HAMAMATSU

PHOTON IS OUR BUSINESS

Environmental Report 2015

Environmental Report 2015

HAMAMATSU PHOTONICS K.K.

Message from the President

Working Toward the Achievement of a Sustainable Society, We Use Photonics Technology to Help Solve Environmental Problems

Introduction

Last year, the United Nations Framework Convention on Climate Change was held in Lima, Peru. The 20th Conference of the Parties (COP20) met to prepare for the COP21 where world leaders are expected to reach an agreement on a global framework for reducing greenhouse gas(GHG) from 2020 onward. Japan set a target goal for 2050. By 2050, GHG will be reduced by 50 % on a global scale and 80 % in the developed countries. HPK is fully aware how important it is that we contribute to this reduction. We will contribute by suppressing the emission of chlorofluorocarbon and applying the technologies of Japan.

Environmental regulations on products have also become more stringent in recent years. Most notably, the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) regulation, the RoHS Directive and the Minamata Convention on Mercury which was adapted and signed last year. We will continue to place more importance on treating chemical substances properly from the enviromental perspective.

Working toward the Achievement of a Sustainable Society,

Given the current circumstances, HPK believes that businesses have a social responsibility to run their activities in an environmentally friendly way. To promote environmental management, we drafted a Fundamental Corporate Policy and a Fundamental Environmental Policy. As well as deploying an Environmental Management System (EMS), we have addressed to global environmental protection. Examples of these include energy saving activities in our employees' households for global warming prevention, providing environmentally friendly products at every stage of its lifecycle, distributing Happy Memorial Trees, cleaning the area around the company, and tree planting for biodiversity conservation.

Using Optical Technology to Help Solve Environmental Problems

This year is proclaimed as the "International Year of Light". The mission of HPK is to use photonics technology to benefit society and make the world a healthier and more peaceful place. Focusing on the theme of "Life Photonics", we will continue to engage in basic research into the unknown and unexplored properties of photons and use our research and development activities to serve as a center of photonics innovation. We will continue to develop photonics technology and expand its application in a wide range of fields, including information, measurement, medicine, biology, energy, and the environment. Further, as part of the "Photonics Declaration in Hamamatsu," we will forward "the Innovative Photonics Evolution Research Project".

As we work to reduce the environmental impact of our business activities, we will help to solve environmental problems by using optical technology to produce products that are environmentally friendly and benefit the environment.

I would like to ask our stakeholders for their continued support and guidance in these efforts.

Hamamatsu Photonics K.K.

President

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Hamamatsu Photonics 2015 Environmental Report

Contents

Hamamatsu's 20-inch PMT receives IEEE Milestone recognition for technical achievement

IEEE Milestone unveiling ceremony at Toyooka Factory

IEEE Milestone plaque monument

Our 20-inch diameter photomultiplier tubes (PMT) that were developed and installed for the Kamioka Proton Decay Experiment, has been certified as an IEEE Milestone. This accreditation made by IEEE, the world's largest professional organization for the advancement of technology, means products of ours could bring about technological innovation and excellence for the benefit of humanity. More specifically, that detector accomplished for the first time in the world to observe neutrinos from supernova 1987A in the Large Magellanic Cloud on February 23, 1987.

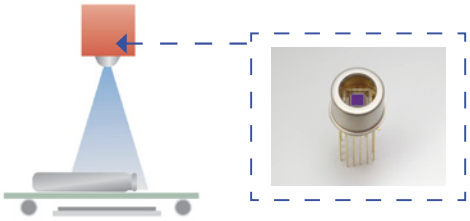
Press Release

Hamamatsu products that are utilized in the Environmental Field

The products of Hamamatsu Photonics are being used in a variety of environmental impact reduction activities. Examples include the measurement of environmental air and water quality, the analysis of concentrations of regulated chemicals, and the enhancement of the energy efficiency of common electrical equipment.

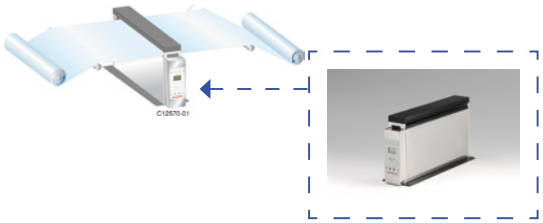
TOPIC Aiming to be more efficiency and realize resource saving in a ptoduction, an inspection, and/or a sorting line

- Sorting plastic wastes by using a camera with image sensors



product information
G12460-0606S

- Improving a yield rate by using a pinhole inspection unit



product information
Pinhole inspection unit

Quantum cascade lasers

Gas analysis

Photomultiplier tubes

Environmental analysis and measurement

Delayed luminescence measuring device

Ecological impact assessment

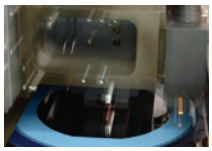
Deuterium lamps

Atmospheric and water quality analysis

Infrared detectors

Environmental analysis and measurement

Stealth dicing engine



Next-generation laser dicing technology

Xenon lamps and hollow cathode lamps

Atmospheric and water quality analysis

Mini-spectrometers

Soil analysis and aquametry

Solar cell evaluation systems

X-ray line sensor cameras

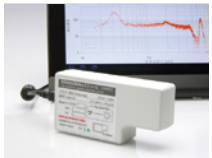
Interbal inspection / sorting

CO_2 gas sensor modules

Photonic multichannel analyzer

Light source evaluation

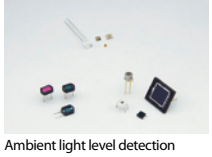
Radiation detection modules



Gamma-ray imaging

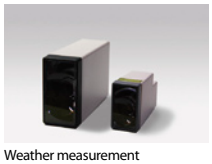
Shows areas of concentrated radioactive material

Visible light/illuminance sensors



Ambient light level detection

Distance sensors



Weather measurement

Promoting Environmental Management

HPK Fundamental Environmental Policy

Principle In our conduct of business activities, we, Hamamatsu Photonics K.K., recognize that maintaining harmony with the global environment is one of essential issues facing mankind. We are determined to always act with this in mind as we endeavor to create new science, new industries, and to establish true health for mankind by studying, applying and expanding photonics technologies.

