SHI
Sumitomo Heavy Industries

Sumitomo Heavy Industries Group

Environmental Sustainability Report 2008

Sumitomo Heavy Industries, Ltd.

Contents

About This Report

The Sumitomo Heavy Industries Group (Sumitomo Heavy Industries, Ltd. and its group companies) issued its Environmental Report in 2001. In 2005, we expanded the scope of this report to include a social aspect, and changed its name to Environmental Sustainability Report. In editing this report, we referred to the Environmental Report Guidelines (2003 version) of the Japanese Ministry of the Environment.

Scope of the Report
Sumitomo Heavy Industries, Ltd. and its group companies

Period Covered by this Report
April 1, 2007 — March 31, 2008

The next issue planned to be published in:
September 2009

Company Profile

Company Name
Sumitomo Heavy Industries, Ltd.

Founded:	November 20, 1888
Incorporated:	November 1, 1934
Head Office:	ThinkPark Tower, 1-1, Osaki 2-chome, Shinagawa-ku, Tokyo
Capital:	JPY 30,871,650,000
Employees:	14,408 (Consolidated) 2,848 (Non-consolidated)
Net Sales:	JPY 660,769 million (Consolidated)
	JPY 267,557 million (Non-consolidated)

Sumitomo Heavy Industries Group Main Business Areas

[Mass-Produced Machinery]

Power Transmission Equipment, Plastic Injection Molding Machines, Extrusion Laminators, Cryogenic Equipment, XY Stages, Transfer Molding Press Machines, Laser Processing Systems, Forklift Trucks, Precision Forgings, Steel Castings, Defense Equipment, Cyclotrons for Medical Use, Ion Accelerators, Plasma Coating System for FPDs (Flat Panel Displays)
Sumitomo NACCO Materials Handling Co., Ltd., Seisa Gear, Ltd., SEN Corporation, an SHI and Axcelis Company, Sumitomo Heavy Industries HIMATEX Co., Ltd., SHI Plastics Machinery, Ltd., Sumitomo Heavy Industries Finetech, Ltd., Sumiju Precision Forging Co., Ltd., Sumitomo Heavy Industries PTC Sales Co., Ltd., Sumitomo Heavy Industries Mechatronics, Ltd., S.H.I. Examination & Inspection, Ltd., Sumitomo Machinery Corporation of America, Sumitomo (SHI) Cyclo Drive Germany, GmbH, SHI Plastics Machinery, Inc.of America, Sumitomo (SHI) Plastics Machinery Mfg. (USA), LLC, Sumitomo (SHI) Plastics Machinery (America), LLC, Sumitomo (SHI) Cryogenics of America, Inc., Sumitomo (SHI) Cryogenics of Europe, Ltd., Sumitomo (SHI) Cryogenics of Europe GmbH

[Environmental Protection Facilities, Plants & Others]

Power Generation Systems, Water and Sewage Treatment Systems, Landfill Leachate Treatment Systems, Air Pollution Control Plants, Industrial Effluent Treatment Systems, Processing Equipment for Chemical Plants, Food Processing Machines, Software

Sumitomo Heavy Industries Environment Co., Ltd., Sumiju Environmental Engineering Inc., Sumiju Environmental Technology Co., Ltd., Sumiju Plant Engineering Co., Ltd., Lightwell Co., Ltd., Nihon Spindle Mfg. Co., Ltd., Izumi Food Machinery Co., Ltd.

[Ships, Steel Structures, and Other Specialized Equipment]

Ships, Marine Structures, Marine Equipment, Bridges & Steel Structures, Pressure Vessels, Mixing Vessels, Coke Ovens

Sumitomo Heavy Industries Marine & Engineering Co., Ltd., SHI Mechanical & Equipment Inc.

[Industrial Machinery]

Logistics & Handling Systems (Automated Warehouse Systems, Automatic High-Speed Sorting System & Others), Parking Systems, Forging Presses, Goliath Cranes, Material Handing Systems, (Continuous Unloaders, Container Cranes & Others), Turbines, Pumps

Sumitomo Heavy Industries Engineering & Services Co., Ltd., Sumitomo Heavy Industries Techno-Fort Co., Ltd., Shin Nippon Machinery Co., Ltd.

[Construction Machinery]

Hydraulic Excavators, Mobile Cranes, Road Construction Machinery

Sumitomo (S.H.I.) Construction Machinery Co., Ltd., Link-Belt Construction Equipment Company, LBX Company LLC

A company that contributes to the sustainable development of society

In FY2005, we at Sumitomo Heavy Industries Group started the Activities to Prevent Global Warming to help prevent global warming, which is one of the most serious environmental issues we face today. Since then, all the companies in our group have been taking measures to (1) reduce the consumption of electricity, (2) reduce the use of paper, and (3) promote green logistics, under the belief that it is our mission to make efforts throughout the group to implement measures to achieve these targets.

In order to reduce the consumption of electricity, we renewed and converted the facilities as necessary at each manufacturing site. In these activities, we put the greatest emphasis on participation by all employees and the elimination of waste and improved operations through "visualization" conducted at each site. As a result, in FY2007 , the third year, we achieved a 7.6% reduction in the overall consumption of electricity compared with that in FY2004, which we refer to as the benchmark. Considering the 27% sales increase we achieved in this period, we can say that we made a significant reduction.
The works that achieved the reduction found it difficult to increase production to meet the demand. However, those sites made patient, continuous efforts to achieve their goals, instead of resorting to the introduction of new facilities and other radical measures. We also achieved our FY2007 targets in reducing the use of paper and green logistics.

At Sumitomo Heavy Industries Group, we have made it one of our missions to reduce the burden on the environment and to contribute to environmental preservation through our products and daily manufacturing. We are committed to creating products that are lighter in weight, smaller in size, and lower in the consumption of energy. Our hydraulic excavator, the Legest®, received both the Good Design Award and Energy Conservation Grand Prize. In addition, we harmonize the environment with our technologies in various fields of society and provide high-performance, high-quality products that meet the demands of society.

With regard to our everyday manufacturing, we have introduced the ISO14001 management system to all of our manufacturing sites and our main group companies. FY2007 was the final year of our medium-term environmental plan, and this year we continuously promoted the reduction of CO_2 emissions, minimization of waste, and reduction and elimination of hazardous chemical substances. We also strived to avoid environmental risk from the viewpoint of preventing environmental pollution.

The group continues to promote the manufacture of first-class products in our new medium-term management plan, Global 21, which started in FY2008. We would like to develop our activities by combining this plan with our CSR activities – Activities to Prevent Global Warming – to provide new first-class products.

Our activities for environmental preservation in local communities will continue to consist of cooperation and consultation with members of the local communities. This report is a continuation of our 2007 report and is a summary of our group's environmental efforts. We appreciate your opinions, comments and advice, which will help us with our ongoing efforts for sustaining and preserving the environment.

Yoshinobu Nakamura
President and CEO
中村吉伸

Relationship between Sumitomo Heavy Industries Group and society

Products and technologies of Sumitomo Heavy Industries Group support everyone's life and contribute to the development of a wide range of industries.

Sumitomo (S.H.I.) Construction Machinery Co., Ltd.

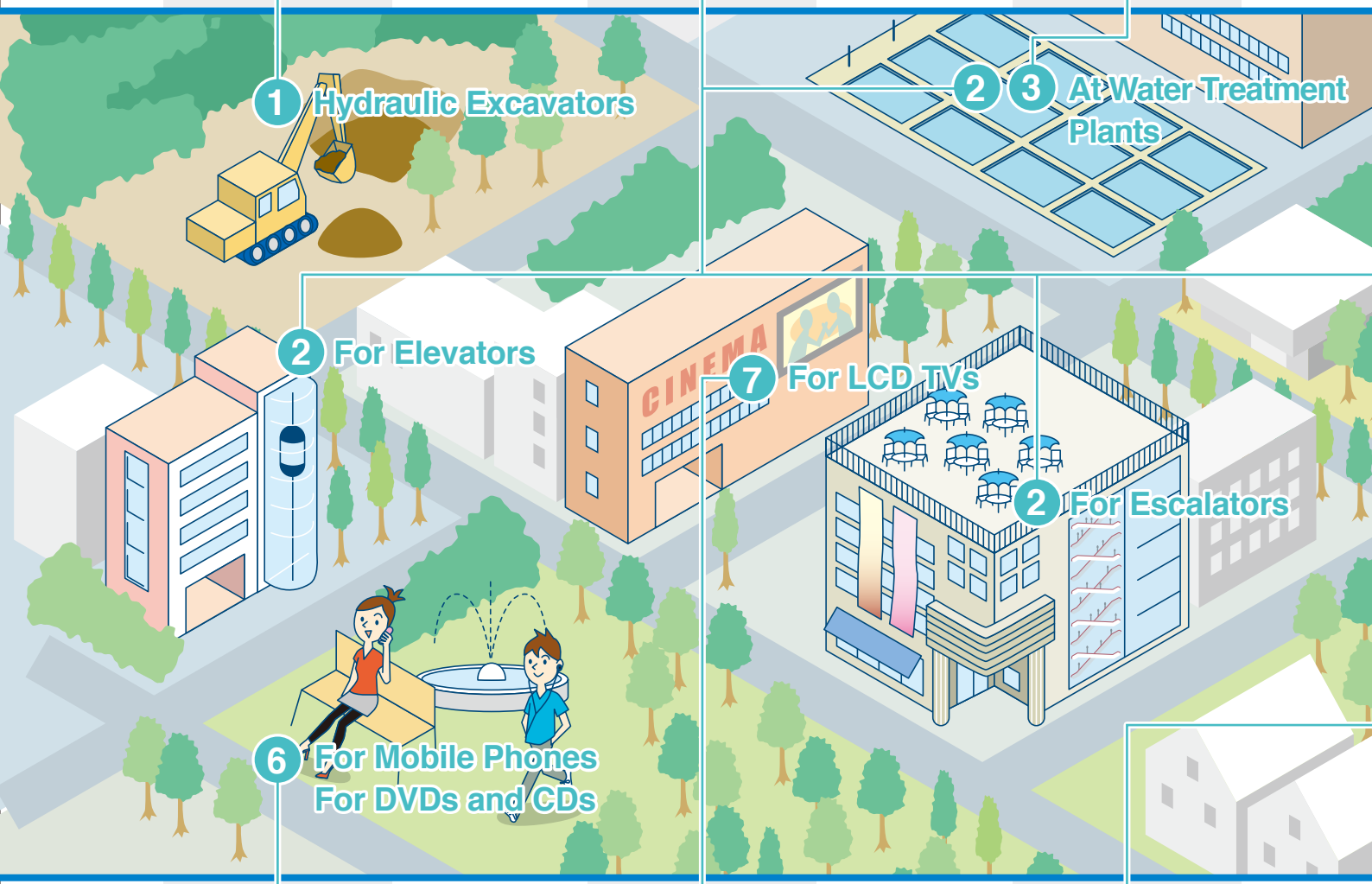
1 Hydraulic Excavators P. 15

Power Transmission and Control Group

2 Speed Reducer P. 17

Sumitomo Heavy Industries Environment Co., Ltd.

3 Anaerobic Wastewater Treatment System P. 19



6 Plastic Injection Molding Machines P.17

Plastics Machinery Div.

7 Semiconductor and Liquid Production Equipment

Mechatronics Div.

8 Forging Presses P.20

Sumitomo Heavy Industries Techno-Fort Co., Ltd.

For our products that contribute to environmental preservation,
see “Contributing to Environmental Protection though Products” on pages 15 to 20.

Quantum Equipment Div.

