



E S G



The Environment

Related SDGs



Basic Approach

We at the Lion Group believe it is our solemn responsibility to provide customer experience-based value in the areas of health, comfort and cleanliness while protecting the global environment—the foundation of health and daily living—in accordance with our aim of “Becoming an advanced daily healthcare company.”

In line with the Eco Vision 2020 environmental targets formulated in 2013, we are striving to realize a sustainable planet while working to achieve our 2020 targets related to realizing a low carbon society, realizing a sound material cycle society, harmonizing with nature and environmental education.

Recently, spurred by the Paris Agreement in 2015 and the adoption of the SDGs, the movement toward a sustainable society in Japan and other countries has gained steam.

Taking this trend into consideration, in 2019 the Group formulated the LION Eco Challenge 2050, a set of long-term environmental objectives. Going forward, the Group will ambitiously work toward the realization of a decarbonized, resource-circulating society.



Every day. For the Earth. (Japanese)



<https://www.lion.co.jp/ja/csr/ecolion/>

Environmental Guidelines

Lion's Environmental Guidelines adhere to the spirit of the Lion Group Charter for Corporate Behavior, which states: “We shall play a positive and active role in creating a sustainable society

that harmonizes economic development and environmental protection.” Our Environmental Guidelines are the foundation of our environmental activities.

Environmental Guidelines

Lion will act voluntarily and proactively to reduce its burden on the global environment in all processes of its business activities, from the development of products to the procurement of raw materials, production, distribution and sales as well as from use by customers and final disposal. This will be done with due consideration given to realizing a low carbon society to prevent global warming, realizing a sound material-cycle society with maximum usage of recycled resources and realizing a society harmonizing with nature to conserve people's health, natural ecosystems and biodiversity.

1. Aiming for a Sustainable Society

Operate an environmental management system and, through the ongoing maintenance and improvement of that system, protect the global environment.

2. Complying with Legal and Other Requirements

Comply with legislation, regulations and other measures pertaining to environmental protection, and establish and implement voluntary standards of conduct.

3. Setting and Verifying the Implementation of Environmental Objectives and Targets

Correctly understand the environmental impact of our corporate activities and, as far as technically and economically possible, establish objectives and targets for improvement, while at the same time formulating, implementing and regularly verifying the implementation of an environmental management program.

4. Developing Environment-Friendly Products

Continue aggressive product development in tune with the Lion eco-standard and in light of life cycle assessment.

5. Reducing Environmental Impacts Together with Our Business Partners

Strive to reduce environmental burden at every stage from purchasing through the provision of products to customers in cooperation with suppliers of materials, outsourcing contractors and sales companies.

6. Harmonizing with Nature

Take into account biodiversity and air and water environments while conducting business and proactively address natural environment protection activities.

7. Enhancing Environmental Protection Activities Based on Uniform Understanding of the Guidelines

Disseminate the Environmental Guidelines to all employees, including those of affiliated companies, raise awareness of environmental protection among them and bolster environmental management activities throughout the entire Lion Group.

8. Promoting Disclosure of Information

Seek to maintain and promote communication with stakeholders involved in Lion's businesses. These Environmental Guidelines are freely available to anyone upon request.

Revised January 1, 2013

E S G



Environmental Management

● Environmental Management System

The purpose of the Lion Group's Environmental Management System is to identify, evaluate and remedy the adverse environmental impacts of our business activities, products and services, and to improve our environmental conservation activities on an ongoing basis.

We strive to enhance systems for environmental management and reporting with the aim of addressing environmental issues globally. Data on overseas Group companies is available on our website.

Environmental impact data for production sites overseas (Japanese)



<https://www.lion.co.jp/ja/csr/report/pdf/environment-management.pdf>

Status of ISO 14001 Certification

Lion acquired ISO 14001 certification covering all its plants in July 2001. The certification was renewed to the latest 2015 version in June 2016, and the Japan Management Association Quality Assurance Registration Center (JMAQA) reviewed and verified that all Lion plants are operating in conformity with the requirements of the standard. Including the plants of Group companies in and outside Japan, the Lion Group continues to push ahead with its management systems and environmental conservation activities by obtaining ISO 14001 certifications and ensuring all operations are in compliance with ISO 14001.