Policy

1. Initiate an internal organization for environmental protection and establish environmental management system in each plant in order to carry out activities related to environmental protection.
2. Assess the impact on the environment by our activities, products and services, and constantly improve our environmental protection activities and environmental management.
3. Comply with our internal procedures and policy as well as all governmental laws and regulations related to environmental protection, and impose our own voluntary standards if necessary, to reduce the stress on the environment.
4. Take preventative measure to curb pollution, save energy and resource, reduce waste and control chemical substances.
5. Strive to raise the awareness of all our employees regarding environmental issues through environmental education, and to understand and apply this Fundamental Environmental Policy through in-house publication of the Policy.

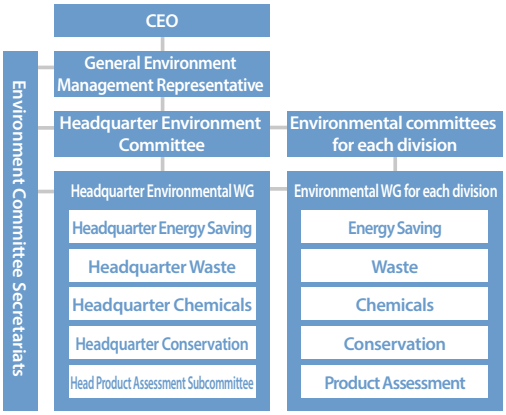
Environmental Management System

Framework for Promoting Environmental Management

At Hamamatsu Photonics, we have established a Headquarter Environmental Committee. This Committee serves as a decision making body for matters pertaining to our Environmental Management System (EMS). It is comprised of five specialized workgroups, the environmental workgroups of each division at Hamamatsu Photonics, and the Environment Committee Secretariats. It is directed by a General Environment Management Representative (Senior Managing Director).

To achieve the goals set forth in our Fundamental Environmental Policy, we set targets for each period. Our results are then evaluated using a variety of methods which includes reports, suggestions, and deliberations.

Environmental Management System Diagram



ISO 14001 Certification

Each of our divisions has received ISO 14001 certification and is working to sustain and improve its environmental performance. To deepen each employee's understanding of the EMS, we engage in a variety of activities, including education for new employees, education for internal auditors, and specialized environmental training.

In our company-wide efforts to improve the EMS, internal environmental audits are conducted at each period. These audits help us identify our short comings.

By identifying our short comings we are then able to make proposals about areas as we optimize our operations.

Organizations That Acquired ISO Certifications

Organization That Acquired Certification	Site	Acquisition Date
Main Office	Main Office	March 2012
Central Research Laboratory	Central Research Laboratory	March 2012
Electron Tube Division	Toyooka Factory and Tenno Glass Works (Koso Corporation)	December 2003 (December 2011)
Solid State Division	Main Factory, Mitsue Factory, and Shingai Factory	December 2003 January 2012
Systems Division	Joko Factory	August 2004
Miyakoda Factory	Miyakoda Factory	February 2012

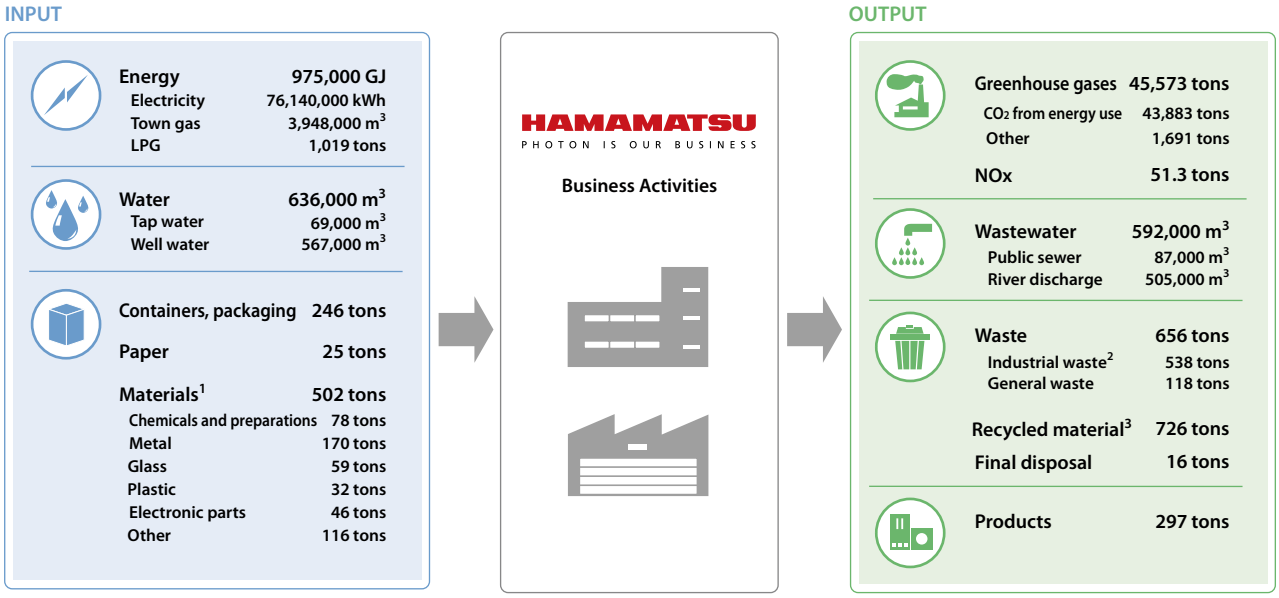
*ISO 14001 certification includes Koso Corporation, an affiliated company.

Environmental Accounting

We are promoting environmental accounting internally as a means of providing the fundamental information necessary for environmental management.

Environmental Impact of Business Activities

We are quantifying the environmental impact of our business activities and working to reduce our impact on the environment. The following figures are a summary of our environmental impact for this period.



