【Environmental Efforts】

<Piolax Global Environmental Policy>

The Piolax Group has updated the Global Environmental Policy. The new Environmental Policy refers to our commitment to the SDGs, energy conservation in all of our business areas including medical device, compliance with environmental laws and regulations, and environmental protection, aiming to minimize the impact of our corporate activities on the global environment.

Basic Policy

Through our business activities of developing, manufacturing, and selling our products based on our core technology of “elasticity,” the Piolax Group will pursue the realization of a “sustainable society” in which the environment, society, and economy are well balanced.

Slogan

We aim for more balance and harmony with the environment.

Action Guideline

The Piolax Group will work on environmental protection and environmental pollution prevention in all business areas while continuously improving our management systems and environmental performance.

<Major Actions>

① Promote environmental improvement activities in line with the President’s policy.
② Contribute to the Sustainable Development Goals (SDGs).
③ Make efficient use of energy and effective use of sustainable resources.
④ Practice 3R activities (Reduce, Reuse, and Recycle) for the recycling-oriented society.
⑤ Comply with environmental laws and regulations and customer requirements.
⑥ Engage in environmental social contribution activities.

<International Certification for Global Environmental Management>

Piolax obtained the international certification ISO 14001 in April 2002, and now, our eight overseas have ISO 14001:2015 certification.

Link (in this report): Organizations registered for international certification

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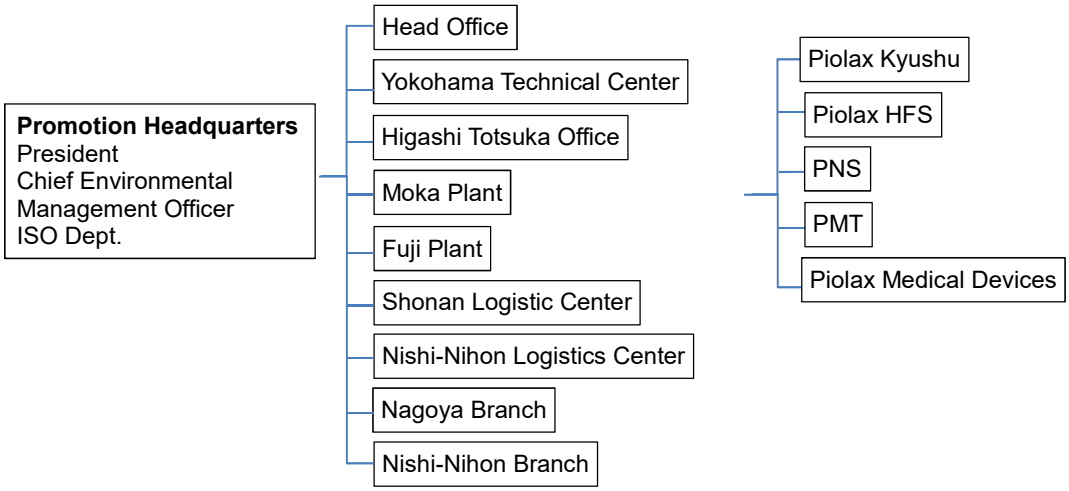
<Environmental Promotion System>

Individual Piolax offices and domestic subsidiaries have a meeting structure led by a person responsible for environment and secretariat and operate an environmental management system in line with the ISO 14001:2015.

Environmental system in Japan

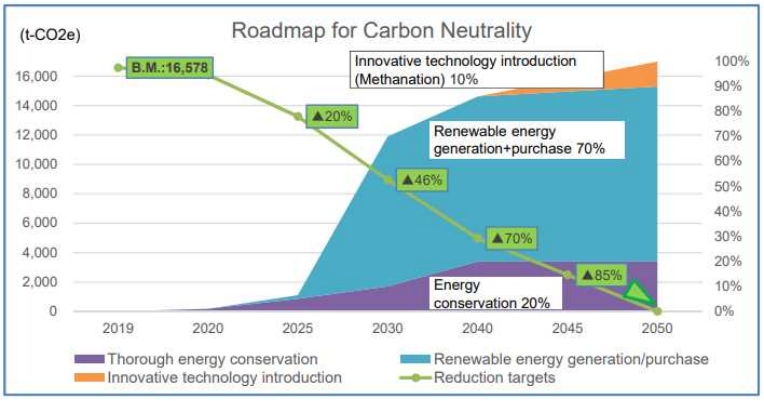


<Compliance with Environmental Laws and Regulations>

The Piolax Group did not cause violations of laws or regulations, payments of fines or penalties, or leakages that may greatly affect the environment in the past three years. No environmental complaints have been legally filed against us.

PCB (highly concentrated 4.16 kg) used in ballasts at the former Yokohama Technical Center, which was dismantled in 2020, was disposed of as specially controlled industrial waste in FY2021 based on the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes.

<Major Environmental Issues>



"Energy, emissions to the atmosphere, and waste," mentioned in the materiality analysis, are major environmental issues of the Piolax Group. We will work on 3Rs (Reduce, Reuse, and Recycle) in our business activities and make efforts to reduce greenhouse gas and waste in our supply chain, mitigate and adapt to climate change, and use water and other resources efficiently. In March 2021, we disclosed a roadmap toward achieving carbon neutrality by 2050 in the domestic business domain.

