Sumitomo Heavy Industries Group

Environmental Sustainability Report

2015

Sumitomo Heavy Industries, Ltd.

Environmental Management Division

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Sumitomo Heavy Industries, Ltd.

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Editorial Policy

This report is intended to present our stakeholders with an organized summary of the measures and conceptual approaches taken by Sumitomo Heavy Industries Group in our environmental activities and social contribution activities.

We have concluded the 3rd Medium-Term Environmental Plan (FY2011-2013) and started the new, 4th Medium-Term Environmental Plan (FY2014-2016).

We hope to give our readers an understanding of an overview of the 4th Medium-Term Environmental Plan. To that end, we have sought to make the report accessible by using plain and concise language and by making frequent use of graphs, illustrations and photographs.

Further, when issuing this report, we consulted the Environmental Reporting Guidelines (2012) and the Environmental Accounting Guidelines (2005) from the Ministry of the Environment.

Scope of the report

Sumitomo Heavy Industries, Ltd. and its group companies

Period covered by this report

April 01, 2014 – March 31, 2015

Previous issue: August 2014
Current issue: October 2015
Next issue: August 2016

Disclaimer

This report contains not only facts relating to the past and present of Sumitomo Heavy Industries Group but also plans, forecasts, and projections based on management plans and management policy at the time of publication. These plans, forecasts and projections are assumptions and judgments based on available information at the time of writing, and results or matters pertaining to future business activities may differ materially from the descriptions due to changing conditions.

Additionally, further examination of past data may lead to results that differ from values given in past Environmental Sustainability Reports.

With our foundation in the Sumitomo Business Spirit, we will go on providing “first-class products” and services that contribute to the realization of a sustainable society.

I would like to say thank you to all our stakeholders: Your long-standing support and understanding of our Group's corporate activity are greatly appreciated.

The Sumitomo Heavy Industries Group initiated the Medium-Term Management Plan 2016 (FY2014-2016) in the previous fiscal year, so the plan is now in its second fiscal year. The business strategy of the Medium-Term Management Plan 2016 declares these objectives:

- Steady growth for the purpose of creating the foundation for sustained growth
- Return to higher levels of profitability
- Persistent efforts for operational quality improvements

Our aim is to be a corporation that continues to provide "first-class products."

One of these persistent efforts for operational quality improvements is compliance.

As I understand compliance, it is not enough just to follow legal statutes, or to follow in-house regulations or social norms. I think compliance is responding to the societal demands that are in the background of those statutes, regulations, and norms. In the current fiscal year, therefore, we have defined the following thematic areas and are taking action accordingly:

- Return to our starting point and engage seriously in initiatives to improve operational quality.
- Engage in steady activity that mobilizes all our employees to act together in promoting improvement.

The societal demands faced by corporations, including the Sumitomo Heavy Industries Group, are undergoing change from moment to moment. However, the environmental programs we have been pursuing in the Sumitomo Heavy Industries Group, including our activities to prevent global warming, have consistently responded to important societal demands and have always been in accord with the "Sumitomo Business Spirit."

Last fiscal year we started our 4th Medium-Term Environmental Plan (FY2014-2016) based on the Medium-Term Management Plan 2016. The 4th Medium-Term Environmental Plan includes the following basic policies:

- Promote environmental risk management
- Contribute to achievement of a low-carbon society
- Realize a resource-recycling society
- Contribute to local communities and take measures for biodiversity

Pursuing these policies, we will take steps to further promote environmental activities at Group companies, including those in other countries.

I myself have a very keen awareness of the importance of environmental activities. The top management in each business division and every Group company as well as all Group employees will conscientiously and steadfastly engage in specific implementation of these activities.

In this implementation, we will place the greatest priority on autonomous activities undertaken by each business division and Group company to achieve the targets of the 4th Medium-Term Environmental Plan.

Also of importance, as I see it, is for all the individual employees who do the work of the various business divisions and Group companies to learn with each other and from each other as they pursue environmental activities.

The Sumitomo Heavy Industries Group will continue listening attentively to our stakeholders and taking them seriously. We will constantly pursue the effort to reform ourselves, without ever stopping, as we steadily move toward realization of the Group goals.

We appreciate your opinions and advice, and we will be very pleased to draw on them for our future initiatives.

President and CEO
Shunsuke Betsukawa

The Sumitomo Heavy Industries Group contributes to building an affluent society with “manufacturing” technology

Since its foundation as a repair shop for the Besshi Copper Mine in 1888, the Sumitomo Heavy Industries Group has moved in step with social and industrial development. With a manufacturing technology nurtured by a tradition spanning more than 100 years, we make use of proven technologies that “actuate and control” devices from the world of nanotechnology to gigantic structures to realize original ideas and dreams.

Machinery Component

We handle speed reducers, which are devices for lowering the number of motor revolutions and raising torque. Taking part in a broad range of markets, speed reducers are used in conveyance lines at factories, in robotic joints and in the drive systems of a range of machines.

Main Products

Power transmission equipment, Inverters

Precision Machinery

We handle injection molding machines for making plastic products, and devices for manufacturing liquid crystal and semiconductors. Among injection molding machines, products that require precision machining are one of our particular specialties.

Main Products

Plastic injection molding machines, ion accelerators, laser processing systems, cryogenic equipment, precision positioning equipment, transfer molding press machines, precision forgings, defense equipment

Construction Machinery

An extremely fuel-efficient product, our hydraulic excavator was the first construction machinery to win the Energy Conservation Grand Prize. Featuring outstanding maneuverability, the Good Design Award is another stellar achievement for the excavator.

Main Products

Hydraulic excavators, mobile cranes, road machinery

Industrial Machinery

The products include devices for diagnosing and curing cancer, forging presses for producing components for automobile engines, large cranes for shipyards and ports, steam turbines for private power generation at factories, automated warehouse systems, etc.

Main Products

Cyclotrons for medical use, ion accelerators, plasma coating systems, forging presses, material handling systems, logistics & handling systems, turbines, pumps

Ships

We specialize in midsized tankers with a capacity in the 100,000-ton class. By narrowing down the types of ships, we have raised development efficiency and we take pride in a low fuel consumption that is in the top class for the industry.

Main Products

Ships

Environmental Facilities & Plants

We also handle boilers that are 100% biomass fuel-compatible, and energy-saving effluent treatment facilities. Our products also include exhaust gas processing facilities that do not use water, and facilities for recovering metals from waste.

Main Products

Power generation systems, industrial wastewater treatment systems, water and sewage treatment systems, landfill leachate treatment systems, air pollution control plants, process equipment for chemical plants, reactor vessels, mixing reactors, steel structures, food processing machinery

Company Outline

(as of March 31, 2015)

Company name	Sumitomo Heavy Industries, Ltd.
Founded	November 20, 1888
Incorporated	November 1, 1934
Head Office	1-1 Osaki 2-chome, Shinagawa-ku, Tokyo
Capital	30,871,650,000 yen
Number of employees	Consolidated: 18,061
Net sales	Consolidated: 667,100 million yen

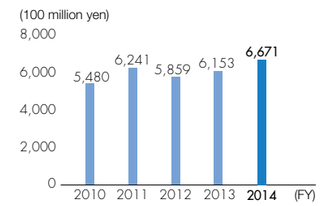
Overseas Locations

Machinery Component / Precision Machinery / Construction Machinery / Industrial Machinery / Ships / Environmental Facilities & Plants

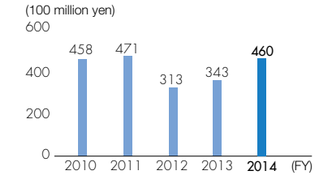
Asia		Europe		America	
Net sales	133.1 billion yen	Net sales	56.7 billion yen	Net sales	133.3 billion yen
Affiliated companies	28 companies	Affiliated companies	17 companies	Affiliated companies	23 companies
Number of employees	4,476 people	Number of employees	1,845 people	Number of employees	1,704 people

* The regional sales figures shown above do not include sales in the Ships segment.

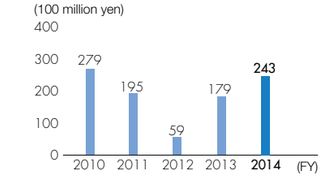
Changes in net sales



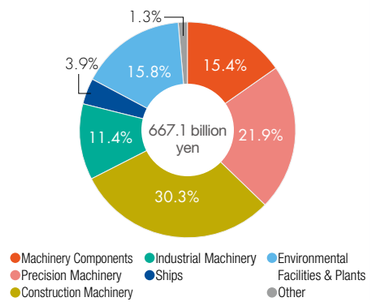
Changes in operating income



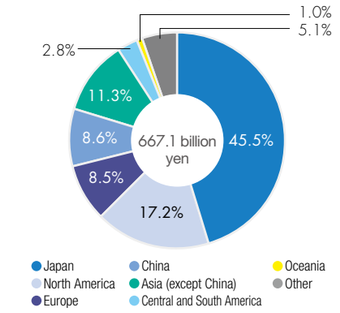
Changes in net income



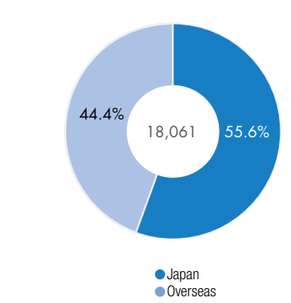
Net sales ratio by segment (FY2014)



Net sales ratio by region (FY2014)

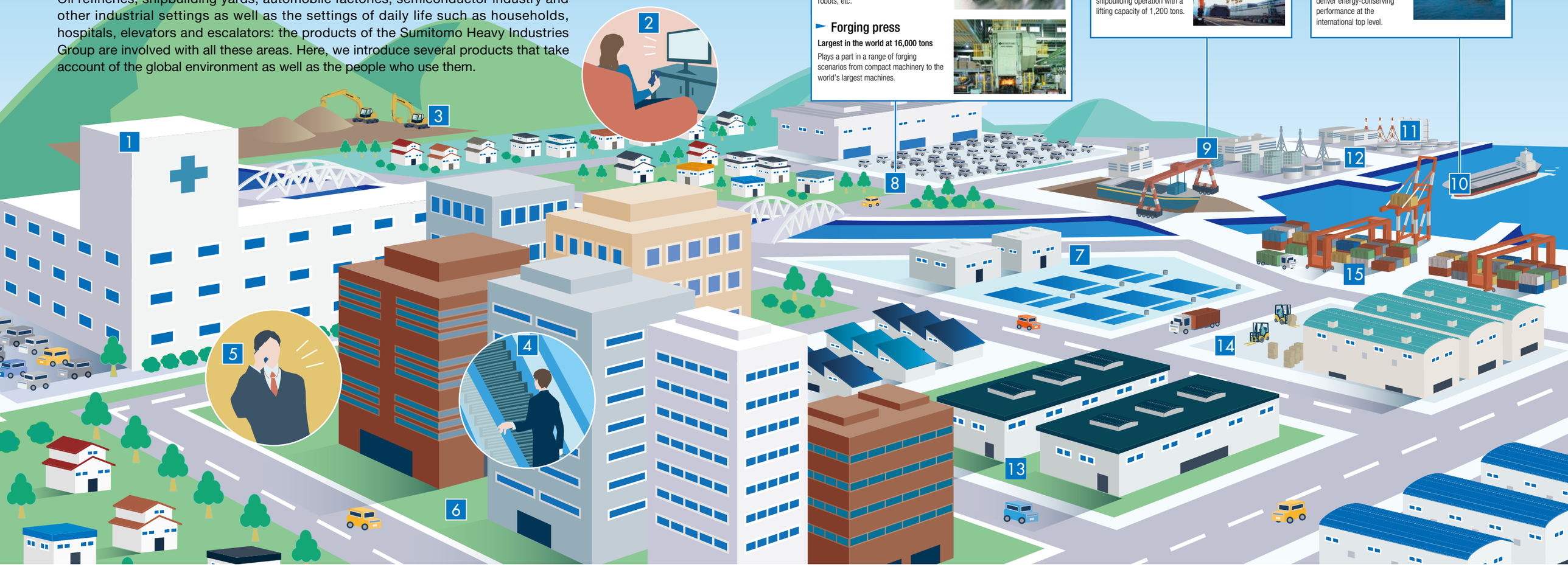


Employee ratio by region (FY2014)



Relationship between Sumitomo Heavy Industries Group and Society

Oil refineries, shipbuilding yards, automobile factories, semiconductor industry and other industrial settings as well as the settings of daily life such as households, hospitals, elevators and escalators: the products of the Sumitomo Heavy Industries Group are involved with all these areas. Here, we introduce several products that take account of the global environment as well as the people who use them.



1 Hospitals

Cyclotron for PET

We continue to lead in tracer RI pharmaceutical systems for PET systems.

Discovers cancers of less than 1 cm in the early stages.

Proton cancer therapy system

More compact than the onventional system

Capable of pinpointing and picking off cancer cells, outstanding in terms of its gentle therapy effect on the patient's body.

Cryocooler for MRI systems

The simple structure saves labor at use.

Cooling to the ultralow temperature of –269ºC, this is the core of MRI equipment.

2 Televisions and PCs

Semiconductor and liquid production equipment

Delivering high positioning precision on the order of nanometers

We handle the XY stages used for precision positioning of FPD and semiconductor manufacturing equipment.

3 Construction Sites

Hydraulic excavators

We contribute to reducing the burden on the environment worldwide.

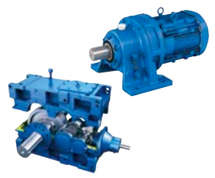
Delivering a 20% improvement in fuel consumption.
First construction machinery to receive Energy Conservation Grand Prize (FY2007).

4 Elevators and Escalators
8 Automobile Factories

Speed reducers

A history of trust spanning more than half a century

The compact design trims weight by 30%.



7 Sewage Treatment Plants

Diffusion equipment

Delivering energy savings by reducing energy consumption at sewage treatment plants

Capable of reducing power usage by creating bubbles that are finer than those of conventional diffusers for efficient delivery of oxygen.

5 Mobile Phones, DVDs and CDs

Plastic injection molding machine

Approaching next-to-zero waste, defects or difficulty

Compatible with precision micro-molding.

6 Underground Parking Lots

Mechanical parking garage

Maximum effective utilization of limited space

Facilitating faster removal times and higher storage capacity (about 170 vehicles per unit).

