

Environmental management

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Hamamatsu Photonics Group Environmental Policy

1. Providing environmentally friendly products
Develop and provide products that contribute to environmental improvement and reduce the impact throughout the product life cycle.
2. Actions to address environmental activities
Encourage all our employees to take environmentally friendly actions, and strive to achieve our environmental goals based on the identification of risks and opportunities that can influence our business activities, products, and services.
3. Protection of the environment, prevention of pollution
Address climate change mitigation and adaptation, resource circulation, energy saving, waste reduction, chemical management, biodiversity protection, water conservation, and pollution prevention.
4. Compliance with environmental regulations
Comply with domestic and international legal requirements, individual agreements, and other requirements to which we subscribe voluntarily.
5. Continuous improvement of the environmental management system
Make every effort to improve our environmental performance through the continuous improvement of our environmental management system, by evaluating our environmental impact at regular intervals.
6. Promoting environmental communication
Promote environmental awareness and open communication with stakeholders and employees by sharing environmental information both internally and externally.

Established: December 4, 2002
Revised: April 1, 2024

Environmental management system

Under the Hamamatsu Photonics Group Environmental Policy, each fiscal year we set environmental goals and targets for our environmental management system (EMS), evaluate the results from our activity, and work to constantly improve our EMS on management review.

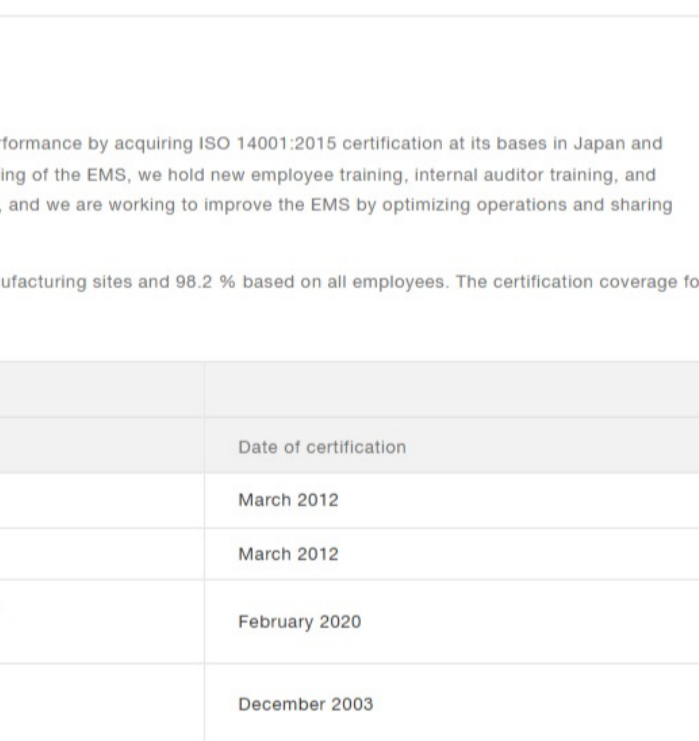
To ensure that the cycle described above runs smoothly, we have established a Headquarters Environmental Committee, the decision-making body of the EMS chaired by the General Environmental Management Representative (environmental management executive officer) under the Sustainability Office. This Committee is an umbrella group composed of the four environmental working groups, the environmental committees in each division (office), and the Headquarters Environmental Committee Secretariats. By establishing similar structures in each division (office), we enable the execution of comprehensive environmental activities.

We are also working on environmental activities in collaboration with the Social and Environmentally Friendly Contribution Product Project and the Carbon Neutrality Project, which were launched to promote materiality. *Products/Technology: Contributing to the enhancement of social and environmental values with light-powered innovation* and *Environment: Promote earth-friendly business practices that coexist in harmony with our planet,* respectively.

The environmental working groups and the issues they primarily deal with are listed below.

- Energy saving working group: Reduction of use of electricity, fuel and other forms of energy, advancement of use of renewable energy, prevention of global warming
- Waste working group: Appropriate management of waste, promotion of "Reduce, Reuse, Recycle" (3R Activities)
- Chemicals working group: Appropriate management of chemicals, management of shipment and receipt of chemicals
- Environmental Conservation working group: Pollution prevention and other environmental maintenance, maintenance of biodiversity, prevention of global warming

Environmental Management System Organizational Chart



Certification under ISO 14001

Hamamatsu Photonics Group is working to maintain and improve its environmental performance by acquiring ISO 14001:2015 certification at its bases in Japan and overseas that have a high environmental impact. To deep each employee's understanding of the EMS, we hold new employee training, internal auditor training, and environmental specialist training. We conduct internal environmental audits every term, and we are working to improve the EMS by optimizing operations and sharing information through the proposal of improvement items as well as non-conformities.

