	482		486	477

Overseas factories: MDCN, WME, MTM, MEL (MMS), SLEI

\*3 The internal production volume and net sales at overseas factories are converted to yen using a fixed exchange rate.

\*4 Figures for Maxell Izumi Co., Ltd., Ube Maxell Kyoto Co., Ltd., and Maxell Kureha Co., Ltd. are not included.

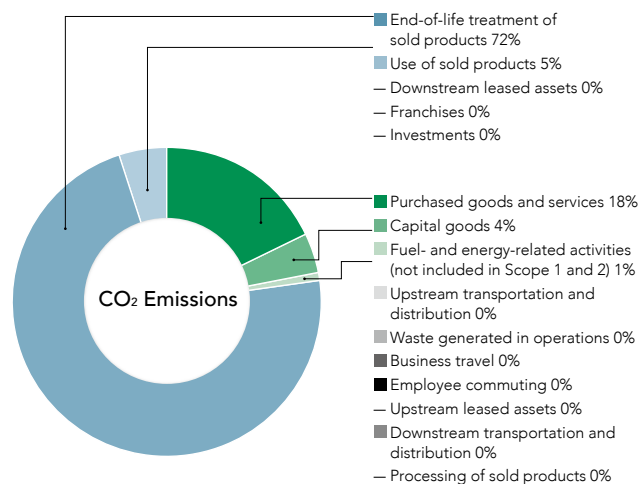


## With the Environment

### ▲ Scope 3

The Maxell Group calculates the CO<sub>2</sub> emissions of its entire supply chain, including Scope 3 emissions. Scope 3 emissions are indirect emissions that are not included in Scope 1 and 2. We calculate our total Scope 3 emissions pursuant to the Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain issued by the Ministry of the Environment and the Ministry of Economy, Trade and Industry.

Breakdown of Scope 3 CO<sub>2</sub> Emissions by Category



## Accomplishments and Progress of Environmental Activities

### ▲ Prevention of Global Warming

The Maxell Group is promoting initiatives to conserve electricity, such as installing green curtains, upgrading air conditioners and lights, efficiently operating equipment by managing demand, and creating visualizations of power consumption patterns.

In fiscal year 2018, in an effort to upgrade energy-saving equipment, we transitioned away from the use of fuel oil at Kobuchizawa Works while working to improve heat and energy efficiency by introducing co-generation systems, which use natural gas that generates low CO<sub>2</sub> emissions. In addition, at each works, we improved manufacturing efficiency and introduced LED lighting. Furthermore, our worksites in Ono, Fukuchiyama, and Kobuchizawa together produced 3,398 MWh of solar power in the year.

Domestically, in fiscal year 2018, the Maxell Group's CO<sub>2</sub>

emissions were unchanged with those in the previous year. Overseas, we achieved a 13.9% reduction, making for an overall reduction of 7.2%.

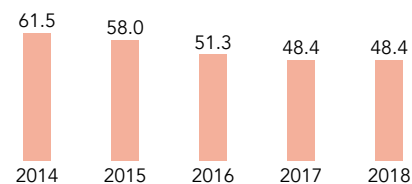
Japan is targeting short-term greenhouse gas reductions of 3.8% by 2020 compared with fiscal year 2005 levels, and medium-term reductions of 26% by 2030 compared with fiscal year 2013 levels.

In fiscal year 2018, the entire Maxell Group achieved CO<sub>2</sub> emission reductions of 58.8% compared with fiscal year 2005 levels and 25.2% compared with fiscal year 2013 levels.

In fiscal year 2016, an evaluation system by business classification was added as part of the Energy Conservation Law. Maxell, Ltd. and Maxell Joei Tech Co., Ltd. received an S rank rating as exceptional business operators, for the second and fourth consecutive year, respectively.

