

Sumitomo Heavy Industries Group  
**Environmental  
Sustainability Report  
2013**



**Sumitomo Heavy Industries, Ltd.**

Environmental Management Division

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#### Editorial Policy

The Sumitomo Heavy Industries Group issued its first Environmental Report in 2001. In 2005, we expanded the scope of the report to include social aspects and changed its name to Environmental Sustainability Report. Every year, we widen the scope of social contribution activities and environmental activities, which form the social responsibilities of the Group. In addition to promoting environmental management including activities to prevent global warming, the 2013 Report also introduces our engagement with biodiversity as a form of social contribution. We have also expanded the scope of data on the environmental burden overseas. To convey to a wide audience our engagement with environmental and social activities, 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 1, 2012 – March 31, 2013

Previous issue: October 2012

Current issue: October 2013

Next issue: October 2014

#### 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 date 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 could differ materially from the descriptions due to changing conditions.

## Message from the President

### Engaging in Global Corporate Activity Based on the Sumitomo Business Spirit, Our Innovation Will Contribute to the Achievement of a Sustainable Society

The Sumitomo Heavy Industries Group is seeking to provide first-class products and first-class services that are considerate of the environment, as well as first-class production processes that reduce the environmental burden in the course of producing those products and services. We are taking measures for protection of the global environment and aim to become a corporation that contributes to the achievement of a sustainable society.

In order to provide the world with environmentally considerate first-class products and first-class services in a variety of different fields, our Group will have to declare high objectives and overcome a number of issues.

With globalization and innovation as our keywords, the Sumitomo Heavy Industries Group is pursuing a growth strategy that is focused on the global market. Thus far we have implemented measures that include building new factories and expanding facilities in other countries.

Globalization has brought increasing diversification in the cultures and values of our Group employees.

I consider it vital for us to make active use of our diversification as we engage in activities to protect the environment and to take steps for all Group employees together to communicate and share the Sumitomo Business Spirit, which forms the context for our environmental protection activities.

This year is the last fiscal year of the third medium-term environmental plan (FY2011-2013), which started in fiscal year 2011.

Together with our overseas Group companies, we will pursue these priority policies:

- Promote environmental risk management
- Promote activities to prevent global warming
- Contribute to the eco society through our products
- Promote activities that contribute to local communities

These measures will achieve the objectives of the third medium-term environmental plan.

This is a time of great change. Although we face harsh business conditions, the Sumitomo Heavy Industries Group will continue further promoting activities to protect the global environment.

For us of the Sumitomo Heavy Industries Group, our measures to protect the global environment constitute our response to society's calls for engagement, which are changing moment by moment. The Group will continue listening to our stakeholders and taking them seriously. We will continue constantly reforming ourselves, without ever stopping, so as to achieve the high goals we set.

We appreciate your opinions and advice, and we hope to draw on them for our future initiatives.

President and CEO

Shunsuke Betsukawa

*S. Betsukawa*



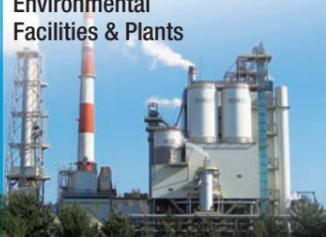
# The Sumitomo Heavy Industries Group contributes to building an affluent society with “manufacturing” technology

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.

<h3>Machinery Components</h3>  <p>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.</p> <p><b>Main Products</b> Power transmission equipment Inverters</p>	<h3>Precision Machinery</h3>  <p>We handle the injection molding machines for making plastic products, devices for manufacturing liquid crystal and semiconductors, and devices for diagnosing and curing cancer. Among injection molding machines, products that require precision machining are one of our particular specialties.</p> <p><b>Main Products</b> Plastic injection molding machines, cyclotrons for medical use, ion accelerators, plasma coating systems, laser processing systems, cryogenic equipment, precision positioning equipment, transfer molding press machines, precision forgings, defense equipment</p>	<h3>Construction Machinery</h3>  <p>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.</p> <p><b>Main Products</b> Hydraulic excavators Mobile cranes Road machinery</p>
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## Company Outline (as of March 31, 2013)

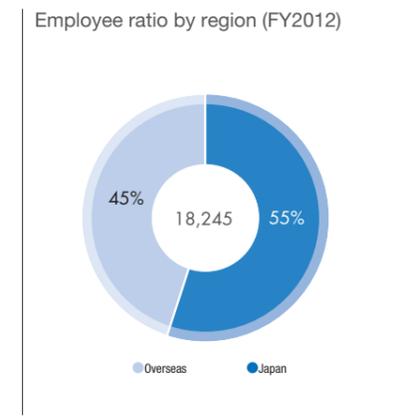
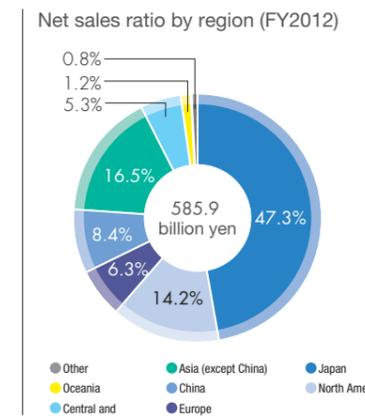
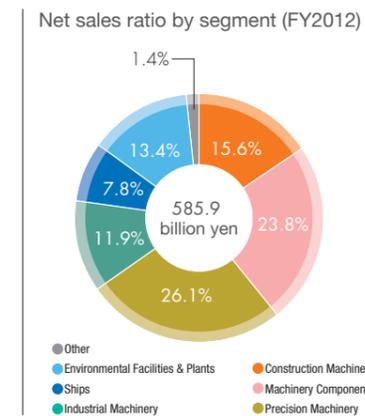
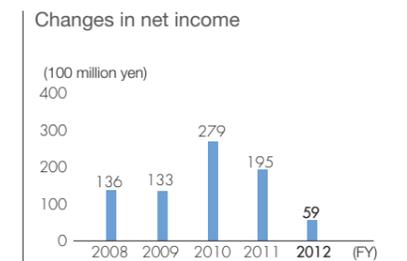
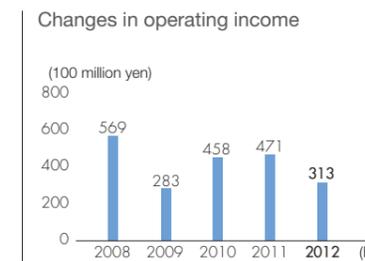
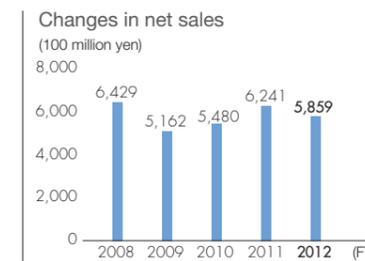
Company name	Sumitomo Heavy Industries, Ltd.	Capital	30,871,650,000 yen
Founded	November 20, 1888	Number of employees	Consolidated: 18,245
Incorporated	November 1, 1934	Net sales	Consolidated: 585,871 million yen
Head Office	1-1 Osaki 2-chome, Shinagawa-ku, Tokyo		

<h3>Industrial Machinery</h3>  <p>We handle products referred to as heavy machinery. They include 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.</p> <p><b>Main Products</b> Forging presses Material handling systems Logistics &amp; handling systems Turbines Pumps</p>	<h3>Ships</h3>  <p>We specialize in midsize 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.</p> <p><b>Main Products</b> Ships</p>	<h3>Environmental Facilities &amp; Plants</h3>  <p>We also handle boilers that are 100% biomass fuel compatible, and energysaving effluent treatment facilities. Our products also include exhaust gas processing facilities that do not use water, and facilities for recovering metals from waste.</p> <p><b>Main Products</b> 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</p>
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## Overseas Locations

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

<h3>Asia</h3>  <p>Net sales <b>146 billion yen</b> Affiliated companies <b>20 companies</b> Number of employees <b>4,585 people</b></p>	<h3>Europe</h3>  <p>Net sales <b>37 billion yen</b> Affiliated companies <b>12 companies</b> Number of employees <b>1,989 people</b></p>	<h3>America</h3>  <p>Net sales <b>114 billion yen</b> Affiliated companies <b>22 companies</b> Number of employees <b>1,526 people</b></p>
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# 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.