8 Automobile Factories

Precision speed reducers

No wobbling at inversion

Widely used in fields where precise control is required such as welding robots, etc.

Forging press

Largest in the world at 16,000 tons

Plays a part in a range of forging scenarios from compact machinery to the world's largest machines.

9 Shipbuilding Yards

Large crane

Contributes to optimization of shipbuilding.

Helps raise the efficiency of shipbuilding operation with a lifting capacity of 1,200 tons.

10 Sea

Oil tanker

Implementing energy conservation on board ships

Our proprietary technologies deliver energy-conserving performance at the international top level.

11 Power Generating Facilities

Biomass boiler

Contributes to the global environment by utilizing diverse fuels.

Creates power and steam from a variety of fuels including biomass fuels where high-efficiency use has been difficult in the past.

Steam turbine

Advanced technologies with confidence and results that respond to the needs of the times.

We are proud to have delivered about 6,500 turbines to approximately 80 countries worldwide.

Dry-type desulphurization denitrification system

Contributes to processing SOx, NOx and dioxins in exhaust gas.

Treats exhaust gas without using water.

12 Oil Refineries

Coke drums

Responds to wide-ranging customer needs with a sophisticated quality assurance system.

At oil refineries, the coke drums are capable of processing heavy oil in the most efficient manner.

13 Semiconductor Factories

Ion implantation system

Delivering high productivity with high precision and high quality

Compatible with 20 nm ultrafine LSI. Implants ion in wafers.

14 Warehouse

Forklift

Satisfies all workability, comfort, economic efficiency and safety standards.

We have an abundant lineup from 0.9 to 5.0 tons.

Automated warehouse system

Numerous achievements in a wide-ranging industry

Streamlines tasks with completely automated management of 190,000 packing cases.

15 Harbors

Container transfer crane

Resolves environmental issues caused by heavy fuel consumption, black smoke and other exhaust gases.

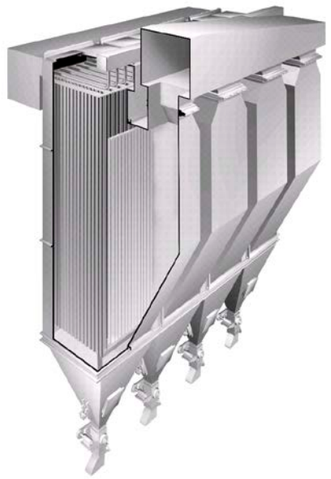
By adopting a hybrid system, we have kept maximum engine output to about 1/3, reduced fuel consumption by approximately 60%, and reduced exhaust gas.

1 Excellent Environmental Equipment Awards Product awarded the Director-General's Prize from the Industrial Science and Technology Policy and Environment Bureau of Japan's Ministry of Economy, Trade and Industry

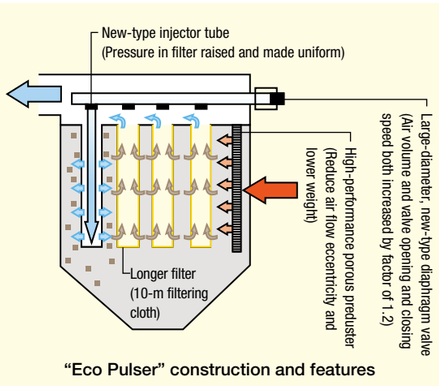
– "Eco Pulser" New Pulse-Type Bag Filter -

The "Eco Pulser," a new pulse-type bag filter developed by the Nihon Spindle Manufacturing Co. Ltd., was awarded the Director-General's Prize from the Industrial Science and Technology Policy and Environment Bureau of Japan's Ministry of Economy, Trade and Industry, at the fiscal year 2013 (40th) Excellent Environmental Equipment Awards (organized by the Japan Society of Industrial Machinery Manufacturers).

This award is presented under the system for commending devices that are recognized as having superior quality and performance as well as having made major contributions to environmental protection and to the advancement of the environmental equipment industry. The purpose of these awards is to promote research and development of technologies for environmental protection and the widespread adoption of superior environmental equipment.



"Eco Pulser" new pulse-type bag filter



"Eco Pulser" construction and features

The bag filter is the most widely used of the barrier-type dust collectors for removing the highly concentrated particulate matter in exhaust gases. Of these dust collectors, those with pulse-type bag filters inject pulses of air through injector tubes to remove particulate matter that has adhered to the filtering cloth.

In the iron and steel manufacturing markets, the sharp increases in electric power costs in recent years are among the factors that have created particular demand for energy-saving and lower running costs. The "Eco Pulser" new pulse-type bag filter with enhanced pulse cleaning functionality has achieved greater efficiency in removal of particulate matter captured by the filter and reduced power consumption by blowers. The adoption of a porous preduster has also reduced both weight and pressure loss in order to limit eccentricity in the air flow. By adopting new-type diaphragm valves and injector tubes, we have made the filtering cloths longer so that fewer cloths are needed. Reducing the number of filtering cloths contributes to space-saving construction and to reduction of the price of the dust collector itself as well as of foundation and installation work expenses and other initial costs. Reducing the number of filtering cloths that need to be exchanged can help reduce maintenance costs, making this a product that can enhance customer value.

Steps are being taken to expand the target markets for the "Eco Pulser" to include municipal waste incinerators and boilers. Going forward, we will continue aiming to make ourselves a corporation that contributes to the global environment and to society.

Award ceremony

2 Kurashiki City Green Curtain Contest

- Okayama Works Wins Award for Excellence -

The green curtain planted on the south wall of the main building at the Okayama Works was selected (by citizen votes) for an Award for Excellence in the Kurashiki City Green Curtain Contest of fiscal year 2014, and we received a commendation.

Kurashiki City, where the Okayama Works is located, has been expanding the creation of green curtains throughout the city as part of its measures against global warming. This involves planting bitter gourds, morning glories and other climbing plants around windows and on walls as curtains against the direct summer sunlight. This helps limit the rise of interior temperatures so that air conditioning can be reduced.

When the people at the Okayama Works learned about this Kurashiki City initiative, they started planting a green curtain on the south wall of the main building in fiscal year 2010. At first they planted bitter gourd vines, but from fiscal year 2014 they decided to plant mainly Ryukyu morning glories. These morning glory vines grew all the way up to the second floor windows, and their large leaves shaded the entire windows with a curtain effect.

Covering the entire window surface on the main building south wall from the first to second floors, the green curtain effectively blocked both light and heat. This reduced summertime air conditioning use and contributed to the reduction of CO_2 emissions. Moreover, the Ryukyu morning glory produces large numbers of blossoms on a daily basis. This has the very positive effect of softening the workplace atmosphere and improving the appearance of the Okayama Works campus.

The work for which the Award for Excellence was received was the extensive growth of vines on the south wall of the main building. As we understand it, the fact that the green curtain also covered over the windows on the second floor was given high marks by the public.

The green curtain will be implemented again on the south wall of the main building in fiscal year 2015, and it is growing satisfactorily.

We intend to go on working on this in the future as a local community activity.

Seen from inside an office

Members of the implementing team

3 "Training in the System for Writing Local Government Global Warming Countermeasure Plans (Actual Practice Session)" organized by the Ministry of the Environment Held:

- At the Tanashi Works on Monday, March 16, 2015 -

This training was held to implement the plan writing system that is part of the future global warming countermeasures being considered by the Ministry of the Environment. The training was held using the Metropolis of Tokyo system as a model. This plan writing system has been adopted by the Metropolis of Tokyo ahead of the rest of the country, and the Ministry of the Environment is following the system with interest.

The Tanashi Works is recognized as a business establishment that has made notable progress in reducing CO_2, even among the large-scale business establishments that are supporting the mandatory system for total CO_2 reduction under the Tokyo Metropolitan Ordinance on Environmental Preservation. At present, the Ministry of the Environment has approached the plant to enquire about implementing this training.

This training session brought together the officials in charge from sections promoting global warming countermeasures in every prefecture and government-designated city. Taking a practical format, the training covered the kinds of preparation that need to be made by government offices, and how follow-up on measures are to be handled with corporations when the system is actually put into operation. On the day of the session, activities conducted at the plant were explained. The focus was on brainstorming activities, everyday target management through visualization, measures making use of electric power monitoring systems promoted to date and so on. On a tour of the plant, participants were shown frequency converter rooms and other equipment and facilities that had been streamlined by improvements, allowing them to observe actual measures that were taken.

The Tanashi Works will continue aiming to achieve further improvements.

Explaining the status of measures at the plant

Sumitomo Heavy Industries Group

4th Medium-Term Environmental Plan

At the Sumitomo Heavy Industries Group, we aim to realize the “Excellent Eco Factory” that contributes to the realization of a sustainable society by holding fast to the “Sumitomo Business Spirit” and setting our sights on achieving a low-carbon society in 2020.

Contributing to the Prevention of Global Warming in Both Product Use and Production

— 4th Medium-Term Environmental Plan Focuses on the amount of contribution to reducing CO_2 emissions from product usage —

Our Group’s 4th Medium-Term Environmental Plan has the achievement of a low-carbon society as a major component. We are aiming for a 22% reduction in CO_2 emissions from global production and a 15% reduction in CO_2 emissions from product use.

We have been taking measures for some time to reduce CO_2 emissions during production, and now we are putting additional focus on the amount of contribution to reducing CO_2 emissions from product usage. This will further reinforce our CO_2 reduction activities working through both products and services.

“The amount of contribution to reducing CO_2 emissions from product usage” refers to the size of the CO_2 reduction that we anticipate from the development of new products with greater energy-conservation performance than the older products (FY2008 standard). In order to increase the amount of contribution to reducing CO_2 emissions from product usage, we are setting fiscal year targets for the increase of the number of our proprietary environmentally friendly products and the expansion of our sales of those products. An overwhelmingly large part of lifecycle CO_2 emissions for our Group’s products comes during product use, at 96%. This amount must be reduced. We will take steps to develop and popularize products with greater energy efficiency. Our aim is to contribute to the realization of a low-carbon society.

Meanwhile, our efforts to reduce CO_2 emissions during production are lowering CO_2 from our factories in Japan every year. Our actual records show a 33% reduction from 2004. There was also a slight reduction at our overseas factories, so when results in Japan and other countries were added together, we achieved our target. The 4th Medium-Term Environmental Plan sets a global reduction target of 25% in FY2020, and calls for energy conservation at our factories outside Japan.

Basic Policies of the 4th Medium-Term Environmental Plan

1 Promote environmental risk management

We will take steps to reduce environmental risks and aim to achieve zero environmental accidents.
We will expand our environmental risk assessments to all our business establishments, including factories outside Japan, take steps to prevent environmental accidents, and maintain our zero accident record.

2 Contribute to the achievement of a low-carbon society

We have long been taking measures to reduce CO_2 emissions during production, and in addition we are reinforcing our activities to reduce CO_2 emissions during product use.

3 Realize a resource-recycling society

We will continue to reduce the amount of waste we generate and pursue zero emissions.

4 Contribute to local communities and take measures for biodiversity

We will participate in local community activities in every region, and contribute to the protection of a diversity of organisms by afforestation at our factories and other such activities.

Contribute to low-carbon society with environmentally friendly products and “first-class products”

All-electric injection molding machines

This is a device for producing plastic products. The group has special expertise in high-precision, high-cycle work, and has one of the top market shares domestically. We deliver products that are outstanding not just for their performance but also for their economy. That is why, for example, we have won the Minister of Economy, Trade and Industry Award at the Outstanding Energy Conservation Equipment Awards of the Japan Machinery Federation.

Compact CFB boiler

This circulating fluidized bed (CFB) boiler is capable of efficiently burning even flame-retardant fuels. In response to the demand from small-scale power generation facilities that use biomass as fuel, we developed a compact boiler in the 5-MW class. This is contributing to the effective utilization of global resources.

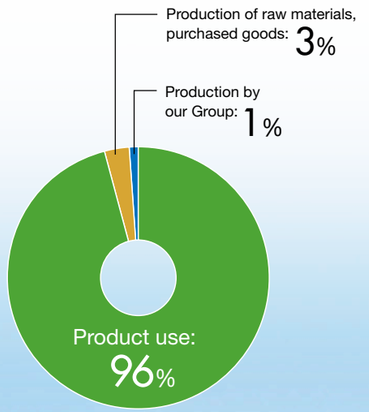
Hybrid hydraulic excavator

The rotation is used to generate electricity, providing support for engine output that enhances the excavator’s fuel economy. The hydraulic excavator model used as the base for this system is also a prize-winner for energy conservation, and this further energy-conserving effect is contributing to the environment.

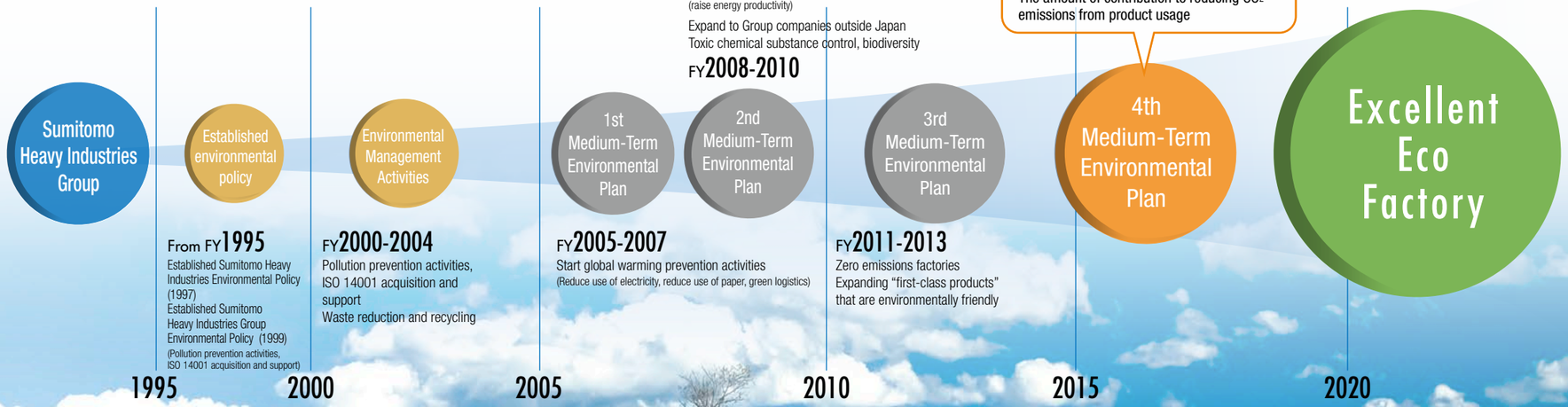
Steam turbine

This is a device used primarily for private power generation at factories. It receives steam from a boiler and uses it to run an electric generator. Recent years have seen increasing use for biomass power generation, and we have an overwhelmingly large worldwide share in this application.