Currently, the certification coverage for Hamamatsu Photonics is 100 % based on manufacturing sites and 98.2 % based on all employees. The certification coverage for the consolidated company is 82.6 % based on employees.

Domestic Locations		
Organizational unit certified	Name of business location	Date of certification
Main Office	Main Office	March 2012
Central Research Laboratory	Central Research Laboratory	March 2012
	Industries Development Center Tsukuba Research Center	February 2020
Electron Tube Division	Toyooka Factory	December 2003
	Tenno Glass Works	December 2003
Solid State Division	Main Factory Mitsue Factory	December 2003
	Shingai Factory	January 2012
System Division	Joko Factory	August 2004
Laser Division	Miyakoda Factory	February 2012

Consolidated subsidiaries (Japan)		
Koso Corporation		December 2011
Takaoa Electronics Co., Ltd		January 2018

Consolidated subsidiaries (overseas)		
BEIJING HAMAMATSU PHOTON TECHNOQUES, INC.		March 2015
HAMAMATSU PHOTONICS KOREA CO., LTD.		June 2020
ENERGETIQ TECHNOLOGY, INC.		November 2021
HAMAMATSU PHOTONICS DEUTSCHLAND GMBH		August 2006
HAMAMATSU PHOTONICS UK LIMITED		October 2022

Targets and results of environmental activities

Medium- and long-term targets

Item	Medium- and long-term targets
Strengthening the foundation for environmental management	<EMS> Advancement and improvement of the Environmental Policy, its objectives and its targets Advancement of the Environmental Management System (EMS)
	<Environmental communications> Advancement of environmental communications Achieving carbon neutrality by FY2050
	<RE100> Sourcing 100 % renewable electricity across our entire global operations by FY2040 Sourcing 60 % renewable electricity across our entire global operations by FY2030

Fighting global warming	<SBT> [Scope 1+2] 30 % reduction of greenhouse gas (GHG) emissions by FY2031 [Compared to FY2019] [Scope 3] • Category 11 (Emissions from use of sold products): 15 % reduction of GHG emissions by FY2031 [Compared to FY2019] • Category 1 (Emissions from purchased goods and services): 76 % of suppliers by spend covering purchased goods and service will have science-based targets by FY2026
	<Energy consumption> 10 % or more reduction of energy consumption per unit of sales by FY2031 [Compared to FY2021]
	<Semiconductor production gas> To reduce GHG emissions used in semiconductor manufacturing (including prototyping, research, and analysis) to virtually zero by FY2050

Prevention of pollution • 3R • Protecting water resources	<Appropriate management of chemicals> Establishment of appropriate management systems for chemicals Promotion of understanding and management of the dangers and hazards of chemicals
	<Prevention of pollution> Compliance with laws and regulations and efforts to prevent environmental pollution
	<3R activities> Support of Company-wide landfill rate of less than 1.8 % <Protecting water resources> To reduce water usage by 10 % per unit of sales by FY2030 compared with FY2020

Environmental initiatives in products	Expand new markets and customers by manufacturing and developing environmentally friendly products
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Targets and results in FY2024