● Environmental Management Structure

To make our business grow while reducing the impact on the global environment, in 2019 we consolidated the former Environmental Conservation Committee into the newly established Sustainability Promotion Meeting. Its members consist of the Executive Officers, including the President, and representatives of relevant divisions. The meeting deliberates policy for responding to environmental problems and monitors the progress of related efforts.

● Legal Compliance

With regard to revisions of environmental laws and regulations, namely, the Act on the Rational Use of Energy, the Act on Promotion of Global Warming Countermeasures, the Act on Confirmation, etc. of Released Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof, the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. and the Waste Disposal and Public Cleansing Act, information is collected from administrative agencies and industrial associations and then input into Lion's intranet system for information on chemical-related laws to ensure that related departments are up to date on and fully compliant with the latest developments.

We have also established waste management and other internal regulations to build up an appropriate management structure. There were no violations resulting in fines or other penalties in 2019.

Pollution Prevention

Lion implements voluntary initiatives for reducing emissions of chemical substances, including nitrogen oxides (NOx), sulfur oxides (SOx), particulate matter and volatile organic compounds (VOCs). We also strive to reduce chemical oxygen demand (COD) through improvements in the reliability and regular maintenance of wastewater processing facilities.

Data on the management of chemical substances in compliance with the PRTR system* is available on Lion's website. We will continue to enhance our efforts to ensure proper notifications and management of emission volumes.

* PRTR system

A system to measure, compile and publish chemical substance emissions volumes.

Environmental impact data for production sites in Japan (Japanese)



<https://www.lion.co.jp/ja/csr/report/pdf/domestic.pdf>

2019 PRTR-designated substance emissions data for production sites in Japan (Japanese)



<https://www.lion.co.jp/ja/csr/env/enhancement/pdf/prevention.pdf>

Together with the Environment (Japanese)



<https://www.lion.co.jp/ja/csr/env/>



Enhancing Group-wide Management of Chemical Substances

Chemical substances are indispensable for people to lead comfortable and fulfilling lives. Failure to properly manage chemical substances, however, can result in accidents that put human health and ecosystems at enormous risk. In addition to compliance with related laws and regulations, Lion strives to ensure the strict management of chemical substances at all stages from product development to use and disposal in

accordance with its own independent standards. We have been operating a Management System for Information on Chemical Substances at Lion research and development sites since 2018.

Chemical Substance Management (Japanese)

<https://www.lion.co.jp/ja/csr/env/enhancement/>

Lion Group Environmental Initiatives

Performance in the Second Fiscal Year of Phase 3 (2018–2020) of Eco Vision 2020

Eco Vision 2020 is being implemented in three phases of three years each over the nine-year period from 2012 to 2020. The second fiscal year of Phase 3 (2018–2020) was 2019. In advancing toward the final fiscal year, 2020, all the

employees of the Lion Group worked together to promote environmental initiatives.

* Achievements in Phase 3 of Eco Vision 2020 are listed on page 22.

Realizing a Low Carbon, Sound Material-Cycle Society

Lion works to reduce greenhouse gas emissions, as well as to recycle and effectively use resources, at each stage from raw material procurement to disposal by consumers. We will

continue to promote activities toward the realization of a low carbon, sound material-cycle society.

Overview (The Related Information Web buttons below link to relevant pages of Lion's Japanese website)