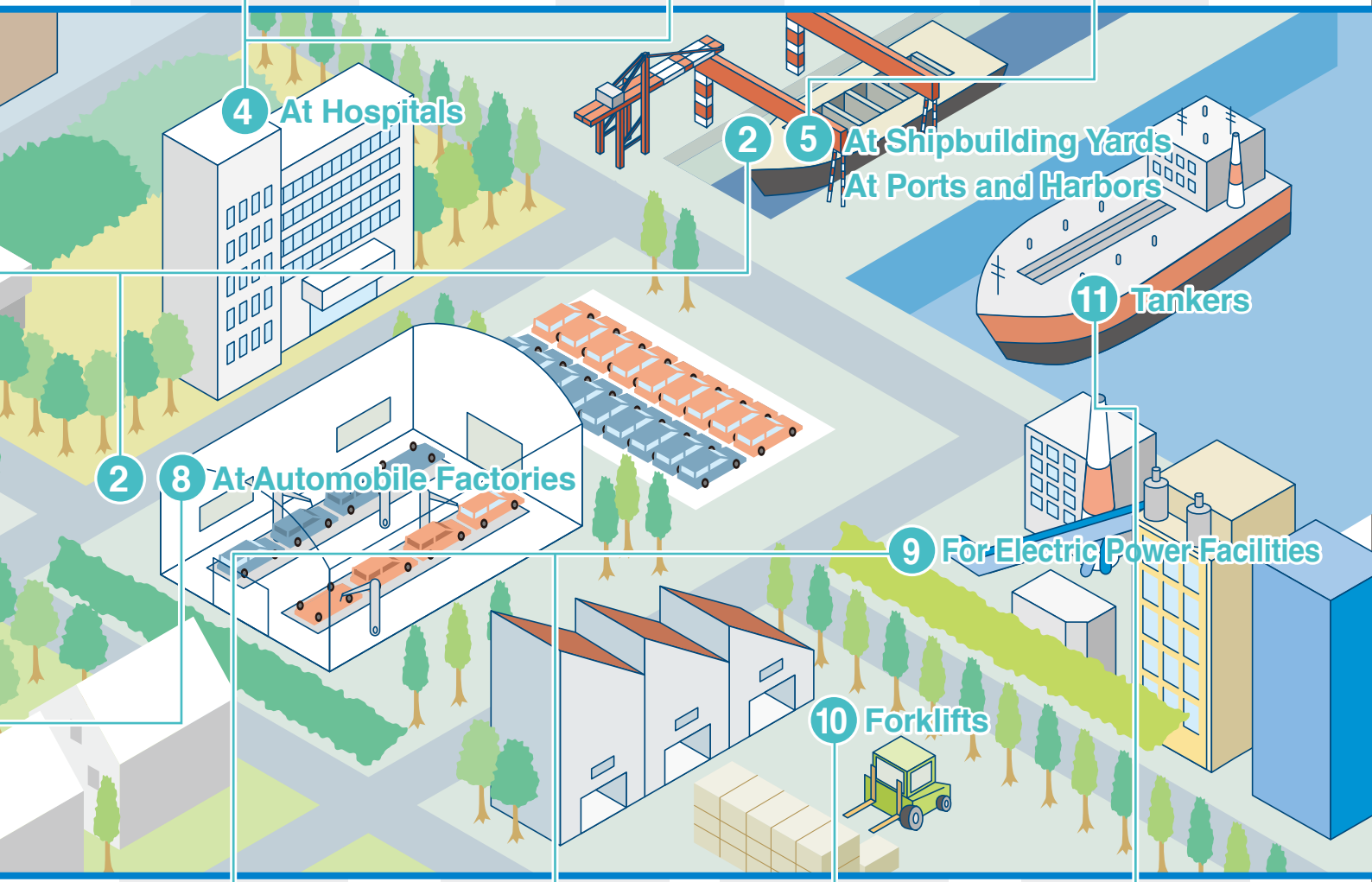
4 Cyclotron for PET P. 17

Precision Equipment Group

4 Cryogenic Equipment (Cryocoolers) for MRI Systems

Sumitomo Heavy Industries Engineering & Services Co., Ltd.

5 Goliath Cranes



9 CFB(Circulating Fluidized Bed) Boilers P.16

Energy & Environment Group

9 Steam Turbines P.20

Shin Nippon Machinery Co., Ltd.

10 Forklifts P.18

Sumitomo NACCO Materials Handling Co., Ltd.

11 Aframax Tankers

Sumitomo Heavy Industries Marine & Engineering Co., Ltd.

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.

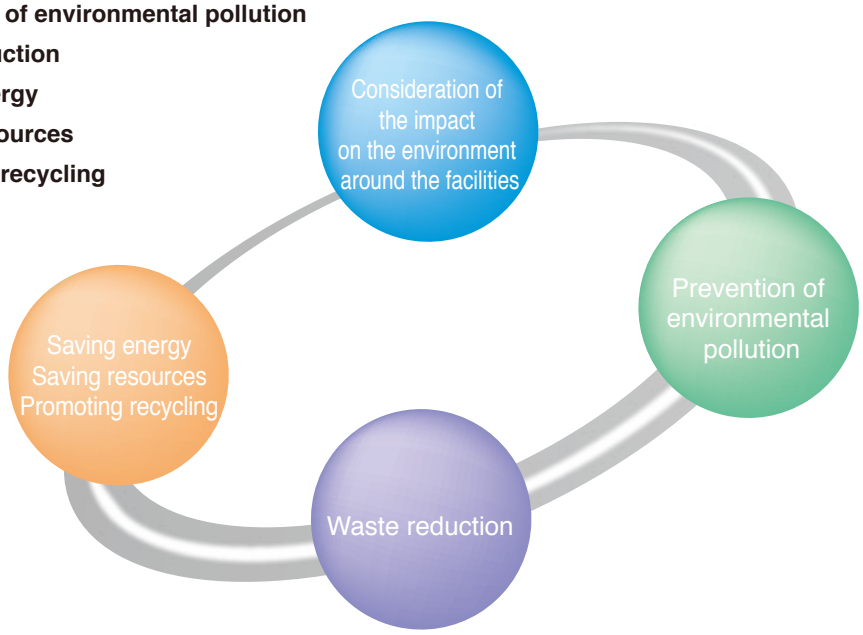
Sumitomo Heavy Industries Group Environmental Policy

The entire Sumitomo Heavy Industries Group will take action for environmental preservation to achieve the same objective.

We established the Sumitomo Heavy Industries Environmental Policy in September 1997 as an expansion of the traditional risk management focused on the compliance with the laws and regulations, thereby making clear our basic policies, including the consideration of the environmental impact of our businesses. In addition, in November 1999, we established the Sumitomo Heavy Industries Group Environmental Policy and have since been promoting environmental activities and environmental management as the Sumitomo Heavy Industries Group, which includes all of our affiliate companies.

Sumitomo Heavy Industries Group Environmental Policy

- **Consideration of the impact on the environment around the facilities**
- **Prevention of environmental pollution**
- **Waste reduction**
- **Saving energy**
- **Saving resources**
- **Promoting recycling**



Established November 1, 1999

Environmental Management

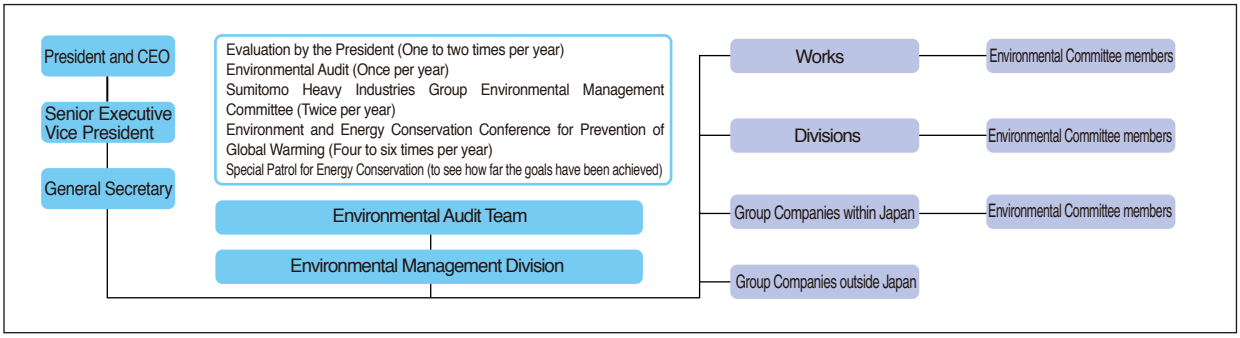
We apply issues and goals regarding our products and manufacturing activities to our environmental programs.

At each works, the work's general manager establishes the environmental policies for the works (including our group companies in the same area as the works), and environmental management is being promoted in accordance with the ISO14001 standards. First, any and all elements that have potential environmental impact are listed. Then their environmental impacts are evaluated and any applicable legal restrictions are clearly identified. Thereafter, the goals of environmental activities are set, the environmental programs are created, practiced, audited and evaluated, and finally, the management system is improved based on the results of the evaluation. In this manner, PDCA is continuously practiced at each of our works. At group companies outside the areas where our works are located, the president of each company establishes the environmental policy, and activities are made in the same way. In particular, we apply the issues and goals about our products and manufacturing activities to the environmental programs to put them into practice. To ensure that our management system is being fully implemented and to facilitate continuous improvement, the Environmental Management Division of the company conducts internal audits, and an external auditing organization conducts audits, once a year, respectively. The audits are also carried out at our overseas facilities. (The subject of the overseas audits in FY2007 was our facilities in China.)

Environmental Management Organization

We have established the Sumitomo Heavy Industries Group Environmental Management Committee, through which we ensure that our environmental activities are fully implemented in accordance with our environmental policy

To proceed with our environmental activities continuously and effectively, all of our works and divisions as well as our main group companies have obtained ISO14001 certification. The works and divisions are actively involved in their environmental management activities in accordance with the ISO14001 standards while working towards their continuous improvement. The group companies within the same areas as our works are working within the environmental management organizations of the respective works. The other group companies that are located outside those areas conduct their ISO14001 environmental management in a similar way but as independent organizations. To achieve further development and greater improvement of those activities throughout the entire Sumitomo Heavy Industries Group, we set up the Environmental Management Division under the auspices of the General Manager of General Affairs Group. The Division plans, practices and promotes environmental management, and also conducts periodic audits of the management. We also set up the Sumitomo Heavy Industries Group Environmental Management Committee, through which we ensure that our environmental activities are fully implemented in accordance with our environmental policy. In particular, we position global warming as the key issue and have been promoting its prevention by developing human resources with expert knowledge at each works and group company, and through our Environment and Energy Conservation Conference and Environmental Committee of each area.



Works and divisions that have received ISO14001 certification and group companies within the scope of certification

Works/Divisions	Group Companies within the Scope of Certification	Date of Certification
Tanashi Works	• Sumiju Plant Engineering Co., Ltd. • Sumiju Business, Ltd. • Sumiju Tokki Service Co., Ltd.	August 1998
Chiba Works	• Sumitomo (S.H.I.) Construction Machinery Manufacturing Co., Ltd. • Kenki Engineering Chiba Co., Ltd. • Sumitomo (S.H.I.) Construction Machinery Co., Ltd. • Hitachi Sumitomo Heavy Industries Construction Crane Co., Ltd. • Sumitomo (S.H.I.) Construction Machinery Sales Co., Ltd.	April 1999
Yokosuka Works	• Sumitomo Heavy Industries Marine & Engineering Co., Ltd. • Sumiju Precision Forging Co., Ltd. • Sumiju Yokosuka Kogyo Co., Ltd. • Environmental Engineering Center of Sumitomo Heavy Industries Environment Co., Ltd.	February 1999
Nagoya Works	• Hitachi Sumitomo Heavy Industries Construction Crane Co., Ltd. • Sumiju Tomida Machinery Co., Ltd. • Sumiju Technos Co., Ltd.	January 1999
Okayama Works	• Sumitomo Heavy Industries Finetech, Ltd.	March 2000
Ehime Works (Niihama Factory)	• Sumitomo Heavy Industries Techno-Fort Co., Ltd. • Sumitomo Heavy Industries Engineering & Services Co., Ltd. • Sumitomo Heavy Industries Himatex Co., Ltd. • Sumiju Plant Engineering Co., Ltd. • Sumiju Techno Craft Co., Ltd.	November 1999
Ehime Works (Saijo Factory)	• SHI Mechanical & Equipment Inc. • SHI Examination & Inspection, Ltd.	February 1999
Energy & Environment Group	• Sumiju Environmental Technology Co., Ltd.	October 2002

Group companies in Japan that have independently received the ISO14001 certification

Group Company	Date of Certification
Sumitomo NACCO Materials Handling Co., Ltd.	March 2000
Shin Nippon Machinery. Co., Ltd.	February 2002
Izumi Food Machinery Co., Ltd.	June 2002
SEN Corporation, an SHI and Axcelis Company	October 2002
Sumiju Environmental Engineering Inc.	October 2002
Sumitomo Heavy Industries Environment Co., Ltd.	November 2002
Lightwell Co., Ltd.	February 2005
Nihon Spindle Mfg. Co., Ltd.	March 2006
Japan Electron Beam Irradiation Service Co., Ltd.	January 2007
Sumitomo Heavy Industries PTC Sales Co., Ltd.	September 2007