Item	Main targets in FY2024	Main results in FY2024	Evaluation
EMS			
Strengthening the foundation for environmental management	Continuous support, management and improvement of the EMS at ISO 14001-certified business locations	Acceptance of maintenance and renewal examinations from external examining organizations	✓
	Compliance with environmental laws and regulations	Number of violations and accidents of environmental laws and regulations: 0	✓
	Environmental communications		
Fighting global warming	Promoting biodiversity conservation activities	• Happy Memorial Trees had been distributed to 99 employees • A total 624 employees had participated in the following activities: -Local clean-up campaigns around offices (15 times) -Lake Hamana Cleanup Campaign, Flower-bed display by Hamamatsu businesses, etc. (5 times)	✓
	Disseminating environmental information to inside and outside the company	• Environmental information had been disseminated via websites • Internal environmental learning courses had been held • Environmental newsletters had been distributed 4 times a year	✓
	<SBT> 12.5 % or more reduction of greenhouse gas emissions compared to FY2019 Link >	68.1 % reduction compared to FY2019	✓
Prevention of pollution • 3R • Water resource protection	Promoting the introduction of renewable energy	Renewable-energy usage rate: 97.5 %	✓
	3% or more reduction of energy consumption per unit of sales compared to FY2021	25.5 % reduction compared to FY2021	✓
	Appropriate management of chemicals		
Prevention of pollution • 3R • Water resource protection	None of major nonconformity of chemical environmental laws and regulations None of chemical substance related environmental accident	Major nonconformity and environmental accident: 0 1,230 employees were trained to use and handle hazardous chemicals safely	✓
	Prevention of pollution		
	Support and management of operations according to autonomous standards	Confirmed and responded to applicable laws, etc. and observed environmental-maintenance facilities	✓
3R activities			
Prevention of pollution • 3R • Water resource protection	Support of Company-wide landfill rate of less than 1.8 %	Landfill rate: 0.9 %	✓
	Support of management of waste-disposal contractors	Through actions such as on-site inspection of the operations of waste-disposal contractors, it was confirmed that the contracted waste disposal is handled correctly	✓
	Measures to protect water resources		
Environmental initiatives in products	[Medium- and long-term target] 10 % reduction of water usage per unit of sales by FY2030 compared to FY2020	• 12.0 % reduction compared to FY2020 • 13.3 % increase compared to the previous year	The medium- and long-term target was achieved, but the short-term target was not.
	[Short-term target] 1 % reduction of water usage per unit of sales compared to the previous year		
	Evaluation of water risks	Water risks were evaluated at all manufacturing sites and laboratories by water-risk evaluation tool "WRI Aqueduct" and local hazard maps such as "Hamamatsu City Disaster Prevention Maps" and "Ibaraki Digital Map"	✓
Advancing R&D in environmentally friendly and contributing products	Advanced at each business locations Case Studies >	✓	

Compliance with environmental laws and regulations

Hamamatsu Photonics works hard to prevent pollution of the living environment in all forms, including air, water, noise, soil and odor pollution. We also strive to reduce our environmental impact and manage waste responsibly. On a regular basis, the Company measures and analyzes outputs such as wastewater, noise and vibration, and conducts on-site inspection of its waste-disposal contractors. When problems are discovered, we take appropriate measures and takes every precaution to ensure that it complies strictly with environmental laws and regulations. At the meetings of the Headquarters Environmental Conservation Working Group and Headquarters Waste Working Group, we observe environmental prevention facilities and the status of waste management at each business location.

There were no violations of environmental laws and regulations, environment-related fines or major environmental accidents at Hamamatsu Photonics during the period under review.

Environmental accounting

Our company uses the Ministry of the Environment's "Environmental Accounting Guidelines 2005" as a reference to calculate environmental conservation costs, environmental conservation effects, and the economic effects (actual effects) of environmental conservation activities, and we use this information to improve our environmental conservation activities.

Period covered: FY2024 (October 1, 2023 to September 30, 2024)
Scope of tabulation: Hamamatsu Photonics K.K., non-consolidated
Method of tabulation: Tabulation was conducted with reference to the Ministry of the Environment's Environmental Accounting Guidelines 2005.
Related investments: Capital investment related to environmental conservation
Related expenses: Personnel costs and expenses related to environmental conservation (except depreciation)
Note: For expenses and investments that cannot be considered entirely related to environmental conservation, balance tabulation and proportional-distribution tabulation are conducted.

The following lists the environmental conservation benefits and the economic effects (real benefits) of environmental conservation activities.

Environmental conservation benefits

Category	Environmental performance index (unit)	FY2023 ¹	FY2024	Environmental conservation benefit (amount of improvement compared with previous fiscal year)
Environmental conservation benefit related to resources input into business activities	Total energy input volume (thousands of GJ)	994	1,097	-103
	Input volume of target chemical substances ² handled (t)	23.9	38.8	-15
	Input volume of water (thousands m ³)	675	765	-90
	Input volume of photocopy paper purchased (t)	13.5	13.4	0.1
	Input volume of container and packaging (t)	301	314	-13
Effects within the business area	Volume of greenhouse-gas emissions (t)	5,130	4,273	2857
	Volume of target chemical substances ² released/transferred (t)	23.0	36.0	-13
	Total waste emissions volume (t) ³	1,322	1,506	-183
	Final waste disposal volume (t) ⁴	12.0	14.8	-2.7
	Recycling rate (%) ⁵	65.7	72.5	6.9
Environmental conservation benefit related to waste or environmental impact originating from business activities	Total wastewater volume (thousands m ³)	662	744	-82
	Nitrogen oxides emissions volume (t)	4.1	3.6	0.5

¹ The value is adjusted according to changes in sales.
² The chemical substances covered are those that are subject to the PRTR Law, Class 1 substances, and those handled in quantities of over 1 kg/year.
³ Total waste emissions volume includes industrial waste, municipal waste, and valuable resources.
⁴ Final waste disposal volume includes industrial waste and municipal waste.
⁵ Recycling rate does not include thermal recycling, and any increase is evaluated as a positive effect.