Link (in this report): For greenhouse gas data, see environmental performance data.

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<Risks and Opportunities by Multiple Scenarios based on TCFD Recommendation on Climate Change>

Piolax performs scenario analysis based on the recommendations of Task Force on Climate-related Financial Disclosure (TCFD[*1]) and builds business strategies with multiple scenarios for climate change projections. There are uncertainties in every scenario due to changes in various factors, but we believe that sustainable corporate management can be realized by identifying risks and opportunities in the scenarios. Therefore, we clearly define strategy for the electrification of vehicles, develop infrastructure to reinforce our resilience for fewer risks and more opportunities, and expand a lineup of products. The following tables show our initiatives in the domestic business areas to address risks and opportunities. For details, please refer to our website[*2].

* 1 TCFD : Task Force on Climate-related Financial Disclosures
* 2 https://www.piolax.co.jp/jp/csr/environment/environmental_tcfd/

	Procurement	Manufacturing and Logistics	Development and Sales
Transition risk	• Higher raw materials and transport prices with carbon tax and energy transition at suppliers • Loss of market due to non-eco raw materials • Drop in demand for materials for existing products with increased electrification, rise in material cost and difficulty in procurement • Higher procurement cost from supply chain with increased natural disasters • Delay in reviewing procurement materials to respond to performance change requested by automakers with temperature rise Impact/Time frame: 1.5°C Large; 4°C Medium to large; Medium/long term	• Rise in capital investment and improvement cost related to manufacturing process decarbonization • Rise in energy cost with review of heat sources for manufacturing process decarbonization and use of green electricity • Rise in costs of waste water/waste treatment with stricter environment-related regulations • Delay in addressing plant operations affected by supply chain disruption with increased natural disasters • Delayed response to increased transport process disruptions Impact/Time frame: 1.5°C Medium to large; 4°C Medium; Short/medium term	• Drop in orders for existing products with increased electrification • Rise in new product development cost/capital investment to address CASE • Drop in sales with reduced new car sales due to domestic population decrease and spread of MaaS. • Reduced market size and orders due to domestic population decline and movement restrictions with new pandemic • Drop in orders due to delay in responding to performance change requested by automakers with temperature rise Impact/Time frame: 1.5°C Large; 4°C Medium; Medium/long term
Opportunity	★ Review raw materials (conversion to eco-friendly or recycled ones), suppliers, product designs, etc. to promote actions for decarbonization and resource recirculation, and differentiate us from competitors.	★ Accelerate efforts to improve productivity through factory automation and decarbonize domestic facilities.	★ Promote and accelerate co-creation activities with customers to increase sales of products for CASE

Measure	• Resin material: Use of bioplastics
	• Metal material: Replacement with low-CO2 materials
	• Cost reduction through procurement of locally produced goods
	• Reduction of energy used for transport
	• Purchase of decarbonized energy sources
		• Moka Plant renewal to improve productivity
		• Thorough energy conservation
		  • Reduction of energy consumption by replacing utility system
		  • Improvement of thermal efficiency of injection molding machine
		  • Gas replacement in heat treatment furnace (LPG → LNG)
		[Reference]
		• P13: Moka Plant renewal plan
		• P17: Roadmap for carbon neutrality by 2050
			• Development and sales of new products for CASE
			  • BEV parts (EV battery, e-Axle, etc.)
			  • Parts responding to changes in vehicles with spread of automation, sharing, etc.
			  • Increase of existing market share mainly in fuel and drive system components (Short-term response to demand for ICE vehicles)
			[Reference]
			• P12: Actions for CASE

	Chronic Risk	Acute Risk
Physical risk	• Rise in air conditioning cost with temperature rise and health hazards to employees • Degradation of raw material and product quality with temperature and humidity rise • Suspension of operations due to decrease in available water resources caused by rapid drop (or depletion) of groundwater level • Shutdown due to inundation of coastal bases resulting from sea level rise Impact/Time frame: 4°C Medium; Long term	• Increase of inventory cost in anticipation of abnormal weather • Disruption of supply chain due to abnormal weather (wind and flood damage) • Destabilization of energy supply due to abnormal weather • Shutdown of plant and warehouse due to abnormal weather and increase in repair cost Impact/Time frame: 4°C Medium; Medium to large; Medium/long term
Measure	• Infrastructure development to strengthen plant and warehouse resilience • Improvement of work environment and material storage environment through thermal management (room temperature and humidity) • Introduction of water circulation system through water management • Review of risk assessment with BCP database including supply chain [Reference] • P13: Moka Plant renewal plan	• Reduction of inventory cost through increased use of locally produced goods • Stable procurement through supply chain diversification and raw material standardization • Infrastructure development to strengthen plant and warehouse resilience

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<Degree of impact>
Large: A failure to respond has a great impact on the survival and growth of the company and its businesses.
Medium: A failure to respond poses a limited impact and does not affect the survival and growth of the company and its businesses.

<Promotion of Energy Saving>

Piolax and its subsidiaries in Japan and overseas are working on energy saving in their plants and logistics centers, introducing LED lighting and high-efficiency motors and inverter controls.