**Automobile Factories**

- Precision speed reducers
- Forging press




**No wobbling at inversion**  
Widely used in fields where precise control is required such as welding robots etc.

**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.

**Construction Sites**

- Hydraulic excavator



We contribute to reducing the burden on the environment worldwide. Delivering a 20% improvement in fuel consumption. First construction machinery receiving Energy Conservation Grand Prize (FY2007).

**Mobile Phones, DVDs and CDs**

- Plastic injection molding machine

Approaching next to zero waste, defects or difficulty  
Compatible with precision micro molding



**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.



**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)



**1 Sea**

- Oil tanker

Implementing energy conservation on board ships  
Our proprietary technologies deliver energy-conserving performance at the international top level.



**2 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.



**3 Warehouse**

- Forklift
- Automated warehouse system

Satisfies all workability, comfort, economic efficiency and safety standards.  
We have an abundant lineup from 0.9 to 48 tons.

Numerous achievements in a wide-ranging industry  
Streamlines tasks with completely automated management of 190,000 packing cases.




**4 Shipbuilding Yards**

- Large crane

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



**5 Sewage Treatment Plants**

- Speed reducers



**10 Elevators and Escalators**

A history of trust spanning more than half a century  
The compact design trims weight by 30%.



**6 Semiconductor Factories**

- Ion implantation system

Delivering high productivity with high precision and high quality  
Compatible with 20 nm ultrafine LSI. Implants ion in wafers.



**7 Power Generating Facilities**

- Biomass boiler
- Steam turbine
- Dry-type desulphurization-denitrification system

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.

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.

Contributes to processing SOx, NOx and dioxins in exhaust gas.  
Treats exhaust gas without using water.





**8 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.



**11 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.



**12 Hospitals**

- Cyclotron for PET
- Proton cancer therapy system
- Cryocooler for MRI systems

We continue to lead in tracer RI pharmaceutical systems for PET systems.  
Discovers cancers of less than 1 cm in the early stages.

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

The simple structure saves labor at use.  
Cooling to the ultralow temperature of -269°C, this is the core of MRI equipment.





Won the "Minister of Economy, Trade and Industry Award"

# SE-EV series of all-electric injection molding machines

Contribution to the promotion of efficient energy use through development and practical application of industrial equipment with outstanding energy conservation performance

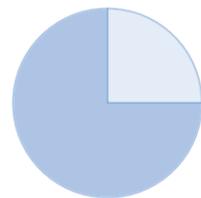
At the 33rd Outstanding Energy Conservation Equipment Awards (FY2012) (organized by the Japan Machinery Federation), the SE-EV series of all-electric injection molding machines developed by Sumitomo Heavy Industries was honored as the sole winner of the "Minister of Economy, Trade and Industry Award."

The SE-EV series of all-electric injection molding machines reduced electric power consumption by 25% over conventional equipment. We achieved this by developing an integrated system to reduce injection pressure and minimize clamping force, with other unique techniques. At the same time, we also took steps to modify the grease lubrication system, by reducing the number of lubrication points, and reuse of discharged grease. We also achieved a 50% reduction of discharged grease over conventional machines. In recognition of these developments, the series won the Minister of Economy, Trade and Industry Award.

These devices are developed under the new molding concept, so-called Zero-molding, which adheres to "zero defects, zero loss and zero faults." Zero-molding resolves problems and defects at the production point and carries the question of how efficiently molded products can be produced to its ultimate extent. Apart from the hardware aspects of the actual device, we also improved operability of the user interface. Configuration by touch panel has become

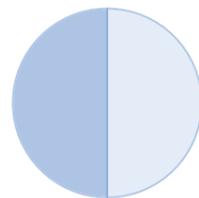
? What is an injection molding machine?

This is a device that is used to mold plastic products. It injects the plasticized resin into the mold under pressure, filling the mold and forming the product. It is suited to fabricating products with complex shapes in large volume and at low cost, from the plastic lenses of digital cameras to large vehicle components such as bumpers. Our all-electric injection molding machines boast world-class sales in plastics industries.



Electric power consumption

reduced **25%**



Discharged grease

reduced **50%**

more intuitive by the use of pictograms. Now the system also enables the completion of whole processes on the same screen, and this should minimize errors and facilitate settings. In addition to the above, these improvements in man-machine interface constitute a major advantage for this product.

Our injection molding machines had shipped a cumulative total of 40,000 units by 2004. They are widely used in the automotive, precision machinery, and health care fields, and the latest model SE-EV series has already sold over 1,000 units. These injection molding machines work at very high speeds of 5-20 seconds per cycle in plastic molding factories. The machines may appear very simple on first glance, but they represent the combination of the finest precision technologies, and are produced as devices that make full use of the latest technologies for the global environment.



Awarded the Japan Machinery Federation Chairman's Prize

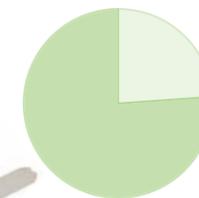
# QuaPro-R reach forklift

Power saving by extended operation and longer battery life; increased efficiency by improved operability

At the 33rd Outstanding Energy Conservation Equipment Awards (FY2012) (organized by the Japan Machinery Federation), the QuaPro-R reach forklift developed by Group member Sumitomo NACCO Materials Handling Co., Ltd. was awarded the Japan Machinery Federation Chairman's Prize.

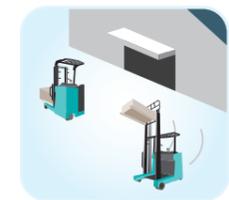
? What is a reach forklift?

Characterized by a compact body, this is a type of forklift that the operator rides standing up. The chassis is small, giving the forklift a small turning radius and making it useful in confined spaces. These forklifts therefore see all-around use, particularly in warehouses.



Electric power consumption

reduced **24%**



Work efficiency

raised **33%**



Fatigue level

reduced **20%**

The QuaPro-R was developed to meet the demand for energy-saving, space-saving forklifts used in the transportation, warehouse, and food industry. The optimization of acceleration and all other types of control, adoption of a highly efficient IPM motor,\* improving of hydraulic circuits, and other such measures have reduced electric power consumption by 24% over conventional model. In addition, the adoption of unique turning control has reduced the number of times the steering wheel needs to be turned back, yielding a 33% improvement in work efficiency over conventional model. At the same time, the fatigue level has also been reduced 20%. This model achieves the smallest turning performance (practical right-angle stacking aisle width) in the industry.

This forklift has also been given a design that is operator friendly. The lowered floor, use of a low-vibration suspension, and other such measures

have improved riding comfort. In addition, we have pursued operating comfort with a turning mode selection function for stacking and swiveling, smooth acceleration, and other such improvements that give operators the ability to maneuver just as they want. We have also equipped the forklift with a variety of safety measures, including limits on sudden acceleration when turning or going down a slope, prevention of rollback when starting to move from a stop on a slope, and a locking function to prevent operation when the operator is absent.

We will continue our unremitting efforts to improve our technology with the aim of making devices that are environmentally and human friendly.

\* IPM motor: Synchronous motor with imbedded magnets. Magnets imbedded inside the rotor characteristically give the motor greater efficiency and torque. IPM motors are used in electric vehicles and other applications.

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**

In order to implement the sustainable development of society, we must respond to global environment issues and reduce the burden on the environment posed by various aspects of corporate activity. To do so, the Group is promoting autonomous and proactive initiatives to protect the environment.

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**

We have established an Environmental Management Division in the General Affairs Group, which draws up the medium-term environmental plan (the current third medium-term environmental plan runs from FY2011 to FY2013), environmental goals on an annual basis, and develops environmental management across the Group including personnel training.