Economic benefit associated with environmental conservation activities (actual benefit)

"Economic benefit associated with environmental conservation activities" refers to the effects generated by environmental conservation activities, expressed in financial terms compared to the previous fiscal year.

	Item of benefit	Economic benefit (millions of yen)
Revenue	Revenue from sale of valuables	114
	Revenue from sale from solar-power generation	2
Expense savings ⁶	Expense reductions from energy-saving measures	239
	Reduction through CO ₂ -free electricity and carbon credits	-194
	Reductions in waste-treatment waste disposal expenses ⁷	-192
	Reductions in photocopy-paper purchasing expenses	0
	Reductions in expenses from purchasing of containers and packaging	209
	Reductions in waterworks usage expenses	-4
Reductions in sewerage usage expenses	-5	
Total ⁸		63

⁶ The value of expense savings is calculated using an economic effect value adjusted according to changes in sales.
⁷ Waste disposal expense include industrial waste and municipal waste.
⁸ The total value may differ from the total value for each category due to rounding.

Timeline of environmental activities

Year	Environmental activities and related topics
2025	Certified as a "Hamamatsu City Carbon Neutrality Achieved Company" Participation in the "Enshu Decarbonization Project"
2024	Participation in the Hamamatsu City "Next-Generation Energy Utilization Study Group" Participation in the "Hamamatsu Regional Carbon Neutrality (CN) Promotion Study Group" of the Hamamatsu Association of Corporate Executives Revision of the Formulation of Long-Term Vision for Global Warming Countermeasures Introduction of solar-power generation equipment (Main Factory) Revision of the Hamamatsu Photonics Group Environmental Policy
2023	Restructuring and introduction of chemical substance management system Restructuring and introduction of environmental information management system Restructuring and introduction of chlorofluorocarbons (CFCs) management system
2022	Restructuring and introduction of waste management system Conversion of all purchased electricity at domestic business sites (excluding some offices) to renewable energy Participation in the international initiative "RE100" Start of information disclosure based on the recommendations of the Task Force on Climate-related Financial Disclosure (TCFD)
2021	Hamamatsu Photonics Group's GHG Reduction Targets certified by the SBT Initiative Receipt of "2020 Environmental Friendly Building Award" from Shizuoka Prefecture for Shingai Factory Building No. 2
2020	Endorsement of the TCFD recommendations Introduction of solar-power generation equipment (Toyooka Factory and Shingai Factory) Endorsement of "Keidaren Initiative for Biodiversity Conservation" Formulation of Long-Term Vision for Global Warming Countermeasures to 2050 Expansion of the scope of ISO 14001 certification (Industries Development Center and Tsukuba Research Center)
2019	Expansion of the scope of ISO 14001 certification (Miyakoda Factory OFC) Participation in a prefectural 6R campaign to prevent ocean waste plastic Introduction of solar-power generation equipment (Main Factory) Publication of Environmental and Social Report 2019 Participation in Hamamatsu City "2019 Environmental Future Project—Countywide Garbage Reduction Campaign"
2018	Participation in the electrical and electronics industry "Low-carbon Society Action Plan" Start of purchasing of renewable (CO ₂ -free) energy Start of participation in flower-bed display by Hamamatsu businesses (south exit of JR Hamamatsu Station) Receipt of "FY2017 Environmentally Friendly Building Award" from Shizuoka Prefecture for Shingai Factory Building No. 1 Publication of Environmental and Social Report 2018
2017	Start of participation in Shizuoka Prefecture Industrial Waste 3R Campaign Receipt of "Chubu Region Electricity Usage Rationalization Committee Chair's Award" (for Mitsue Factory) Revision of Basic Environmental Policy Publication of Environmental Report 2017
2016	Implementation of third-party testing of greenhouse-gas emissions in accordance with ISO 14064-3 Receipt of "CSR Activity Award (for social-contribution activities)" for Hamamatsu businesses (for Joko Factory and Miyakoda Factory) Receipt of Shizuoka Prefecture Governor's Award for Distinguished Service in Advancement of Appropriate Treatment of Industrial Waste Receipt of "Top Runner Award" from the FY2015 Hamamatsu City Energy/Energy Conservation Top Runner Certification Program Start of participation in the KALA seawall tree-planting project Receipt of "Grand Prix" in the TRY business-location category of the FY2015 Try Fujikuni Eco Challenge Cup Publication of Environmental Report 2016