CO_2 emissions during production and during product use



Changes in Environmental Management Activities at the Sumitomo Heavy Industries Group



Environmental Management System

At Sumitomo Heavy Industries Group, we have been promoting environmental management with awareness that business corporations have social responsibilities for protecting the global environment, for preserving the local environment, and for engaging in economic activities that are oriented toward recycling.

Sumitomo Heavy Industries Group Environmental Philosophy

The Sumitomo Heavy Industries Group contributes to implementing sustainable development of society by holding fast to the "Sumitomo Business Spirit."
The Sumitomo Heavy Industries Group is taking action across the Group to protect the global environment.

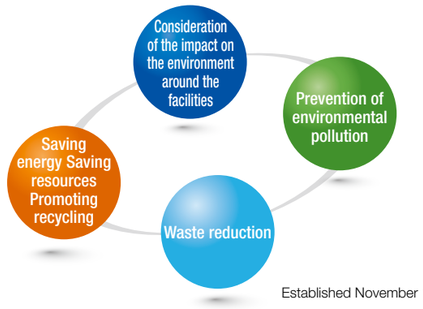
Environmental Policy

Environmental Management Implemented on the Basis of the Sumitomo Heavy Industries Group Basic Environmental Policy

In 1992, we established the Environmental Committee to promote environmental protection and compliance in local communities. In September 1997, we established the Sumitomo Heavy Industries Environmental Policy in order to drive home the message of environmental management.

In addition, in order to clarify the basic policy of activities across the Group, we established the Sumitomo Heavy Industries Group Environmental Policy in November 1999, expanding environmental management across the Group as a whole including overseas facilities.

Sumitomo Heavy Industries Group Environmental Policy



Established November 1, 1999

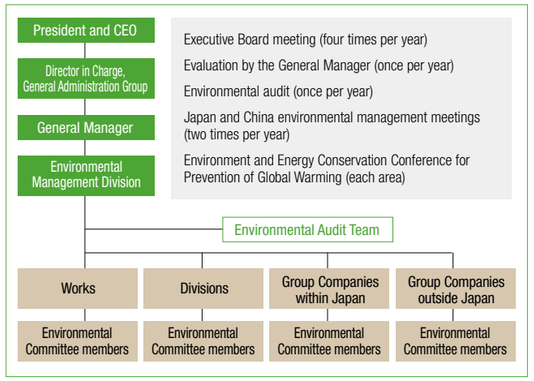
Environmental Management

Assign Expert Environmental Committee Members and Develope a System to Manage Our Performance on Environmental Objectives

As a corporate group that is expanding its business globally, the Sumitomo Heavy Industries Group considers environmental activities to be social responsibilities. We are therefore aiming to improve the environmental management conducted by every organization belonging to our Group, and to raise it to a high level.

The scope of management extends to our works, business divisions, branches, and Group companies inside and outside Japan. We have assigned expert Environmental Committee members to them and developed a system to manage their performance on environmental objectives.

We have established the Environmental Management Division at the head office. It is engaged in on-going environmental management that extends to drafting medium-term environmental plans, formulating environmental objectives for each fiscal year, promoting the implementation of plans and objectives, and developing human resources.



Environmental Management Audit

Conduct audits of Every Works and Group Company in Japan and Each of Our Local Corporations Outside Japan

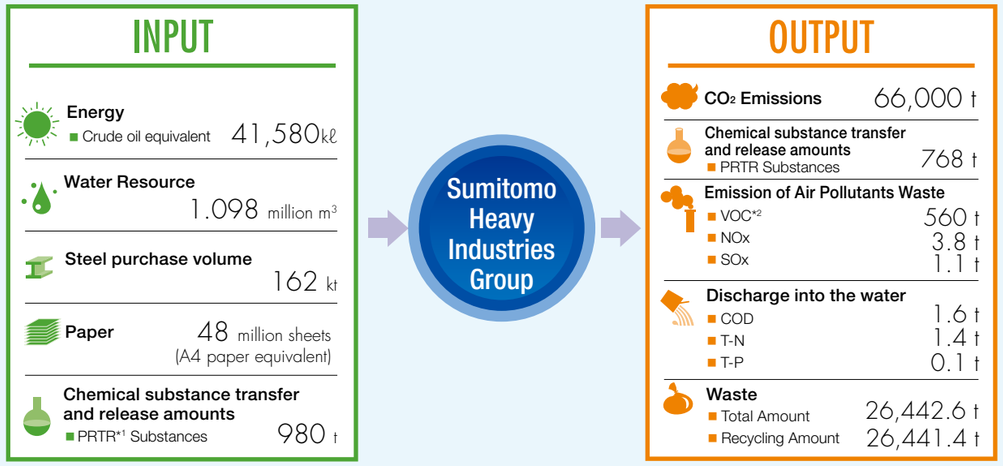
The Environmental Management Division of the head office conducts one environmental audit of every works and Group company in Japan every year. These audits cover the whole of environmental management, including environmental risk assessment and global warming prevention activities. The audit results are evaluated on a five-level scale in each department, using our company's own proprietary evaluation criteria, and then reported to the Executive Board. We take these steps with the aim of raising the levels.

The Environmental Management Division also conducts systematic audits of each of our local corporations outside Japan, taking into account the environmental impact of each company. The principal purpose is to achieve objectives for environmental risk reduction and global warming prevention activities. The audit results are evaluated on a five-level scale, just as with the audits in Japan, and reported to the Executive Board. Audits were carried out at four factories in China, two factories in the Philippines and two factories in Europe in fiscal year 2012; at eight factories in China in fiscal year 2013; at five factories in China, two factories in Vietnam, one factory in Indonesia and two factories in the United States in fiscal year 2014. Audits will be carried out at two factories in the Philippines and five factories in China in fiscal year 2015.

Environmental Objectives (Medium-Term Plan) and Results

We formulated the fourth medium-term environmental plan, for which FY2016 was the final year, and worked to reduce environmental impact.

Overall view of the FY2014 environmental impact (Sumitomo Heavy Industries Group, domestic)



*1 PRTR: Pollutant Release and Transfer Register
*2 VOC: Volatile Organic Compounds

Environmental Accounting for FY2014

Active Investment in Administration and Maintenance of ISO 14001 Standards

As a yardstick for measuring the investment, expenditure and effect of environmental protection, we have conducted environmental accounting in accordance with the Environmental Accounting Guidelines, 2005, issued by the Ministry of the Environment.

Unit: million yen

Costs for environment protection							Effectiveness of environmental protection		
Category		Details of the main activities and the effects	Investment amount		Costs		Economic effect		Main content
			2013	2014	2013	2014	2013	2014	
(1) Costs within Business Areas (Sites)		Maintenance and amortization of environmental impact reduction equipment and facilities	286	435	599	732	248	205	
Breakdown	(1) - 1 Costs for Preventing Pollution	Maintenance management of facilities for prevention of air pollution and water pollution and measurement of noise and vibration of facilities	83	157	181	198	0	0	
	(1) - 2 Costs for Global Environment Protection	Investment in energy-saving measures (electric power monitoring, energy-saving equipment, lighting upgrades, etc.)	195	234	29	59	-11	-47	Cost reduction with introduction of energy conservation, natural energy
	(1) - 3 Resource Recycling Costs	Investment in waste material reduction and recycling (recycling, reuse)	8	44	389	475	0	0	Reducing landfill by separating rubbish, cost reduction by cutting back on waste
							259	252	Proceeds from sale of valuables, etc.
(2) Upstream and Downstream Costs		Reduction of product packaging material, recycling of appliances, use of reverse side of paper	1	2	7	6			
(3) Management Activity Costs		Administration and maintenance of ISO 14001 standards, expansion of green areas	17	18	192	1,230			
(4) Research and Development Costs		Research and development to reduce the environmental impact of products, research and development of environmental equipment	717	1,873	557	852			
(5) Social Activity Costs		Local environmental protection and greening activities	0	0	1	1			
(6) Cost of dealing with environmental damage		Levies on air pollution loads; share of green belts and pollution compensation	0	0	0	0			
		Total	1,021	2,328	1,357	2,821	248	205	

Environmental Objectives (Medium-Term Plan) and Results

General Overview of Fiscal Year 2014 Activities and the 4th Medium-Term Environmental Plan (2014-2016)

Targets Achieved in All 18 Items

We promoted the 4th Medium-Term Environmental Plan (FY2014-2016), for which fiscal year 2016 is the final target year. The fiscal year 2014 targets under the 4th Medium-Term Environmental Plan (FY2014-2016) and the status of achievement of fiscal year 2014 activities are shown below.

Evaluation: ○ Achieved △ Achieved by 90% or more × Achieved by less than 90%

Index	Item	4th Medium-Term Environmental Plan (2014-2016)	Targets in FY2014	Achievements in FY2014	Evaluation
Environmental Management	① Zero environmental accidents (legal violations)	• Continue zero environmental accidents (legal violations) • Expand environmental risk assessments in Japan and to other countries	• Continue zero environmental accidents (legal violations) • Expand environmental risk assessments in Japan and to other countries	• Continuing achieving zero environmental accidents (legal violations) • Expanding environmental risk assessments in Japan and to other countries	○
	② Increase in the number of ISO 14001 certifications	• Total number of factories outside Japan that have acquired certification rises to 17 or more	• Total of 14 Group companies outside Japan have acquired certification	• Certification acquired by a total of 16 overseas factories in 15 companies	○
	③ Expansion of the scope of the Consolidated Environmental Management	• Expand to marketing and service centers outside Japan • Expand local guidance by head office and periodic environmental audits to all principal manufacturing bases outside Japan	• Expand to marketing and service centers outside Japan • Expand local guidance by head office and periodic environmental audits to all principal manufacturing bases outside Japan	• Environmental audits conducted at five factories in China, two in Vietnam, one in Indonesia and two in the United States	○
Prevention of Global Warming	① Reduction in CO_2 emissions at works and offices	• In Japan: In FY2016, 32% reduction compared to FY2004 • Global (Japan + overseas): 22% reduction compared to FY1990	• In Japan: 30% reduction compared to FY2004 • Global (Japan + overseas): 20% reduction compared to FY1990	• In Japan: 33% reduction compared to FY2004 • Global (Japan + overseas): 25% reduction compared to FY1990	○
	② Improved energy productivity Energy productivity = Net sales/CO_2 emissions	• In Japan: In FY2016, 10% improvement compared to FY2008 • Outside Japan: In FY2016, 3% improvement compared to FY2013	• In Japan: Improvement by 8% compared to FY2008 • Outside Japan: 1% improvement compared to FY2013	• In Japan: Improvement by 16% compared to FY2008 • Outside Japan: 6% improvement compared to FY2013	○
	③ Promotion of green logistics (Reduction in CO_2 emissions during transportation)	• By FY2016, 10% reduction per basic unit of transportation against FY2006 benchmark	• 8% reduction per basic unit of transportation against FY2006 benchmark	• 12% reduction per basic unit of transportation against FY2006 benchmark	○
Expansion of Line-up of Environmentally Friendly Products	① Expansion in environmentally friendly products	• Number of products certified as environmentally friendly: 23 • Annual CO_2 emissions from product use reduced 15% (Contribution to reduction is equivalent to 270,000 tons annually)	• Number of products certified as environmentally friendly: 19 • 11% annual reduction in CO_2 emissions from product use	• Actual number of products certified as environmentally friendly: 19 products • 19% annual reduction in CO_2 emissions from product use	○
	② Promotion of measures for green procurement (purchase of raw materials and components)	• Promote green procurement (purchase of raw materials and components)	• Promote green procurement (purchase of raw materials and components)	• Start promotion of green procurement (purchase of raw materials and components)	○
	③ Responding to chemical substance regulations that apply to our products	• Expand operation of system for managing chemical substances	• Expand operation of system for managing chemical substances	• Continue operation of system for managing chemical substances	○
	④ Reduction of product packaging material	• 10% reduction compared to FY2010 by basic sales unit	• 10% reduction compared to FY2010 by basic sales unit	• 21% reduction compared to FY2010 by basic sales unit	○
Promotion of Resource Conservation and Recycling	① Reduction of waste emissions	• In Japan: Generated volume reduced 13% compared to FY2007 • 3% reduction in both Japan and other countries compared to FY2013 basic unit	• In Japan: Generated volume reduced 13% compared to FY2007 • 1% reduction in both Japan and other countries compared to FY2013 basic unit	• In Japan: Generated volume reduced 25% compared to FY2007 • In Japan: 6% reduction compared to FY2013 basic unit • Outside Japan: 3% reduction compared to FY2013 basic unit	○
	② Achievement of zero emissions	• In Japan: Continued by all sites • Outside Japan: 95% or higher rate of non-landfill treatment	• In Japan: Continued by all sites • Outside Japan: 93% or higher rate of non-landfill treatment	• In Japan: Continued by all sites • Outside Japan: 97% of non-landfill treatment	○
	③ Reduction in paper usage	• In Japan: Maintenance management (autonomously assigned issues) • Outside Japan: 6% reduction compared to FY2013 by basic sales unit	• In Japan: Maintenance management (autonomously assigned issues) • Outside Japan: 2% reduction compared to FY2013 by basic sales unit	• In Japan: Continue maintenance management • Outside Japan: 4% reduction compared to FY2013 by basic sales unit	○
	④ Reducing Water Consumption	• In Japan: 40% reduction compared to FY2005, continuing achievement at all sites • Outside Japan: 3% reduction compared to FY2013 by basic sales unit	• In Japan: 35% reduction compared to FY2005, continuing achievement at all sites • Outside Japan: 1% reduction compared to FY2013 by basic sales unit	• In Japan: 43% reduction compared to FY2005, continuing achievement at all sites • Outside Japan: 14% reduction compared to FY2013 by basic sales unit	○
Promotion of Prevention of Environmental Pollution	① Emission control of organochlorine chemicals (Soil Contamination Countermeasures Law, Montreal Protocol)	• Continuing complete abolition of dichloromethane • Continuing complete abolition of trichloroethylene • Continuing complete abolition of tetrachloroethylene • Continuing complete abolition of HCFC-141b and HCFC-225	• Continuing complete abolition of dichloromethane • Continuing complete abolition of trichloroethylene • Continuing complete abolition of tetrachloroethylene • Continuing complete abolition of HCFC-141b and HCFC-225	• Continuing complete abolition of dichloromethane • Continuing complete abolition of trichloroethylene • Continuing complete abolition of tetrachloroethylene • Continuing complete abolition of HCFC-141b and HCFC-225	○
	② Emission control of substances designated as VOC (Air Pollution Control Law)	• In Japan: 34% reduction compared to FY2006 • Outside Japan: 3% reduction compared to FY2013 by basic sales unit	• In Japan: 34% reduction compared to FY2006 • Outside Japan: 1% reduction compared to FY2013 by basic sales unit	• In Japan: 43% reduction compared to FY2006 • Outside Japan: 25% reduction compared to FY2013 by basic sales unit	○
	③ Total abolition of equipment that uses PCB	• Make appropriate disposal of equipment with high concentration of PCB after receipt of disposal notice • For low concentrations, continue removing and storing in accordance with plans	• Make appropriate disposal of equipment with high concentration of PCB after receipt of disposal notice • For low concentrations, continue removing and storing in accordance with plans	• Make appropriate disposal of equipment with high concentration of PCB after receipt of disposal notice • For low concentrations, remove and store in accordance with plans	○
Community Contribution	① Contribute to biodiversity	• Systematic tree planting, greening, and other such activities at each factory • Continue making quantitative determination of impact from business activities on biodiversity	• Systematic tree planting, greening and other such activities at each factory • Continue making quantitative determination of impact from business activities on biodiversity	• Systematic tree planting and greening at each factory • Make quantitative determination of impact from business activities on biodiversity	○

Global Warming Prevention Activities

In its business activities, including procurement, manufacturing and logistics, Sumitomo Heavy Industries Group has been taking measures to reduce CO_2 emissions by positioning it as the most important issue.