1 Total for materials whose weight data was available.
2 Including chemical waste.
3 The amount of recycling is the total amount of material and thermal recycling added to the amount of valuables.
10 locations within Japan were subject to measurement (Toyooka Factory, Tenno Glass Works, Main Factory, Mitsue Factory, Shingai Factory, Joko Factory, Miyakoda Factory, Central Research Laboratory, Main Office, and Industries Development Laboratory).
Some data includes Tsukuba Research Laboratory and the five domestic sales offices (Tokyo Sales Office, Osaka Sales Office, Sendai Sales Office, Tsukuba Sales Office, and Nishinihon Sales Office).

Dealing with Environmental Risks

Framework for Reducing Environmental Risks

We are working to reduce living-environment contamination and stress related to factors such as air, water, soil quality, noise, and foul odors. In our new builiding completed in May 2014, we have installed the high-end soundproof wall and mufflers to reduce factory noise .


The soundproof wall

Emergency Response Training

We have prepared accident and disaster response manuals, and we regularly hold customized disaster response training for each type of business and division. In this period, training sessions have included evacuation training for clean-room gas leaks, response training for clean-room chemical spills, and company-wide disaster preparedness training, which is conducted twice a year.


Disaster response training

Targets and Accomplishments of Environmental Activities

Each year, from October 1st to September 30th, we set environmental objectives and targets and actively work to reduce our impact on the environment and protect the environment. Below is a summary of the objectives and accomplishments from this period.

Primary Targets for 2014	Primary Accomplishments for 2014	Evaluation
Environmental Management System		
› Improve EMS and renew certification for divisions that have received ISO 14001 certification.	› Received audits from external certification bodies and renewed certification.	Yes
Making Products Environmentally Friendly		
› Implement and revise the "Management Standards for Chemical Substances."	› The revision of Green Procurement Guideline. › 10th revision of Management Standards for Chemical Substances.	Yes
› Conform to each country's environmental regulations for products.	› Enhanced compliance to the revised RoHS Directive and the conflict minerals rule.	Yes
Making Business Activities Environmentally Friendly		
Fighting Global Warming		
› Energy conservation promotion and awareness activities.	› Received the 2013 Environment Minister's Award for Global Warming Prevention Activity. › Hamamatsu City Top Runner S rank certification	Yes
› Reduce energy use per unit of sales by at least 1 % compared to 2013.	› Reduced energy use per unit of sales by 12.6 % compared to the previous period .	Yes
Appropriate Management of Chemicals		
› Perform a chemical usage inspection every six months.	› Implemented according to plan in accordance with the PRTR Law.	Yes
› Promote the collection of GHS compliant SDSs.	› Increased GHS compliant SDSs steadily.	Yes
3R Activities		
› Total recycling rate: 97 % or more.	› Achieved a total recycling rate of 97.7 % .	Yes
› Supervise contracted waste management facilities.	› Held inspections at contracted waste disposal facilities.	Yes
Prevention of Pollution		
› Control the emission of GHGs. (CO_2 from non-energy use)	› Reduced the emmission of GHGs by 7.5 % compared to the previous period .	Yes
› Reduce VOC emissions into the atmosphere by 30 % compared to the year 2000.	› Achieved 49.9 % reduction.	Yes
Social and Environmental Communication		
› Promote biodiversity conservation activities.	› Distributed happy memorial trees. › A total of 583 people participated in local cleaning activities 15 times during the year. › Participated in the Lake Hamana Cleanup Campaign.	Yes
› Disseminate environmental information both within and outside of the company.	› Disseminated environmental information including environmental reports (in English and Japanese). › Posted the latest information about HPK environmental efforts on the Web.	Yes

In the Evaluation column, Yes means accomplished and No means not accomplished.

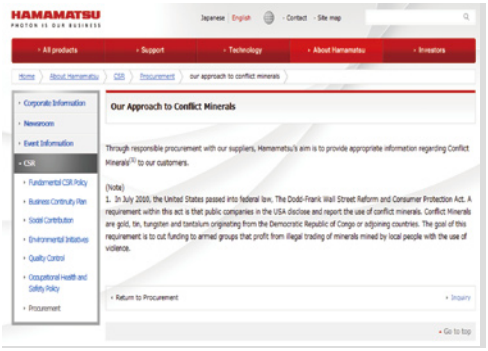
Making Products Environmentally Friendly

Conforming to Regulations Regarding the Chemicals Contained in Our Products

Compliance with Regulations

Regarding the chemicals contained in our products, we have joined industrial groups related to each country's regulations. We strive to stay up to date with the latest information and will respond swiftly and appropriately to new regulations.

We are working to comply with RoHS by responding to the recent changes in the directive. (e.g. expansion of covered product categories, changes to exemptions, and the implementation of CE marking). We are also working together with our business partners to avoid the procurement of conflict minerals. We are continuously providing our customers with appropriate information regarding these minerals.



"Our Approach to Conflict Minerals" page of the HPK website

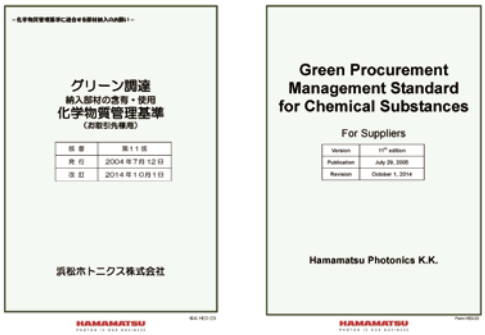
About Hamamatsu > CSR
> Procurement > Our Approach to Conflict Minerals

Green Procurement

We have established a company wide Management Standard for Chemical Substances. Within this standard we are able to conform to regulations and provide products that meet the demand of our customers. We issued the 11th edition of this standard in October 2014. This edition mainly focuses on conforming to the revised RoHS directive.

We conduct green procurement surveys with our business partners regarding the concentration of regulated chemicals. The survey results are collected in a company wide system that stores environmental information. The results are used to increase operational efficiency and to evaluate compliance with regulations.