In 2011, we assigned an environmental manager to Shanghai, China, to promote environmental activity monitoring and support throughout China.

**Environmental Management Audit**

**Japan**

Once a year, the Environmental Management Division conducts an audit of each works and Group company. The audit covers environmental management as a whole and its principal emphasis is on activities to prevent global warming. In order to improve performance and to implement continued improvements, the emphasis is placed on validating and verifying the systems. We also undertake extraordinary audits as the need arises.

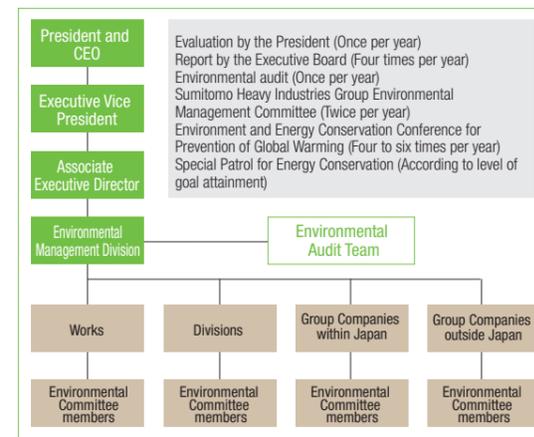
The audit results are evaluated on a five-point scale based on independent evaluation standards for each department, the aim being to raise the levels.

**Overseas**

The Environmental Management Division undertakes documentation checks and on-site internal audits of each overseas corporation with the principal objective being activities to prevent global warming and environmental risk reduction.

Audits were conducted in fiscal year 2012 at four factories in China, two factories in the Philippines, and two factories in Europe.

In fiscal year 2013, audits will be conducted at eight factories in China and two factories in Vietnam.



**ISO14001 Certification**

**Japan**

Twenty-one of the main departments (works, divisions, Group companies) have acquired ISO14001. In Japan, all principal manufacturing divisions have completed the ISO certification.

**Overseas**

In fiscal year 2012, certification was acquired by Demag Plastics Machinery (Ningbo) Co., Ltd., which manufactures plastic injection molding machines, in fiscal year 2013 by Sumitomo Heavy Industries (Vietnam) Co., Ltd., which manufactures speed reducers and motors in Vietnam, and Sumitomo NACCO Materials Handling (Vietnam) Co., Ltd., which manufactures parts for forklifts. A total of 13 companies and 14 factories have acquired certification. This means that 13 of our 20 main manufacturing companies are certified.

**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 Tokki Service Co., Ltd.	• Sumiju Business, Ltd. August 1998
Chiba Works	• Sumitomo (S.H.I.) Construction Machinery Co., Ltd. • Sumitomo (S.H.I.) Construction Machinery Sales Co., Ltd.	• Kenki Engineering Chiba Co., Ltd. April 1999
Yokosuka Works	• Sumitomo Heavy Industries Marine & Engineering Co., Ltd. • Sumiju Yokosuka Kogyo Co., Ltd. • Environmental Engineering Center of Sumitomo Heavy Industries Environment Co., Ltd.	• Sumiju Precision Forging Co., Ltd. February 1999
Nagoya Works	• Hitachi Sumitomo Heavy Industries Construction Crane Co., Ltd. • Sumitomo Heavy Industries Gearmotors 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 Material Handling Systems Co., Ltd. • Sumiju Plant Engineering Co., Ltd.	• Sumitomo Heavy Industries Himatex Co., Ltd. • Sumiju Techno Craft Co., Ltd. November 1999
Ehime Works (Saijo Factory)	• Sumitomo Heavy Industries Process Equipment Co., Ltd.	• 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**

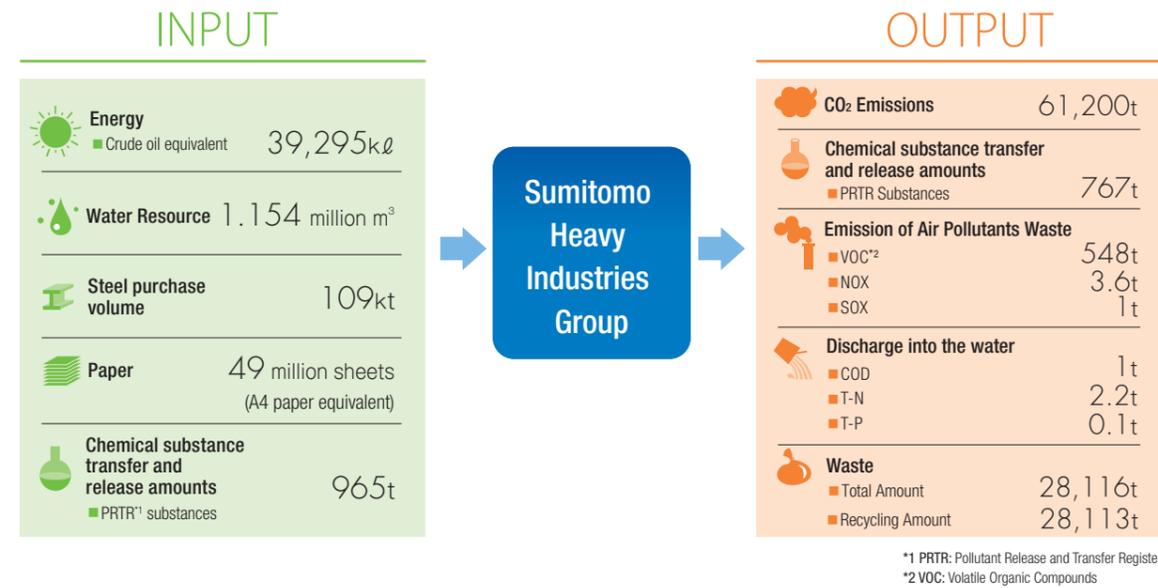
Group Company	Date of Certification
Sumitomo NACCO Materials Handling Co., Ltd.	March 2000
Shin Nippon Machinery Co., Ltd.	February 2002
Izumi Food Machinery Co., Ltd.	June 2002
SEN Corporation	October 2002
Sumiju Environmental Engineering Inc.	October 2002
Sumitomo Heavy Industries Environment Co., 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 Company	September 2007
SFK Co., Ltd.	August 2008
Seisa Gear, Ltd.	August 2009
Sumitomo Heavy Industries Modern, Ltd.	December 2009

**Group companies outside Japan that have independently received the ISO14001 certification**

Group Company	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	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

Sumitomo Heavy Industries Group formulated the third medium-term environmental plan, for which FY2013 is the final year, and is working to reduce environmental impact.

Overall view of the FY2012 environmental impact (Sumitomo Heavy Industries Group, domestic)



Environmental Accounting for FY2012

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
		2011	2012	2011	2012	2011	2012	
(1) Costs within Business Areas (Sites)	Maintenance and amortization of environmental impact reduction equipment and facilities	727	602	473	551	1,001	562	
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	178	48	209	174	39	73	Reducing cost of wastewater treatment
	Investment in energy-saving measures (electric power monitoring, energy-saving equipment, lighting upgrades, etc.)	406	447	102	35	438	216	Cost reduction with introduction of energy conservation, natural energy
	Investment in waste material reduction and recycling (recycling, reuse)	143	108	162	342	69	0	Reducing landfill by separating rubbish, cost reduction by cutting back on waste
(1) - 2 Costs for Global Environment Protection					455	273	Proceeds from sale of valuables, etc.	
(1) - 3 Resource Recycling Costs								
(2) Upstream and Downstream Costs	Reduction of product packaging material, recycling of appliances, use of reverse side of paper	0	0	1.4	56.8			
(3) Management Activity Costs	Administration and maintenance of ISO 14001 standards, expansion of green areas	49	45	180	146			
(4) Research and Development Costs	Research and development to reduce the environmental impact of products, research and development of environmental equipment	580	1,384	735	1,316			
(5) Social Activity Costs	Local environmental protection and greening activities	0	0	7	8			
(6) Cost of dealing with environmental damage	Levies on air pollution loads; share of green belts and pollution compensation	0	0	0.01	0.06			
	<b>Total</b>	<b>1,355</b>	<b>2,032</b>	<b>1,396</b>	<b>2,078</b>	<b>1,001</b>	<b>562</b>	

Activities in FY2012 – General Overview

We are promoting our third medium-term environmental plan (FY2011-2013) based on lessons learned with the second medium-term environmental plan. The status of achievement of FY2012 activities is as follows.