LED lighting in the premises

High-efficiency motor, inverter control compressor, cooling chiller

<Conservation of Water Resources and Improvement of Drainage>

The Piolax Group recognizes that its corporate activities affect upstream and downstream water resources. Water withdrawal at all production bases in Japan and overseas is monitored, and wastewater is treated and discharged in compliance with environmental assessment laws and regulations of each country.

Moka Plant: biological denitrification wastewater treatment

At Moka Plant, in response to the established environmental standard for nitrate nitrogen contained in wastewater from heat treatment, the conventional acid-alkali wastewater treatment was replaced by biological denitrification treatment, in which nitrogen compounds are removed by the action of microorganisms.

This new facility contributes to environmental protection and biodiversity in the plant's watershed (Kinugawa River system) and saves approximately 170 tons/day of water compared to the previous one, thereby reducing the impact on water resources.

To minimize water withdrawal, our production bases are promoting initiatives such as saving circulating water. To verify water risk, the AQUEDUCT Water Risk Atlas is used. PIOLAX INDIA PRIVATE LTD. (India), located in an area with a high Physical Risks Quantity, measures water consumption based on

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withdrawn water and discharged wastewater. PIOLAX MEXICANA S.A. de C.V. (Mexico) works to introduce a water recycling system.

Link (in this report): For water intake data, see the environment performance data.

<Biodiversity>

The Piolax Group thinks that minimizing environmental impacts of its products and corporate activities is the greatest contribution to biodiversity conservation and has set “contribution to the Sustainable Development Goals (SDGs)” as one of the key themes of the Piolax Global Environmental Policy. To address GHG emissions and pollutants, which are major causes of biodiversity loss, and to support a recycling-based society, we are committed to economic use of energy, sustainable and effective use of resources, and 3Rs, believing that waste and use of land and water also impact biodiversity.

For environmental impacts of our production bases in Japan and overseas on plants and animals in terms of biodiversity, we started a survey in FY2021 using the Integrated Biodiversity Assessment Tool (IBAT). It is important to know environmental impacts in areas around our production bases referring to the Red List species designated by the International Union for Conservation of Nature (IUCN).

Further, uniforms purchased by Piolax in FY2021 contribute to the Katingan Peatland Restoration and Conservation Project[*1] in Indonesia through Voluntary Carbon Unit (VCU) credits.

*1: Activities to conserve the Katingan Peatland in central Kalimantan and to protect rare animals inhabiting there

<Disaster Risk Preparedness>

Moka Plant, Fuji Plant, Shonan Logistics Center, and Piolax Medical Devices have installed generators as a measure to maintain basic functions of the facilities in case of a prolonged power failure caused by natural disasters and climate change. They would mitigate the risk of a power failure supplying power to heat treatment lines and water supply/drainage system (Moka Plant), plant office and some production shops (Fuji Plant), ordering system (Shonan Logistics Center), and sterilization rooms (Piolax Medical Devices).

In response to the increasing flood risk in recent years, we try to identify potential flood risk at our business bases and surrounding areas referring to hazard maps. As a measure against flood disaster, Moka and Fuji Plants have installed regulating reservoirs.

Generators

Regulating reservoir

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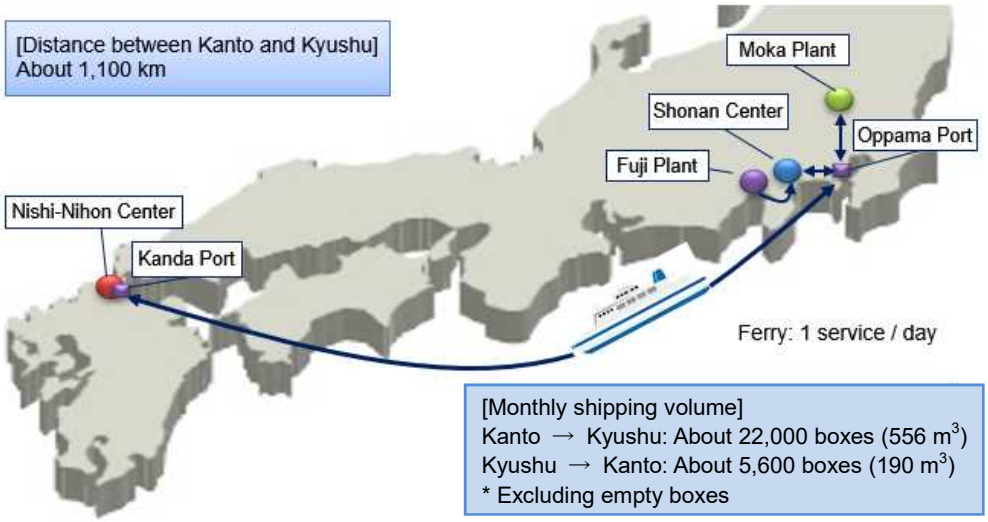
<Efforts in Logistics Division>

As an effort to reduce greenhouse gas emissions generated during transporting our products, modal shift transportation by ferry is introduced from our plants in the Honshu region to our customers in the Chugoku and Kyushu regions.