	Procurement of Raw Materials, Packaging and Containers	Major Initiatives Undertaken by Lion	Use by Consumers	Disposal by Consumers
Activities for Realizing a Low Carbon Society 	<ul style="list-style-type: none"> Substituting plant-based materials for petroleum resources Substituting plant-derived container materials for petroleum resources <p>→ Related Information Web</p> <p>→ Related Information p. 10</p>	<ul style="list-style-type: none"> Improving energy efficiency by reviewing production processes, introducing energy-saving equipment when upgrading facilities, and downsizing products <p>→ Related Information p. 10</p> <p>Office/Facilities</p> <ul style="list-style-type: none"> Energy-saving activities throughout the Company, including administrative, sales, R&D and engineering divisions <p>Distribution after shipment</p> <ul style="list-style-type: none"> Increasing modal shifts during the transportation of products Improving logistics efficiency through such means as increasing the transport loading rate <p>→ Related Information Web</p>	<ul style="list-style-type: none"> Increasing environmental awareness through products (environmental labels on products that meet the Lion eco-standard) Reducing power consumption during product use with power-saving products (requiring fewer rinses when washing) <p>→ Related Information p. 20</p> <p>→ Related Information p. 10</p> <p>→ Related Information Web</p>	<ul style="list-style-type: none"> Substituting plant-derived materials for petroleum resources Promotion of 3Rs (making products more compact, refill packs, development of containers made using recycled or less plastic) <p>→ Related Information p. 10</p> <p>→ Related Information p. 20</p> <p>→ Related Information Web</p>
Activities for Realizing a Sound Material-Cycle Society 	<ul style="list-style-type: none"> Using plant-derived raw materials Using recycled materials <p>→ Related Information p. 10</p>	<p>Plants</p> <ul style="list-style-type: none"> Promoting zero emissions from plants Reducing water consumption by recycling wastewater from production processes and utilizing rainwater <p>→ Related Information Web</p> <p>Offices/Facilities</p> <ul style="list-style-type: none"> Promoting Company-wide green purchasing <p>→ Related Information Web</p>	<ul style="list-style-type: none"> Increasing environmental awareness through products (environmental labels on products that meet the Lion eco-standard) Reducing water usage during product use with water-saving products (requiring fewer rinses when washing) <p>→ Related Information p. 20</p> <p>→ Related Information p. 10</p> <p>→ Related Information Web</p>	<ul style="list-style-type: none"> Promotion of 3Rs (making products more compact, refill packs, development of containers made using recycled or less plastic) Promoting the Toothbrush Recycling Program <p>→ Related Information p. 20</p> <p>→ Related Information Web</p>

Promoting the 3Rs

In an effort to reduce the use of container and packaging materials, we are proactively promoting the 3Rs (reduce, reuse and recycle).

Utilization of Renewable Resources

Lion is addressing the issue of marine plastic, which has become a global environmental problem, by promoting the use of renewables (such as recycled and plant-based materials) together with the 3Rs with a view to reducing plastics used in containers and packaging.



Environmental Communication through Products

In order to raise consumer awareness of the importance of environmental considerations through its products, since 2014, Lion has put the "eco Lion" Mark an environmental label known as on products that meet the proprietary Lion eco-standard, which is designed to evaluate products over their entire life cycles. Each label includes our environmental logo and lists the factors that make the product environmentally friendly.



TOP SUPER NANOX refill pack

The Lion eco-standard (Japanese)

<https://www.lion.co.jp/ja/csr/ecolion/#sec2>

List of products with the "eco Lion" mark (Japanese)

<https://www.lion.co.jp/ja/csr/ecolion/#sec4>

Example Initiative

Promotion of Periodic Toothbrush Replacement and Recycling

Contributing to the SDGs by realizing "Good for the mouth!" and "Good for the Planet!"

Lion has designated the 8th of every month as Toothbrush Replacement Day in line with efforts to promote monthly toothbrush replacement. In recent years, marine plastics have become a major social issue, and recycling is one way of helping solve the problem. By focusing on toothbrushes, which account for more plastic use than any other Lion product, we are working to contribute to the formation of healthy consumer living habits while helping to reduce environmental impact.

Promoting Toothbrush Recycling

There is a concern that an increase in the frequency of toothbrush replacement due to the promotion of toothbrush replacement could lead to a rise in waste.

To address this concern, Lion initiated the Toothbrush Recycling Program,* a first in Asia, to collect and recycle used toothbrushes, which were previously just thrown away, in cooperation with Terracycle Japan. Adopting the perspective that each consumer who participates in toothbrush recycling is an important partner, we are moving forward with the aim of realizing a resource-circulating society.



Related SDGs



*About the Toothbrush Recycling Program

The program is open to all—just register in advance to participate as an individual, school or other organization. Participants set up collection boxes in which they collect used toothbrushes. A designated carrier then picks up the boxes of used toothbrushes, and the participants are awarded points based on the weight of the toothbrushes collected. These points can then be exchanged for plastic products (such as planters) made from recycled toothbrushes or donated to support education or local communities.



Toothbrush Recycling Program (Japanese)

<https://www.lion.co.jp/ja/csr/toothbrush-recycling/>



Harmonizing with Nature

Lion considers biodiversity conservation at each stage of operations from raw material procurement to disposal by consumers. We implement biodiversity conservation initiatives in coordination with local communities and promote lifestyle adjustments among consumers through products designed to

promote harmony with nature. Also, by having each of our employees participate in activities to conserve biodiversity as part of their environmental education, we are working to spread awareness of biodiversity conservation at all our operating sites.