Group companies outside Japan that have independently received the ISO14001 certification

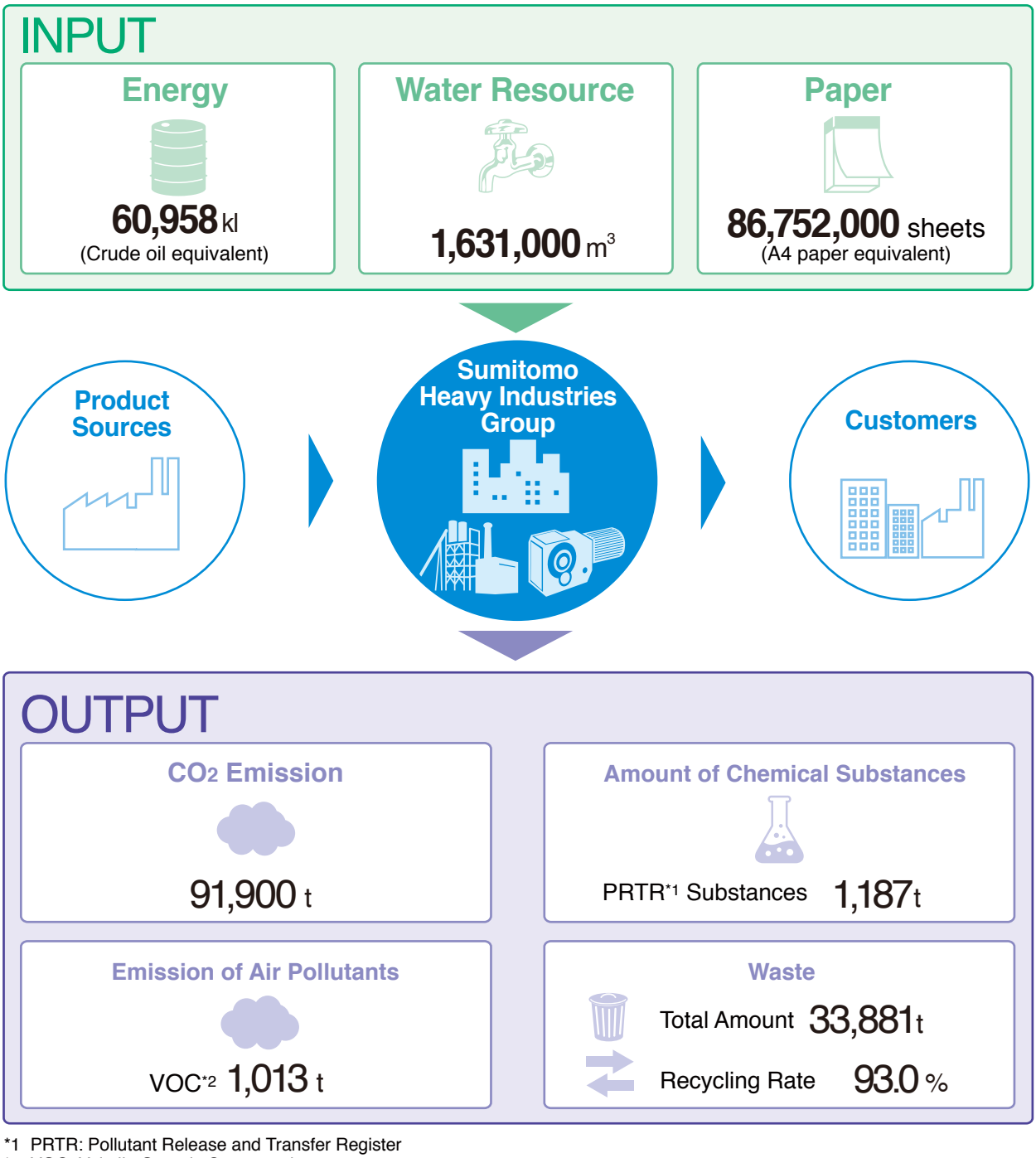
Overseas Group Company	Date of Certification
Sumitomo(SHI) Cryogenics of Europe, Ltd.	June 2008

Environmental Objectives (Medium-Term Plan) and Results

The Sumitomo Heavy Industries Group has drafted the second medium-term plan that specifies the targets to be achieved by the end of FY2010 and has been continuing with its efforts to reduce the burden on the environment.

Entire View of the Burden on the Environment (Sumitomo Heavy Industries Group)

We have identified the relationship between our business activities and the burden on the environment in a quantitative manner and have been taking effective measures to combat it.



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

Activities in 2007— General Overview

We act for continuous improvement

In FY2007, we made plans based on our environmental objectives (in the medium-term plan for FY2005 – FY2007) and strived to achieve the targets. The results are as follows:

- We achieved our targets in promoting green logistics, reducing paper usage, reducing water usage, completely abolishing equipment that uses PCB (polychlorinated biphenyl), increasing of the number of ISO14001 certifications, and expanding the scope of Consolidated Environmental Management
- We achieved at least 70% of our targets in reducing CO_2 emissions at works and offices, reducing the amount of waste disposal, achieving zero emissions, achieving emission control of organochlorine chemicals (ozone-depleting substances), achieving emission control of substances designated as VOC, and promoting measures for green procurement.
- The areas in which we achieved less than 70% of our targets were in reducing the amount of discharged waste, achieving emission control of organochlorine chemicals (designated as harmful chemical substances under the Soil Contamination Countermeasures Law), and maintaining and updating ISO14001. Starting in FY2008, we will strive to achieve our targets in accordance with our second medium-term plan (FY2008 – FY2010).

Evaluation: ◎ Achieved ○ Achieved by 70% or more △ Achieved by less than 70%

Index	Item	Plans for FY2007	Achievements in FY2007	Evaluation	Second Medium-Term Plan
Prevention of Global Warming	① Reduction in CO_2 emissions at works and offices ② Reduction in electric power consumption	Reduction in the amount of electric consumption by 10% compared with FY2004	Electricity consumption reduced by 7.6% from the FY2004 level	○	Reduction in CO_2 emission by 15% from the FY2004 level by FY2010
	① Promotion of green logistics • Reduction in CO_2 emissions in transportation	Reduction by 2% per basic unit of transportation compared with the figure for FY2006 as the benchmark (1% reduction specified in the Amended Energy Conservation Law)	Amount in transportation: 31.56 million ton-km Basic unit of transportation: 0.0204 (t-CO_2/t) Reduction by 6% from the FY2006 level	◎	Target for FY2009: Reduction by 10% per basic unit of transportation compared with the figure for FY2006 as the benchmark (1% reduction specified in the Amended Energy Conservation Law).
Promotion of Resource Conservation and Recycling	① Reduction in the amount of discharged waste and waste disposal	• Amount of discharge: 24,300 tons (Down 21% from the FY2001 level) • Amount of disposal: 2,300 tons (Down 74% from the FY2001 level)	• Amount of discharge: 33,881 tons (Up 9.9% from the FY2001 level) • Amount disposed of: 2,381 tons (Down 72.9% from the FY2001 level)	△ ○	• Amount of discharge: 21,000 tons (Down 32% from the FY2001 level) • Amount of disposal: 2,000 tons (Down 77% from the FY2001 level)
	② Achievement of zero emissions	A recycling rate of at least 95% (Group average)	Recycling rate: 93.0% 95% or more achieved at six bases (this level achieved at five bases in the previous year)	○	• Recycling rate of 95% or more to be achieved at all departments • The departments that achieved the target will aim for zero emission
	③ Reduction in paper usage	Reduction by at least 15% at all the departments taking FY2005 as the benchmark	Reduced by 17% from the FY2005 level (Started in October 2006)	◎	Reduction by 40% or more from the FY2005 level as the benchmark
	④ Reduction in water usage	Reduction by 13% or more from the FY2005 level	Reduced by 14.4% from the FY2005 level	◎	Reduction by 20% or more from the FY2005 level
Promotion of Prevention of Environmental Pollution	① Emission control of organochlorine chemicals (Soil Contamination Countermeasures Law, Montreal Protocol)	Reduction in dichloromethane, tetrachloroethylene, and trichloroethylene by 50% or more from the FY2005 level Reduction in ozone depleting substance, HCFC-141b, by 20% or more	Compared with FY2005: • Dichloromethane reduced by 55.9%, tetrachloroethylene reduced by 100%, and trichloroethylene increased by 30.3% • HCFC-141b reduced by 14.0%	△ ○	• Total abolition of dichloromethane and trichloroethylene, which are designated as hazardous chemical substances under the Soil Contamination Countermeasures Law. Tetrachloroethylene is to remain completely abolished. • Reduction in both of the ozone depleting substances, HCFC-141b and HCFC-225, by 50% or more from the FY2006 level
	② Emission control of substances designated as VOC (Air Pollution Control Law)	Reduction in emissions of painting solvents (mainly toluene, xylene, and ethylbenzene) by 10% or more from the FY2006 level	1,013 tons handled in FY2007 (1,090 tons in FY2006)	○	Controlled emission of painting solvents, mainly toluene, xylene, and ethylbenzen. Reduction by at least 30% from the FY2006 level to be achieved by FY2010
	③ Total abolition of equipment that uses PCB (Law Concerning Special Measures Against PCB Waste)	• Equipment that has a high concentration of PCBs will be disposed of appropriately after receiving disposal notification from the Japan Environmental Safety Corporation. • For equipment that has a low concentration of PCBs, investigation will continue in accordance with the plan.	• No disposal notification regarding equipment with a high concentration of PCBs • Investigation continuing for equipment with a low concentration of PCBs	◎	Equipment with a high concentration of PCB and that with low PCB concentration will both be subject to complete prohibition.
Expansion of Line-up of Environmentally Friendly Products	Promotion of measures for green procurement (purchase of raw materials and components)	Green Procurement Guidelines shall be distributed to related parties to promote the measures.	Continued in accordance with the Green Procurement Guidelines	○	Respond to customers' requests by guaranteeing that shipped products do not contain prohibited substances. Have the suppliers guarantee that the products they deliver do not contain prohibited substances.
Environmental Management	① Maintenance and updating of ISO14001	Zero environmental accidents (legal violations)	Verbal instructions given in two cases	△	Zero environmental accidents (legal violations)
	② Increase in the number of ISO14001 certifications	Making preparations to enable another two group companies to obtain certification	One of the group companies obtained the certification for the first time. Preparations for obtaining the certification were initiated for two companies.	◎	Plan for group companies to obtain certification. Promote the plan.
	③ Expansion of the scope of the Consolidated Environmental Management	Research to be conducted to identify the level of environmental management at three factories in China (with questionnaires)	On-site audits were conducted at three factories in China. Surveys on six overseas manufacturing bases (including China) were made using survey sheets.	◎	Conduct audits and research into the risk associated with the principal overseas manufacturing bases to avoid risks and to promote measures for environmental activities.

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.

Reduction in CO_2 emissions

CO_2 emissions reduced by 0.9% from the previous year

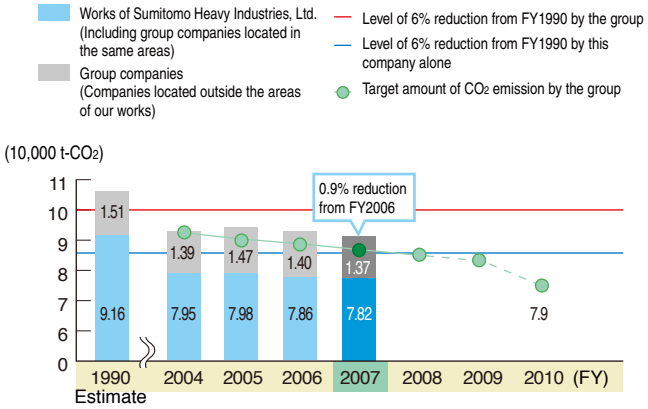
In August 2005, we launched the "Sumitomo Heavy Industries Group 1st Global Warming Prevention Activities." We engaged in the activities by setting a lofty goal for FY2007: reduction in CO_2 emissions by 10% from the FY2004 level. In particular, we focused on reducing the consumption of electric power. We believed that reducing power consumption will contribute greatly to cutting our CO_2 emissions because electricity accounts for approximately 80% of all the energy used by the group.