We make devise to increase the number of products put in one packing box and one container and use high cube containers for export to reduce the total number of containers (transportation frequency).



【Eco-friendly Products】

<Efforts in Design and Development Divisions>

Survey of substances of concern

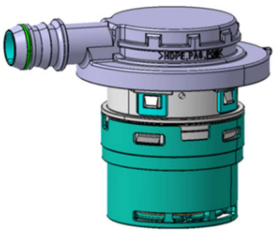
Yokohama Technical Center keeps abreast of revisions to laws, regulations, and customer requirements related to substances of concern in relevant countries and create a database of such information, and members in development and production engineering divisions use it to provide safe products to our customers.

Introduction of eco-friendly products

Yokohama Technical Center plays a central role in developing eco-friendly products. Our standards for eco-friendly products include "lightweight, small number of components, integration of products, and selection of materials adaptable to a recycling-oriented society."

Fuel system part: FLVV for high-pressure sealed fuel tank system in P-HEV

This product meets ultra-high flow rate requirements in releasing tank internal pressure of the high-pressure sealed fuel tank system in P-HEV. It has the functions of FLVV, ROV, and check valve, reducing the number of components compared to the conventional system.



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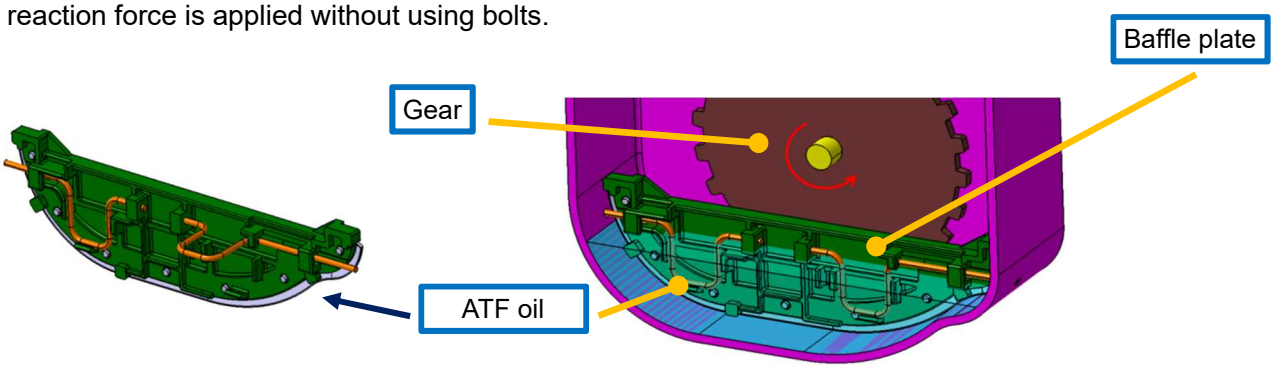
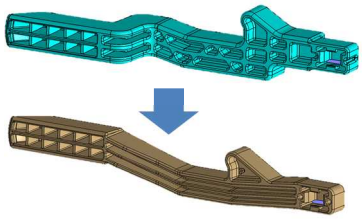
Powertrain system part: Baffle plate for oil inflow prevention

This product reduces agitation resistance of gears which rotate immersed in the automatic transmission fluid (ATF) and contributes to improve fuel efficiency of automobiles. To attach this product to the transmission case, wire is used based on our analysis technology. To stabilize its behavior, spring reaction force is applied without using bolts.

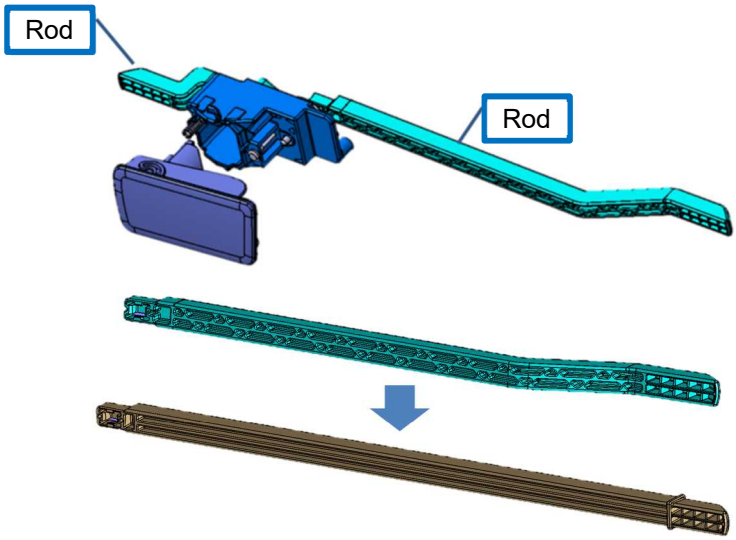


Open & close mechanism part: Passenger compartment door latch

Utilizing our market experience, accumulated design know-how, and CAE, we have succeeded in reducing the rod weight in the passenger compartment door latch. This product has already been adopted in mass-produced vehicles and several models under development. It contributes to reducing greenhouse gas emissions through the improvement of car fuel efficiency and the reduction of materials used.