2015	Start of Donguri-no-Morizukuri (tree-planting) activities (Central Research Laboratory) Introduction of solar-power generation equipment in coordination with the Company's solar-power generating business (Toyooka Factory) Publication of Environmental Report 2015
2014	Registration to participate in "Fun to Share", a climate-change campaign promoted by the Ministry of the Environment Publication of Environmental Report 2014
2013	Receipt of the "FY2013 Environment Minister's Award for Activities to Prevent Global Warming" Introduction of solar power generation equipment (Central Research Laboratory) Start of introduction of solar power generation equipment at employee dormitories Receipt of "Kanto Bureau of Economy, Trade and Industry Director's Award" for corporate excellence in energy management (for Main Factory) Start of participation in the Lake Hamana Cleanup Campaign Participation in "The Subcommittee on Environmental Measures for Light-source Devices" of the Japan Lighting Manufacturers Association (JLMA) Publication of Environmental Report 2013 Receipt of Judges' Special Prize in the FY2012 Fujikuni Eco Challenge Cup Participation in "the Environmental Committee" of the Japan Analytical Instruments Manufacturers' Association (JAIMA)
2012	Participation in "the Energy and Low-carbon Measures Committee" of the Japan Electric Measuring Instruments Manufacturers' Association (JEMIMA) Receipt of "Top Runner Award (eco-friendly business-location category)" from the FY2011 Hamamatsu City Energy/Energy Conservation Top Runner Certification Program Publication of Environmental Report 2012 Certification under ISO 14001 of the Central Research Laboratory, Miyakoda Factory and Main Factory
2011	Receipt of "Kanto Bureau of Economy, Trade and Industry Director's Award" for corporate excellence in energy management (for the Central Research Laboratory) Start of appointment of "Happy Memorial Trees" Publication of Environmental Report 2011
2010	Receipt of "Associate Grand Prix" in the CSR/eco-office category of the 2009 Stop Global Warming Action Campaign Registration to participate in the Challenge 25 Campaign Publication of 2010 Environmental Report Complete Elimination Company-wide of perfluorooctane sulfonate (PFOS) Sponsorship of Hamamatsu City as "Hamamatsu, City of Where You Can Enjoy Green Living"
2009	Sponsorship of Hamamatsu City as "Hamamatsu, City of Flowers and Greenery" Receipt of silver medal in the Excellent Energy Service Company (ESCO) Award program (Central Research Laboratory)
2008	Registration for participation in Team Minus 6% Introduction of acid-waste thickening equipment (Main Factory)
2007	Introduction of ESCO Business (Central Research Laboratory)
2006	Introduction of system for management of chemicals included in products Start of provision of information on the compliance of Hamamatsu Photonics products with RoHS (EU) directives Start of introduction of equipment for removal of perfluorinated compounds (PFCs) (Main Factory) Introduction of a gas cogeneration system (Main Factory) Preparation of Green Purchasing Guide
2004	Establishment of Standard on Use of Environmentally Controlled Substances (chemicals) Certification of System Division under ISO 14001 Participation in "Environmental Green Committee" of JEMIMA Membership in the Japan Business Working Group of the Japan Medical Imaging and Radiological Systems Industries Association (JIRA) Participation in "the Environmental Working Group" of the Japan Medical Imaging and Radiological Systems Industries Association (JIRA)
2003	Complete elimination Company-wide of controlled CFCs and 1,1,1-trichloroethane Establishment of the Green Procurement Policy and management procedures for environmentally controlled substances Certification of Electron Tube Division and Solid State Division under ISO 14001
2002	Launch of the Headquarters Environment Committee Introduction of environmental accounting Establishment of the Fundamental Environmental Policy
2001	Launch of the Seminar on Environmental Laws and Regulations, an in-house training program
1998	Launch of the Environmental Preparation Committee
1990	Launch of the Environmental Preservation Measures Committee

Environment >

Environmental management	Management of pollution including waste >	Carbon neutrality >
Environmentally Friendly and Contributing Products >	Protecting water resources >	Biodiversity conservation >
Environmental report back number >	Inquiries concerning Environmental initiatives >	