As a result, despite the significant increase in our production, CO_2 emissions for the entire group in FY2007 were reduced by 0.9% from the previous year–91,900 tons in FY2007 compared with 92,700 tons in FY 2006. The amount of CO_2 emissions from electric power consumption, which we sought to cut, decreased by 4.5% from the previous year–from 73,500 tons in FY2006 to 70,200 tons in FY2007. However, emissions from fuel consumption increased by 13.6% during the same period—from 19,100 tons to 21,700 tons—which offset the reductions achieved by cutting electric power consumption.

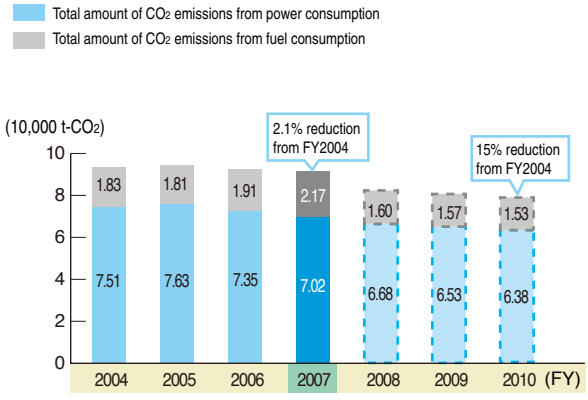
In FY2008, we launched "Sumitomo Heavy Industries Group 2nd Global Warming Prevention Activities." We view the reduction of CO_2 emissions as the most important issue, and promote our activities with the aim of achieving a 15% reduction from the FY2004 level by FY2010.

Concerning the target values stipulated in the Kyoto Protocol, the amount of emissions by the entire group in FY2007 was 13.9% lower than that in FY1990. The rate of reduction in the same period was 14.6% taking the figures of Sumitomo Heavy Industries, Ltd. alone. Both reduction rates are much higher than the 6% target commitment by Japan. Concerning the target value of the Japan Society of Industrial Machinery Manufacturers (JSIM), which participates in the Voluntary Action Plan of the Japan Federation of Economic Organizations, the amount of emissions from the entire group in FY2007 was 17.4% lower, and that by this company alone was 18.2% lower, than the respective figures in FY1997, designated as the benchmark. Both reduction rates far exceed JSIM's target of 12.2%.

CO_2 emission



CO_2 emissions through the consumption of fuel and power



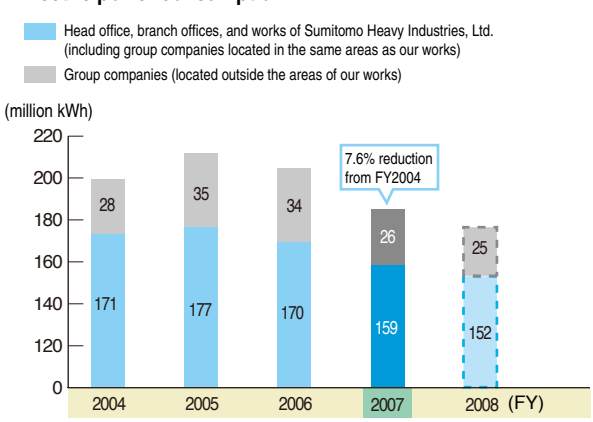
Reduction in electric power consumption

We will continue to reduce power consumption

In FY2007, we aimed for a 10% reduction in power consumption from the FY2004 level, and achieved a 7.6% reduction.

At our head office and branch offices, we achieved a significant reduction by promoting Cool Biz, controlling the temperature settings and the operation of air-conditioners, switching off unnecessary lighting, selecting the energy-saving mode for office equipment (PC's and photocopiers), and so on. At our works, the reduction exceeded the significant increase in production, which we were able to achieve by reducing the amount of standby electricity consumed, increasing the installation of lighting windows, using lighting of higher efficiency, eliminating the use of unnecessary lighting, and replacing existing facilities with energy-saving ones. We will continue to reduce consumption by introducing a power consumption monitor that will enable us to visualise the amount of electricity we use.

Electric power consumption



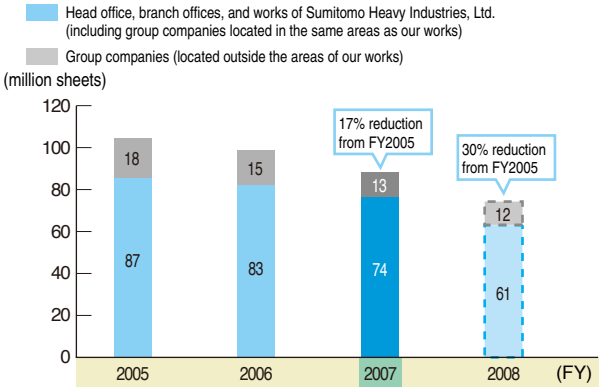
Efforts to reduce paper usage

Reduction of 17% from the benchmark year for achieving the target

Reducing paper use is part of the resource-saving activities, and contributes to the prevention of global warming by reducing CO_2 emissions. Our group set a target of reducing paper usage by 30% from the FY2005 level by FY2008. In FY2007, we aimed for reducing the paper usage by 15% of the FY2005 level.

As a result, in FY2007, we achieved a 17% reduction from the FY2005 level. To further reduce paper use, we will thoroughly eliminate waste by photocopying on both sides of the paper and using the reverse side of used paper. We will reduce the use of slips and forms by holding paperless meetings and improving the operational structure in the manufacturing department.

Paper usage (A4 paper equivalent)



Promotion of green logistics

We will eliminate waste in transportations and improve efficiency by assigning people who are responsible for the respective divisions and groups

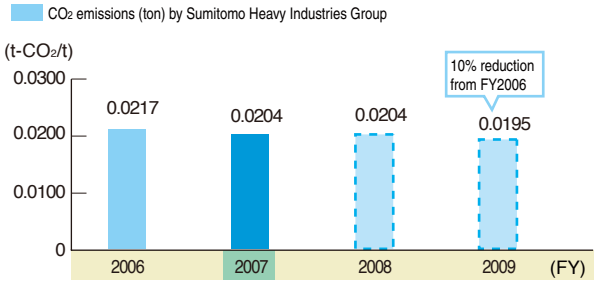
As a Known Shipper (a shipper that delegates, or engages itself in, over 30 million ton-km of transportation per year), we have been making an effort to reduce CO_2 emissions by eliminating waste in transportations and by improving efficiency.

With FY2006 as the benchmark, we are currently aiming to achieve a 10% reduction in the basic unit of transportation ($t\text{-}CO_2/t$) in the three-year period ending FY2009. The result in FY2007 was 0.0204 ($t\text{-}CO_2/t$) by the basic unit of transportation, which means we achieved the 2% reduction that was targeted at the beginning of the same year. In FY2008, we are aiming for a reduction of at least 6% of the FY2006 level by further strengthening our measures, including the initiating a modal shift.

CO_2 emissions in FY2007 (basic unit)

Traffic (1000 ton-km)	Fuel consumption (kl)	CO_2 emissions ($t\text{-}CO_2$)	CO_2 emissions (basic unit) ($t\text{-}CO_2/t$)
104,518	60,958	12,832	0.0204

Green logistics (CO_2 emissions: Basic unit)



Promotion of green procurement

To reduce the burden on the environment throughout the lifecycle of our products, we start our efforts at the procurement stage

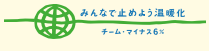
One of the missions of corporations is to reduce the burden on the environment and to contribute to environmental protection through their products and everyday manufacturing. Based on this belief, we are committed to making products that are lighter in weight, smaller in size, and lower in energy consumption, and have been providing high-performance, high-quality products that respond to the demands of society. To achieve further reductions in the burden on the environment, it is necessary to reduce the burden throughout the lifecycle of each product, from procurement to disposal.

Our group has created the environmentally friendly "Sumitomo Heavy Industries Group Green Procurement Guidelines" to continue our efforts for ensuring green procurement.

Topics

Full participation activities

The Sumitomo Heavy Industries Group strives to create a corporate culture that allows each and every one of our employees to take the initiative and to tackle the issue of global warming voluntarily and as a matter of course. We are promoting full participation activities that involve our group companies. We have created a mascot, Eco Maru-kun, to represent the growth and development of our environmental activities. Eco Maru-kun will appear on posters, stickers and Paper fans as a means to deepening our awareness of the environmental issues we face and to spur us on to further action.



Activities Directed Toward Creating a Society Based on Recycling

To establish a society based on recycling, the staff at Sumitomo Heavy Industries Group recycle and make effective use of waste generated through the Group's business activities and control the volume created. We also take action to reduce the burden on the environment through our business activities.

Measures for reducing the environmental burden

Promotion of waste recycling

Establishing a society based on recycling is essential for ensuring the sustainable development of society. We manage our waste by classifying its into the three categories shown at right. We try to reduce the volume of waste generated through our business activities and put more emphasis on waste recycling. We also take action to reduce the burden on the environment by setting specific goals.

Results of our initiatives in FY2007

Control of waste generated and reduction in the volume of waste discarded

The volume of waste discarded was 33,881 tons, up 21.1% from the 27,969 tons disposed of the previous year. We sought to reduce the volume of scrap metal and other waste through more efficient production activities and the elimination of waste. However, a significant increase in production volume prevented us from achieving the target, and the volume of waste increased to a level 39.4% higher than 24,300 tons—the target figure, 21% below the FY2001 level.

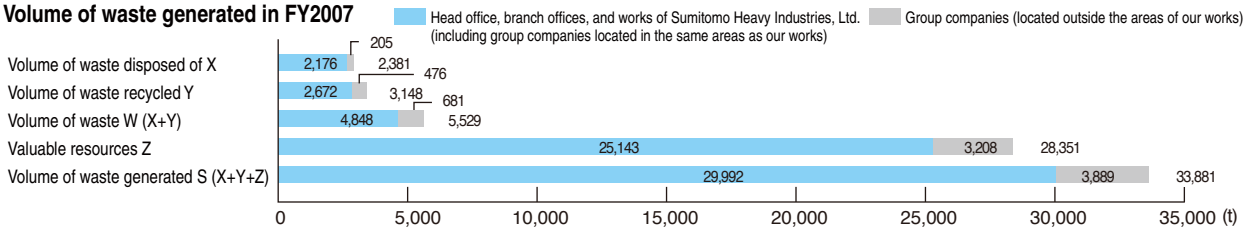
However, we achieved a significant reduction in the volume of waste disposal, which fell 20.8% to 2,381 tons, from the 3,007 tons in the previous year. Thanks to greater efforts to separate waste and the increased recycling of materials that has traditionally been difficult to recycle—including tailings (mainly, waste casting sand), waste paint, sludge, waste plastic, and waste alkaline—we achieved a 72.9% reduction from the level in FY2001 as the benchmark, which is close to our FY2007 target of 74%.

Regarding the attainment of zero waste generation—improving the recycling rate

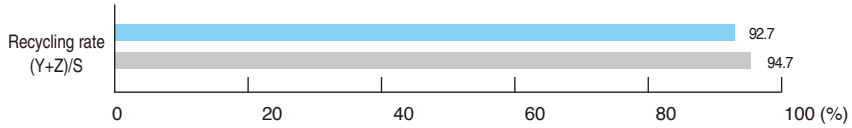
We achieved a 93.0% recycling rate, a significant improvement from 89.2% in FY2006. The number of departments that achieved a recycling rate of 95% or more increased from five in FY2006 (three works and two group companies) to six in FY2007.

In FY2008, we will continue to step up recycling of tailings and other materials so that the Group achieves a recycling rate of at least 95%. We aim to have all specified departments achieve this rate by FY2010, and those that have achieved the rate by FY2007 will aim to achieve zero waste generation.