Promoting Environmental Management

Promote measures by participation of all personnel

In the Sumitomo Heavy Industries Group, activities to prevent global warming are positioned as a part of environmental management. The results from each business division are managed on a monthly basis by the Environmental Management Division and feedback is provided. The results are also reported to the Executive Board at its quarterly meetings.

Each division in the Group promotes activities to prevent global warming and is engaged in activities to improve a range of processes in order to further enhance the efficient use of energy and to “visualize” activities and initiatives through “the participation of all employees.”

Reducing CO_2 Emissions

CO_2 emissions reduction targets achieved in Japan and other countries

Our Group started activities to reduce CO_2 emissions in Japan in fiscal year 2005, taking 2004 as a baseline fiscal year. Fiscal year 2014 was the start of the 4th Medium-Term Environmental Plan, with the target of reducing CO_2 emissions relative to fiscal year 2004 by 32% by fiscal year 2016. This target value is equivalent to a target of 39% reduction relative to fiscal year 1990, which is the baseline year in the Kyoto Protocol.

In fiscal year 2014, we achieved a reduction of 33% (46% by basic unit) from the Company’s baseline of fiscal year 2004. This is a reduction of 40% by comparison with fiscal year 1990, and we have successfully limited CO_2 emissions to an extent significantly exceeding the target.

In other countries, we have set targets for improvement of 1% per year relative to the fiscal year 2013 figure in basic units, which takes production increases into account.

For fiscal year 2014, we achieved the target value for the year with a 7% reduction in emissions compared to fiscal year 2013.

The combined target value for Japan and other countries was 146,000 tons, while the actual figure achieved was 138,000 tons, representing a 6% reduction from the target value.

Improvement of energy productivity

Energy productivity targets achieved both in Japan and other countries

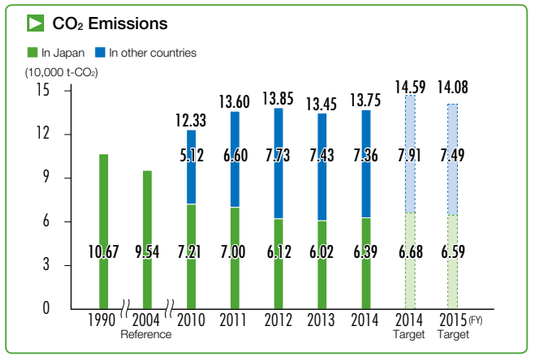
Starting in fiscal year 2009, Sumitomo Heavy Industries Group has been taking the characteristics of Group businesses into account and using the new unified index of energy productivity (net sales/CO_2 emissions: the reciprocal of the basic unit) in Japan. We are pursuing management and operation on a monthly basis at each business unit (BU).

For fiscal year 2014, we declared a 8% increase over fiscal year 2008 as the target for our program. We achieved this target with an 16% increase at our principal production bases in Japan.

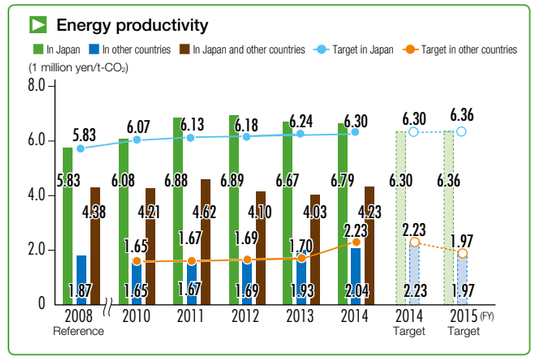
The target for our programs in other countries was set at 1% increase year on year. We achieved this target in fiscal year 2014 with an increase of 6%.

Going forward, we will continue to promote the following measures.

1. Concentrate working hours (eliminate waste by mass holidays)
2. Minimize standby power (reduce the amount of power used by machine tools on standby)
3. Minimize working hours (strengthen production technology capabilities)
4. Make effective use of equipment and facilities



* For Japan, the FY2000 figure of 3.78 (t-CO_2/10,000 kWh) from the Federation of Electric Power Companies of Japan was used as a fixed emissions coefficient. For other countries, the FY2005 figures from the GHG Protocol were used as fixed coefficients.



Global Warming Prevention Activities

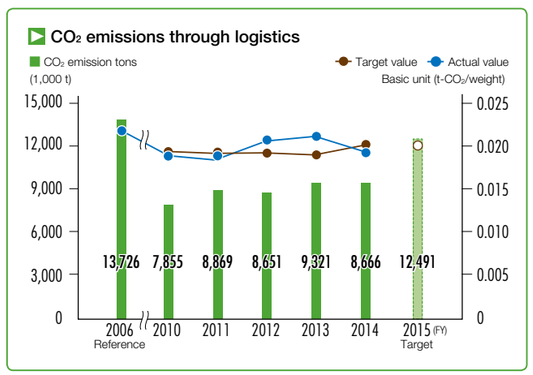
Promoting Green Logistics

Improved load ratio, modal shift, and promotion of effective use of consolidated shipments

In transportation, we have been making efforts to reduce CO_2 emissions by eliminating waste and by improving efficiency. With FY2006 as the benchmark year, we aimed to achieve a 8% reduction in the basic unit of transportation (t-CO_2/weight) in FY2014. Improved load ratio, modal shift, promotion of the effective use of consolidated shipments and other such measures in fiscal year 2014 achieved a 12% reduction. Also, in terms of total CO_2 volume, the reduction was 37%.

In fiscal year 2015, we will pursue thoroughgoing management of modal shift and other measures.

Modal shift using a barge

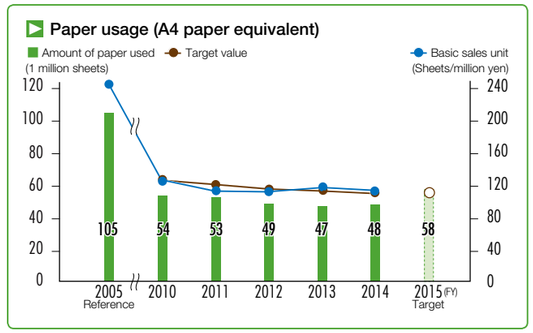


Activities to Reduce Paper Usage

Reduction of 55% over fiscal year 2005 realized

Reducing paper use is part of activities to save resources and, at the same time, it is linked to activities to prevent global warming such as reducing CO_2 emissions in the papermaking process. The Sumitomo Heavy Industries Group is aiming to continue with the reduction of 45% compared to fiscal year 2005 levels.

The amount was reduced by 55% in fiscal year 2014, achieving the target.



Environmentally Friendly "First-Class Products"

19 products certified as "first-class products"

The Sumitomo Heavy Industries Group has created systematic and voluntary standards across the Group such as carrying out Lifecycle Assessments*, improving recycling rates at the time of disposal, reducing the volume of packaging, curtailing harmful substances contained in products, and developing products that consume less energy, weigh less, are more compact and last longer. We have launched initiatives for continuous improvements and evaluation based on these standards.

As a result, we added the following 19 products to "environmentally friendly first-class products" by fiscal year 2014.

Plastic injection molding machines (Plastics Machinery Division); warm forging servopresses (Industrial Equipment Division); hot forging servo presses (Industrial Equipment Division); biomass boiler (Energy & Environment Group); compact 25-ton biomass boiler (Energy & Environment Group); dry-type desulphurization equipment (Energy & Environment Group); kiln equipment (Energy & Environment Group); hydraulic excavator (Sumitomo (S.H.I.) Construction Machinery Co., Ltd.); asphalt finisher (Sumitomo (S.H.I.); Construction Machinery Co., Ltd.); hybrid hydraulic excavator (Sumitomo (S.H.I.) Construction Machinery Co., Ltd.); hybrid electric power source for transfer cranes (Sumitomo Heavy Industries Material Handling Systems Co., Ltd.); New pulse-type bag filter "Eco Pulser" (Nihon Spindle Mfg. Co., Ltd.); the Cle-Eco III clean room air-conditioning control system (Nihon Spindle Mfg. Co., Ltd.); electric-powered reach forklifts (Sumitomo NACCO Materials Handling Co., Ltd.); turbines with longer blades (Shin Nippon Machinery Co., Ltd.); dividing-wall distillation columns (Sumitomo Heavy Industries Process Equipment Co., Ltd.); SHX-III/S High Current Ion Implantation System (Sumitomo Heavy Industries Ion Technology Co., Ltd.); S-UHE Ultra High Energy Ion Implantation System (Sumitomo Heavy Industries Ion Technology Co., Ltd.); Sumijetter grit jet pump (Sumitomo Heavy Industries Environment Co., Ltd.)

* Lifecycle Assessment: A method of objective and quantitative evaluation of environmental impact throughout the lifecycle (all stages from extracting the resources to manufacturing, use, disposal and transportation) of products and services

Reduction of CO_2 Emissions During Product Use

Promote technical innovation and sales expansion in energy-saving products

Under the 4th Medium-Term Environmental Plan, our objective is a 15% reduction in CO_2 emissions during product use compared to fiscal year 2008. We will take measures accordingly for technical innovation and sales expansion in energy-saving products. The reduction in CO_2 emissions during product use will amount to the equivalent of 270 thousand tons annually.

Activities Directed Toward Creating a Society Based on Recycling

We are working to limit the discharge of waste material from business activities, as well as to recycle and make effective use of that material.

Measures to reduce environmental impact

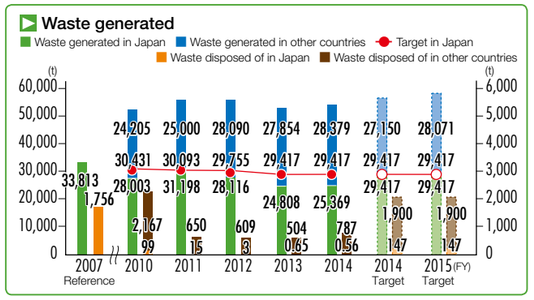
Working to Build a Recycling-Oriented Society

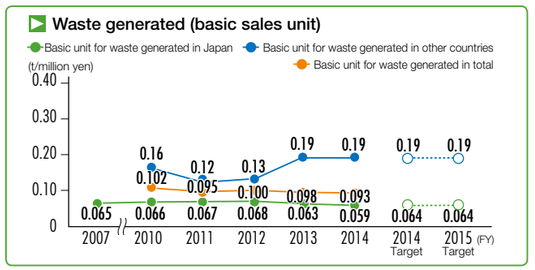
In order to build a recycling-oriented society, we at the Sumitomo Heavy Industries Group are controlling the discharge of waste from our business activities, recycling waste, and making efficient use of resources as well as working on initiatives to reduce the burden on the environment through our business activities.

Limiting the generation of waste and reducing the amount of waste discarded

Emissions and disposal targets achieved by combination of Japan and other countries

In Japan, our target for the amount of waste discharged in fiscal year 2014 is a 13% reduction relative to fiscal year 2007. In fiscal year 2014, we worked to increase the efficiency in production activities, do away with waste, and limit the amount of metal scrap and other such waste generated. As a result, emissions amounted to 25,370 tons, which was a 25% reduction from fiscal year 2007, and which achieved the target for fiscal year 2014. The target for the amount of waste discarded was under 0.5% of emissions, and the 0.56 tons of waste discarded in fiscal year 2014 was only 0.002% of emissions, which exceeds the target by a significant margin. Furthermore, there has been a trend toward lower and lower figures every year in terms of basic units, as well.



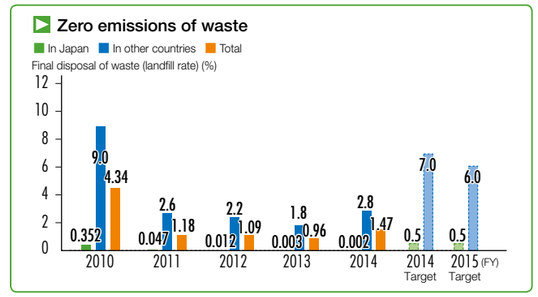


Zero emissions

Zero Emissions in FY2014 Achieved by Entire SHI Group

The SHI Group has defined factories at which the amount of waste disposed of as landfill as a percentage of total waste (the landfill rate) is less than 0.5% as zero emissions factories. We have been promoting this program since FY2005, and as a result in FY2014 we achieved zero emissions at all seven works and all eight Group companies. We were also able to achieve a zero emissions rate of 0.002% for the SHI Group as a whole, greatly exceeding the target. We have been continuously achieving zero emissions since fiscal year 2011.