Overview (The Related Information Web buttons below link to relevant pages of Lion's Japanese website)

Biodiversity on Which Lion Relies		Watershed* Ecosystems of Raw Material Production Sites	Watershed Ecosystems Where Our Plants are Located	Watershed Ecosystems Where Consumers Reside	
		Procurement of Raw Materials, Packaging and Containers	Production	Use by Consumers	Disposal by Consumers
Key Natural Resources Used by Lion		<ul style="list-style-type: none"> Plants used as raw materials (oil palms, etc.) Wood that provides the paper raw material for packaging 	<ul style="list-style-type: none"> Cooling water and unprocessed water for equipment cleaning, etc., used at production sites 	<ul style="list-style-type: none"> Tap water consumed during use of our products 	—
Possible Major Impacts of Our Activities on Biodiversity		<ul style="list-style-type: none"> Impact of palm oil growers on the surrounding natural environment and communities (such as impact of illegal logging of tropical forests on wildlife habitats) Damage to the forest environments that are the source of paper raw materials 	<ul style="list-style-type: none"> Impact of groundwater intake by production plants on surrounding natural environments and communities Impact of wastewater and exhaust gases from production plants on the surrounding natural environment and communities Impact of light and odors from production plants on the surrounding natural environment and communities 	<ul style="list-style-type: none"> Impact of water use by consumers on the surrounding natural environment and communities 	<ul style="list-style-type: none"> Impact of wastewater and packaging waste generated by consumers on the surrounding natural environment and communities
Biodiversity Conservation Activities	Activities to Reduce Risks	<ul style="list-style-type: none"> Promotion of procurement of sustainable palm oils (participation in RSPO and purchase of RSPO-certified oils) Related Information p. 31 Promotion of forest conservation (use of third-party certified paper) Related Information p. 31 	<ul style="list-style-type: none"> Reduction of production plant waste Reduction of water consumption at plants Conservation of rivers and other ecosystems by implementing purification technologies on discharged wastewater 	<ul style="list-style-type: none"> Development of water-saving products Related Information p. 10 Development of highly biodegradable detergents 	<ul style="list-style-type: none"> Surveying the environmental impact of surfactants Related Information Web
	Activities to Expand Opportunities	—	<ul style="list-style-type: none"> Conservation and monitoring of habitats in the watersheds where production plants are located (activities include protection of endangered loggerhead sea turtles, maintaining biotopes and removal of non-native species from beaches) Related Information Web 	<ul style="list-style-type: none"> Educational activities teaching consideration of water and natural environments (activities include forest maintenance at Lion Forest in Yamanashi and water-related environmental research support through the Japan Society on Water Environment) 	<ul style="list-style-type: none"> Promotion of 3Rs (making products more compact, refill packs, development of containers made using recycled or less plastic) Related Information p. 20 Related Information Web

* Watershed: A range of ecosystems, including forests, rivers, domestic woodlands, tidal flats and beaches, that is connected by water.

Example Initiative

Forest Maintenance Activities at the Lion Forest in Yamanashi

Since 2006, Lion has conducted activities to help maintain forests, which are an important water source. In 2019, a total of 149 employees participated in forest maintenance as part of new employee training and voluntary activities (held twice). The activities were conducted with local residents to share responsibility for the maintenance of forests and the important role they play.



Cumulative participating employees : 1,726

Biodiversity Conservation Initiatives (Japanese)