Green Procurement and
Chemical Substance Management Guide

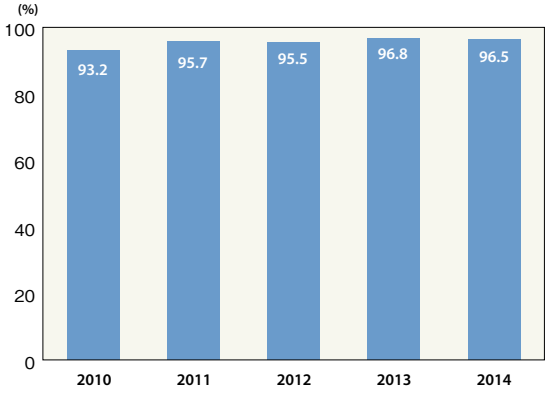


About Hamamatsu > CSR
> Procurement > Green procurement

Green Purchasing

We have established a company-wide green purchasing guide and are purchasing environmentally friendly office products and other goods. Our green purchasing rate for this period has been 96.5 % , which is above our target rate of 90 % .

Green purchasing rate



Developing Environmentally Friendly Products

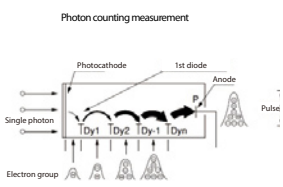
As a means of making our products more environmentally friendly, we are working to promote the sale of products that use less resources and power and with longer service life. Below are a few examples of products we have developed this period.

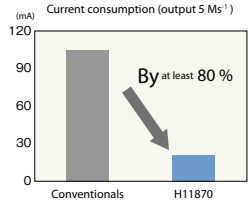
Examples of Newly Developed Environmentally Friendly Products

• Photon counting head

Product information
Photon counting head

The photon counting head, which measures low-level light produced from small amount of samples with high sensitivity, are widely used in blood testing, hygiene monitoring, and other similar applications.
The newly developed H11870 is a Cockcroft type with a divider section. This significantly improved the power consumption for 5 Ms^{-1} output, reducing the current consumption by more than 80% from previous products.

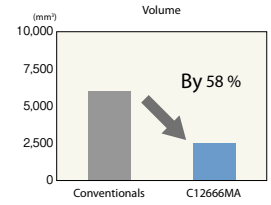


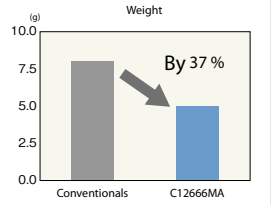


• Micro-spectrometer

Product information
C12666MA

The C12666MA is a ultra-compact (Finger-tip size) spectrometer head developed based on our MEMS and image sensor technologies. It is used for color adjustment in color printers, dimmer control of LED lighting, and even in environmental measuring instruments such as water quality control monitors.
The adoption of a newly designed optical system has reduced the volume to less one-half and weight by 37% compared to our previous product.

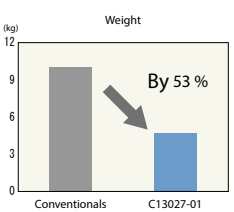


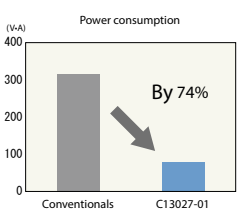


• Optical NanoGauge

Product information
Thickness/film thickness measuring device

The C13027-01 Optical NanoGauge is used to control the thickness of various thin films that are produced as semiconductor materials. Through the optimization of the spectrometer and the integration of light-source, spectrometer, and data-analysis sections, the measurement range has been expanded to 10 nm to 100 µm while its size has been reduced. It is approximately 53 % lighter and 74 % more energy efficient than our previous product.

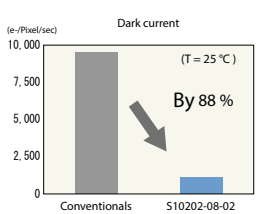


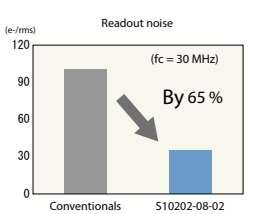


• TDI-CCD image sensor

Product information
Back-thinned TDI-CCD

The S10202-08-02/S10202-16-02 sensor is used in production line inspection equipment and the like for semiconductors and electronic parts. Compared with our previous product, the charge-to-voltage conversion efficiency has been increased, and the amplifier bandwidth has been improved to reduce readout noise. This enables inspection with lower level light and reduction in the power consumption by the light source in the inspection equipment. Further, the reduction of dark current can lower the energy needed for heat radiation and simplify the equipment mechanism.