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

Index	Item	Third Medium-Term Plan (2011-2013)	Targets in FY2012	Achievements in FY2012	Evaluation
Environmental Management	① Zero environmental accidents (legal violations)	Zero environmental accidents (legal violations)	Continue zero environmental accidents (legal violations)	Zero environmental accidents (legal violations)	○
Prevention of Global Warming	① Reduction in CO <sub>2</sub> emissions at works and offices	Reduction by 19% from the FY2004 level by FY2013 (28% reduction over FY1990 levels)	Reduce CO <sub>2</sub> emissions by 18% from FY2004 level (27% reduction over FY1990 levels)	36% reduction compared to FY2004 (43% reduction compared to FY1990)	○
	② Improved energy productivity (Energy productivity = Net sales/CO <sub>2</sub> emissions (CO <sub>2</sub> reduction due to productivity improvements at factories))	By FY2013, a 7% improvement in the energy productivity indicator compared to FY2008	Improvement by 6% compared to FY2008	Improvement by 18% compared to FY2008	○
	③ Raising scores for process improvement	Achieve four points of a maximum five-point score as in-house benchmark for process improvement activities across all departments	Average score 3.4 points	Average score 2.9 points	○
	④ Reduction in paper usage	Reduction by 45% from FY2005 level by FY2013	Reduction by 44% from the FY2005 level	54% reduction compared to FY2005	○
	⑤ Promotion of green logistics (Reduction in CO <sub>2</sub> emissions in transportation)	By FY2013, 14% reduction per basic unit of transportation against FY2006 benchmark	13% reduction per basic unit of transportation against FY2006 benchmark	4% reduction compared to FY2006	○
Promotion of Resource Conservation and Recycling	① Reduction in volume of waste generated and disposed of	• 13% reduction in amount generated compared to FY2007 • Amount disposed of is less than 0.05% of amount generated	• 12% reduction in amount generated compared to FY2007 • Amount disposed of is less than 0.5% of amount generated	• 17% reduction compared to FY2007 • Amount disposed of is 0.01% of amount generated	○
	② Achievement of zero emissions	Achieve zero emissions factories	Continue achieving zero emissions factories	Achieved by all divisions	○
	③ Reduction in water usage	Reduction by 25% or more from the FY2005 level	• 24% or greater reduction compared to FY2005 • Reduce non-attaining divisions to zero	40% reduction compared to FY2005 • Achieved by all divisions	○
Promotion of Prevention of Environmental Pollution	① Emission control of organochlorine chemicals (Soil Contamination Countermeasures Law, Montreal Protocol)	Use completely abolished	• Continue complete abolition of dichloromethane, trichloroethylene and tetrachloroethylene • Continue complete abolition of ozone-depleting substances HCFC-141b, 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)	Reduced by 33% from the FY2006 level	Reduced by 32% from the FY2006 level	45% reduction compared to FY2006	○
	③ Total abolition of equipment that uses PCB (Law Concerning Special Measures Against PCB Waste)	Total prohibition of use	• Complete early registration with the Japan Environmental Safety Corporation of equipment with high concentration of PCB. Dispose of appropriately after receipt of disposal notice • For low concentrations, replace and store in accordance with plans	• Early registration of equipment with high concentrations of PCB completed • Survey of low concentration is complete (survey of welding machines, etc. still remains)	○
Expansion of Line-up of Environmentally Friendly Products	① Promotion of measures for green procurement (purchase of raw materials and components)	• Review Green Procurement Guidelines, eliminate prohibited substances • Expansion in environmentally friendly products	• Review Green Procurement Guidelines; Develop regulations for prohibited substances • Expansion in environmentally friendly products: 15 or more certified products (products considerate of environment by energy saving, lighter weight, low noise, chemical substances, etc.)	• Continue in accordance with Green Procurement Guidelines • Number of certified environmentally friendly products: 15 products (actual)	○
	① Increase in the number of ISO14001 certifications	Planning and implementing certification acquisition in Group companies including overseas companies	Three overseas Group companies acquire certification for total of 12 companies certified	Three overseas companies acquire certification Total 13 companies acquire certification	○
Environmental Management	② Expansion of the scope of the Consolidated Environmental Management	Expand to principal overseas manufacturing bases	• Local guidance by head office, periodic environmental audits • Post full-time staff to Shanghai, create a network • Raise the level of education for environmental managers at Chinese factories	• Implementing environmental surveys at principal overseas manufacturing bases and environmental audits at overseas factories (China, Southeast Asia, EU) • An environmental management officer was assigned to Shanghai, a head office-Shanghai-China factory network was created, and conducted training to raise the level of environmental managers	○
	③ Contribute to biodiversity	Expand tree-planting and growing programs at factory premises	Expand tree-planting and growing programs at factory premises	Systematic tree-planting and growing programs in all areas	○

In its business activities, including procurement, manufacturing and logistics, Sumitomo Heavy Industries Group has been taking measures to reduce CO<sub>2</sub> emissions by positioning it as the most important issue.

Promoting Environmental Management

In the Sumitomo Heavy Industries Group, activities to prevent global warming are positioned as a part of environmental management with discussions conducted at evaluations by the President on visits to the manufacturing floor. The results from each business division are fed back for monthly processing at the Environmental Management Division. The results are also announced at the quarterly meetings of the Executive Board.

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.”

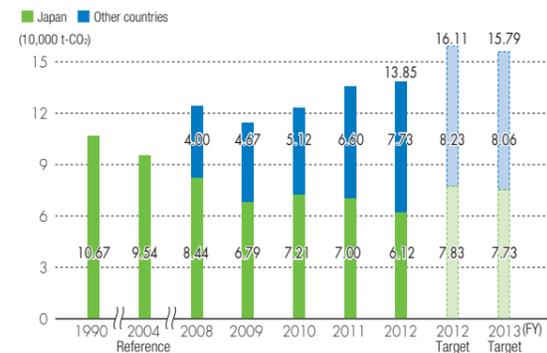
Reducing CO<sub>2</sub> Emissions

The Sumitomo Heavy Industries Group started to take action in FY2005 with the First Medium-Term Environmental Plan to reduce CO<sub>2</sub> emissions by 10% from FY2004 levels by FY2007. As of FY2011, we launched the Third Medium-Term Environmental Plan aiming to further reduce CO<sub>2</sub> emissions by 19% from the FY2004 level by FY2013. Compared to the benchmark year of FY1990 for the Kyoto Protocol, the target is to achieve a 28% reduction.

In FY2012 we were able to control emissions to far exceed the target with a 36% reduction (21% reduction in the basic unit) over FY2004 levels and a 43% reduction over FY1990 levels.

For other countries, we have set a target of 2% reduction year on year taking production increases into account. The emissions volume is trending upward because of the new establishment and expansion of

CO<sub>2</sub> Emissions



\* For Japan, the FY2000 figure of 3.78 (t-CO<sub>2</sub>/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.

factories in countries like China, where the CO<sub>2</sub> emissions coefficient is higher. For fiscal year 2012, we achieved the target value for the year with a 7% reduction in emissions.

The combined target value for Japan and other countries is total emissions of 161,000 tons, which represents a 19% reduction from the fiscal 2004 reference value in Japan and an annual 2% reduction in other countries. The target was achieved with an actual figure of 139,000 tons, which represents a 14% reduction from the target value.

Improvement of energy productivity

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<sub>2</sub> 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 2012, we declared a 6% increase over fiscal year 2008 as the target for our program. We achieved this target with an 18% increase at our principal production bases in Japan.