<https://www.lion.co.jp/ja/csr/biodiversity/>



Eco Vision 2020 Achievements and Targets

Categories			Achievements in 2018	Achievements in 2019	Targets for 2020
Realizing a Low Carbon Society	Greenhouse gases (domestic)	Within the Company	Emission intensity per unit total revenue 36% reduction (compared to 2010) ^{*6} 50% reduction (compared to 1990) ^{*6} Absolute quantity 49% reduction (compared to 1990) ^{*6}	Emission intensity per unit total revenue 40% reduction (compared to 2010) 53% reduction (compared to 1990) Absolute quantity 52% reduction (compared to 1990)	Emission intensity per unit total revenue 34% reduction (compared to 2010) 49% reduction (compared to 1990) Absolute quantity 40% reduction (compared to 1990)
		Outside the Company	Reduction of greenhouse gases from post-use products Emission intensity per unit total revenue 9% reduction (compared to 2010) 53% reduction (compared to 1990) Absolute quantity 51% reduction (compared to 1990)	Emission intensity per unit total revenue 9% reduction (compared to 2010) 53% reduction (compared to 1990) Absolute quantity 50% reduction (compared to 1990)	Emission intensity per unit total revenue 9% reduction (compared to 2010) 53% reduction (compared to 1990) Absolute quantity 41% reduction (compared to 1990)
	Greenhouse gases (overseas)	Within the Company	Reduction of greenhouse gases from business activities overseas ^{*1} Emission intensity per unit production 2% reduction (compared to 2017)	Emission intensity per unit production 2% reduction (compared to 2017)	Emission intensity per unit production 1% reduction (compared to 2017)
		Outside the Company	Reduction of greenhouse gases from post-use products overseas Reduction of 52 thousand tons annually	Reduction of 45 thousand tons annually	Reduction of 100 thousand tons annually
Realizing a Sound Material-Cycle Society	Water	Within the Company	Water use per unit total revenue 34% reduction (compared to 2010) ^{*6} 49% reduction (compared to 2000) ^{*6} Absolute quantity 48% reduction (compared to 2000) ^{*6}	Water use per unit total revenue 41% reduction (compared to 2010) 54% reduction (compared to 2000) Absolute quantity 53% reduction (compared to 2000)	Water use per unit total revenue 15% reduction (compared to 2010) 35% reduction (compared to 2000) Absolute quantity 23% reduction (compared to 2000)
		Outside the Company	Reduction of water use at households using our products Water use per unit total revenue 29% reduction (compared to 2010) 54% reduction (compared to 2000) Absolute quantity 52% reduction (compared to 2000)	Water use per unit total revenue 29% reduction (compared to 2010) 53% reduction (compared to 2000) Absolute quantity 51% reduction (compared to 2000)	Water use per unit total revenue 17% reduction (compared to 2010) 45% reduction (compared to 2000) Absolute quantity 33% reduction (compared to 2000)
	Waste	Zero emissions within the Company ^{*2} Achievement of zero emissions at all domestic production sites ^{*4}	Achievement of zero emissions at all domestic production sites ^{*4}	Zero emissions at all domestic production sites ^{*4}	
	Wastewater	Recycling of factory wastewater discharge ^{*3} Operation of facilities to recycle industrial wastewater at Chiba Plant	Operation of facilities to recycle industrial wastewater at Chiba Plant	Recycle industrial wastewater at multiple plants	
Harmonizing with Nature	Procurement	Biodiversity-friendly procurement of plant-derived oils Continued purchasing RSPO ^{*5} certified palm oil derivatives	Continued purchasing RSPO ^{*5} certified palm oil derivatives	All palm oil derivatives purchased to be RSPO-certified	
	Biodiversity	Enhancement of biodiversity conservation activities Carried out at all Lion plants, with implementation expanding at offices of Lion and its affiliates	Carried out at all Lion plants, with implementation expanding at offices of Lion and its affiliates	Carry out at all domestic sites	
Education	Awareness and education in society	Enhancement of environmental awareness and education for consumers 1.2 times increase in consumer participants in our awareness activities (compared to 2010)	0.9 times increase in consumer participants in our awareness activities (compared to 2010)	Double the number of consumer participants in our awareness activities (compared to 2010)	

*1. Covers Lion and consolidated subsidiaries as of December 31, 2019
 *2. The waste recycling ratio is 99% or more, excluding recycling residues
 *3. Wastewater from production processes
 *4. Chiba Plant, Odawara Plant, Osaka Plant, Akashi Plant, Hirai Office Site, Sapporo Office Site, Sendai Office, Headquarters/Tokyo Office, Nagoya Office, Osaka Office, Fukuoka Office, Lion Chemical Co., Ltd. Fine Chemical Production Site, Lion Chemical Co., Ltd. Oleochemical Production Site, Lion Specialty Chemicals Co., Ltd. Yokkaichi Production Site, Lion Specialty Chemicals Co., Ltd. Ono Production Site
 *5. Roundtable on Sustainable Palm Oil
 *6. The figures have been revised due to an error in past data.