Making Business Activities Environmentally Friendly

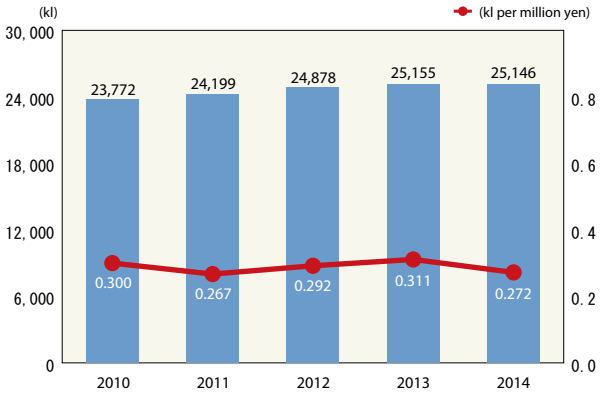
Fighting Global Warming

Changes in Energy Conservation and CO_2 Reduction

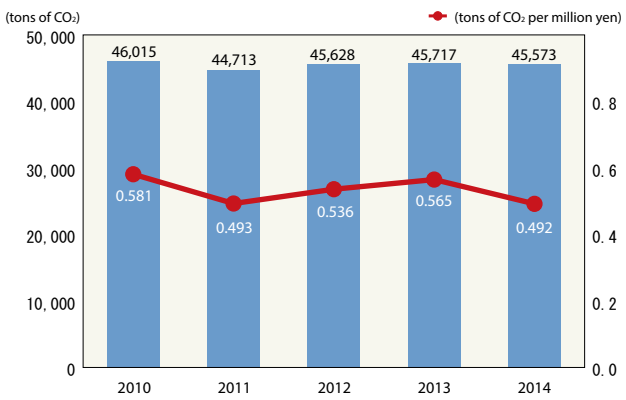
HPK has set the target for reducing the energy per unit of sales by at least 4 % by 2017 compared to 2013. To achieve this target, we have been incorporating highly efficient equipment and renewable energy, and working on energy saving of buildings in this fiscal period. As a result, our energy use per unit of sales did decreased by 12.6 % compared to the previous period. We have also installed in our semiconductor production combustion detoxifying equipments and plasma detoxifying equipments to aid in reducing the emission of greenhouse gases. These installations has reduced this fiscal period's CO_2 emission by 0.3% compared to the previous period. CO_2 emission per unit of sales has also been reduced by 12.9% compared to the previous period.

These endeavors have been recognized, and HPK was awarded the 2013 Environment Minister's Award for Global Warming Prevention Activity in the category of Countermeasure Technology Introduction and Dissemination. We also received a S rank certification in the Hamamatsu City Top Runner Program. Going forward, HPK will promote its energy saving and global warming prevention activities.

Energy use and its ratio of sales



CO_2 output and its ratio to sales



1 Some past data has been changed because of revisions to the scope of data collection and the data collected.
2 The factor we use to convert power to CO_2 and calculate the CO_2 from energy use is 0.417 (the emission factor provided by the Federation of Electric Power Companies).

Environmental consideration in the new building

In May 2014, our main factory completed the addition of a new building. This building houses the development and mass production of the opto-semiconductors based on MOEMS technology and modular products. It has numerous global warming prevention measures, including CO_2 emission reduction, the installation of highly efficient air conditioning systems, LED lighting, and natural lighting systems. It also received a B+ rating under the Comprehensive Assessment System for Built Environment Efficiency (CASBEE).


View of the new main factory building


Highly efficient cooling heat pump chiller


Inverters for air conditioners, exhaust fan, and pumps


LED lighting


Natural lighting system

Reducing Electricity Consumption

Participation in "Fun to Share" campaign

HPK has participated the new climate change campaign "Fun to Share". Launched by the Ministry of the Environment, this campaign aims to create a low carbon society. Every employee participates in this activity. Our Fun to Share declaration is posted at the campaign's website.

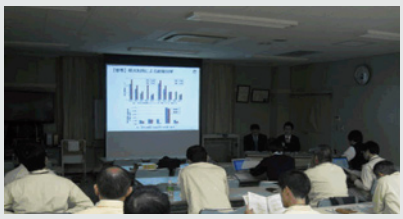
HPK Fun to Share declaration

HPK carries out the following activities to create a low carbon society.

1. Environmental friendly production
   We will apply photonics technology to promote the sales of environmentally friendly products and environmentally beneficial products.
2. Environmental impact reduction in business activities
   We will continue our efforts in energy conservation, preventing global warming, 3R (reduce, reuse, recycle) activities, and appropriate management of chemical substances.
3. Participation in local green activities
   Our employees and their family members will participate in environmental conservation activities with local communities.

Promotion in energy saving seminars

HPK periodically holds specialized training to improve skills and knowledge for members of the energy saving working groups. For general public, we introduce case studies of alternative energy and energy and power conservation programs. Through these lectures and seminars, HPK helps energy saving activities in the households, workplace, and local communities.



Energy conservation training

COLUMN:

Compliance with the revisions to the Energy Conservation Act: Leveling the demand for electricity

The Energy Conservation Act was revised. Beginning April 2014, the Act now called for reducing the amount of power usage during peak hours and leveling the demand for electricity (suppressing the variation depending on the season or hour).

Natural gas cogeneration system

Even before this latest revision, HPK has been undertaking the following activities:

· Generating electricity from natural gas cogeneration systems.
· Heat Storage Systems which store thermal energy during the evening and/or night.
· Demand Power Monitoring, Building Energy Management System, Electricity Usage on Intranet.

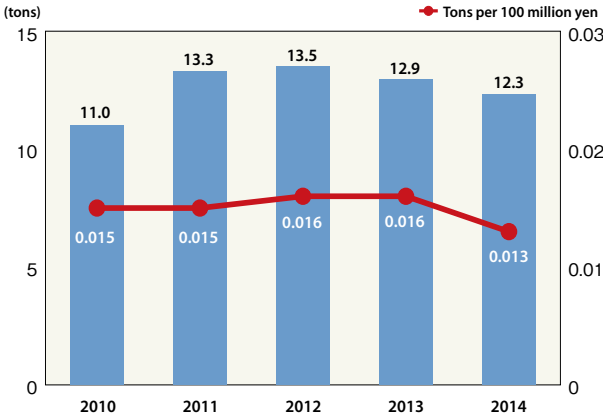
Appropriate Management of Chemicals

Handling of Chemicals Subject to the Pollutant Release and Transfer Register (PRTR) Law

In this period, we used 12.3 tons of substances designated as class 1 chemical substances under the PRTR Law (yearly use of 1 kg of more by all divisions subject to tracking). In 2013, we reported the use of two substances at our Main Factory (2-aminoethanol and hydrogen fluoride and its water-soluble salts).

1 PRTR Law: A law regarding the promotion of precise knowledge of emissions of designated substances into the environment and management improvements based on that knowledge

Chemicals subject to the PRTR Law and its ratio of sales



Promotion of SDS (Safety Data Sheet) Collection

As stipulated in the Industrial Safety and Health Law, SDSs are essential for assuring the safety of workers who handle chemical materials. They are also known for reducing the risks of these chemicals to the environment. We are reducing risks by promoting the collection of the latest SDSs, putting those SDSs in our internal company database, and disclosing and using them throughout the company.