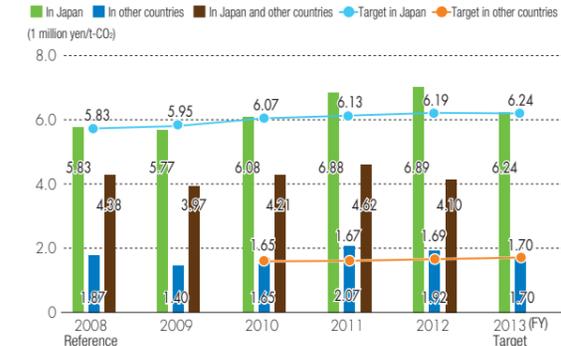
The target for our programs in other countries was set at 1% increase year on year. We achieved this target in fiscal year 2012 with an increase of 5.3%.

The combined figure for Japan and other countries shows a 6% decline because of the increase in CO<sub>2</sub> overseas.

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

- 1 Concentrate operating hours (promote mass holidays)
- 2 Minimize standby power (reduce the amount of power used by machine tools on standby)
- 3 Minimize working times
- 4 Make effective use of equipment and facilities

Energy productivity



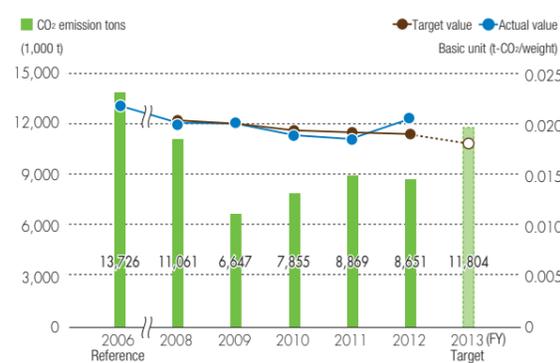
Promoting Green Logistics

In transportation, we have been making efforts to reduce CO<sub>2</sub> emissions by eliminating waste and by improving efficiency. With FY2006 as the benchmark year, we aimed to achieve an 13% reduction in the basic unit of transportation (t-CO<sub>2</sub>/weight) in FY2012. We promoted such measures as improving loading ratios and switching to modal shift in fiscal year 2012, but the reduction was limited to 4% due to the decline of sales in other countries relative to the reference year and the increase in long-distance truck transport to the Tohoku Region to meet earthquake recovery demand. In terms of total CO<sub>2</sub> volume, however, the reduction was 37%. For our fiscal year 2013 activities, we are setting a target of 14% reduction relative to fiscal year 2006.



Using ships to achieve a modal shift

CO<sub>2</sub> emission through logistics

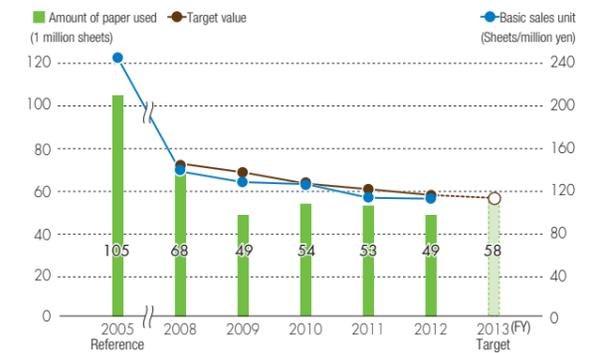


Activities to Reduce Paper Usage

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<sub>2</sub> emissions in the papermaking process. In FY2013, the Sumitomo Heavy Industries Group aims for a 45% reduction compared to FY2005 levels.

In FY2012 we exceeded the target of a 43% reduction over FY2005 levels with a reduction of 54%.

Paper usage (A4 paper equivalent)



Environmentally Friendly “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.

In fiscal year 2012, therefore, we have been able to add another four products to the 11 “environmentally friendly first-class products” we had already designated. The 11 products were the biomass boiler, compact 25-ton biomass boiler, and dry-type desulphurization equipment (Energy & Environment Group); hydraulic excavator and asphalt finishers (Sumitomo (S.H.I.) Construction Machinery Co., Ltd.); bag filter (Nihon Spindle Mfg. Co., Ltd.); electric-powered reach forklifts (Sumitomo NACCO Materials Handling Co., Ltd.); plastic injection molding machines (Plastics Machinery Division); turbines with longer blades (Shin Nippon Machinery Co., Ltd.); hot forging presses (Industrial Equipment Division); and dividing-wall distillation columns (Sumiju Plant Engineering Co., Ltd.). The four added products are kiln equipment (Energy & Environment Group); a hybrid electric power source for transfer cranes (Sumitomo Heavy Industries Material Handling Systems Co., Ltd.); the Cle-Eco III (Nihon Spindle Mfg. Co., Ltd.); and the SHX-III/S ion implantation system (SEN Corporation).

\* 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

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**

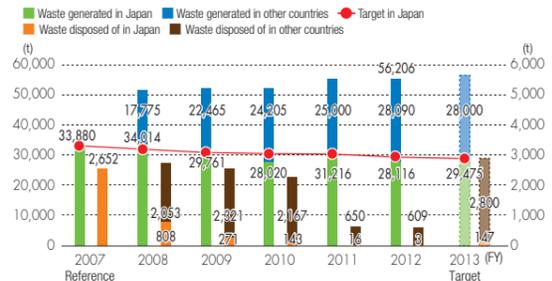
In order to build a recycling-oriented society, we at the Sumitomo Heavy Industries Group are controlling the discharge of waste from our business activities, recycling waste, and making efficient use of resources as well as working on initiatives to reduce the burden on the environment through our business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

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

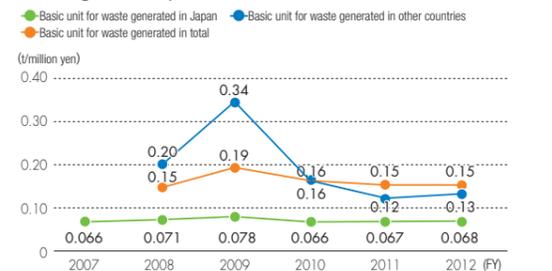
In Japan, our target for the amount of waste discharged in fiscal year 2013 is a 13% reduction relative to fiscal year 2007. In fiscal year 2012, we worked to increase the efficiency in production activities, do away with waste, and limit the amount of metal scrap and other such waste generated. As a result, emissions amounted to 28,116 tons, which was a 17% reduction from fiscal year 2007, and which achieved the 12% reduction target for fiscal year 2012. The target for the amount of waste discarded was under 0.5% of emissions, and the 3.4 tons of waste discarded in fiscal year 2012 was only 0.01% of emissions, which exceeds the target by a significant margin. In terms of basic units, this represents a 3% increase.

The combined figure for Japan and other countries shows an increasing trend in emissions due to production increases in other countries. In terms of basic units, however, the trend is diminishing.

**Waste generated**



**Waste generated (basic sales unit)**



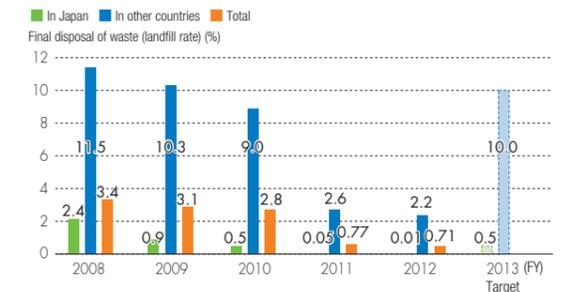
**Zero Emissions in FY2012 Achieved by Entire SHI Group**

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 FY2012 we achieved zero emissions at all seven works and all eight Group companies. We were also able to achieve a zero emissions rate of 0.01% for the SHI Group as a whole, greatly exceeding the target. We are operating in other countries with the target of making less than 10% of total waste go to landfill. In fiscal year 2012, the figure was 2.2%, which achieved the target.