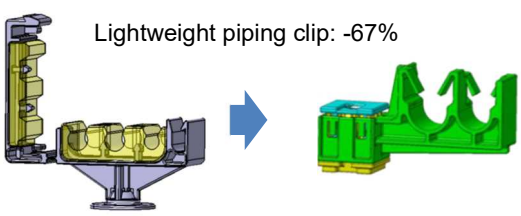
Lightweight rod: -17%



Fastener: Pipe fixing clips and waterproof plugs

Design and materials of pipe fixing clips and waterproof plugs are reviewed, achieving lower weight. Pipe fixing clips literally hold multiple pipes under the vehicle floor or in the engine compartment. Waterproof plugs prevent water from entering the cabin through holes in floor panels which were used as paint drains in the painting process.

Lightweight piping clip: -67%



Lightweight waterproof plug: -30%

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【Environmental Performance Data】

<Greenhouse Gases from Corporate Activities>

The Piolax Group collects data on greenhouse gases generated by corporate activities in its supply chain in the following categories: direct emissions (Scope 1), indirect emissions from energy sources (electricity) (Scope 2), and other indirect emissions (Scope 3).

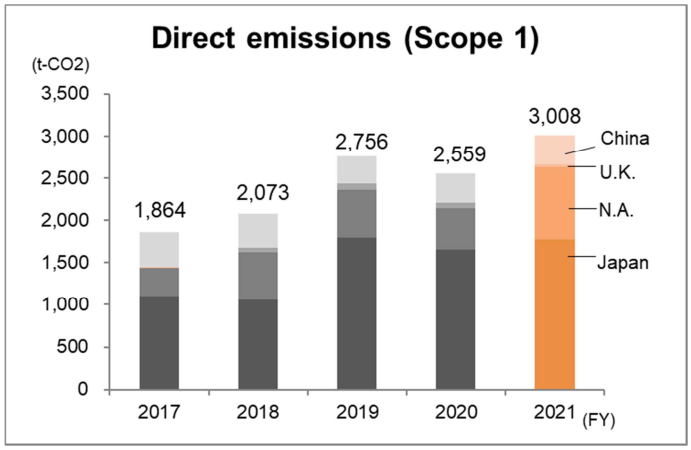
For direct emissions (Scope 1) and direct emission energy use, fuel consumption data from the use of onsite and company vehicles are added since FY2021.

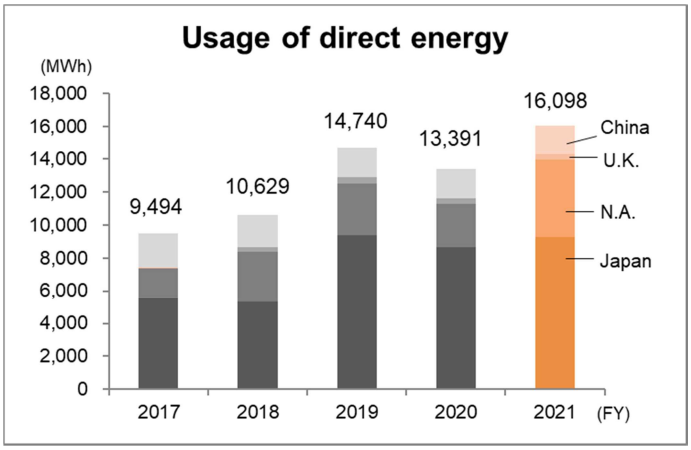
Scope 1 and Scope 2 (Unit: t-CO2)

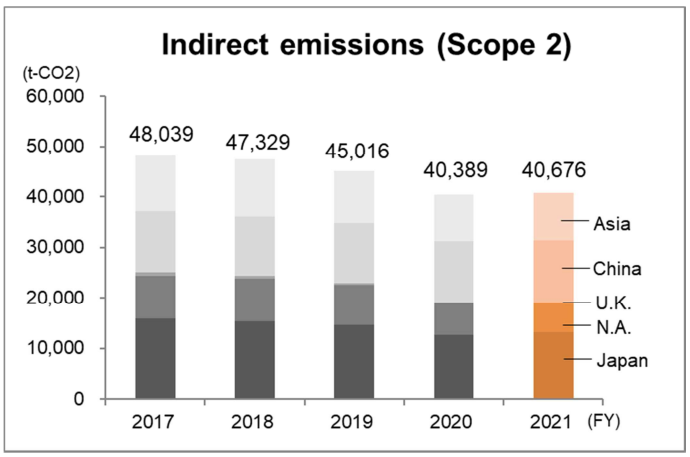
Classification		2017	2018	2019	2020	2021
Total emissions in the supply chain	Scopes 1+2	49,903	49,402	47,772	42,948	43,684
Direct emissions (Gas, kerosene)	Scope 1	1,864	2,073	2,756	2,559	3,008
Indirect emissions (Electricity)	Scope 2	48,039	47,329	45,016	40,389	40,676