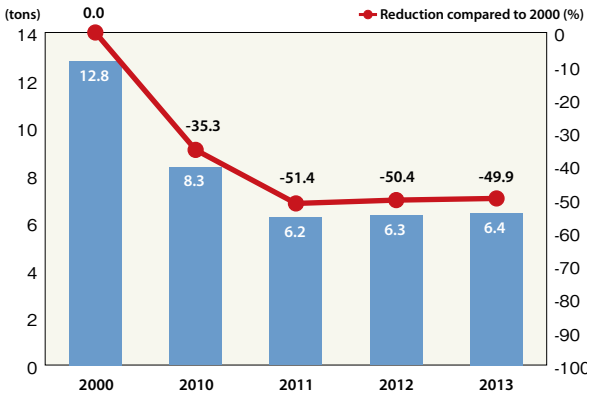
Internal SDS database

Reducing VOC (Volatile Organic Chemicals) Emissions

We are working to reduce emissions of VOCs into the atmosphere by reducing our use of VOCs and taking measures to inhibit emissions.

In 2013, we set a goal of sustaining a 30% reduction in VOC emissions compared to 2000, and we managed to achieve this goal by reaching 49.9 %. We will continue to strive to achieve this goal.

VOC emissions and reductions by year



COLUMN:
Checks for Chemical Handling Condition

The Chemicals Working Groups manage checks on chemical storage facilities and workplaces that handle chemical substances. When probrems are found, we would discuss them, think about sollutions, and share that information under the Headquaters Chemicals Working Group.

Performing a check at a clean room

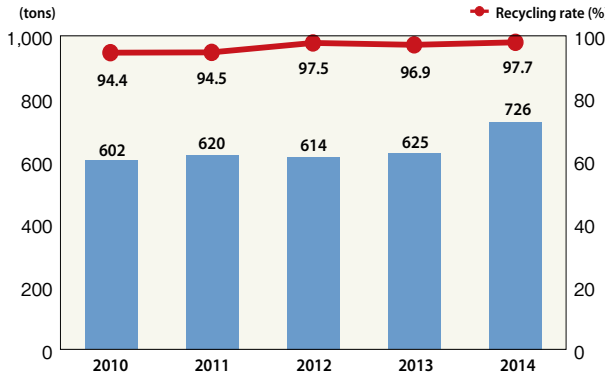
3R Activities

Reducing Waste Levels to Zero

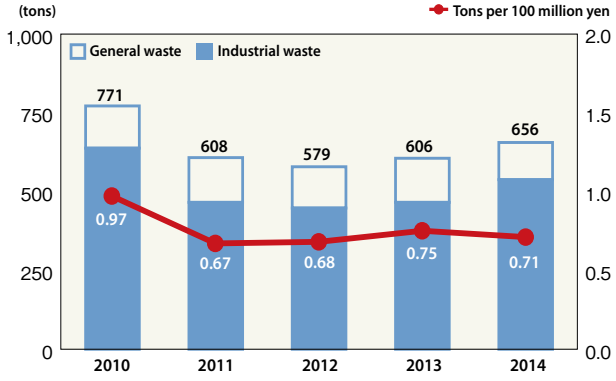
To reduce the impact of waste on the enviroment, we set the ideal of zero emissions[1] and adopted the 3R (Reduce, Re-use, and Recycle) policy. As we have already accomplished a previous goal of a total recycling rate of 95 % or more, our current one is 97 % or more[2] . In this period, we recorded a total recycling rate of 97.7 % , the amount of recycled materials was 726 tons, and that amount per sales volume was 0.71 due to the 3R activities.

1 Zero emissions: The idea that we should strive for a society with no waste
2 The amount of recycling is the total amount of material and thermal recycling added to the amount of valuables.

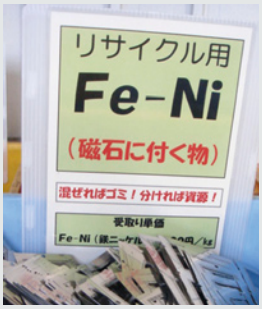
Recycling levels and its ratio



Total waste output and its ratio of sales



Examples of 3R Activities



- Indicating a waste disposal cost per unit

To improve a recycling rate, we have now displayed the cost per unit for disposal at strage areas. This effort helps employees to be more aware of cost-effectiveness.

- Checks for waste classification

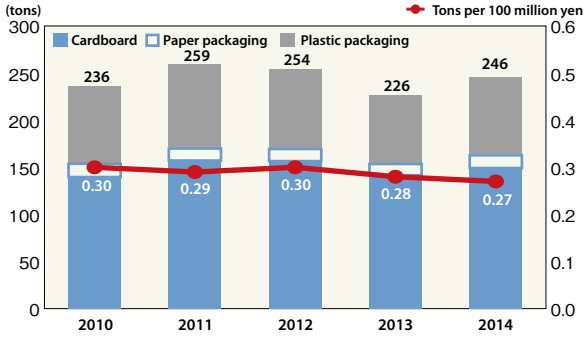
It is important to separate waste according to its type. Awareness helps promote correct disposal (e.g. disposal areas clearly marked, separating wastepaper in combustibles). To make sure that it is done appropriately, we perform periodic checks and share the results among employees.

Shipping Measures

Reducing Containers and Packaging Materials

We are using packaging materials as efficiently as possible to improve product accommodation ratios. In this period, our use of containers and packaging materials was 246 tons. Our use of containers and packaging materials per unit of sales was 0.27 tons per 100 million yen.

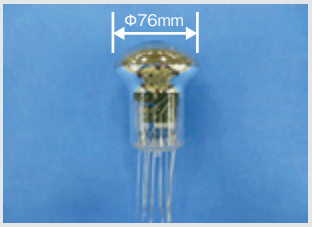
Container and packaging use and its ratio of sales



Examples of Reductions in Containers and Packaging

- Reduction of Packaging Use through Improvement in Packaging Methods

We have improved the packaging method of our 3-inch PMTs as part of reducing wastes and aiming for easy-disposal. The change from the conventional packing box containing 60 3-inch PMTs to the new way with a pallet containing 180 3-inch PMTs has reduced our work by 40 % and shipping costs by 20 %. In addition, this method makes disposal easier.