The combined figure for Japan and other countries shows that the shift to recycling is progressing smoothly, and the percentage of waste going to landfill was 0.7% in fiscal year 2012. Recycling by separation of waste materials is crucial for the achievement of zero emissions. We intend to continue with rigorous separation of waste so that we can maintain zero emissions, and our aim is to have factories that are kind to the global environment.

**Zero emissions of waste**



**Reducing Water Consumption**

Reducing water consumption is linked to protecting resources and reducing discharge into public water systems. The SHI Group has set a target of reducing water consumption in FY2013 by 25% compared to FY2005 levels. In FY2012, we continued to install visible water pipes (aboveground installation) in order to identify water leaks and eliminate waste. As a result, we achieved a 39.5% reduction from FY2005 levels. For FY2013, we will aim for further reductions without allowing ourselves to be limited by target figures. We have also been engaging in reduction activities in other countries since fiscal year 2010.

Combined figures for Japan and other countries also show a diminishing trend.

**Water use**



**TOPICS**

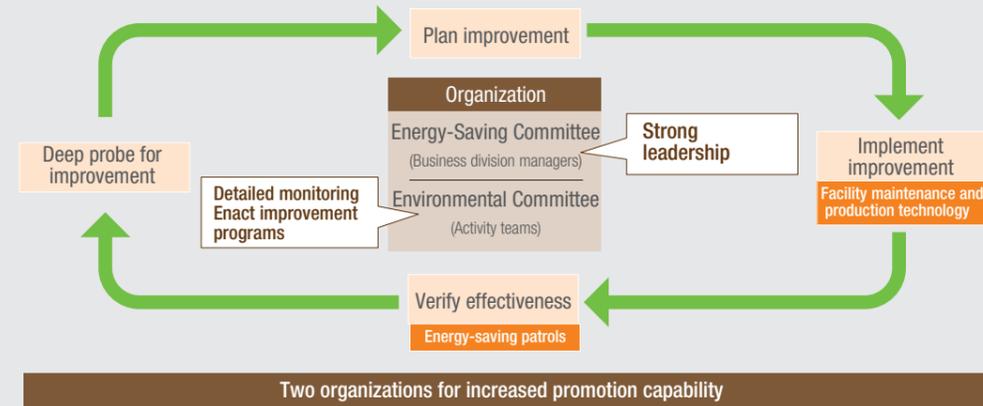
**Energy-saving activities at Nihon Spindle Mfg. Co., Ltd.**

Nihon Spindle Mfg. Co., Ltd., which is a member of our Group, is a development proposal-type enterprise with a demonstration center. It develops and manufactures dust collectors, clean rooms, precision air-conditioning equipment, machine tools, tire manufacturing equipment, cooling towers, building materials (schoolroom partitions, etc.), etc.

The main factory of Nihon Spindle Mfg. Co., Ltd. is located in Amagasaki City, Hyogo Prefecture. An Environmental Committee was set up there, and in fiscal year 2011, an Energy-Saving Committee was also established that includes managers from each of the company's three business divisions as members.

The Environmental Committee takes the lead in all of the company's environmental protection activities. It engages in detailed monitoring with energy-saving patrols, improvement programs, and other such activities. The Energy-Saving Committee is responsible for headquarters functions, working from reports and other input provided by the Environmental Committee to formulate improvement plans and issue instructions for implementation and so on.

These two organizations have further increased the company's capabilities for promoting energy-saving activities, and the company has cleared all the Sumitomo Heavy Industries Group environmental targets.



**Examples of Energy-Saving Activities**

**1. Energy saving in machine tools**

The following measures were implemented to save energy with machine tools that consume more electric power.

- Reduce standby power for machine tools 4-8% per day by standardizing work and upgrading maintenance (cleaning and replacing filters, changing oil, etc.)
- Reduce standby power for machine tools 34-65% per day by improving hydraulic actuation circuits



**2. Green logistics**

A full-time logistics team controls logistics operations for the whole company. Continuous engagement in measures like the following resulted in a 30% improvement (basic unit CO<sub>2</sub>/deadweight tons) in fiscal year 2012 relative to the reference year (FY2006). This achieved the Group target.

- Improve loading ratios by placing vehicle dispatch list on company-wide network and coordinating among business divisions
- Promote consolidation (shipping jointly with other companies) of loads with nearby companies
- Promote modal shift using railway container transport, etc.

**3. Measures to deal with electric power supply shortages**

In order to deal with electric power supply shortages during the summer of 2011, the company enacted power-saving measures in

work shifts, indoor temperature settings, reduction in the number of lights turned on, and so on. The following equipment investments were also made on an emergency basis. As a result, the company met or exceeded the required government target (17% or greater reduction at peak times) and cooperated throughout the power-saving period.

- Convert to gas heat pumps for office air conditioning (power saving of 2.50% per month)
- Change office window sashes to double panes (power saving of 1.50% per month)
- Change to inverter compressors (power saving of 0.10% per month)
- Increase number of skylights in factory roof (power saving of 0.20% per month)
- Install power monitors on main facilities and equipment (power saving of 1.00% per month)
- Change spot coolers to cool air blowers (power saving of 1.96% per month)
- Upgrade factory electric fans to energy-saving models (power saving of 0.37% per month)

We intend to continue with efforts in environmental protection and electric power saving through measures like these to reduce standby power to equipment and by working steadily on cumulative activities. We also intend to expand the environmental protection activities and energy-saving activities at the company's factory to our factories in China and Malaysia, to promote overseas programs to reduce CO<sub>2</sub> emissions, as well.

We manage chemical substances with the aim of implementing prevention of environmental pollution.

**Complete Abolition of Organochlorine Chemicals**

**Complete abolition of substances subject to the Soil Contamination Countermeasures Law**

In FY2011, we completed eliminating any use of dichloromethane, tetrachloroethylene and trichloroethylene, which are organochlorine substances subject to the Soil Contamination Countermeasures Law. We maintained this total elimination of use in FY2012.

**Total abolition of ozone depleting substances**

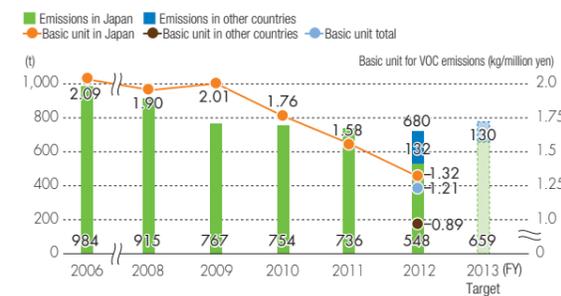
We totally eliminated use of the ozone-depleting substance HCFC-225 in fiscal year 2008, and that of HCFC-141b in fiscal year 2010. We maintained the total elimination of such use in fiscal year 2012.

**Emission Control of VOC (Volatile Organic Compounds)**

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 33% by FY2013 compared with the level in FY2006.

The amount of coating we used in shipbuilding during fiscal year 2012 diminished, and further reductions were achieved by the operation of solvent collection and removal equipment at our large-scale paint facilities that are subject to legal controls. Promotion of these and other reduction measures yielded a 46% reduction relative to fiscal year 2006. This was also a 37% reduction in terms of the basic sales unit. Measures to control VOC emissions in FY2013 will continue from FY2012 through such steps as the operation of solvent collection and removal equipment, the expanded use of powder paint, and the adoption of low-solvent paints to control emissions.