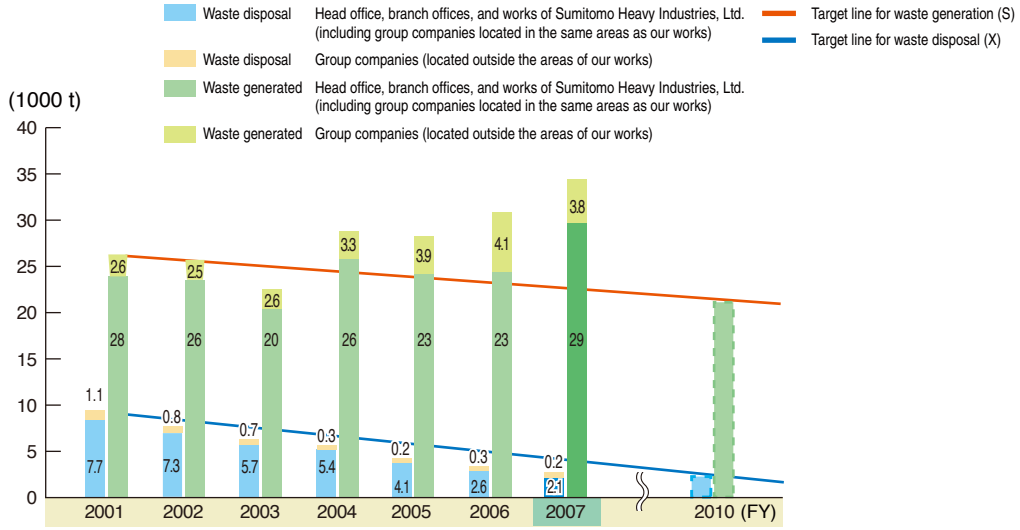
Volume of waste generated in FY2007



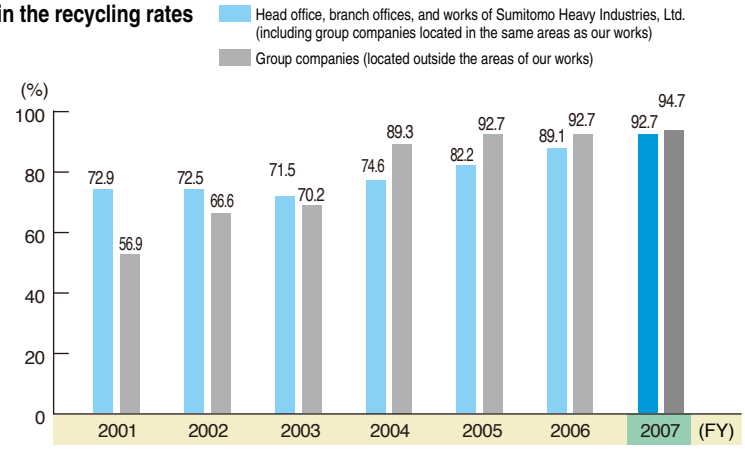
Recycling rate



Trends in volume of waste, etc.



Trends in the recycling rates

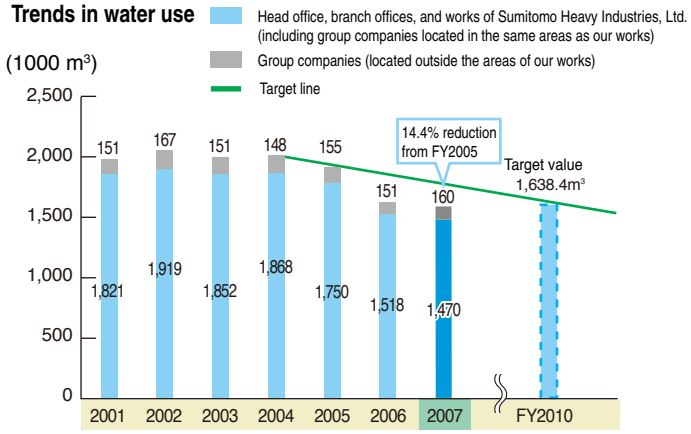


Reduction in water use

Reduction of 14.4% from the FY2005 level achieved through the visual (aboveground) installation of pipes

There has been growing awareness of the importance of water as a resource. We have been taking steps to reduce water use, aiming to achieve a 14% reduction by FY2010 from the FY2005 level. In FY2007, we made steady progress in eliminating leaks that led to the wasting of water, thanks to the visual installation (aboveground installation) of water pipes. As a result, the rate of reduction from the FY2005 level reached 14.4%, which means that we achieved the target for FY2010 ahead of schedule.

Trends in water use



Activities for Managing Chemical Substances

To prevent environmental pollution, we focus on the following three issues for the effective management of chemical substances.

Emission control of organic chlorine compounds

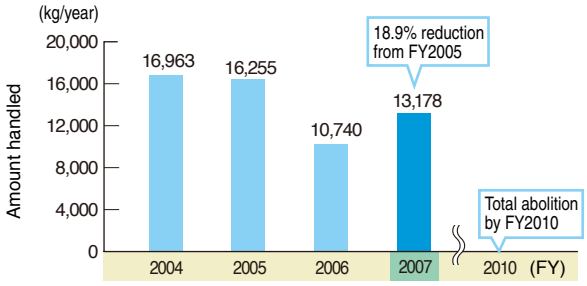
Aiming for total abolition by FY2010

① We have set a goal of completely eliminating by FY2010 the use of dichloromethane, tetrachloroethylene and trichloroethylene — substances subject to the Soil Contamination Countermeasures Law. In FY2007, we achieved an 18.9% reduction in use of the three substances compared to the level in FY2005. The breakdown is as follows: the reduction for dichloromethane was 55.9% of the level in FY2005 (35.2% reduction from the previous year), while that of tetrachloroethylene was 100% (81.9% reduction from the previous year). Both were smoothly replaced by alternative substances. In contrast, use of trichloroethylene increased 30.3% (after a 6.3% reduction the previous year) because of an increase of production and delays in finding an alternative substance. We will try to find an alternative for trichloroethylene as soon as possible to ensure that we achieve the goal.

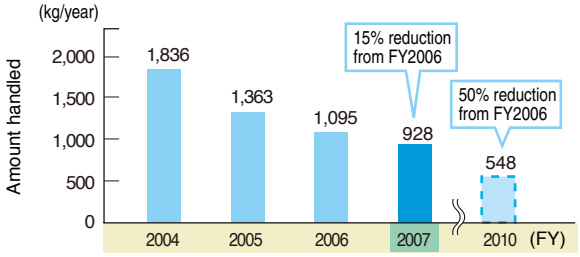
② We have set a goal of reducing our emissions of ozone-depleting chemicals, HCFC-141b and HCFC-225 by 50% by FY2010 compared to the level in FY2006 as the benchmark.

In FY2007, we achieved a 15% reduction from the level in FY2006. For HCFC-141b, the introduction of an alternative material allowed us to reduce emissions by 14% of the level in FY2006. We will continue to look at using an alternative substance to HCFC-225.

Emissions of substances that are subject to the Soil Contamination Countermeasures Law



Emissions of ozone-depleting chemicals



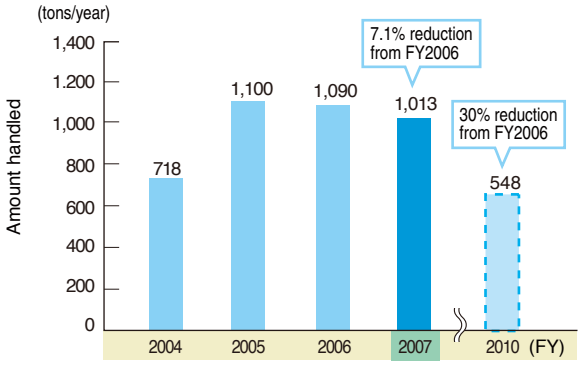
Emission control of VOC (volatile organic compounds)

We strive to control emissions by installing and expanding solvent collection and removal equipment at our large-scale paint facilities

Toluene, xylene, and ethylbenzene in paint solvents account for more than 90% of the VOC we use. Our goal is to reduce emissions of these chemicals by at least 30% by FY2010 compared with the level in FY2006.

In FY2007, we achieved a reduction of 7.1% from the FY2006 level thanks to the introduction of solvent collection and removal equipment at our large-scale paint facilities, which are subject to legal controls. As measures in FY2008 to control VOC emissions, we will continue to continue with the installation and expansion of solvent collection and removal equipment and increase the use of powder paint to reduce solvents. In the medium term, we will continue to study the application of low-solvent paints to significantly reduce the use of paint solvent.

VOC emissions



Emissions and transfers of PRTR substances

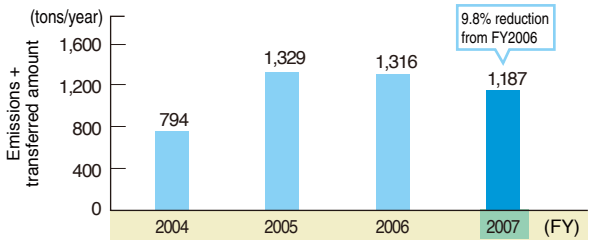
A 9.8% reduction achieved in FY2007 from the FY2006 level

About 90% of the PRTR substances we use are paint (epoxy resin) and its solvents (toluene, xylene and ethylbenzene).

In FY2007, we reduced these substances by 9.8% of the level in FY2006.

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.

PRTR substance emissions and the amount transferred



Total amount reported in FY2007

(Unit: kg)

Chemical No.	Name of chemical	Emissions + transferred amount
30	Bisphenol A epoxy resin	47,565
40	Ethylbenzene	237,345
43	Ethylene glycol	9,513
63	Xylene	560,981
68	Chrome and trivalent chrome compound	315
132	1,1-Dichloro-1-fluoroethane	908
145	Dichloromethane	1,278
177	Styrene	1,965
200	Tetrachloroethylene	0
211	Trichloroethylene	11,900
227	Toluene	284,375
230	Lead and its compounds	2,262
231	Nickel	92
304	Boron and its compounds	3,904
311	Manganese and its compounds	16,252
346	Molybdenum and its compounds	31
-----	Total	1,187,230

The figures for the “Emissions + transferred amount” above are the sum total of Sumitomo Heavy Industries, Ltd. and its group companies.

Management of PCB and total abolition of equipment containing PCB

Investigations into equipment with high PCB concentrations have been completed. In FY2008, we aim to complete work for equipment with low PCB concentrations.

We plan to abolish the use of stabilizers and transformers containing PCB for lighting equipment by FY2010.

We have completed investigations into equipment with high PCB concentrations, and finished early registration at Japan Environmental Safety Corporation, a processing company. For equipment with low PCB concentrations, we aim to finish investigations in FY2008 and to process them systematically as soon as possible.

Contributing to Environmental Protection through Products

The Sumitomo Heavy Industries Group has traditionally provided equipment that helps protect the environment.

Awarded the Grand Prize for Energy Conservation in 2007

Fuel efficiency improved by 20%

A winner of the Good Design Award

Sumitomo (S.H.I.) Construction Machinery Co., Ltd.

Hydraulic excavator

Our highly acclaimed hydraulic excavator, the SH200-5 Legest® became the first piece of construction equipment to win the Grand Prize for Energy Conservation in 2007 presented by the Ministry of Economy, Trade and Industry. This machine also won another major award, the Good Design Award.

This hydraulic excavator is the first piece of construction equipment to win the Grand Prize for Energy Conservation. In addition to its superior versatility as a hydraulic excavator and its existing functions, the SH200-5 earned high marks for improving fuel efficiency by 20%, which it achieved while increasing power output over that of conventional units. This feat was made possible thanks to the development of a new hydraulic system and new engine system.

In taking out the Good Design Award, the SH200-5 earned high marks for its combination of beauty and utility. The unit features an impressive arm with beautifully arranged hoses, an expanded field of vision at the front, a comfortable seat that can be adjusted to accommodate a range of physiques—from amply proportioned Westerners to slight female operators—and the user-friendly controls that help improve operating efficiency.

New functions that improve fuel efficiency by 20%

The SH200-5 features a new engine system, the SPACE5 and a new hydraulic system, the SIH:S, that has yielded a 20% improvement in fuel efficiency.

The SPACE5 is a new engine system that complies with the law that regulates gas emissions from off-road vehicles. It exceeds the criteria in both motion performance and environmental performance, and offers a 10% reduction in the fuel consumption thanks to an engine that operates at low speed and a slower fan that ensures well-balanced cooling performance.

The SHI:S is a unique hydraulic system that belongs to the next generation. In developing this innovative system, all the waste in conventional hydraulic circuits has been eliminated, enabled high-performance operation for various types of work, from delicate manipulation to tasks that require a high level of speed and power. The system completely redefines the relationship between the volume of work and fuel consumption. The use of an electrical system reduces the loss of hydraulic pressure and lowers fuel consumption by 10%.