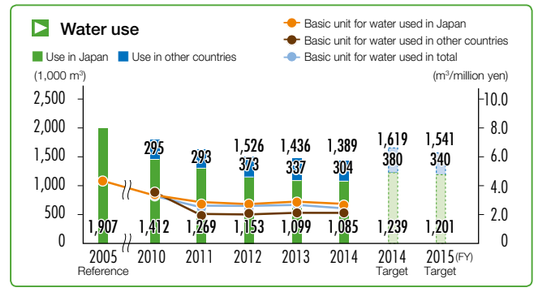
We are operating in other countries with the target of making less than 7% of total waste go to landfill. We achieved this target in fiscal year 2014 with an increase of 2.8%. In terms of the combined figure for Japan and other countries, the percentage of waste going to landfill was 1.5% in fiscal year 2014. In order to achieve zero emissions, separation of waste materials by category for recycling is crucial. We intend to continue with thoroughgoing separation of waste so as to maintain zero emissions, and we will keep our aim on making our factories kind to the global environment.



Reducing Water Consumption

Water use reduction target achieved in Japan

There are limits to the volume of usable water resources. Reducing water consumption is linked to the protection of resources and reduction of discharge into public water systems, and at the same time is also connected with the protection of biodiversity. The Sumitomo Heavy Industries Group has set the reduction target for fiscal year 2014 in Japan at 35% relative to fiscal year 2005, and we are pursuing this target. In fiscal year 2014, we have continued to install visible water pipes (aboveground installation) in order to identify water leaks and eliminate waste. As a result, we achieved our target with a 43% reduction relative to fiscal year 2005, and this also contributed to cost cutting. We will aim for further reductions in fiscal year 2015. We have also been engaging in reduction activities in other countries since fiscal year 2010. The combined figure for Japan and other countries also shows a trend toward reduction.



Activities for Managing Chemical Substances

We manage chemical substances with the aim of preventing of environmental pollution.

Complete Abolition of Organochlorine Chemicals

Continuing with complete abolition

Complete abolition of substances subject to the Soil Contamination Countermeasures Law

We are continuing our initiative for complete abolition of dichloromethane, tetrachloroethylene and trichloroethylene, which are organochemical substances covered by the Soil Contamination Countermeasures Law.

Total abolition of ozone-depleting substances

We totally eliminated use of the ozone-depleting substance HCFC-225 in fiscal year 2008, and that of HCFC-141b in fiscal year 2010. We have maintained the total elimination of such use.

Emission Control of VOC (Volatile Organic Compounds)

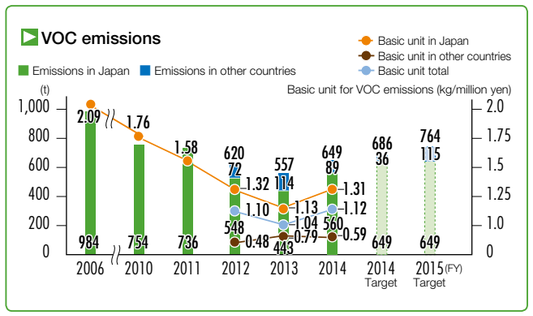
Emissions in Japan reduced 43% in comparison with fiscal year 2006, a 37% reduction in terms of basic sales unit

Toluene, xylene and ethylbenzene in paint solvents account for over 90% of the VOC we use. Our goal is to reduce emissions of these chemicals by at least 34% by FY2016 compared with the level in FY2006.

In fiscal year 2014, the reduction reached 43% in comparison with fiscal year 2006 due to a variety of factors. These include the introduction of solvent regenerators, the use of low-solvent coatings, the adoption of detergents that contain no VOC substances and reduction in the amount of coating used. This was also a 37% reduction in terms of the basic sales unit. Continuing from fiscal year 2014, measures to control emissions in fiscal year 2015 will include expanding the range within which low-solvent coatings and detergents with no VOC content are adopted as well as the use of powder coatings. We will also make every effort to reduce waste and reduce the amount of coatings and other such substances used, among other measures, in order to reduce emissions.

We have also begun activities in other countries, starting in fiscal year 2012, and achieved a 25% reduction in terms of basic units in fiscal year 2014.

VOC emissions



Emissions and Transfer of PRTR Substances

Emissions reduced 42% in comparison with fiscal year 2006, a 37% reduction in terms of basic sales unit

More than 90% of PRTR substances are paint solvents (toluene, xylene, ethylbenzene). In FY2014, we reduced these substances by 42% of the level in FY2006. This also represents a 37% reduction in terms of the basic sales unit. We will continue to expand the use of low-solvent paint while ensuring that we maintain the quality of our products. We will also install and expand solvent collection and removal equipment to reduce the emission and transfer of PRTR substances.

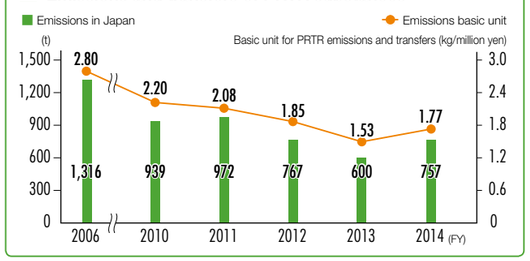
Emissions and transfer volume of Class I Designated Chemicals Substances under the PRTR Law in FY2014 (Substances subject to reporting)

Unit: kg

Substance number	Substance designation	Emissions + transferred amount*	
		2013	2014
53	Ethylbenzene	108,843	147,184
80	Xylene	309,344	400,897
240	Styrene	969	1,580
296	1, 2, 4-trimethylbenzene	4,889	9,066
297	1, 3, 5-trimethylbenzene	5,495	4,973
300	Toluene	133,016	143,680
349	Phenol	373	516
374	Hydrogen fluoride and its water-soluble salts	24,734	24,227
384	1-bromopropane	12,432	12,404
392	Normal hexane	677	1,259
405	Boron and its compounds	2,362	2,311
412	Manganese and its compounds	4,345	8,752

* Emissions + transferred amount is the total amount for Sumitomo Heavy Industries and all Group companies

Emissions and transfers of PRTR substances



Management of PCB (Polychlorinated Biphenyl) and Total Abolition of Equipment Containing PCB

Gradually upgrading and disposing of stabilizers that contain PCBs

We have completed early registration of all equipment containing high concentrations of PCB with the processing company, Japan Environmental Safety Corporation, and we are undertaking systematic detoxification based on the Act on Special Measures Concerning Promotion of Proper Treatment of PCB Wastes. We are gradually upgrading and disposing of transformers that contain PCBs and lighting equipment stabilizers that contain PCBs. We have also completed our survey of equipment containing low concentrations of PCBs, and we are gradually moving forward with disposal.

Environmental Management Activities at Factories Outside Japan

Sumitomo Heavy Industries Group is strengthening environmental risk management and expanding the acquisition of ISO 14001 certification at factories outside Japan.

Stronger Environmental Risk Management

Strengthening arrangements for tracking legal and regulatory information and environmental management systems in Group companies in other countries

Environmental Risk Assessment

Local environmental regulations and other such requirements have been made more stringent at our factories outside Japan. In order to comply with legal requirements, we are receiving guidance from the authorities, and we are working to reinforce our environmental management systems while adapting them to local characteristics.

In FY2013, we introduced environmental risk assessment to our factories in China and Southeast Asia, where environmental risks are relatively high. We are gradually expanding environmental risk assessment of the higher risk facilities at each of our factories and working to reduce the risks. This includes, for example, quality management of waste water, standards-based management of emissions from paint facilities, and control of oil leaks in machine tools. With this risk assessment, we are promoting the horizontal deployment of knowhow for dealing with environmental risk experienced in the past by factories of the Sumitomo Heavy Industries Group in Japan.

Management Systems in China

By region, the largest number of Sumitomo Heavy Industries Group factories in operation outside Japan is found in China, which has eight. Special environmental management systems have been instituted there. In order to provide centralized environmental management operations for our Chinese factories, we have established a department to provide overall environmental management supervision at Sumitomo Heavy Industries (Shanghai) Management, Ltd. as the base for our Group in China. A full-time manager has been assigned to the department, which provides every factory with guidance on environmental management operations in light of local circumstances, including guidance on changes in local environmental laws and regulations.

It is also the case in the China area, as in Japan, that we hold environmental management meetings twice every year. These meetings bring together the environmental managers from each of our factories in China to hear explanations of environmental policy from the Environmental Management Division of the head office as well as to present reports on the environmental management situation at each factory. We are taking these measures to raise the level of environmental management in the China area as a whole.

From FY2013, we began to rotate the meeting venue from factory to factory. The meetings are used not just for coordination but to promote activities to strengthen environmental management in more practical ways, such as by carrying out on-site patrols of the factories that also look into energy conservation concerns.

Promoting Environmental Audits at Factories Outside Japan

The head office Environmental Management Division periodically conducts environmental audits of factories outside Japan.

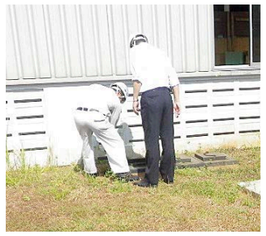
Since fiscal year 2012, these environmental audits at factories outside Japan have been applying the same audit standards as at factories in Japan. We are checking the environmental management activities at each factory in order to reduce the environmental risk to the same level as at factories in Japan.

The audits are carried out at a frequency determined according to the environmental risk of the particular factory taking local environmental requirements into consideration. In fiscal year 2014, we carried out environmental audits at 10 of our factories in China, Southeast Asia and the United States.

When environmental audits are conducted, at the same time we also give environmental managers and officers training in activities for environmental accident prevention and energy conservation.

Environmental management meeting in Shanghai

On-site check for environmental audit



On-site check for environmental audit

On-site check for environmental audit

Environmental Management Activities at Factories Outside Japan

Improving waste management at factories in other countries

Factories of the Sumitomo Heavy Industries Group in other countries engage in more than complying with local statutory requirements relating to waste management. They are also working to lower waste emissions according to our Company standards and promoting activities to reduce the rate of disposal by landfill.

Every overseas factory of the Sumitomo Heavy Industries Group follows procedures with regard to industrial waste at its location similar to those in Japan. They are required to separate waste material generated by production activities and so on from general waste and handle it by various statutory management methods.

These waste materials are referred to, for example, as hazardous waste, and various requirements are imposed. For instance, advance notification must be given of the yearly scheduled volume of waste release, it must be discharged to a waste treatment contractor with a government license, management records must be kept of individual waste emissions, and those records must be submitted to the government. Every factory of the Sumitomo Heavy Industries Group implements strict control of waste material in accordance with laws and regulations at its location and the guidance of local government.

In order to reduce their environmental impact, Sumitomo Heavy Industries Group factories in other countries are also taking measures to reduce the percentage of waste disposed of as landfill, setting their own environmental targets for reduction.

They have been setting their own quantitative environmental targets for this purpose since fiscal year 2011, in the form of reduction targets for the rate of disposal by landfill. In order to meet these targets, each factory is separating waste and promoting activities to raise the recycling rate as much as possible.

Sumitomo (SHI) Cyclo Drive China Ltd. in Tianjin began sorting and collecting waste by category in December 2010. They have been strengthening their waste management methods for more rigorous implementation of sorting and collection of waste generated within the factory.

Efforts to implement more rigorous separation of waste include improving the labels on waste receptacles. Photographs of the waste materials actually generated at that site are attached to the top of receptacles in order to display the separate waste categories in a more readily understandable way.

This easy-to-understand method has been introduced as a model waste separation and collection method at other Group factories in China and Southeast Asia. This has contributed significantly to improving waste treatment methods in the Sumitomo Heavy Industries Group as a whole.

We are also strengthening waste management every year in order to prevent environmental accidents at waste storage locations within our factories.

At outdoor waste storage points, we are placing fences around rainwater inlets and taking other such steps to prevent waste oil and rainwater contaminated by waste material from entering the factory's rainwater drainage channels. Waste management is being reinforced in such ways with a view to preventing environmental accidents.

Storage location

Color-coded waste containers

Items that can be placed in the container are displayed on the lid

Measures to Reduce Volatile Organic Compound (VOC) Emissions at Factories in Other Countries

We are taking measures to reduce VOC emissions at Sumitomo Heavy Industries Group factories in other countries, even at factories where this is not legally required, as part of our own activities to reduce emissions of toxic chemical substances.

Solvents used to dilute coatings account for 90% or more of VOC use in the Sumitomo Heavy Industries Group. The VOC are emitted into the atmosphere during coating and drying.

VOC emissions are reduced by the operation of solvent collection and removal equipment. We are also taking additional measures to reduce the amounts of VOC used, for instance by expanding the application of powder coatings that do not use solvents and by adopting low-solvent coatings.

The coating factory at Sumitomo (S.H.I.) Construction Machinery (Tangshan) Co., Ltd. (hereafter, Tangshan Construction Machinery) in China is among the largest at Sumitomo Heavy Industries Group factories in other countries. It applies coatings to hydraulic excavator parts, completely assembled vehicles and other such items requiring high coating quality.

One section of a new coating factory that entered full-scale operation in the last fiscal year does not employ VOC absorption treatment with activated charcoal filters at exhaust gas outlets, which is the usual system for VOC reduction. Instead, we have introduced a waste treatment facility that uses a concentration-incineration system.

As its name implies, this concentration-incineration system concentrates the VOC in exhaust gases, then puts it through incineration and oxidative decomposition. The amount of VOC is kept at a low level in the discharge from this system. This waste treatment facility also has an energy-saving function. The heat from VOC incineration, for example, is further put to effective use to reduce the amount of fuel used as a VOC combustion aid.

Coating factory at Tangshan Construction Machinery

Expanding Number of ISO 14001 Certifications

ISO 14001 certification by 16 factories of 15 companies

The Group is working to further the acquisition of ISO 14001 external certification by our factories outside Japan. A new recipient of ISO 14001 certification in fiscal year 2014 was Tangshan Construction Machinery in China.

We now have a total of 16 factories of 15 companies that have acquired certification. Under the 4th Medium-Term Environmental Plan, we will expand this to 17 or more companies.

ISO 50001 Certification Acquired

The Group's first ISO 50001 certification acquired

Sumitomo (SHI) Cyclo Drive Germany GmbH in Germany acquired ISO 50001 certification in energy management systems in December 2013.