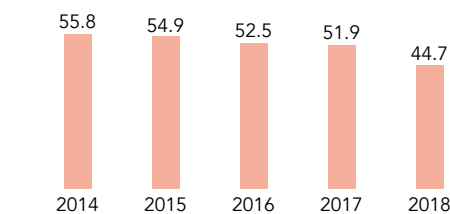
CO<sub>2</sub> Emissions (Scope 1, 2\*)

Japan  
(kt-CO<sub>2</sub>)



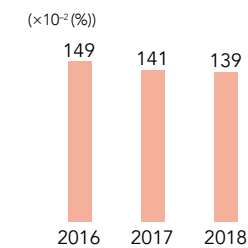
\*1 Scope 1: Direct emissions from burning fuel and other combustibles at worksites  
Scope 2: Indirect emissions from purchased power and other sources

Overseas\*\*  
(kt-CO<sub>2</sub>)



\*2 Electrical power/CO<sub>2</sub> conversion factor: 0.36 t-CO<sub>2</sub>/MWh for Japan, 0.487 t-CO<sub>2</sub>/MWh for the UK, 0.656 t-CO<sub>2</sub>/MWh for Malaysia, 0.745 t-CO<sub>2</sub>/MWh for China, 0.726 t-CO<sub>2</sub>/MWh for Indonesia

Energy per Unit of Net Sales



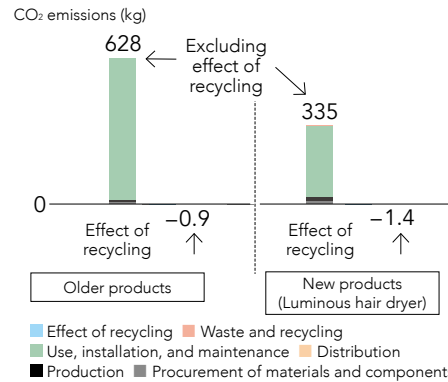


## Accomplishments and Progress of Environmental Activities

### ▲ Visualization of Environmental Performance through LCAs

Based on life cycle assessments (LCAs), we conducted a comparison of the Luminous hair dryer and older products in terms of oil use, waste, and CO<sub>2</sub> emissions and worked to visualize environmental performance. The results showed that the new dryer produced considerably less CO<sub>2</sub> emissions over its entire life cycle, from the manufacture of raw materials through distribution, use, and recycling. In addition, evaluations of oil use and waste showed similar results.

Comparison of New and Older Products' Generation of CO<sub>2</sub> Emissions



### ▲ Reduction of Environmental Burden through Environment-Friendly Products

Based on the criteria of our environmentally conscious design assessments, we quantitatively assess the environmental burden of products at each stage of their life cycle and register products that meet certain criteria as environment-friendly products. In fiscal year 2018, we registered 21 environment-friendly products, such as the Luminous hair dryer, a projector, an in-car camera lens unit, specialized products such as oxygen sensors and hydrogen gas emitting devices, and various kinds of tape including non-woven, double-sided tape.



Luminous hair dryer registered as an environment-friendly product in 2018



### ▲ Determining Transportation Energy Consumption per Unit of Production

Because it handles a wide variety of products, the Maxell Group determines transportation energy consumption per unit based on the production volume of each production base. Although product lineups changed and production volumes decreased, the total for all bases in fiscal year 2018 increased 7.8% from fiscal year 2017 due to the lack of change in the amount of energy used.

	Production (million yen)	Use (10,000 ton-kilometers)	Per Unit (ton-kilometers/million yen)
FY2017	65,251	1,167.3	179
FY2018	58,919	1,138.1	193

### ▲ Chemical Substance Management

The Maxell Group manages the chemical substances used in its products in response to various international regulations, including the REACH regulations and RoHS directive. Specifically, we incorporate the latest information in our Control Standard for Handling Chemical Substances in Products, Parts and Materials\* and promote thorough chemical management activities.

In addition, we manage the storage and processing status of equipment using PCBs. In fiscal year 2018, there was no equipment using PCBs processed. However, going forward, we will gradually process the equipment using PCBs awaiting waste processing.