SIH:S + SPACE5

Fuel consumption lowered by 20%

Contributing to environmental protection using the One-SHI Synergy Model

In developing our products, the group uses the synergies between individual departments to achieve harmony between our technologies and environmental protection and to provide top-quality, world-class products.

Circulating Fluidized Bed Boilers

Steam Turbine Electric Generators

Large Speed Reducers for Turbines

Turbine Blades

Winner of both the Grand Prize for Energy Conservation and the

Hydraulic Excavators

Lifting Magnets

Cross-Organizational Development

Mechatronic Components

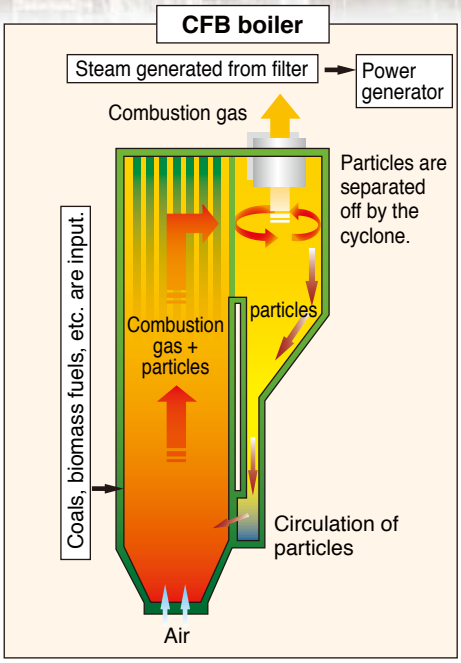
Permits stable, highly efficiency combustion. Also compatible with fuels from waste and other renewable energies.

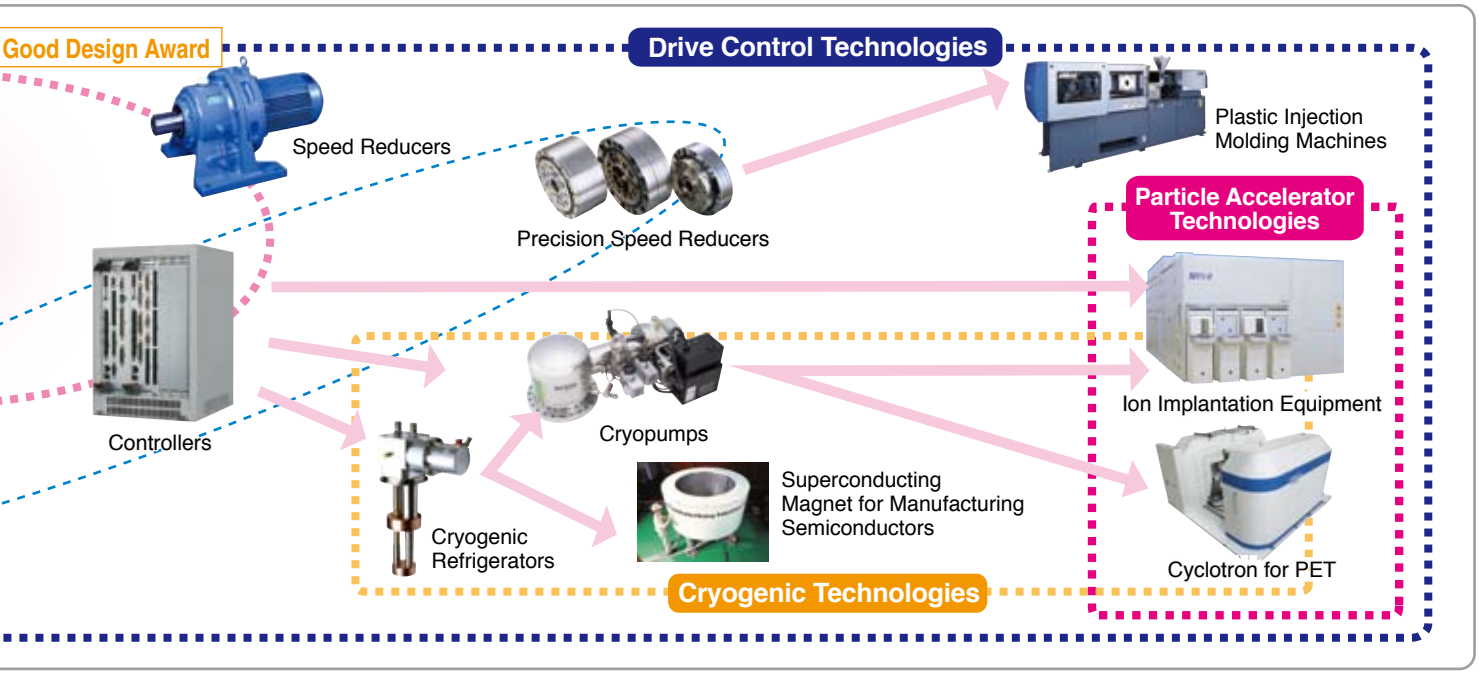
Energy & Environment Group

Our Circulating Fluidized Bed (CFB) boiler is compatible with a wide range of coals, including the low-grade coals (that have high water content and low calorific power, etc.) from which it used to be difficult to extract stable, highly efficiency combustion. In recent years, moreover, the range of its compatibility has been expanded to include biomass fuels such as wood chips and renewable energies including waste tires and other fuels from waste, which serve as alternatives to fossil fuels. In this way, the boiler has been serving as a means of combating global warming and helping in the effective use of resources.

Mechanism of the combustion

The CFB boiler admits air blown in from the bottom, and combusts a variety of fuels efficiently by homogenously mixing high-temperature particles (consisting of the ash contained in the fuel) with the fuel while they are suspended. In addition, it uses a cyclone to separate off the fuel particles that convect upward with the combustion gas and returns them to the bottom of the boiler, thereby improving combustion efficiency. We have a technical affiliation with Foster Wheeler in the United States, which has the largest market share and the most advanced boiler technology in the world. We apply our own ingenuity to ensure consistent particle circulation and combustion ash discharge.





Energy Conservation

Lower power consumption through the use of high-grade magnetic steel sheets and improved winding design

Adoption of High-Grade Magnetic Steel Sheets

High-Efficiency Motor
This type of motor is widely used to drive a range of equipment, such as factory lines and industrial robots.

Power Transmission and Control Group

Energy Conservation

Use of a hypoid gear ensures higher efficiency and lower noise than other direct-drive gears

Low-Noise | Space Efficiency

High-Efficiency Hyponic Reduction Gear
A direct-drive gear motor used as the drive of conveyors, elevators, etc. (The drive axis is at right angles to the motor.)

Power Transmission and Control Group

Energy Conservation

A significant reduction in power consumption enabled by replacing the hydraulic drive with an electric drive system

Reduced Power Consumption

Electrically Powered Plastic Injection Molding Machine
A machine that produces plastic products by pouring molten plastic into a mold and shaping it

Plastics Machinery Div.

Energy Conservation

Being about half the size of conventional units, it helps reduce the power consumption and the generation of waste at hospitals.

Allows a Quick Examination

Ultra-Compact Cyclotron for PET (HM-7)
This item of equipment makes the medical agent used for PET (positron-emission tomography), a technique used in the diagnosis of cancer.

Quantum Equipment Div.

Energy Conservation

The simultaneous, independent control of multiple cryopumps reduces power consumption.

Reduced Power Consumption

SICERA® Cryopump
Ultrahigh vacuum pump used in semiconductor production processes and other applications

Precision Equipment Group

Environmentally Friendly

The elimination of resin paths called “culls” and “runners” reduce the waste from molding.

Applicable to a Wider Range of Products

Semiconductor Encapsulating System
Semiconductor Encapsulating System
A device that encapsulate semiconductor IC chips using resin

Mechatronics Div.

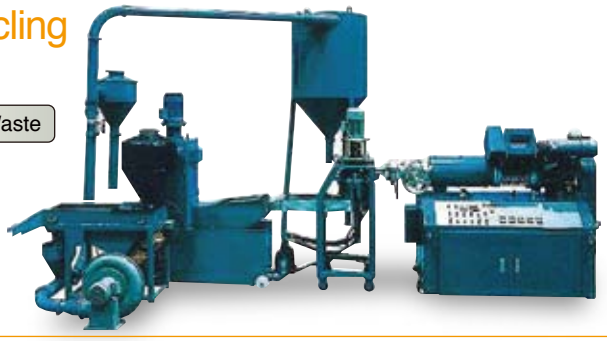
Environmentally Friendly

Enables waste reduction by recycling mill ends and defective products

Helps Reduce Waste

Pelletizing Recycling System
A system that re-pelletizes the mill ends generated in plastic film production and other processes to recycle them into raw materials

Sumitomo Heavy Industries Modern, Ltd.



Energy Conservation

Allows semiconductor devices to have lower voltage and lower power consumption by following the rapid progress of semiconductor technologies

Adoption of Energy-Conserving Equipment

Ion Implantation System
A device that implants ion on silicon wafers in semiconductor production processes

SEN Corporation, an SHI and Axcelis Company

Energy Conservation

Lower fuel costs

Superior Performance and Energy Conservation Guaranteed in All Models

Electric Forklifts
Fully electric forklifts

Sumitomo NACCO Materials Handling Co., Ltd.

Energy Conservation

The use of different materials for the outer shell layer and inner core ensures wear resistance and economic efficiency at the same time.

High-Performance Roll That Conserves Resources and Energy

Centrifugally Cast High-Speed Roll
A mill roll used in iron-making

Sumitomo Heavy Industries HIMATEX Co., Ltd.

Environmentally Friendly

Reducing the burden on the environment by recycling industrial waste

Refines Precious Metals Contained in Industrial Waste

Sumitomo W+E Rotary Kilns
Facilities for recycling industrial waste through high-temperature processing (to collect metals and turn them into pellets)

Energy and Environment Group

Energy Conservation

Environmentally Friendly

Sulfur, nitrate, and dioxin can be eliminated by a single facility, thereby making it possible to reduce energy consumption compared with conventional facilities.

Helps in the Treatment of Exhaust Gas, Including SOx, NOx, and Dioxin

Dry Desulfurization and Denitration System
An exhaust gas treatment facility that uses a movable active-charcoal bed to treat SOx, NOx, dioxin, dust, mercury, etc.

Energy and Environment Group

Energy Conservation

Environmentally Friendly

Approx. 40% less motive energy and approx. 60% less sludge than conventional facilities Greater space efficiency with a 50% reduction in the volume of the reaction vessel

Effective in Reducing CO_2 Emissions

Permits the Collection of Biogas

SAT Low-Concentration Anaerobic Wastewater Treatment Facility
A facility for purifying wastewater discharged by factories

Sumitomo Heavy Industries Environment Co., Ltd.

Energy Conservation

Superior stirring performance and durability enables energy conservation, and easy maintenance results in reduced costs.

Benefits of Energy Conservation

Micrus® Ultrafine Air Bubble Diffuser with Membrane Pipe
This equipment diffuses ultrafine air bubbles into factory effluent and sewage to provide efficient purification of wastewater.

Sumitomo Heavy Industries Environment Co., Ltd.

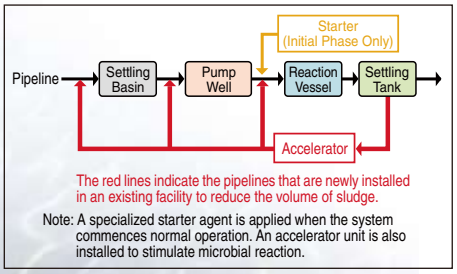
Energy Conservation

Ensures much lower initial costs and running costs compared with conventional mechanical systems and those that use chemical compounds

40% or More Reduction in the Annual Sludge Output

Dires® Sludge Reduction System
A system that controls excess sludge discharged from effluent treatment facilities through the use of microorganisms

Sumiju Environmental Engineering Inc.



The red lines indicate the pipelines that are newly installed in an existing facility to reduce the volume of sludge.

Note: A specialized starter agent is applied when the system commences normal operation. An accelerator unit is also installed to stimulate microbial reaction.

Energy Conservation

Environmentally Friendly

The unit generates heat from exhaust fumes instead of steam from a boiler. This ensures superior energy conservation and reduces CO_2 emissions.

Highly Effective in Conserving Energy

Pre-evaporator

A plate-type falling-liquid-film evaporator that pre-concentrates black liquid generated in the production of pulp

Sumiju Plant Engineering Co., Ltd.