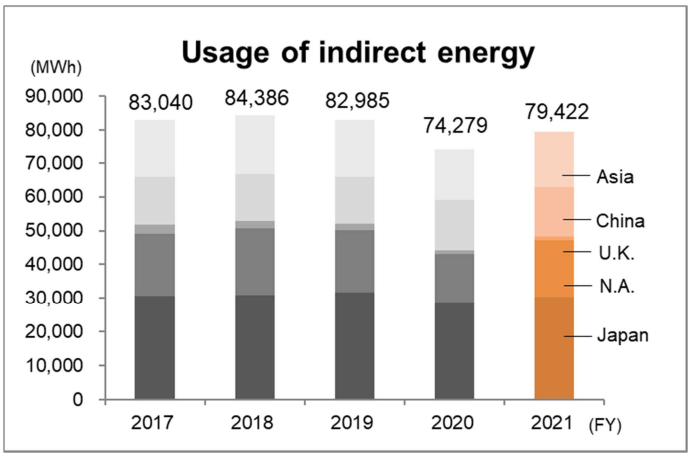
・Scope 1: Emission factors are calculated based on the Greenhouse Gas Emissions Calculation and Reporting Manual (Ver. 4.8) and the Law Concerning the Rational Use of Energy.

・Scope 2: Emission factors are calculated based on location reference values.
Japan: National average factor = A value of general transmission and distribution companies other than Okinawa
Overseas: IGES, carbon footprint, climate transparency, UK government GHG conversion factors









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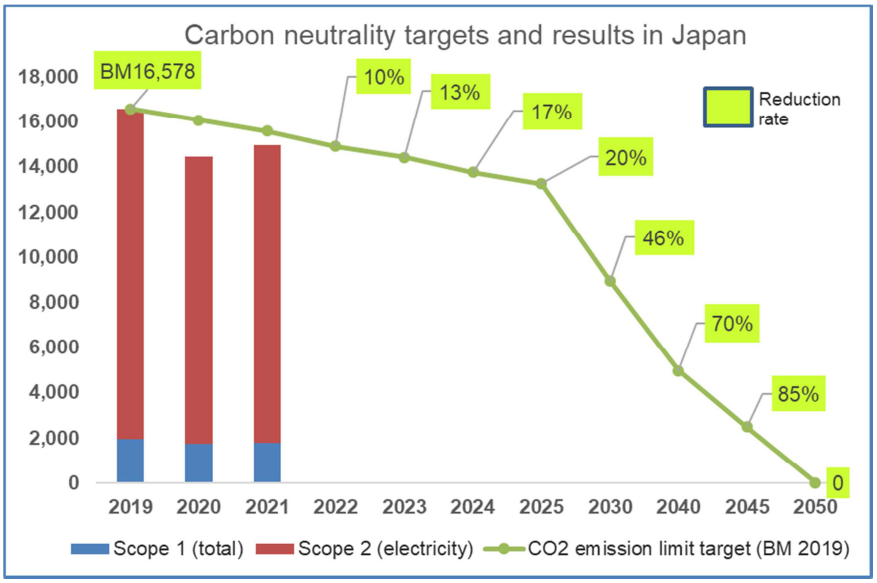
Scope 3 (Unit: t-CO2)

Category	Contents	FY2021	Remarks
1	Purchased products and services	49,246	Materials procured: Piolax Group Others: Excluding overseas bases
2	Capital goods	10,106	Equipment and mold investment: Piolax Group
3	Activities related to fuel and energy not included in Scopes 1 and 2	5,780	Electricity, gas and kerosene: Piolax Group
4	Transportation and delivery (Upstream)	1,277	(Ton-kilometer method): Excluding overseas bases
5	Waste from business activities	266	Industrial and general waste: Excluding overseas bases
6	Business trips	135	Excluding overseas bases
7	Employee commuting	464	Excluding overseas bases
8	Lease assets (Upstream)	817	Contract warehouses for production plants in Japan
9	Transportation and delivery (Downstream)	2,733	(Ton-kilometer method): Excluding overseas bases
10	Processing of products sold	NA	Related but not calculated
11	Use of products sold	NA	Related but not calculated
12	Disposal of products sold	NA	Related but not calculated
13	Lease assets (Downstream)	53	1st floor of the Head Office
14	Franchise	NA	NA
15	Investment	NA	NA
Total		70,877	

・Scope 3: The basic guidelines on accounting for greenhouse gas emissions throughout the supply chain (Ver. 2.4) are referred to.
For emission factors in Japan, the emissions basic unit database (ver. 3.2) provided by the Ministry of the Environment for calculating an organization's greenhouse gas emissions throughout its supply chain is referred to.
LCI database IDEAv2 (for calculating greenhouse gas emissions from the supply chain).
(Among purchased products in Category 1, data on domestic subsidiaries' products included in Scopes 1 and 2 was reviewed and deleted.)

Carbon neutrality targets and results of Piolax and its domestic subsidiaries

Medium-term target: Using FY 2019 as a benchmark, we aim to reduce Scope 1 and 2 emissions from domestic business areas by 46% by FY 2030. FY 2021 result was -10% compared to FY 2019.