**VOC emissions**



**Emissions and Transfer of PRTR Substances**

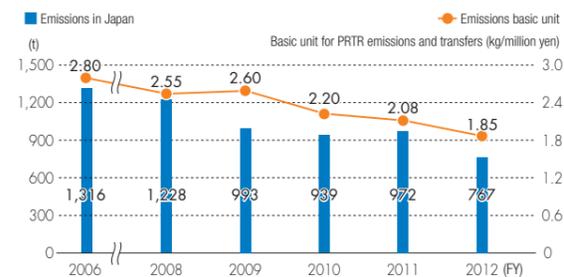
More than 90% of PRTR substances are paint solvents (toluene, xylene, ethylbenzene). In FY2012, we reduced these substances by 42% of the level in FY2006. This also represents a 34% reduction in terms of the basic sales unit. We will continue to expand the use of low-solvent paint while ensuring that 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 Chemical Substances under the PRTR Law in FY2012 (Substances subject to reporting)**

Substance number	Substance designation	Emissions + transferred amount
53	Ethylbenzene	153,167
80	Xylene	396,825
240	Styrene	1,394
296	1, 2, 4-trimethylbenzene	2,319
297	1, 3, 5-trimethylbenzene	6,947
300	Toluene	155,622
349	Phenol	791
374	Hydrogen fluoride and its water-soluble salts	24,284
384	1-bromopropane	7,292
392	Normal hexane	1,128
405	Boron and its compounds	1,900
412	Manganese and its compounds	8,816

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

**Emissions and transfers of PRTR substances**



**TOPICS**

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

We have completed early registration of all equipment with high concentrations of PCB with the processing company, Japan Environmental Safety Corporation, and we have undertaken a systematic course of detoxification based on the Law Concerning Special Measures Against PCB Waste. Until FY2011, this material was processed at the Tanashi Works, Okayama Works, Nihon Spindle Mfg. Co., Ltd., and Izumi Food Machinery Co., Ltd. The survey of equipment with low concentrations of PCBs was furthered and updated in FY2011. Study is underway regarding

treatment of items presently being stored. In FY2011, we also undertook a major upgrade with regard to lighting equipment with stabilizers and transformers containing PCBs.



Sumitomo Heavy Industries Group is strengthening environmental risk management and global warming prevention measures at overseas factories.

**Stronger Environmental Risk Management**

**Stronger environmental management system at our overseas factories**

Sumitomo Heavy Industries Group has been continuously reinforcing management systems in order to strengthen environmental risk management at factories in other countries. We have assigned full-time environmental managers at every overseas factory. At factories where production is on the rise, as in China, in particular, we are promoting further measures, such as increasing the number of those managers.

**Strengthening Environmental Management in China**

Out of all our Group factories in other countries, the largest number in operation by region is in China, where there are eight. We therefore have a special management system for environmental management matters, as well. In fiscal year 2011, we established a department in Shanghai to handle centralized environmental management for the China area, and in fiscal year 2012 we added one new staff member as part of our further strengthening of the system.

In China, we have been ahead of other regions in establishing environmental management meetings like those held at our factories in Japan. We began holding these meetings there in fiscal year 2011, bringing together the environmental managers from each of the factories in China to hear explanations of environmental policy from the head office in Japan, to report on the status of environmental management at their factories, and to work on raising the level of environmental management at each factory.

In fiscal year 2012, the meeting venue began to be shifted from factory to factory in turn, and on-site environmental patrols are being carried out by all the participants together at each meeting venue factory. On-site environmental management is said to require experience and practical management know-how. The environmental managers at our China factories have relatively few years of experience, so we are using these environmental patrols to improve the management know-how and knowledge of the participants as well as to disseminate that know-how and knowledge laterally to every factory.



Environmental management meeting in China

**Reinforcing environmental pollution prevention programs**

China and the countries of Southeast Asia are strengthening their environmental standards every year. We are continuously expanding the scope of management activities at every factory in order to respond to the stronger environmental standards in that country.

In fiscal year 2012, the speed reducer factory in Vietnam installed a new wastewater treatment facility in response to stronger environmental standards instituted at the industrial park where it is located.

In addition, the forklift parts factory in the Philippines has taken steps to reduce the risk of environmental pollution by voluntarily installing a water-sealing plate as an emergency shutoff that will prevent factory wastewater from being discharged into the public sewer if a fault occurs. The installation of this water-sealing plate has been treated as an advanced example of activity to prevent pollution of the environment, and it has been publicized as such within the industrial park.

**Promoting environmental audits at factories in other countries**

The head office Environmental Management Division conducts periodic audits of our factories in other countries. In order to reduce the environmental risk at overseas factories to the same level as at factories in Japan, these environmental audits check the environmental management activities at each factory, applying the same audit standards as at factories in Japan.

The frequency of audits is determined according to the environmental risk at the factory in question, taking local environmental requirements into consideration. In fiscal year 2012, environmental audits were conducted at eight of our factories in the China, Europe, and Southeast Asia areas.

At the same time that audits are conducted, environmental managers and officers are also given training in activities to prevent environmental accidents and in energy saving.



Environmental audit at an overseas factory

**Promoting Global Warming Prevention Activities**

CO<sub>2</sub> emissions are trending upward at Sumitomo Heavy Industries Group's factories in other countries because of the construction of new factories and the expansion of production at existing factories.

Our Group is setting targets for the reduction of CO<sub>2</sub> emissions at factories in other countries, and we are promoting activities to prevent global warming.

In fiscal year 2012, we set reduction targets for all our factories in other countries and promoted activities to reduce CO<sub>2</sub> emissions. As a result, we achieved the target value for total emissions of 82,300 tons with the actual figure of 77,315 tons. We will continue promoting reduction activities that are geared to achieving future reduction targets.

**Activities to Reduce Electric Power Consumption by Improvements to Factory Interior Lighting**

At the speed reducer factory in Germany, wall surfaces were almost all converted to glass windows to introduce large amounts of natural light in some workplaces.

Electric power for lighting in these workplaces was further reduced by installing new devices that automatically dim and brighten the interior illumination according to the amount of sunlight.

At the forklift parts factory in Vietnam, the machine workshop areas used to have mercury lamps on the



Interior view of the factory with walls converted to glass



Automatic light-adjusting device

ceilings for lighting. Now fluorescent light-type LED lights have been installed close to the machines to illuminate each machinist's work area.

In addition to their lower power consumption, LED lights turn on instantly. This means the lights can be turned on only when needed, so that power consumption can be reduced rationally. The LED lighting at this factory was also installed in a way devised by the production engineering manager to match with the specific work being done.



Fluorescent-type LED lighting installed close to machine tools

**Promoting environmental protection activities at factories in other countries**

Sumitomo Heavy Industries Group's factories in other countries face differing environmental requirements according to the factory location. In order to meet these different demands, we promote environment management activities that are characteristic of those various factories.

**Measures for conservation of natural resources**

The water used at the speed reducer factory in Brazil is ground water, and a well has been dug on the grounds where the water can be pumped up. In order to reduce the amount of water pumped from the well, domestic wastewater and other such water is treated in a wastewater treatment facility installed at the factory, and the treated water is used for such purposes as watering grass and trees on the grounds.



Wastewater treatment facility

**Waste reduction measures**

**—Measures in the United States—**

At the construction machinery factory in the United States, a company-wide program is being promoted to reduce the amount of waste generated by the factory.

The waste material that used to be treated as landfill is now being sorted carefully by category. The sorted waste is collected under a program to increase the amount of waste that can be recycled and reduce the weight of landfill material.

New waste collection boxes for recycling material have been placed in the factory. Once a week, employees also check through the waste yard for landfill material to retrieve any recyclable waste that is mixed in.



Checking recyclable waste

Bin for recyclable waste in the factory

A unique logo mark has also been created as a symbol for waste reduction activity. Not only is this logo used at exhibitions of waste reduction activity in the factory, but it is also displayed on tape and other such materials used in packing construction machinery parts that are shipped from the factory. In addition to improving awareness of waste reduction within the company, this logo also publicizes the commitment to waste reduction to people outside the company.



Recycling logo mark

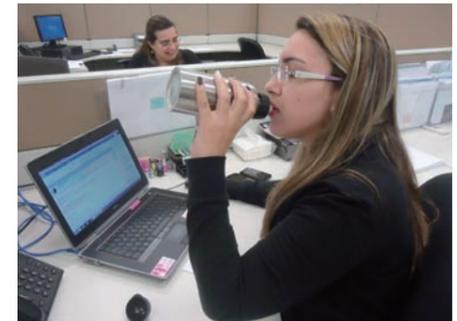
Logo mark displayed near a bulletin board



Cardboard carton for packing parts

**—Measures in Brazil—**

People at the speed reducer factory in Brazil drink a great deal of coffee in the factory. At first, disposable cups were used, and most of the cups were disposed of as waste material. However, local employees who wanted to help reduce waste came up with an idea themselves: They made heat-retaining cups carrying the company logo for individual use, and distributed one cup to every employee. This made it possible to eliminate the use of disposable cups.