Energy Conservation

A superior control system that enables a 60% reduction in the electricity used compared with conventional systems

Lower Running Cost

Kurieko II

An air-conditioning control system that is able to keep the temperature within ±1oC and the humidity within ±5% of the set values

Nihon Spindle Mfg. Co., Ltd.

Environmentally Friendly

This unit converts heavy oil, now limited in use, into light oil.

Effective Use of Petroleum Resources

Coke Drum

Equipment used in the oil refining process. It pyrolyzes heavy oil to collect valuable light oil such as gasoline.

Steel Structure and Process Equipment Div.

Energy Conservation

Environmentally Friendly

The system improves fuel efficiency by approx. 60%. It allows a generator with a smaller engine to be used, enabling a reduction in maintenance costs and gas emissions.

Reductions in Maintenance Costs and Gas Emissions

The "Sybrid System" Hybrid Power Supply Unit

A device mounted on cranes for containers. It stores the energy generated when lowering the containers and performing other movements, and releases the energy to assist its hoisting operations.

Sumitomo Heavy Industries Engineering & Services Co., Ltd.

Energy Conservation

The unit ensures 10% less noise value than air-driven and dry units. The airless operation also reduces running costs.

Low Noise

Reduced Maintenance Costs

Wet Clutch and Brake for Forging Presses

Clutch and brake for activating and stopping the rotary shaft

Sumitomo Heavy Industries Techno-Fort Co., Ltd.

Environmentally Friendly

A power generating facility that uses exhaust heat from waste disposal facilities

Contributes to Biomass Power Generation Facilities

Steam Turbine

A steam turbine for privately owned electrical power facilities. It is used for power generation with renewable energy (power generation that uses renewable energy for fuel), which aims at cutting CO_2 emissions.

Shin Nippon Machinery Co., Ltd.

Environmental Accounting

To effectively promote environmental protection, Sumitomo Heavy Industries Group is actively involved in making investments and verifying the effects.

Environmental Accounting for FY2007

We use environmental accounting for measuring environmental activities as well as a tool for promoting such activities.

Environmental accounting is positioned as one of the tools for measuring environmental activities. Sumitomo Heavy Industries has conducted environmental accounting in accordance with the Environmental Accounting Guidelines, 2005, issued by the Ministry of the Environment. The total cost of environmental protection in FY2007, which includes investment and other costs, reached 4,972 million yen, a significant increase over the 2,895 million yen for the previous year. This marked increase reflects our greater efforts to reduce the amount of electric power consumed. We will continue to utilize environmental accounting as an effective tool for promoting our environmental activities.

Cost of Environmental Protection (Accounting Base: Sumitomo Heavy Industries Group)

Unit: million yen

Category		Details of the main activities and the effects	Investment amount	Costs
(1) Costs within Business Areas (Sites)		Handling or processing water, air, noise, vibration, chemical substances, and waste materials; reducing energy and resource consumption; and recycling materials	2,563	679
Breakdown	① Costs for Preventing Pollution	Renovation of wastewater treatment facilities; implementing measures to collect dust, for handling substances containing volatile organic compounds (VOCs), and for removing asbestos; inspections for detecting extremely small PCB content; operation control of water treatment facilities; measuring and analyzing water quality, exhaust gas, noise and vibration; and ensuring compliance with the values stipulated in regulations.	1,469	379
	② Costs for Global Environment Protection	Photovoltaic power generation; power monitoring systems; investing in energy conservation measures; and temperature control	970	117
	③ Resource Recycling Costs	Recycling waste products, including wood, plastic, used paper, oil waste and raw garbage; creating waste yards; regenerating thinner; collection, transportation, processing, and disposal of waste; and implementing steps to reduce the volumes of waste	123	183
(2) Upstream and Downstream Costs		Powder coating; and replacing wooden packages with wire mesh containers (for repeated use)	86	1
(3) Management Activity Costs		Administering and maintaining ISO14001 standards; providing training (general, specialized, screening panel, for internal auditing); monitoring the implementation of action plans; receiving regular screening; expansion and maintenance of green areas; confirmation of PRTR; and measurement of VOC	11	130
(4) Research and Development Costs		Incinerating and gasifying municipal and industrial waste; development of exhaust gas treatment facilities; development of ash melting furnaces; development of water and sewage facilities; noise reduction measures for cyclo-reducers; and development of new types of tube heat exchangers.	259	697
(5) Environmental Damage Control Costs		Tax levied according to the amount of emissions resulting in air pollution; and cost for creating green areas and compensation for pollution to be assumed by corporations in the respective regions	0	546

Unit: million yen

Item	Description	Amount
Total amount of investment made in the period	Renovations of wastewater treatment facilities; installation of dust collection systems; installation of facilities for treating VOC (volatile organic compounds); and investing in energy conservation measures	2,919
Total cost assumed in the period	Recycling, collecting, transporting, processing and disposing of waste products; inspections for detecting extremely small PCB content; operation control of wastewater treatment facilities; measuring and analyzing water quality, exhaust gas, noise and vibration; administering and maintaining ISO14001 standards; providing training; monitoring the implementation of action plans; and receiving regular screenings	2,053
Total cost of environmental protection activities during the period		4,972

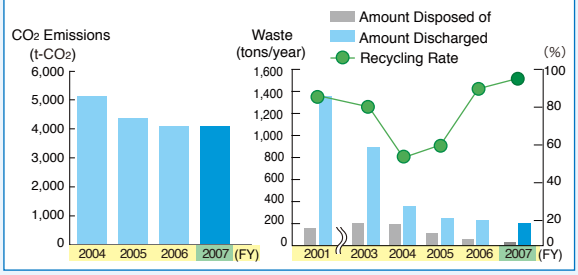
Environmental Impact Data for Each Works

Environmental impact data for works (and group companies located in the same areas) of Sumitomo Heavy Industries, Ltd.

Tanashi Works

- Established in 1939
- ISO14001 (obtained in August 1998)
- Site Area: 43,218 m²
- Building Area: 14,296 m²

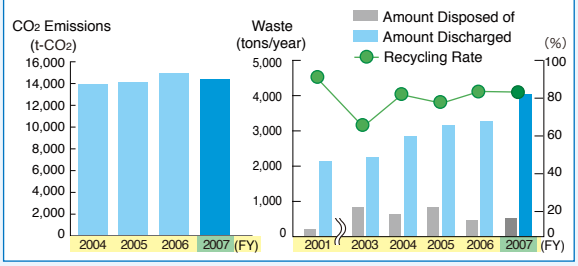
Main Products: Defense Equipment, Cryogenic Equipment



Chiba Works

- Established in 1965
- ISO14001 (obtained in April 1999)
- Site Area: 294,600 m²
- Building Area: 78,895 m²

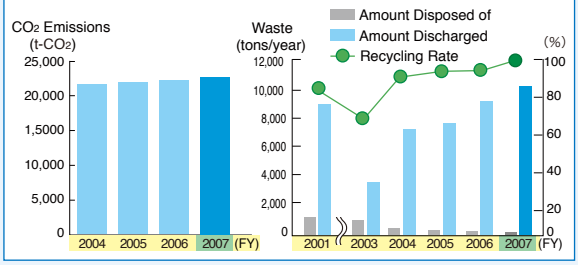
Main Products: Plastic Processing Machines, Metallic Molds, Construction Machines



Yokosuka Works

- Established in 1971
- ISO14001 (obtained in March 1999)
- Site Area: 523,000 m²
- Building Area: 166,970 m²

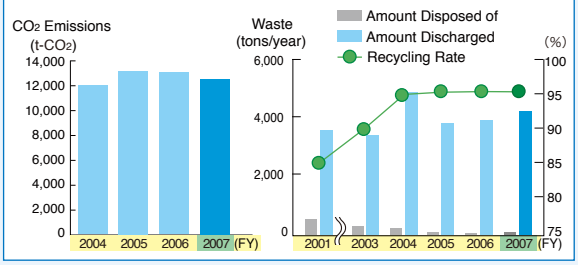
Main Products: Ships, Laser Processing Systems, Semiconductor Manufacturing Equipment (Molding Equipment), Precision Forgings, Stage Systems, System Controller, Bridges & Steel Structures



Nagoya Works

- Established in 1961
- ISO14001 (obtained in January 1999)
- Site Area: 241,000 m²
- Building Area: 46,000 m²

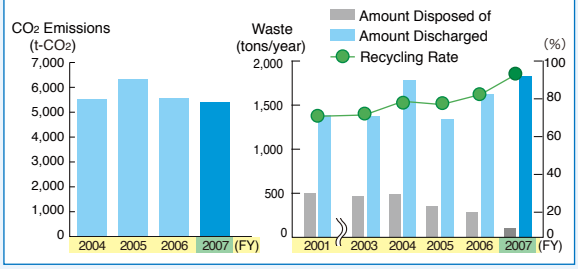
Main Products: Power Transmission and Control, Geared Motors, Inverters, Construction Machines



Okayama Works

- Established in 1948
- ISO14001 (obtained in March 2000)
- Site Area: 425,000 m²
- Building Area: 96,625 m²

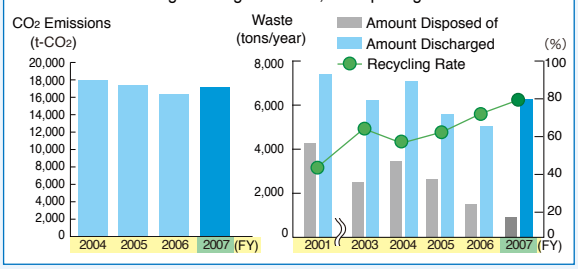
Main Products: Small Gear Motors, Gearboxes, Stage Systems, Machine Tools



Ehime Works (Niihama Factory)

- Established in 1888
- ISO14001 (obtained in November 1999)
- Site Area: 418,000 m²
- Building Area: 198,000 m²

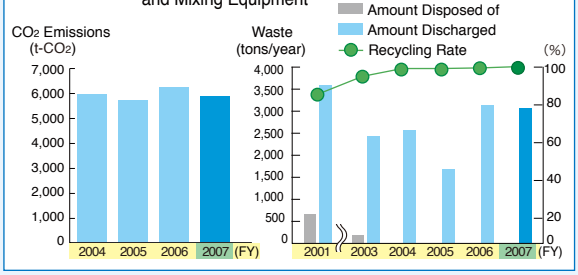
Main Products: Accelerators, Coating Equipment, Parking System, Forge Rolling Machines, Transporting Machines



Ehime Works (Saijo Factory)

- Established in 1973
- ISO14001 (obtained in February 1999)
- Site Area: 535,000 m²
- Building Area: 48,000 m²

Main Products: Bridges & Steel Structures, Pressure Vessels, Stirring and Mixing Equipment

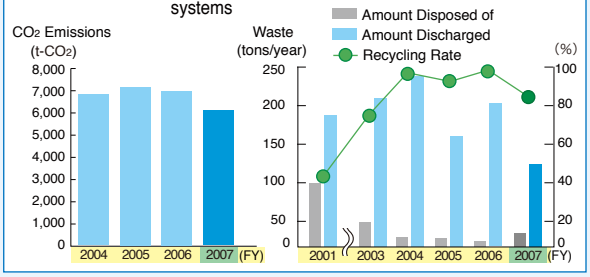


Environmental Impact Data for Each Group Company

The environmental impact data for group companies (located outside the areas of our works) is as follows.

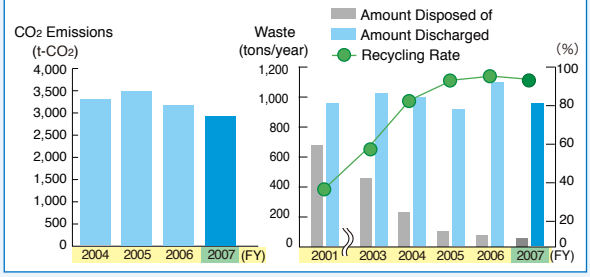
SEN Corporation, an SHI and Axcelis Company

Location: 9F, SBS Tower, 10-1, Yoga 4-chome, Setagaya-ku, Tokyo, 158-0097, Japan
No. of Employees: 477
Business activities: Manufacturing and sales of semiconductor manufacturing equipment including ion implantation systems



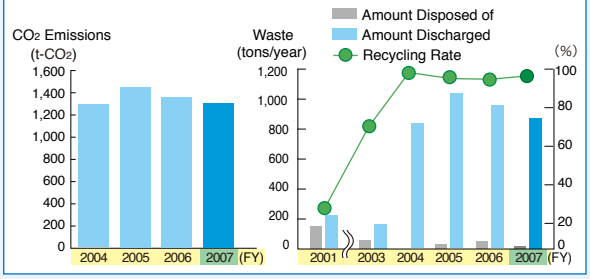
Shin Nippon Machinery Co., Ltd.