Group companies outside Japan that have received the ISO14001 certification

Company name	Date of Certification
Sumitomo (SHI) Demag Plastics Machinery GmbH (Wiehe factory)	April 1998
Sumitomo (SHI) Cyclo Drive Germany GmbH	March 2006
Sumitomo (SHI) Cryogenics of Europe, Ltd.	June 2008
Ningbo Sumiju Machinery, Ltd.	September 2008
Dalian Spindle Cooling Towers Co., Ltd.	December 2008
SHI Manufacturing & Services (Philippines) Inc.	January 2011
Sumitomo (SHI) Cyclo Drive China Ltd.	May 2011
Sumitomo (SHI) Demag Plastics Machinery GmbH (Schwaig factory)	July 2011
Link-Belt Construction Equipment Company, L.P., LLLP	August 2011
Suminac Philippines Inc.	September 2011
Sumitomo Heavy Industries (Tangshan), Ltd.	March 2012
Demag Plastics Machinery (Ningbo) Co., Ltd.	December 2012
Sumitomo Heavy Industries (Vietnam) Co., Ltd.	May 2013
Sumitomo NACCO Materials Handling (Vietnam) Co., Ltd.	June 2013
Sumiju Magnet (Kunshan) Co., Ltd.	November 2013
Sumitomo (S.H.I.) Construction Machinery (Tangshan) Co., Ltd.	November 2014

Environmental Impact Data

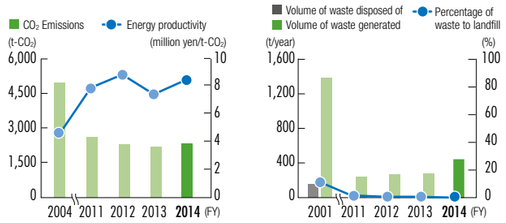
Environmental impact data for SHI works*1, Group companies in Japan*2 as well as the main overseas Group companies

*1 Including Group companies within the works *2 Group companies other than works

[Environmental impact data for each works]

Tanashi Works

- Established in 1939
- ISO14001 (obtained in August 1998)
- Site Area: 40,712 m²
- Building Area: 14,368 m²
- Main Products: Defense Equipment, Cryogenic Equipment

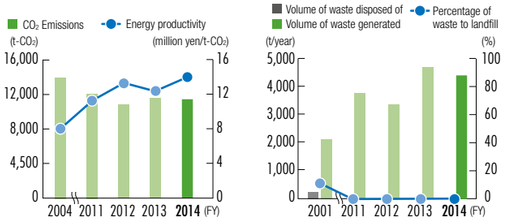


Energy used		
	Electric power (1,000 kWh)	5,995
	Gasoline (kL)	0.02
	Kerosene (kL)	1
	Heavy fuel oil A (kL)	–
	Light oil (kL)	0.8
	LPG (t)	–
	City gas (1,000 m³)	1.6
Water used (m³)		15,276
Discharge into the atmosphere		
	SOx (kg)	–
	NOx (kg)	–

PRTR (kg/year)	Emissions volume	Transfer volume
Ethylbenzene	44	–
1,2-epoxybutane	6	–
Ferric chloride	104	–
Epsilon-caprolactam	12	–
Xylene	68	–
Chromium and trivalent chromium compounds	–	12
Hexavalent chromium compounds (including lead chromate)	–	224
Ethylene glycol monoethyl ether acetate	12	–
1, 2, 4-trimethylbenzene	0.4	–
1, 3, 5-trimethylbenzene	0.1	–
Toluene	460	–
Lead	17	4
Lead compounds	21	1
Nickel compounds	1	0.5
Hydrogen fluoride and its water-soluble salts	–	2
1-bromopropane	7,394	–
Boron and its compounds	2	11
Manganese and its compounds	158	11
Molybdenum and its compounds	2	–

Chiba Works

- Established in 1965
- ISO14001 (obtained in April 1999)
- Site Area: 294,600 m²
- Building Area: 110,692m²
- Main Products: Plastic Injection Molding Machines, Metallic Molds, Hydraulic Excavators

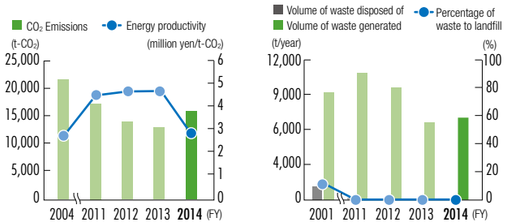


Energy used		
	Electric power (1,000 kWh)	19,414
	Gasoline (kL)	114
	Kerosene (kL)	6.4
	Heavy fuel oil A (kL)	–
	Light oil (kL)	505.7
	LPG (t)	196.4
	City gas (1,000 m³)	982.1
Water used (m³)		49,301
Discharge into the atmosphere		
	SOx (kg)	–
	NOx (kg)	229

PRTR (kg/year)	Emissions volume	Transfer volume
Water-soluble zinc compounds	275	21
Ethylbenzene	7,915	17,651
Xylene	42,626	78,205
Styrene	591	347
1, 2, 4-trimethylbenzene	2,434	813
1, 3, 5-trimethylbenzene	1,033	435
Toluene	17,812	8,110
Naphthalene	588	346
Hexamethylene diisocyanate	176	82
Normal hexane	508	298
Manganese and its compounds	6	6
Methyl methacrylate	887	521

Yokosuka Works

- Established in 1971
- ISO14001 (obtained in February 1999)
- Site Area: 523,000 m²
- Building Area: 170,635 m²
- Main Products: Ships, Laser Processing Systems, Semiconductor Manufacturing Equipment (Molding Machines), Precision Forgings, Stage Systems, System Controller

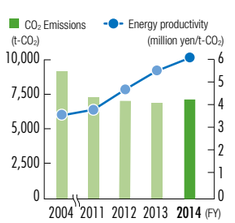


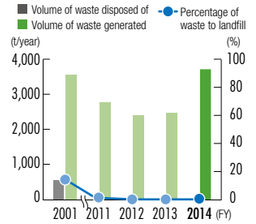
Energy used		
	Electric power (1,000 kWh)	33,359
	Gasoline (kL)	27.6
	Kerosene (kL)	–
	Heavy fuel oil A (kL)	–
	Light oil (kL)	190.6
	LPG (t)	11.5
	City gas (1,000 m³)	1233.7
Water used (m³)		133,648
Discharge into the atmosphere		
	SOx (kg)	–
	NOx (kg)	1,182
Discharge into the water		
	COD (kg)	403
	Nitrogen (kg)	160
	Phosphorus (kg)	42

PRTR (kg/year)	Emissions volume	Transfer volume
Water-soluble zinc compounds	–	13
Ethyl acrylate	–	13
Linear alkylbenzene sulfonate and its salts	–	4
Indium and its compounds	–	7
Pendimethalin	–	3
Ethylbenzene	62,395	–
Ethylenediaminetetraacetic acid	–	1
Emamectin benzoate	–	33
Ferric chloride	1	23
Cadmium and its compounds	–	18
Epsilon-caprolactam	–	5
Xylene	95,026	–
Silver and water-soluble silver compounds	–	40
Chromium and trivalent chromium compounds	1	44
Hexavalent chromium compounds (including lead chromate)	–	1
Atrazine	–	186
Tolfenpyrad	–	1
Polyvinyl chloride	–	1
N, N-Dicyclohexylamine	75	–
Water-soluble copper salts (excluding complex salts)	–	7
Sodium dodecyl sulfate	1	1
1, 2, 4-trimethylbenzene	13	–
1, 3, 5-trimethylbenzene	20	–
Toluene	23,990	47
Lead compounds	–	1
Nickel	–	5
Hydroquinone	–	5
Phenol	516	–
Hydrogen fluoride and its water-soluble salts	25	24,172
1-bromopropane	3,059	1,951
Boron and its compounds	5	45
Manganese and its compounds	768	7,158
Tritolyl phosphate	–	1,052

Nagoya Works

- Established in 1961
- ISO14001 (obtained in January 1999)
- Site Area: 293,000 m²
- Building Area: 90,000 m²
- Main Products: Power Transmission and Controls, Gear Motors, Inverters, Construction Cranes



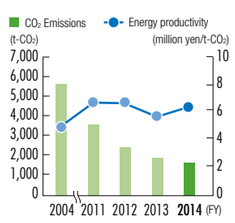


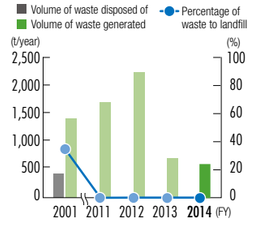
Energy used		
	Electric power (1,000 kWh)	15,381
	Gasoline (kL)	13
	Kerosene (kL)	1.5
	Heavy fuel oil A (kL)	–
	Light oil (kL)	0.02
	LPG (t)	–
	City gas (1,000 m³)	642.8
Water used (m³)		110,303
Discharge into the atmosphere		
	SOx (kg)	–
	NOx (kg)	–
Discharge into the water		
	COD (kg)	592
	Nitrogen (kg)	53
	Phosphorus (kg)	–

PRTR (kg/year)	Emissions volume	Transfer volume
Acrylic acid and its solutions	1	–
Ethylbenzene	12,219	892
Xylene	85,492	5,070
Hexavalent chromium compounds (including lead chromate)	90	–
Styrene	560	–
1, 2, 4-trimethylbenzene	1,452	–
1, 3, 5-trimethylbenzene	924	1,170
Trirange isocyanate	2,879	–
Toluene	25,847	–
Naphthalene	520	–
Lead	90	–
Nickel	–	1
Boron and its compounds	107	–
Manganese and its compounds	34	69
Butyl methacrylate	4	–
1-methyl-1-phenylethyl hydroperoxide	1	–
Methylenebis (4,1-phenylene) diisocyanate	–	4

Okayama Works

- Established in 1948
- ISO14001 (obtained in March 2000)
- Site Area: 425,000 m²
- Building Area: 94,000 m²
- Main Products: Gearboxes, Stage Systems, Machine Tools



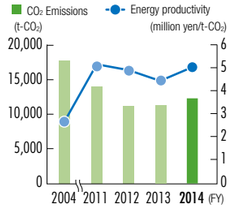


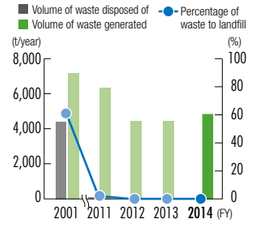
Energy used		
	Electric power (1,000 kWh)	3,939
	Gasoline (kL)	0.6
	Kerosene (kL)	–
	Heavy fuel oil A (kL)	–
	Light oil (kL)	5.9
	LPG (t)	45.8
	City gas (1,000 m³)	–
Water used (m³)		13,348
Discharge into the atmosphere		
	SOx (kg)	–
	NOx (kg)	140
Discharge into the water		
	COD (kg)	91
	Nitrogen (kg)	547
	Phosphorus (kg)	3

PRTR (kg/year)	Emissions volume	Transfer volume
Indium and its compounds	522	–
Ethylbenzene	315	–
Xylene	1,900	–
1, 3, 5-trimethylbenzene	91	–
Toluene	1,248	–

Ehime Works (Niihama Factory)

- Established in 1888
- ISO14001 (obtained in November 1999)
- Site Area: 418,000 m²
- Building Area: 204,000 m²
- Main Products: Ion Accelerators, Coating Equipment, Parking System, Forge Rolling Machines, Transporting Machines



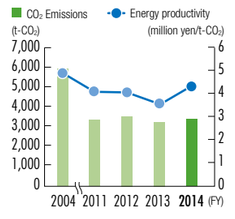


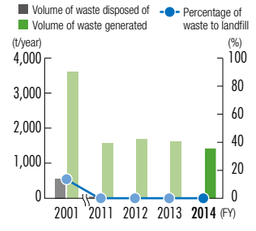
Energy used		
	Electric power (1,000 kWh)	21,714
	Gasoline (kL)	8
	Kerosene (kL)	140.9
	Heavy fuel oil A (kL)	740.5
	Light oil (kL)	76.9
	LPG (t)	509.4
	City gas (1,000 m³)	–
Water used (m³)		645,651
Discharge into the atmosphere		
	SOx (kg)	1,029
	NOx (kg)	1,199
Discharge into the water		
	COD (kg)	138
	Nitrogen (kg)	317
	Phosphorus (kg)	4

PRTR (kg/year)	Emissions volume	Transfer volume
Ethylbenzene	19,432	1,430
Ferric chloride	–	2
Cadmium and its compounds	–	1
Xylene	34,716	3,043
Silver and water-soluble silver compounds	–	3
Cumene	–	2
Chromium and trivalent chromium compounds	–	195
Hexavalent chromium compounds (including lead chromate)	–	4
Chloroform	3	–
Bomine	1	–
Dioxins (unit changed to mg-TEQ)	–	71
Water-soluble copper salts (excluding complex salts)	–	1
Toluene	27,855	3,061
Lead compounds	28	68
Nickel	–	52
Nickel compounds	–	17
Hydrogen fluoride and its water-soluble salts	8	8
Normal hexane	21	10
Boron and its compounds	3	192
Manganese and its compounds	74	348
Molybdenum and its compounds	1	25

Ehime Works (Saijo Factory)

- Established in 1973
- ISO14001 (obtained in February 1999)
- Site Area: 535,000 m²
- Building Area: 91,500 m²
- Main Products: Steel Structures, Pressure Vessels, Stirring and Mixing Equipment, Coke Oven Machines





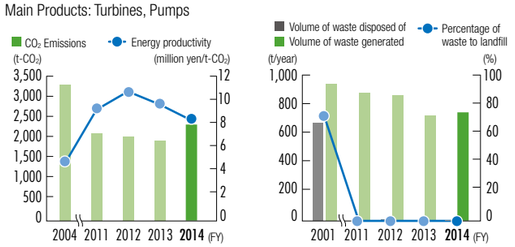
Energy used		
	Electric power (1,000 kWh)	6,404
	Gasoline (kL)	13.7
	Kerosene (kL)	–
	Heavy fuel oil A (kL)	6
	Light oil (kL)	41.6
	LPG (t)	237.1
	City gas (1,000 m³)	–
Water used (m³)		53,327
Discharge into the atmosphere		
SOx (kg)		20
NOx (kg)		119
Discharge into the water		
COD (kg)		285
Nitrogen (kg)		329
Phosphorus (kg)		31

PRTR (kg/year)	Emissions volume	Transfer volume
Ethylbenzene	2,174	868
Xylene	8,017	3,079
Styrene	33	15
1, 2, 4-trimethylbenzene	87	28
1, 3, 5-trimethylbenzene	39	14
Toluene	4,804	1,295
Naphthalene	12	7
Hexamethylene diisocyanate	3	1
Butyl methacrylate	3	1

[Environmental impact data for Group companies in Japan (away from the works)]

Shin Nippon Machinery. Co., Ltd.