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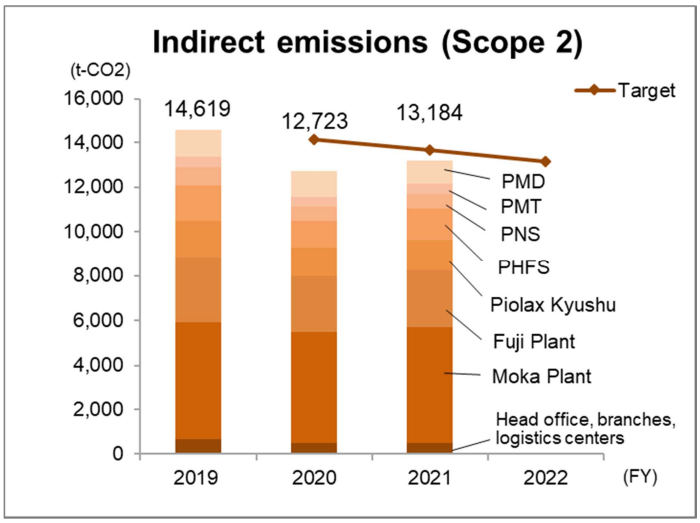
Medium-term environmental target and results

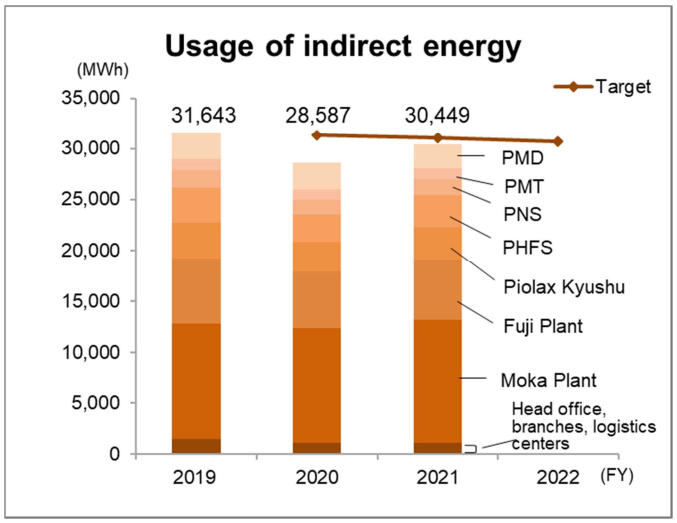
As the 7th environmental medium-term target, Piolax and its domestic subsidiaries have drawn up a three-year plan through FY2022 with FY 2019 as a benchmark, and work on environmental activities in accordance with the carbon neutral roadmap.

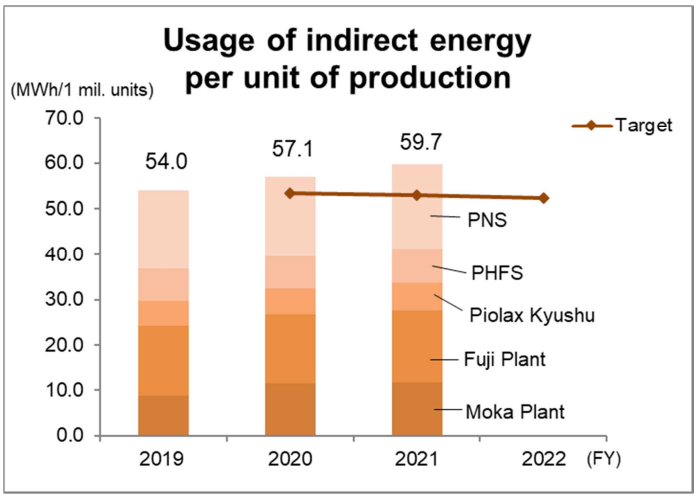
Mid-term goal and results (Benchmark: FY2019)

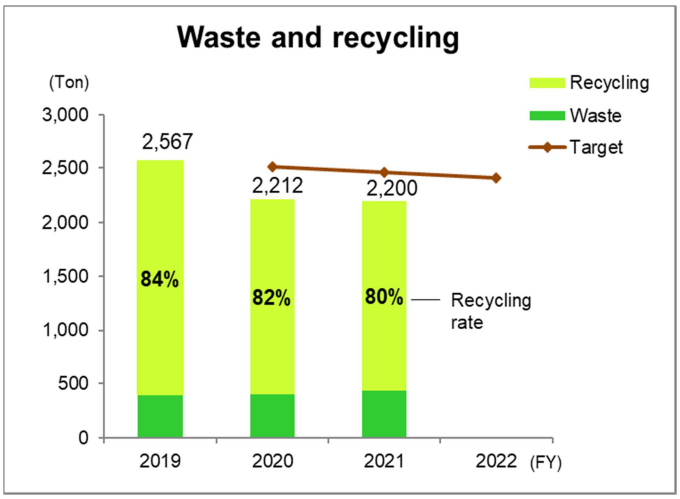
	FY2020 result	FY2021 result	FY2022 mid-term goal
Indirect emissions (Scope 2)	-13%	-10%	-10%
Usage of indirect energy	-10%	-4%	-3%
Usage of indirect energy per unit of production*	+6%	+11%	-3%
Waste	-14%	-14%	-6%

*Usage per 1 million units used at production plants excluding Piolax Medical Devices and PMT.