3-inch Diameter Photomultiplier Tube


Before improvement

Component parts : 1 outer box, 2 innner boxes containg 30 3inch PMTs each, and 1 set of corner pads

A maximum quantity in a shipped package : 60 3-inch PMTS

Packaging Reduction


After improvement

Component parts : 1 outer box, 6 innner boxes containg 30 3inch PMTs each, and 1 pallet

A maximum quantity in a shipped package : 180 3-inch PMTS

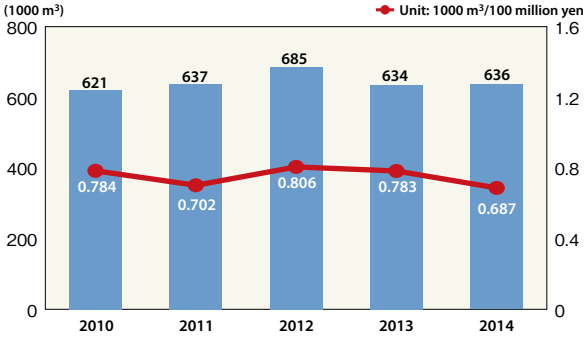
Protecting Our Water Resources

Using Water Resources Effectively

As the world is becoming more aware of the importance of water, we are maintaining an awareness by decreasing our water use, and working to recycle the water that we do use.

In this period, we used 636,000 m^3 of water, the same level as the previous period. Our use of water per unit of sales was 687 m^3 per 100 million yen.

Water use and its ratio of sales



Site Data

From Oct. 1, 2013 to Sep. 30, 2014

Environmental Impact	(Unit)	Toyooka Factory	Tenno Glass Works	Joko Factory
Energy	(GJ)	264,785	3,897	22,749
Water	(1000 m^3)	237	7	10
PRTR Law[1]	(tons)	0.2	0.01	0.01
Paper	(tons)	7	0.2	3.6
Containers, packaging	(tons)	124		18.6
CO_2 from energy use[2]	(tons)	11,806	174	961
Other GHGs[3]	(tons)	4	—	0
Wastewater	(1000 m^3)	237	7	10
Waste	(tons)	176	4.3	32
Final disposal	(tons)	4	0.06	0.4
Recycling rate[4]	(%)	99.4	99.3	99

Environmental Impact	(Unit)	Main Factory	Mitsue Factory	Shingai Factory
Energy	(GJ)	376,123	68,374	48,334
Water	(1000 m^3)	269	46	14
PRTR Law[1]	(tons)	10	0.05	1.4
Paper	(tons)	5.5	2.6	0.2
Containers, packaging	(tons)		103	
CO_2 from energy use[2]	(tons)	17,243	3,238	2,129
Other GHGs[3]	(tons)		1,686	
Wastewater	(1000 m^3)	269	23.4	14
Waste	(tons)	328	27	19
Final disposal	(tons)	6	0.7	0.1
Recycling rate[4]	(%)	96.6	95.5	99.8

Environmental Impact	(Unit)	Miyakoda Factory	Central Research Laboratory	Main Office	Industries Development Laboratory
Energy	(GJ)	59,374	97,492	2,218	25,498
Water	(1000 m^3)	13.5	34	1.3	4
PRTR Law[1]	(tons)	0.2	0.1	—	0.03
Paper	(tons)	0.4	2.7	2.3	0.2
Containers, packaging	(tons)	0.7	—	—	—
CO_2 from energy use	(tons)	2,612	4,280	93	1,095
Other GHGs[3]	(tons)	0	1	—	—
Wastewater	(1000 m^3)	10	15	1.3	4
Waste	(tons)	17	44	6.7	0.5
Final disposal	(tons)	1.3	3.7	0.05	0.02
Recycling rate[4]	(%)	97.6	97.4	97.4	97.7

1 Quantities of 1 kg or more and are designated as class 1 chemical substances under the PRTR Law.
2 The factor we use to convert power to CO_2 and calculate the CO_2 from energy use is 0.417.
3 The emitted GHGs other than CO_2 from energy use are converted to equivalent amounts of CO_2.
4 The recycling rate does not include acid or alkali waste.

Social and Environmental Communication

Promoting Community and Employee Communication through Ecological Activities

Social Contributions

As a means of contributing to society (and protecting the environment), employees have volunteered to clean the area around the company. In this period, a total of 583 employees participated in 15 cleanings. We also participated in cleaning activities in Toyodagawa in Toyonishicho organized by the Oogawa Sakura no Mizube no Kai (Oogawa Waterside Sakura Tree Association) and at the Lake Hamana Cleanup Campaign.

Lake Hamana Cleanup Campaign

Toyodagawa cleaning activities

Happy Memorial Trees and Tree Planting on Company Grounds

As part of our biodiversity conservation and greening education activities, we started donating trees to each employee who has built a new home or gotten married recently. This activity has been named Happy Memorial Trees. As of September 30, 2014, a total of 255 people have applied to participate in this activity. Of all the applicants, 166 built new homes and 89 were married. So far, a total of 203 applicants received their trees. To further promote this activity, we have added the elementary school enrollments of the employee's children as a third way to receive a Happy Memorial Tree. The planting of the Happy Memorial Trees serves as a reminder to employees and their families the importance of being green. Many commemorative photos of themselves with the tree were offered by those employees.

To beautify and maintain the environment, each division continues to make the company grounds greener and utilize Green Curtains in summer.

Happy Memorial Trees

Tree planting on company grounds

Environmental Communication Using Various Media

By providing information through a variety of media, we able to inform members of the community and our stakeholders the ways we are working to help the environment. Members of the community and our stakeholders are able to view our environmental reports and environmental initiatives on our website. To our employees, we also inform them of HPK's environmental initiatives through the company newsletter periodically to enhance their environmental consciousness.

Our Website on Enviromental Report

About Hamamatsu > CSR > Environmental Initiatives

Third Party Opinion

To improve the reliability of this report, we asked for the opinion of Hidenori Mimura, the Director of the Research Institute of Electronics at the Shizuoka University.