Main Products: Turbines, Pumps

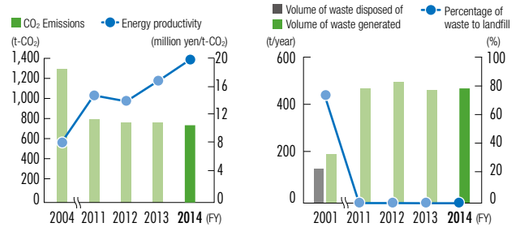


Energy used		
	Electric power (1,000 kWh)	4,138
	Gasoline (kL)	0.2
	Kerosene (kL)	305.3
	Heavy fuel oil A (kL)	–
	Light oil (kL)	5.1
	LPG (t)	5.9
	City gas (1,000 m³)	0.1
Water used (m³)		20,982
Discharge into the atmosphere		
	SOx (kg)	21
	NOx (kg)	786
Discharge into the water		
	COD (kg)	45

PRTR (kg/year)	Emissions volume	Transfer volume
Antimony and its compounds	5	1
Ethylbenzene	1,175	129
Xylene	2,262	243
Cumene	2	–
Chromium and trivalent chromium compounds	214	24
Cobalt and its compounds	132	15
Styrene	1	–
1, 2, 4-trimethylbenzene	975	107
1, 3, 5-trimethylbenzene	470	52
Toluene	768	62
Nickel compounds	1	–
Vanadium compounds	1	–
Manganese and its compounds	87	10

Nihon Spindle Mfg. Co., Ltd.

Main Products: Industrial Instruments, Environmental Equipment, Building Materials

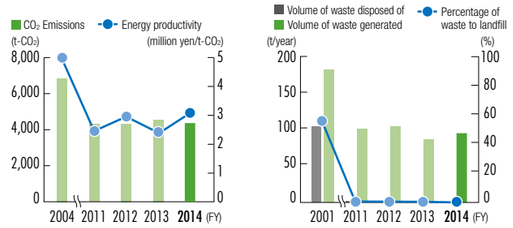


Energy used		
	Electric power (1,000 kWh)	1,730
	Gasoline (kL)	2.8
	Kerosene (kL)	–
	Heavy fuel oil A (kL)	–
	Light oil (kL)	–
	LPG (t)	5.8
	City gas (1,000 m³)	20.8
Water used (m³)		8,086
Discharge into the atmosphere		
	SOx (kg)	–
	NOx (kg)	–

PRTR (kg/year)	Emissions volume	Transfer volume
Ethylbenzene	891	466
Xylene	1,587	887
Hexavalent chromium compounds (including lead chromate)	4	0.4
Cobalt and its compounds	0.1 or less	0.1 or less
Triethylenetetramine	0.7	0.1 or less
1, 2, 4-trimethylbenzene	32	24
1, 3, 5-trimethylbenzene	8	6
Toluene	2,290	1,640
Lead compounds	22	5
Vanadium compounds	1	1
Benzene	4	–
Formaldehyde	3	0.2
Manganese and its compounds	0.2	–

Sumitomo Heavy Industries Ion Technology Co., Ltd. (formerly SEN Corporation)

Main Products: Ion implantation system

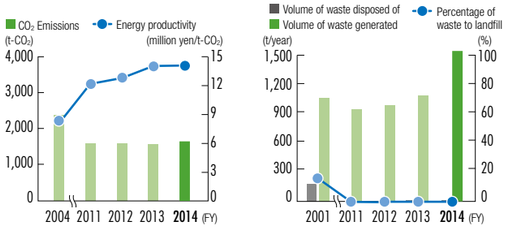


Energy used		
	Electric power (1,000 kWh)	11,327
	Gasoline (kL)	–
	Kerosene (kL)	–
	Heavy fuel oil A (kL)	–
	Light oil (kL)	–
	LPG (t)	–
	City gas (1,000 m³)	–
Water used (m³)		13,907
Discharge into the atmosphere		
	SOx (kg)	–
	NOx (kg)	–
Discharge into the water		
	COD (kg)	2
	Nitrogen (kg)	2

PRTR (kg/year)	Emissions volume	Transfer volume
Antimony and its compounds	0.1 or less	–
Indium and its compounds	0.1 or less	–
Ethylene glycol monomethyl ether (2-methoxyethanol)	16	–
Toluene	10	–
Vanadium compounds	1	–
Arsenic and its inorganic compounds	2	–
Hydrogen fluoride and its water-soluble salts	6	–
Boron and its compounds	4	–
Molybdenum and its compounds	2	–

Sumitomo NACCO Materials Handling Co., Ltd.

Main Products: Forklift

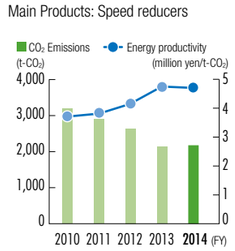


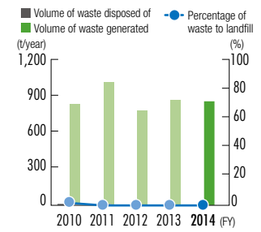
Energy used		
	Electric power (1,000 kWh)	2,997
	Gasoline (kL)	15.6
	Kerosene (kL)	–
	Heavy fuel oil A (kL)	–
	Light oil (kL)	29.5
	LPG (t)	93.1
	City gas (1,000 m³)	–
Water used (m³)		16,074
Discharge into the atmosphere		
	SOx (kg)	–
	NOx (kg)	–

PRTR (kg/year)	Emissions volume	Transfer volume
Water-soluble zinc compounds	–	128
Ethylbenzene	17,276	1,133
Ethylene glycol monoethyl ether (2-ethoxyethanol)	81	5
1-octanol	–	0.1
Xylene	34,800	2,264
Cumene	79	5
Ethylene glycol monoethyl ether acetate	198	12
Vinyl acetate	1	0.1 or less
Carbon tetrachloride	3	0.2
N, N-Dicyclohexylamine	–	6
2,6-ditertiary butyl-4 cresol	–	2
Styrene	26	2
1, 2, 4-trimethylbenzene	2,916	178
1, 3, 5-trimethylbenzene	624	37
Trirange isocyanate	0.1 or less	–
Toluene	7,870	510
Naphthalene	233	21
Nickel compounds	–	15
N-butyl phthalate	110	7
Bis (2-ethylhexyl) phthalate	0.1 or less	–
Hexamethylene diisocyanate	13	1
Normal hexane	397	24
Benzene	69	4
Boron and its compounds	1,820	121
Formaldehyde	10	1
Manganese and its compounds	–	23
Phthalic anhydride	–	0.1 or less
Butyl methacrylate	131	8
Methyl methacrylate	21	1
4-Methylidenoxetan-2-one	5	1
Alpha-methylstyrene	16	1

Seisa Gear, Ltd.

Main Products: Speed reducers



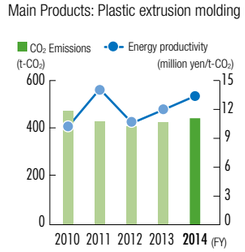


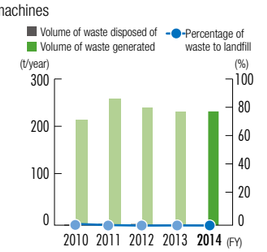
Energy used		
	Electric power (1,000 kWh)	5,104
	Gasoline (kL)	3.6
	Kerosene (kL)	6.3
	Heavy fuel oil A (kL)	–
	Light oil (kL)	0.9
	LPG (t)	12.8
	City gas (1,000 m³)	87.5
Water used (m³)		10,291
Discharge into the atmosphere		
	SOx (kg)	–
	NOx (kg)	125

PRTR (kg/year)	Emissions volume	Transfer volume
Ethylbenzene	302	104
Ethylene glycol monoethyl ether (2-ethoxyethanol)	42	15
Xylene	625	156
Styrene	2	2
1, 3, 5-trimethylbenzene	29	10
Toluene	8,710	1,539
Lead	80	27
Hexamethylene diisocyanate	7	3
Methyl methacrylate	3	3

Sumitomo Heavy Industries Modern, Ltd.

Main Products: Plastic extrusion molding machines



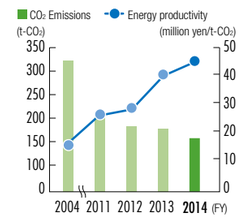


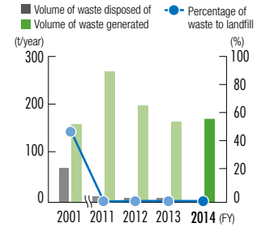
Energy used		
	Electric power (1,000 kWh)	952
	Gasoline (kL)	23.7
	Kerosene (kL)	–
	Heavy fuel oil A (kL)	–
	Light oil (kL)	9
	LPG (t)	1
	City gas (1,000 m³)	–
Water used (m³)		2,472
Discharge into the atmosphere		
	SOx (kg)	–
	NOx (kg)	–

PRTR (kg/year)	Emissions volume	Transfer volume
Ethylbenzene	354	–
Xylene	813	–
1, 2, 4-trimethylbenzene	6	–
1, 3, 5-trimethylbenzene	11	–
Toluene	5,714	–
N-butyl phthalate	52	–

Izumi Food Machinery Co., Ltd.

Main Products: Food processing machinery



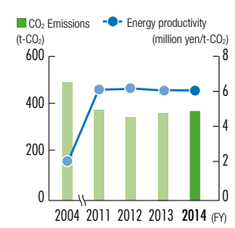


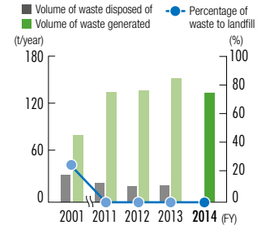
Energy used		
	Electric power (1,000 kWh)	410
	Gasoline (kL)	0.4
	Kerosene (kL)	–
	Heavy fuel oil A (kL)	–
	Light oil (kL)	0.1
	LPG (t)	–
	City gas (1,000 m³)	–
Water used (m³)		4,109
Discharge into the atmosphere		
	SOx (kg)	–
	NOx (kg)	–

PRTR (kg/year)	Emissions volume	Transfer volume
Ethylbenzene	16	–
Xylene	19	–
Hexavalent chromium compounds (including lead chromate)	1	–
Triethylenetetramine	0.1 or less	–
1, 2, 4-trimethylbenzene	1	–
1, 3, 5-trimethylbenzene	0.4	–
Toluene	36	–
Triethylenetetramine	0.1 or less	–
N-butyl phthalate	1	–
Hydrogen fluoride and its water-soluble salts	5	0.3
Hexamethylene diisocyanate	0.1 or less	–
1-methyl-1-phenylethyl hydroperoxide	0.1 or less	–

SFK Co., Ltd.

Main Products: Bolts, nuts, precision screws





Energy used		
	Electric power (1,000 kWh)	907
	Gasoline (kL)	2.5
	Kerosene (kL)	6.9
	Heavy fuel oil A (kL)	–
	Light oil (kL)	–
	LPG (t)	–
	City gas (1,000 m³)	0.4
Water used (m³)		833
Discharge into the atmosphere		
	SOx (kg)	–
	NOx (kg)	–
Discharge into the water		
	COD (kg)	3

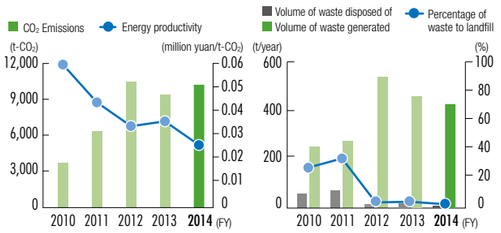
Total Elimination of PRTR Substances

Group companies in Japan that have independently received the ISO14001 certification

Group Company	Date of Certification	Group Company	Date of Certification
Sumitomo NACCO Materials Handling Co., Ltd.	March 2000	Nihon Spindle Mfg. Co., Ltd.	March 2006
Shin Nippon Machinery. Co., Ltd.	February 2002	Japan Electron Beam Irradiation Service Co., Ltd.	January 2007
Izumi Food Machinery Co., Ltd.	June 2002	Sumitomo Heavy Industries PTC Sales Company	September 2007
SEN Corporation	October 2002	SFK Co., Ltd.	August 2008
Sumiju Environmental Engineering Inc.	October 2002	Seisa Gear, Ltd.	August 2009
Sumitomo Heavy Industries Environment Co., Ltd.	November 2002	Sumitomo Heavy Industries Modern, Ltd.	December 2009
Lightwell Co., Ltd.	February 2005	Kyokuto Seiki Co., Ltd.	February 2015

[Environmental impact data for main overseas Group companies]

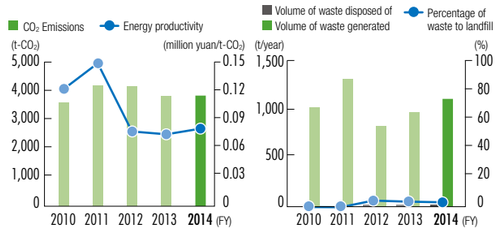
Sumitomo Heavy Industries (Tangshan), Ltd. Country: China Main Products: Power transmission equipment



Energy used	
Paper (1,000 sheets of A4-size paper)	758
Electric power (1,000 kWh)	9,816
Gasoline (kL)	–
Heavy fuel oil (kL)	–
Light oil (kL)	–
LPG (t)	–
Natural gas (1000 m³)	1,270
Water used (m³)	25,640

Discharge into the atmosphere	
VOC emissions (t/year)	7.3
SOx emissions (t/year)	0.2
NOx emissions (t/year)	2.8

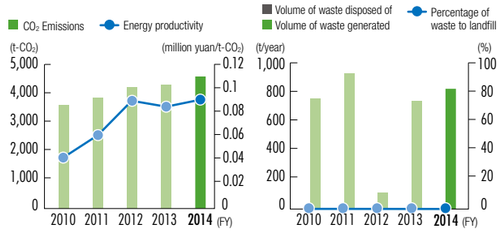
Sumitomo (SHI) Cyclo Drive China Ltd. Country: China Main Products: Power transmission equipment