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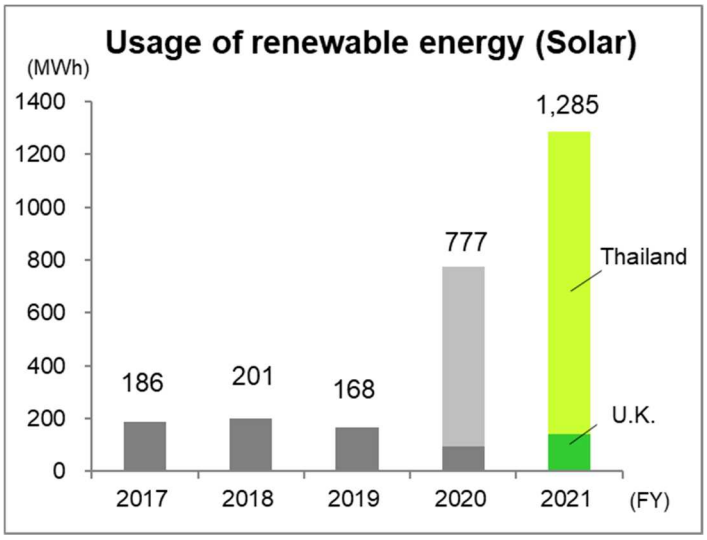
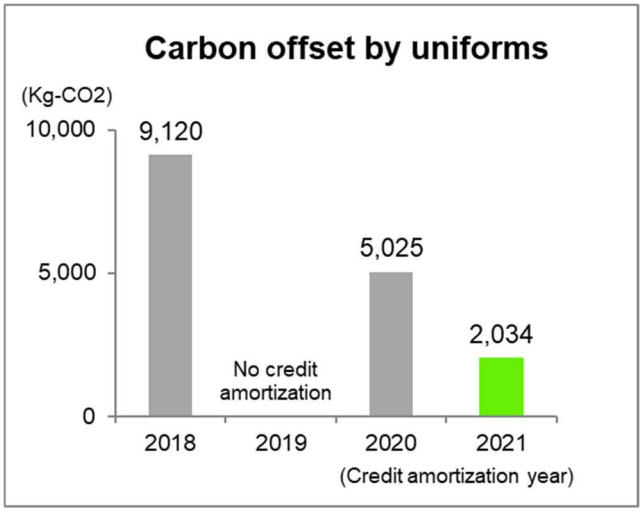
Approaches to renewable energy

PIOLAX LTD. in the U.K. has started to use renewable energy self-supplied by solar panels since 2017, followed by PIOLAX (THAILAND) LTD. since 2020. Reduced geenhouse gas emissions in FY2021 were 533 (t-CO2) compared to the market standard. PIOLAX LTD. (U.K.) plans to increase solar panel generation in FY2022.



Approaches to carbon offset

Piolax and its domestic subsidiaries purchase carbon-offset uniforms (work clothes). Carbon credits for the purchase in FY2021 contribute to the Katang Peatland Restoration and Conservation Project in Indonesia through VCU (Voluntary Carbon Unit) credits.



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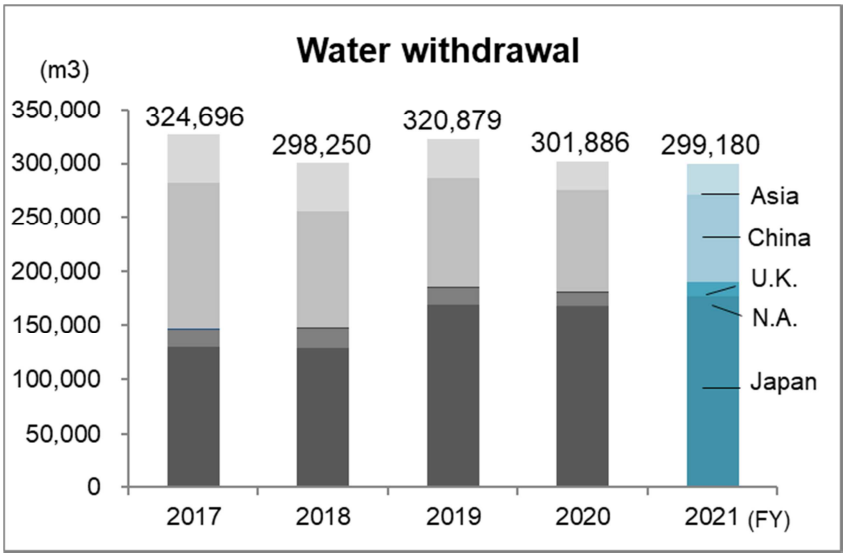
Water withdrawal data

The Piolax Group tracks water withdrawal data for water management. Water withdrawal in FY2021 was reduced by 1% from the previous year. Third-party sources and renewable groundwater were used about 50% each.

Water risks at all Piolax bases are verified using the Aqueduct Water Risk Atlas. Water withdrawal from extremely high water stress areas in terms of physical risk quantity was 1,739 m^3 for Piolax India Private Limited (India) and 3,099 m^3 for Piolax Mexicana S.A. de C.V. (Mexico), accounting for 1.6% of the Piolax Group's total water withdrawal.



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