The Director of the Research Institute of Electronics
at the Shizuoka University

Professor Hidenori Mimura

Hamamatsu Photonics is a company that invents world's top-class optical products in the optical and electronic engineering field which I specialize in. I read through the 2015 Environmental Report with interest in how HPK deals with the reduction of environmental impact caused by business activities and environmental issues.

"Promoting Environmental Management"

HPK has established an environmental management system (EMS) framework and is working as a whole to improve the system. This is seen in activities such as every division of the company acquiring ISO14001 certification. Each year, from October 1st to September 30th, HPK sets environmental objectives and targets, and works actively to reduce their impact on the environment.

"Making Products Environmentally Friendly"

HPK has joined industrial associations and deals with regulations on chemicals. They strive to stay up to date with the latest information on these regulations and are responding to new regulations swiftly and appropriately. For example, HPK has established the own chemical substance management standard and are conducting green procurement surveys with their business partners regarding the concentrations of regulated chemicals in parts and materials. Further, they are working to develop and promote the sale of environmentally friendly products that use less resources with longer service life.

"Making Business Activities Environmentally Friendly"

HPK sets their fundamental policy which includes promoting 3R (Reduce, Reuse, and Recycle) and proper waste treatment. They work on activities under the idea of "Zero Emission". They have joined the Fun to Share program, a new climate change campaign in Japan, and posted the Fun to Share declaration "Achieve a low carbon society by applying photonics technology and environmental impact reduction activities". They take various measaures of reducing CO_2 and energy saving in their factories and their employees also participate energy saving activities willingly. In terms of reducing the use of resources, HPK is using packaging materials as efficiently as possible. In regards to the proper management of chemical substances, HPK is promoting to collect safety data sheet, has set up a management system, and is working to reduce VOC emissions. Furthermore, they work on the effective use of water resources such as rainwater for sprinkling and cooling towers.

As seen here, HPK is working to reduce the environmental impact caused by business activities in many different ways. Even though their business scale is expanding every year, their environmental impact has been suppressed, showing that their endeavors are effective. In particular, their endeavors of reducing CO_2 emissions have been recognized, and HPK was rewarded with the 2013 Environment Minister's Award for Global Warming Prevention Activity in the Countermeasure Technology Introduction and Dissemination Category. Also, HPK's originality can be seen through their contribution to solving environmental problems by applying their keen photonics technology to produce environmentally friendly products. Various data of environmental impact is readily visible, and the entire scope of their environmental endeavors can be highly regarded. I hope HPK continues to contribute in the reduction of environmental impact and their unique solution to environmental problems with their photonics products.

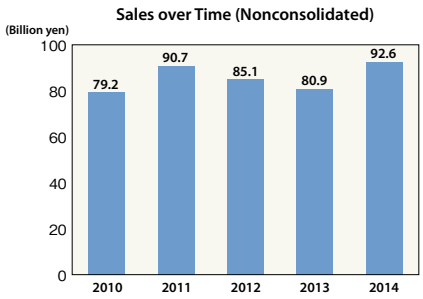
Response to the Third Party Opinion

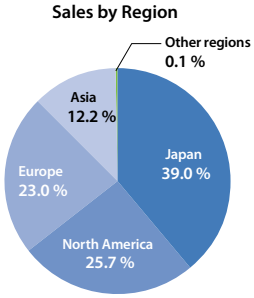
Thank you very much for your valuable opinions. As mentioned by Professor Mimura, our environmental activities are recognized, and we were able to obtain the 2013 Environment Minister's Award for Global Warming Prevention Activity. In the future, we would like to make our environmental data more visible, contribute to solving environmental problems through photonics technology, and pursue a sustainable society.

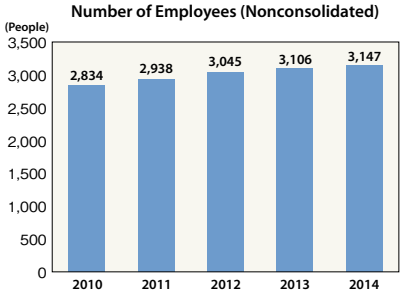
Headquarter Environment Committee Secretariats

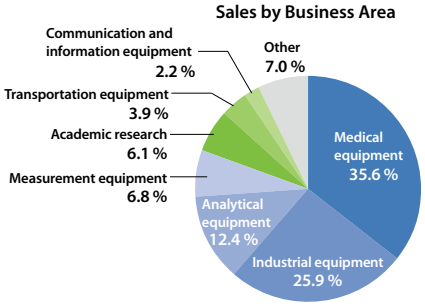
Company Overview

Company Name	Hamamatsu Photonics K.K.
Headquarter	325-6 Sunayama-cho, Naka-ku, Hamamatsu City, Shizuoka Pref., 430-8587, Japan
Established	September 29, 1953
Representative	Akira Hiruma, President
Capital	34,928,000,000 yen
Sales (non-consolidated)	92,583,000,000 yen
Employees (non-consolidated)	3,147
Products	Photonic Detectors, Light Sources, Cameras & Systems









Editing Guidelines

Period	Oct. 1, 2013, to Sep. 30, 2014
Organization	Hamamatsu Photonics K.K. (Nonconsolidated)
Environmental Performance Data	11 business facilities (Toyooka Factory, Tenno Glass Works, Main Factory, Mitsue Factory, Shingai Factory, Joko Factory, Miyakoda Factory, Central Research Laboratory, Headquarters, Industries Development Laboratory, and Tsukuba Research Laboratory) 5 sales offices (Tokyo Sales Office, Osaka Sales Office, Sendai Sales Office, Tsukuba Sales Office, and Nishinihon Sales Office)
Reference Guidelines	2012 Environmental Report Guidelines

Webpage

About Hamamatsu > CSR > Environmental Initiatives

Our website provides information on our environmental efforts.

HAMAMATSU PHOTONICS K.K. www.hamamatsu.com

[CONTACT] Environment Committee Secretariats
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Published in March 2015
Ver.2