\* [https://www.maxell.co.jp/csr/chemical\\_control/index2.html](https://www.maxell.co.jp/csr/chemical_control/index2.html) (in Japanese only)



## Accomplishments and Progress of Environmental Activities

### ▲ Waste Reduction and Recycling

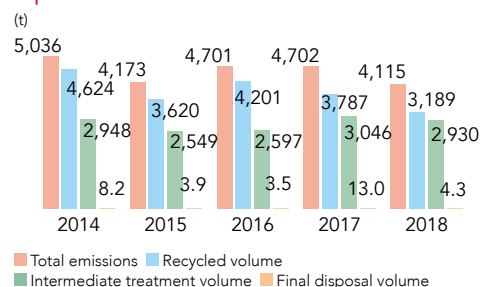
The Maxell Group is taking thorough measures to sort waste, promote the recycling of waste through the sharing of information between worksites, and expand in-house intermediate waste treatment with the aim of achieving zero emissions.\*1

In fiscal year 2018, the amount of waste and recyclable materials the Group generated in Japan declined 12.5% compared with that of the previous fiscal year. However, the Group's manufacturing bases in Japan achieved zero emissions for the 18th consecutive year, thanks to stronger recycling efforts.

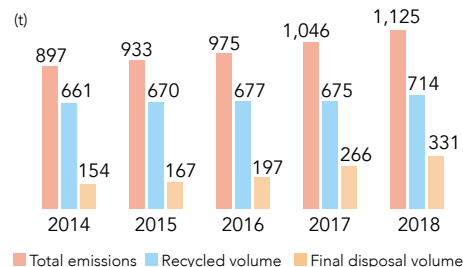
\*1 Zero emissions criteria (evaluated by each worksite): final waste disposal amount of less than five tons per year and final disposal rate of less than 1% per year

#### Waste Treatment

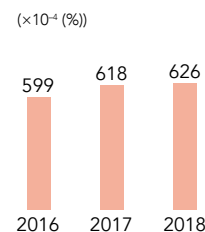
##### Japan



##### Overseas



#### Waste per Unit of Net Sales

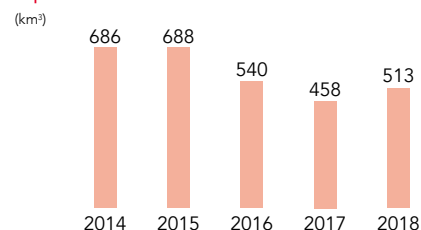


### ▲ Measures to Reduce Water Use

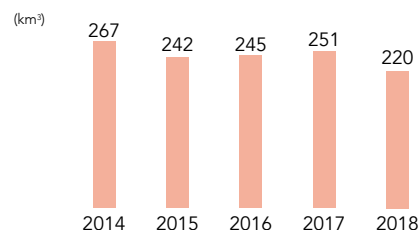
The Maxell Group strives to preserve water resources, including by reducing the amount of water used in manufacturing processes and recycling used water. In fiscal year 2018, although Group worksites in Japan increased their use of water 12.0%, overseas worksites reduced their use 12.4%, resulting in a 3.4% year-on-year increase for the Maxell Group as a whole.

#### Water Use

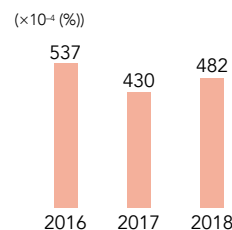
##### Japan



##### Overseas



#### Water Use per Unit of Net Sales



### ▲ Biodiversity

The Maxell Group's biodiversity efforts in fiscal 2018 involved the signing of an agreement to enter into the Japan Business and Biodiversity Partnership. In addition, as part of our environmental preservation activities, we participated in a bamboo forest maintenance activity of the Council for Measures Against Groundwater Use, in Oyamazaki, Kyoto Prefecture, as well as "Lake Biwa Invasive Species Removal Day," an event supported by the local government in Shiga Prefecture. Furthermore, as a contribution to achieving the SDGs, we became an affiliated partner of the Blue Seafood Guide, an activity by Sailors for the Sea Japan. As part of this membership, we are actively working to incorporate Blue Seafood\*2 items in the menus at our employee cafeterias.

\*2 Seafood products that are comparatively rich in natural resources  
<http://sailorsforthesea.jp> (in Japanese only)



Menu featuring Blue Seafood offered at employee cafeteria of Maxell's Kyoto Headquarters