Energy used	
Paper (1,000 sheets of A4-size paper)	913
Electric power (1,000 kWh)	4,079
Gasoline (kL)	–
Heavy fuel oil (kL)	–
Light oil (kL)	259
LPG (t)	–
Natural gas (1000 m³)	–
Water used (m³)	37,866

Discharge into the atmosphere	
VOC emissions (t/year)	8.8
SOx emissions (t/year)	–
NOx emissions (t/year)	–

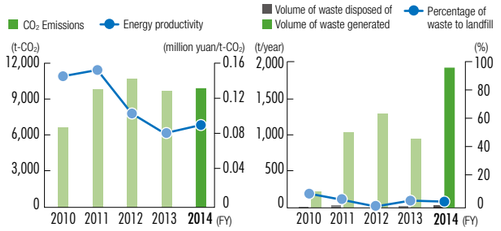
Ningbo Sumiju Machinery, Ltd. Country: China Main Products: Plastic molding machines, components for power transmission equipment



Energy used	
Paper (1,000 sheets of A4-size paper)	781
Electric power (1,000 kWh)	5,824
Gasoline (kL)	–
Heavy fuel oil (kL)	–
Light oil (kL)	23
LPG (t)	–
Natural gas (1000 m³)	–
Water used (m³)	19,882

Discharge into the atmosphere	
VOC emissions (t/year)	2
SOx emissions (t/year)	–
NOx emissions (t/year)	–

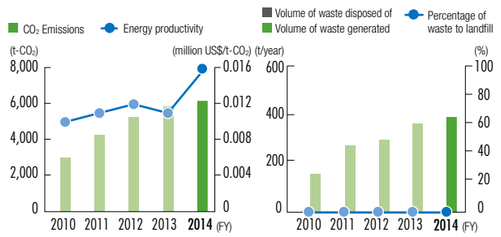
Sumitomo (S.H.I.) Construction Machinery (Tangshan) Co., Ltd. Country: China Main Products: Hydraulic excavators



Energy used	
Paper (1,000 sheets of A4-size paper)	918
Electric power (1,000 kWh)	9,672
Gasoline (kL)	–
Heavy fuel oil (kL)	–
Light oil (kL)	18
LPG (t)	15
Natural gas (1000 m³)	1,128
Water used (m³)	79,229

Discharge into the atmosphere	
VOC emissions (t/year)	Under 1 t
SOx emissions (t/year)	1.1
NOx emissions (t/year)	14.2

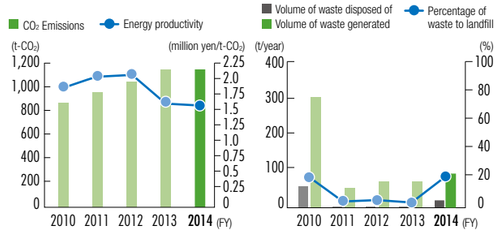
Sumitomo Heavy Industries (Vietnam) Co., Ltd. Country: Vietnam Main Products: Power transmission equipment and motors



Energy used	
Paper (1,000 sheets of A4-size paper)	4,704
Electric power (1,000 kWh)	12,934
Gasoline (kL)	–
Heavy fuel oil (kL)	–
Light oil (kL)	–
LPG (t)	335
Natural gas (1000 m³)	–
Water used (m³)	28,771

Discharge into the atmosphere	
VOC emissions (t/year)	1.1
SOx emissions (t/year)	–
NOx emissions (t/year)	–

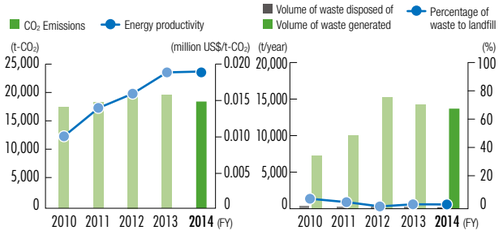
SHI Manufacturing & Services (Philippines) Inc. Country: The Philippines Main Products: Precision parts and components



Energy used	
Paper (1,000 sheets of A4-size paper)	419
Electric power (1,000 kWh)	2,327
Gasoline (kL)	1
Heavy fuel oil (kL)	3
Light oil (kL)	–
LPG (t)	1
Natural gas (1000 m³)	–
Water used (m³)	10,128

Discharge into the atmosphere	
VOC emissions (t/year)	Under 1 t
SOx emissions (t/year)	–
NOx emissions (t/year)	–

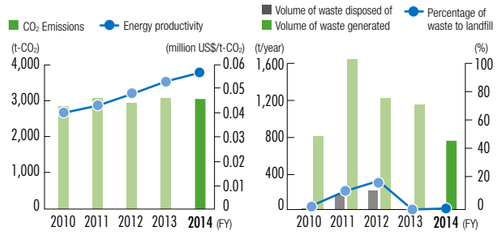
Link-Belt Construction Equipment Company Country: United States Main Products: Construction cranes



Energy used	
Paper (1,000 sheets of A4-size paper)	2,180
Electric power (1,000 kWh)	23,010
Gasoline (kL)	–
Heavy fuel oil (kL)	–
Light oil (kL)	–
LPG (t)	–
Natural gas (1000 m³)	2,514
Water used (m³)	28,768

Discharge into the atmosphere	
VOC emissions (t/year)	52
SOx emissions (t/year)	0.04
NOx emissions (t/year)	4.5

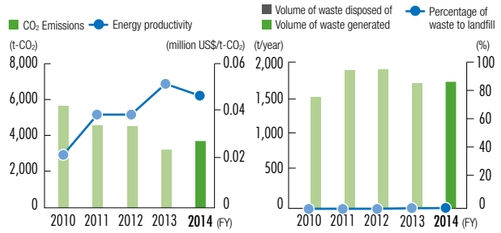
Sumitomo Machinery Corporation of America Country: United States Main Products: Power transmission equipment



Energy used	
Paper (1,000 sheets of A4-size paper)	970
Electric power (1,000 kWh)	5,218
Gasoline (kL)	–
Heavy fuel oil (kL)	–
Light oil (kL)	–
LPG (t)	7
Natural gas (1000 m³)	20
Water used (m³)	2,680

Discharge into the atmosphere	
VOC emissions (t/year)	3.2
SOx emissions (t/year)	–
NOx emissions (t/year)	–

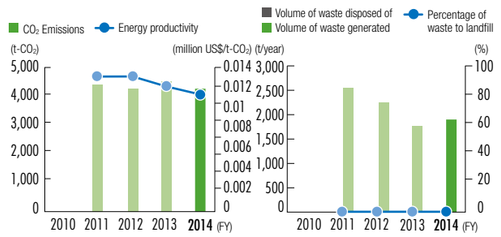
Sumitomo (SHI) Demag Plastics Machinery GmbH Country: Germany Main Products: Plastic molding machines



Energy used	
Paper (1,000 sheets of A4-size paper)	5,245
Electric power (1,000 kWh)	7,773
Gasoline (kL)	–
Heavy fuel oil (kL)	–
Light oil (kL)	2
LPG (t)	133
Natural gas (1000 m³)	309
Water used (m³)	11,087

Discharge into the atmosphere	
VOC emissions (t/year)	3
SOx emissions (t/year)	–
NOx emissions (t/year)	–

Hansen Industrial Transmissions NV Country: Belgium Main Products: Power transmission equipment



Energy used	
Paper (1,000 sheets of A4-size paper)	1,669
Electric power (1,000 kWh)	9,715
Gasoline (kL)	–
Heavy fuel oil (kL)	–
Light oil (kL)	–
LPG (t)	–
Natural gas (1000 m³)	826
Water used (m³)	5,509

Discharge into the atmosphere	
VOC emissions (t/year)	5
SOx emissions (t/year)	–
NOx emissions (t/year)	1.3

Social Contribution Activities

With our employees taking the initiative, we are planning and implementing activities that contribute to society in each region and local community.

Initiatives for Biodiversity

The Sumitomo Heavy Industries Group is engaging in initiatives to protect biodiversity.

The Group has to date endorsed the biodiversity declaration of the Nippon Keidanren (Japan Business Federation) and we have joined the “Declaration Promotion Partners.” In order to contribute to the protection of biodiversity, we have been engaging in afforestation and greenery planting activities.

Our Tanashi Works is preserving the Musashino Forest, which occupies approximately 30% of the area of the 43,000m^2 campus. This forest contains over 4,500 trees of 40 or more species, and 170 of the trees have been designated protected trees by Nishi-Tokyo City. We have named a portion of these woods the Forest of Inspiration and opened it to the public.

Past wildlife habitat surveys confirmed the presence of considerable wildlife in the forest, which is a stronghold for the local ecosystem as well as a precious natural asset for scientific research.

In addition to the kind of forest maintenance activity seen at the Tanashi Works, we are also carrying on afforestation by means of the Acorn Plan as well as by expansion and addition of green areas when redevelopment work is done on the grounds of our factories in other areas.

The Sumitomo Heavy Industries Group has also been contributing to the further protection of biodiversity by means of the LIME2 lifecycle impact assessment method based on endpoint modeling, developed by the National Institute of Advanced Industrial Science and Technology. Using this method, we have performed quantitative assessments of the impact that Group businesses have on biodiversity.

As a result, we found that reducing the amount of wood materials used would be particularly effective for our Group, and we have been pursuing reductions in the amount of product packaging material we use.

Main building at the Tanashi Works

Kindergarten children enthusiastically gathering acorns in the Forest of Inspiration

Planting activity at Nihon Spindle Manufacturing Co., Ltd.

Planting activity at Nihon Spindle Manufacturing Co., Ltd.

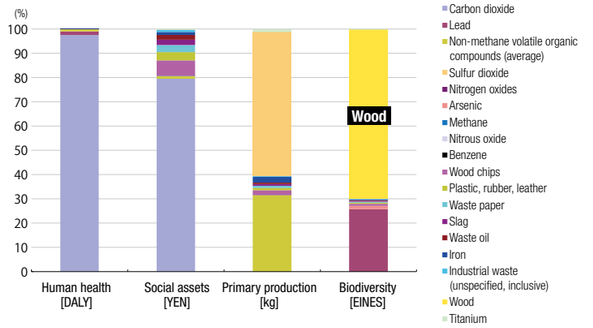
Specifically, we have been taking measures to simplify packaging and to adopt returnable shipping cartons to enable repeated reuse.

Reduction of packaging material is not the only measure we are taking. We are also evaluating our former activities to determine whether they have been activated and are in effect at our head office, branches, works, and Group companies.

The evaluation items include afforestation, greenery planting, and green curtain implementation, water-use reduction, VOC reduction, landfill disposal reduction, and utilization of renewable energy (electric power). We are taking steps toward participation of all personnel in these and other such activities to protect biodiversity.

■ Example of packaging material reduction
Seisa Gear, Ltd.

■ Quantitative assessment of impact on biodiversity



Social Contribution Activities

Participating Actively in Local Community Events

The Sumitomo Heavy Industries Group takes active part in events held in local communities. The Niihama Factory took part in the Saijo City Ofuki Area Friendship Sports Day as part of the Ehime Prefecture Support Group Matching Project for Healthy Village Development, with the aim of regional revitalization. Many people here in the Ofuki area are elderly, and the sports days were suffering from a shortage of participants. Since the community also requested it, we began taking part in the event from fiscal year 2011.

The weather was ideal on Sports Day in 2014, making for a highly enjoyable and meaningful day-long event that enabled exchange with residents of local communities and large numbers of volunteers.

Ball-toss game

Radio calisthenics

Ofuki lion dance

Cleanup Activities

In the Sumitomo Heavy Industries Group, we carry on regular cleanup activities in the areas around our works. We also participate in cleanup activities organized by local government bodies and volunteer groups.

In addition to cleanup activities in the neighborhood of our works, during fiscal year 2014 the Nagoya Works and Sumitomo NACCO Materials Handling Co., Ltd. also participated in the Adopt Program* organized by Obu City in Aichi Prefecture, while the Niihama Factory took part in the Adopt Program of Niihama City. All these activities involve continuing engagement in cleanup of neighboring areas.

The Nagoya Works has been taking part in this Adopt Program since 2004. In 2014, we held cleanup activities in the area around the works on six occasions, with about 30 people participating each time. We are continuing this activity in the same way in 2015, as well.

The Sumitomo Heavy Industries Group will continue with this commitment to beautification of the local environment.

* Adopt Program: A volunteer campaign in which people designate a public facility, such as a park or a footpath, and register it with the city. They then pick up trash, water the plants, and weed the designated facility so that people will be able to enjoy using it.

Cleanup activity (Niihama Factory)

Students from Yokosuka Lower Secondary Schools Tour Our Environmental Activities

Our Yokosuka Works in Kanagawa Prefecture is taking measures to reduce CO_2 emissions and waste materials. We are also actively engaging in communication with local communities as part of our environmental activities.

In 2014, we invited local lower secondary school students to tour the Yokosuka Works. They observed the status of waste separation for recycling, toured our wastewater treatment facility and water quality monitoring system, looked at our environmentally friendly products, and gained a deeper understanding of the environmental measures we are taking at Sumitomo Heavy Industries.

Tour of on-site environmental activity at our works

Environmental Education for Elementary School Students

Sumitomo Heavy Industries Environment Co., Ltd., exhibits every year at an environmental exhibition in Minamiashigara City, Kanagawa Prefecture. We also conduct an annual environmental education event mainly for local elementary students.

At the environmental exhibition in fiscal year 2014, we gave a close look at water-related topics. This included a microscopic display of microorganisms used in water treatment, observation of waterside organisms and a comparative analysis of the calcium content of commercially available mineral water. We showed the organisms that live in clean rivers and polluted rivers, explained the differences between them and conveyed the importance of protecting river environments.

We intend to keep up these activities in the future, and continue communicating to children the importance of environmental protection.

Observing microorganisms through a microscope

Waste Reduction through the Use of Recycled Plastics

At the Link-Belt Construction Equipment Company, located in the state of Kentucky in the United States, the Maintenance Department has started begun replacing over time wood lumber with recycled plastic lumber for landscaping edging and the Warehouse Department is doing the same with for wagon cribbing. The recycled plastic lumber will last much longer than wood lumber reducing the amount of waste which must be recycled or disposed of off-site.

Using components made from recycled plastics