Location: ThinkPark Tower 2-1-1, Osaki, Shinagawa-ku, Tokyo, 141-6025, Japan
No. of Employees: 368
Business activities: Manufacturing and sales of steam turbines and pumps



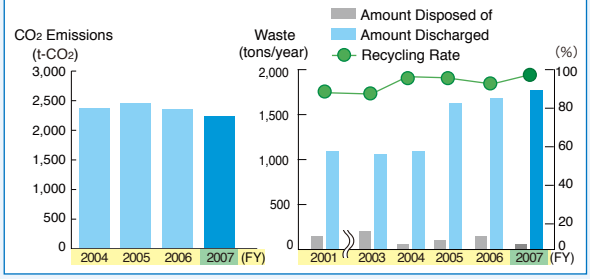
Nihon Spindle Mfg. Co., Ltd.

Location: 2-30, Shioe 4-chome, Amagasaki-shi, Hyogo, 661-8510, Japan
No. of Employees: 320
Business activities: Manufacturing and sales of industrial instruments, environmental equipment, and building materials



Sumitomo NACCO Materials Handling Co., Ltd.

Location: 2-75, Daito-cho, Obu-shi, Aichi, 474-8555, Japan
No. of Employees: 320
Business activities: Manufacturing and sales of forklifts and logistics equipment



Environmental Activities

At Sumitomo Heavy Industries Group, we act to prevent global warming under the belief that the protection of the global environment is one of the missions of business corporations.

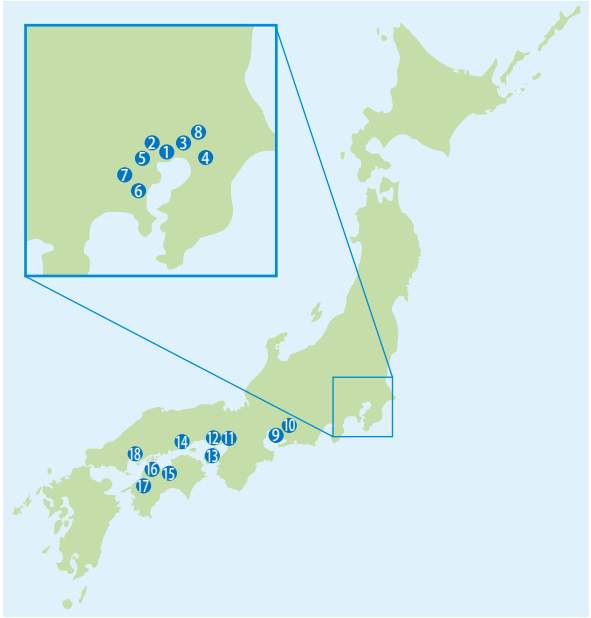
Activities of Sumitomo Heavy Industries Group

We promote the introduction of environmental management systems, and the entire group act to prevent global warming.

We are committed to complying with all the laws, regulations and agreements related to the occupational health and safety and the environment. Overseeing these duties are our safety-related departments, facilities departments and the General Affairs Department. In the early 1990s, we established environmental management sections at each works to contribute to environmental protection through corporate activities. The environmental management sections are responsible for introducing environmental management systems and take the initiative in environmental activities. And in 1999, we established the Sumitomo Heavy Industries Group Environmental Policy as one of the tenets of our group's environmental activities.

In August 2005, Sumitomo Heavy Industries Group announced the group-wide commitment to global warming prevention, and has been actively involved in various activities.

Our Environmental Management Network in Japan
(Our organizations and affiliates that have obtained ISO14001 certification)



1. Head Office
   Shin Nippon Machinery Co., Ltd.
   Sumitomo (S.H.I.) Construction Machinery Co., Ltd.
2. Sumitomo Heavy Industries Environment Co., Ltd.
3. Lightwell Co., Ltd.
4. Chiba Works
   Sumitomo (S.H.I.) Construction Machinery Manufacturing Co., Ltd.
5. Tanashi Works
6. Yokosuka Works
   Sumitomo Heavy Industries Marine & Engineering Co., Ltd.
   Sumiju Precision Forging Co., Ltd.
7. SEN Corporation, an SHI and Axcelis Company
8. Japan Electron Beam Irradiation Service Co., Ltd.
9. Nagoya Works
   Hitachi Sumitomo Heavy Industries Construction Crane Co., Ltd.
10. Sumitomo NACCO Materials Handling Co., Ltd.
11. Sumitomo Heavy Industries PTC Sales Co., Ltd.
12. Nihon Spindle Mfg. Co., Ltd.
    Izumi Food Machinery Co., Ltd.
13. Izumi Food Machinery Co., Ltd. (Awaji Factory)
14. Okayama Works
15. Ehime Works (Niihama Factory)
    Sumitomo Heavy Industries Techno-Fort Co., Ltd.
    Sumitomo Heavy Industries Engineering & Services Co., Ltd.
    Sumitomo Heavy Industries HIMATEX Co., Ltd.
16. Ehime Works (Saijo Factory)
17. Ehime Plant of SEN Corporation, an SHI and Axcelis Company
18. Kure Works of Shin Nippon Machinery Co., Ltd.

History of Our Environmental Activities

January, 1992	The Environmental Conservation Committee is established. (Measures against ozone-depleting materials, recycling of waste and energy, and total abolition of specified CFCs that were used for cleaning)
October, 1993	The Sumitomo Heavy Industries Environmental Protection Plan is established.
April, 1994	The Environmental Management Group is formed under the Corporate Technology Operations Group.
April, 1997	The Environmental Management Guidelines are drawn up.
June, 1997	The organizational structure is changed and the Environmental Management Group is changed to Environmental Management Department under the Administrative Headquarters
September, 1997	The Sumitomo Heavy Industries Environmental Policy is established.
August, 1998	The group starts assessment and registration for certification under the ISO14001 management system.
November, 1999	The SHI Group Environmental Policy is established.
February, 2000	All works of Sumitomo Heavy Industries, Ltd. complete the assessment and registration for ISO14001 certification. The main group companies complete assessment and registration for the ISO14001 management system. Assessment and registration are completed by: Sumitomo NACCO Materials Handling Co., Ltd., Shin Nippon Machinery Co., Ltd., Izumi Food Machinery Co., Ltd., SEN Corporation – an SHI and Axcelis Company, and Sumiju Environmental Engineering Inc.
November, 2002	The assessment and registration are completed by: Water and Wastewater Engineering Div., Energy and Environment Group, and Lightwell Co., Ltd. The works, groups and divisions, and main group companies set their own targets and promote environmental activities in accordance with their action plans.
April, 2005	The organizational structure is changed and the Environmental Management Department comes under the General Affairs Group.
August, 2005	Sumitomo Heavy Industries Group announces its group-wide commitment to the prevention of global warming.
March, 2006	Nihon Spindle Mfg. Co., Ltd. completes assessment and registration for ISO14001 certification. All key groups and divisions complete assessment and registration for ISO14001 certification as the Sumitomo Heavy Industries Group.
January, 2007	Japan Electron Beam Irradiation Service Co., Ltd. completes assessment and registration.
September, 2007	Sumitomo Heavy Industries PTC Sales Co., Ltd. completes assessment and registration.
June, 2008	Sumitomo (SHI) Cryogenics of Europe, Ltd. completes assessment and registration.

Social Contribution Activities

Each division and company in the Sumitomo Heavy Industries Group aims to establish itself in the local community. Each employee takes the initiative in planning and implementing activities for contributing to the community.

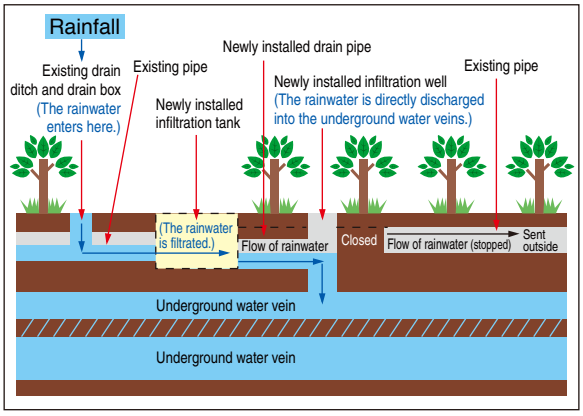
Social Contribution Activities

Activities for local areas – opening the "Forest of Inspiration" to members of the public

We installed rainwater infiltration pipes to prevent land subsidence.

Part of the Tanashi Works is open to members of the public as a park called the Forest of Inspiration. Rather than simply opening a park of about 4,650 square meters, Sumitomo Heavy Industries has commissioned a local social welfare institution to manage the park and offers the proceeds from the sale of compost created from fallen leaves in the park and from the sales of drinks from vending machines deployed around the site. The park offers benches and wheelchair-accessible walking trails, creating a welcoming atmosphere for everyone. In the Forest of Inspiration, we have installed for the first time rainwater infiltration pipes. This is because most of the rainwater in the works, except in the green space, is sent to a nearby river via underground storm water drains. This may lead to a reduction of groundwater there, which could result in land subsidence. Also, residential areas in the local region suffer from floods due to unexpected local heavy rainfall, which is deemed attributable to global warming as a global environmental problem. To help overcome these problems, we held discussions and consultations with the government and installed infiltration pipes that take the rainwater underground.

Rainwater Infiltration Pipes Laid Underground



Evening of Gratitude in Celebration of the 110th Anniversary of the Shipbuilding Business

Former Uraga Dock Co., Ltd. celebrated its 110th anniversary.

In 2007, Yokosuka Works celebrated the 110th anniversary of Uraga Dock Co., Ltd., the predecessor of the shipbuilding department. To commemorate this event, we held an Evening of Gratitude in Celebration of the 110th Anniversary of the Shipbuilding Business. The event was held at the Yokosuka Art Theater in October 2007. President Nakamura addressed the invited guests and Daishin Kashimoto presented a violin concert to show our gratitude to the residents of Yokosuka.

Learning through work experience at the works

We offered work experience to students at our works and arranged factory tours.

We have been actively involved in providing support to the younger generation as a part of our contribution to the local community. We offer internship programs and work experience at our facilities, and arrange factory tours, to provide students with lessons that cannot be learned in their classrooms. In FY2007, we accepted 612 students from two schools for handicapped children, three elementary schools, eight junior high schools, 18 high schools, three specialized vocational high schools, one junior college and five universities.
(The photos at the right show elementary school students on factory tour at Chiba Works and junior high school students experiencing work at a store inside the Saijo Factory.)

Neighborhood cleaning

We cleaned up the neighborhoods of our works in FY2007 again.

Each works engages in regular clean-up activities in its neighborhood. In addition to the cleaning of areas around the factories that we do ourselves, we participate in cleaning activities organized by local governments, such as the cleaning of Takasu beach in Saijo-shi, Ehime, and of Takatori river banks in Yokosuka-shi, Kanagawa. In addition to cleaning the various sites, we engage in various scales of cleaning activities with participants ranging from less than 20 to nearly 100.
(The photo at the right shows our employees at the Niihama Factory in Ehime Works cleaning the surrounding area.)

Disaster preparedness

As a member of the community, each of our works is ready to cope with disasters in the local area.

Tanashi Works and Nagoya Works have concluded agreements with the local governments to provide water as a basic essential in the event of a disaster upon requests from the government. Each of our works has been actively involved in activities associated with disaster prevention as a member of the local community. In addition to the agreements mentioned above, they are ready to send fire brigades, to provide equipment, and to take various other countermeasures in the event of a disaster.
(The photo at the right shows a disaster prevention attendant dispatched to the local community by one of our works.)

Sumitomo Heavy Industries, Ltd.
http://www.shi.co.jp

Contact Information

Environmental Management Division
ThinkPark Tower ,1-1 ,Osaki 2-chome ,Shinagawa-ku
Tokyo, Japan 141-6025
Phone: +81-3-6737-2325

O046Ⓔ081