Drinking from a heat-retaining cup for exclusive in-house use

**—Measures in Vietnam—**

At the speed reducer factory in Vietnam, the raw garbage generated at the dining hall in the factory is not treated as landfill waste. Instead, a program is being conducted in cooperation with local livestock farmers to use the garbage as animal feed and other such purposes.

# 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: 40,712m<sup>2</sup> ■ Building Area: 14,368m<sup>2</sup>  
 ■ Main Products: Defense Equipment, Cryogenic Equipment

Energy used	Value	PRTR (kg/year)		
		Atmosphere	Water	Transfer volume
Electric power (1000 kWh)	5,962			
Gasoline (kL)	1			
Kerosene (kL)	1			
Light oil (kL)	1			
Heavy fuel oil A (kL)	1			
LPG (t)	2			
City gas (1000 m <sup>3</sup> )	14,830			
Water used (m <sup>3</sup> )	14,830			
Discharge into the atmosphere				
SOx (kg)	-			
NOx (kg)	-			
PRTR (kg/year)				
Ethylbenzene	14	-	-	-
Ethylene glycol monomethyl ether (2-methoxyethanol)	1	-	-	-
Heavy fuel oil A (kL)	-	-	-	-
1,2-epoxybutane	5	-	-	-
Ferric chloride	-	-	192	-
Xylene	-	-	-	-
Quinoline	3	-	-	-
Hexavalent chromium compounds (including lead chromate)	-	-	-	21
Ethylene glycol monoethyl ether acetate	3	-	-	-
Toluene	325	-	-	-
Lead compounds	-	-	-	11
1-bromopropane	5,827	-	-	-
Manganese and its compounds	-	-	-	9

### Chiba Works

■ Established in 1965 ■ ISO14001 (obtained in April 1999)  
 ■ Site Area: 294,600m<sup>2</sup> ■ Building Area: 110,692m<sup>2</sup>  
 ■ Main Products: Plastic Injection Molding Machines, Metallic Molds, Hydraulic Excavators

Energy used	Value	PRTR (kg/year)		
		Atmosphere	Water	Transfer volume
Electric power (1000 kWh)	18,201			
Gasoline (kL)	96			
Kerosene (kL)	12			
Light oil (kL)	542			
Heavy fuel oil A (kL)	-			
LPG (t)	166			
City gas (1000 m <sup>3</sup> )	868			
Water used (m <sup>3</sup> )	47,741			
Discharge into the atmosphere				
SOx (kg)	-			
NOx (kg)	251			
PRTR (kg/year)				
Water-soluble zinc compounds	126	-	-	-
2-aminoethanol	39	-	-	-
Ethylbenzene	11,067	-	18,023	-
Xylene	48,355	-	83,866	-
Hexavalent chromium compounds (including lead chromate)	2	-	-	-
Styrene	498	-	-	286
1,2,4-trimethylbenzene	752	-	-	-
1,3,5-trimethylbenzene	1,750	-	690	-
Toluene	29,760	-	14,796	-
Naphthalene	2	-	-	-
Lead	8	-	-	-
Hexamethylene diisocyanate	20	-	-	-

### Yokosuka Works

■ Established in 1971 ■ ISO14001 (obtained in February 1999)  
 ■ Site Area: 523,000m<sup>2</sup> ■ Building Area: 170,635m<sup>2</sup>  
 ■ Main Products: Ships, Laser Processing Systems, Semiconductor Manufacturing Equipment (Molding Machines), Precision Forgings, Stage Systems, System Controller

Energy used	Value	PRTR (kg/year)		
		Atmosphere	Water	Transfer volume
Electric power (1000 kWh)	30,794			
Gasoline (kL)	30			
Kerosene (kL)	-			
Light oil (kL)	193			
Heavy fuel oil A (kL)	-			
LPG (t)	13			
City gas (1000 m <sup>3</sup> )	860			
Water used (m <sup>3</sup> )	143,547			
Discharge into the atmosphere				
SOx (kg)	-			
NOx (kg)	820			
Discharge into the water				
COD (kg)	373			
Nitrogen (kg)	490			
Phosphorus (kg)	55			
PRTR (kg/year)				
Ethylbenzene	67,155	-	-	-
Ferric chloride	-	4	77	-
Xylene	101,834	-	-	-
1,2,4-trimethylbenzene	15	-	-	-
1,3,5-trimethylbenzene	23	-	-	-
Toluene	24,327	-	141	-
Phenol	790	-	2	-
Hydrogen fluoride and its water-soluble salts	-	-	24	24,119
1-bromopropane	874	-	-	591
Boron and its compounds	-	-	-	7
Manganese and its compounds	846	-	-	7,541
Tritolyl phosphate	2,208	-	-	-

### Nagoya Works

■ Established in 1961 ■ ISO14001 (obtained in January 1999)  
 ■ Site Area: 293,000m<sup>2</sup> ■ Building Area: 90,000m<sup>2</sup>  
 ■ Main Products: Power Transmission and Controls, Gear Motors, Inverters, Construction Cranes

Energy used	Value	PRTR (kg/year)		
		Atmosphere	Water	Transfer volume
Electric power (1000 kWh)	15,047			
Gasoline (kL)	18			
Kerosene (kL)	-			
Light oil (kL)	-			
Heavy fuel oil A (kL)	-			
LPG (t)	-			
City gas (1000 m <sup>3</sup> )	631			
Water used (m <sup>3</sup> )	143,624			
Discharge into the atmosphere				
SOx (kg)	-			
NOx (kg)	-			
Discharge into the water				
COD (kg)	620			
Nitrogen (kg)	27			
Phosphorus (kg)	-			
PRTR (kg/year)				
Ethylbenzene	8,250	-	-	1,185
Xylene	56,479	-	-	6,550
Hexavalent chromium compounds (including lead chromate)	82	-	-	-
Styrene	372	-	-	-
1,2,4-trimethylbenzene	357	-	-	-
1,3,5-trimethylbenzene	961	-	-	812
Toluene	19,568	-	-	-
Naphthalene	360	-	-	-
Lead	82	-	-	-
Normal hexane	417	-	-	-
Benzene	62	-	-	-
Manganese and its compounds	19	-	-	1

### Okayama Works

■ Established in 1948 ■ ISO14001 (obtained in March 2000)  
 ■ Site Area: 425,000m<sup>2</sup> ■ Building Area: 94,000m<sup>2</sup>  
 ■ Main Products: Gearboxes, Stage Systems, Machine Tools

Energy used	Value	PRTR (kg/year)		
		Atmosphere	Water	Transfer volume
Electric power (1000 kWh)	5,001			
Gasoline (kL)	1			
Kerosene (kL)	-			
Light oil (kL)	7			
Heavy fuel oil A (kL)	-			
LPG (t)	77			
City gas (1000 m <sup>3</sup> )	-			
Water used (m <sup>3</sup> )	17,201			
Discharge into the atmosphere				
SOx (kg)	-			
NOx (kg)	140			
Discharge into the water				
COD (kg)	96			
Nitrogen (kg)	461			
Phosphorus (kg)	2			
PRTR (kg/year)				
Ethylbenzene	1,889	-	-	523
Xylene	4,898	-	-	-
1,3,5-trimethylbenzene	447	-	-	-
Toluene	4,762	-	-	-

### Ehime Works (Niihama Factory)

■ Established in 1888 ■ ISO14001 (obtained in November 1999)  
 ■ Site Area: 418,000m<sup>2</sup> ■ Building Area: 204,000m<sup>2</sup>  
 ■ Main Products: Ion Accelerators, Coating Equipment, Parking System, Forge Rolling Machines, Transporting Machines

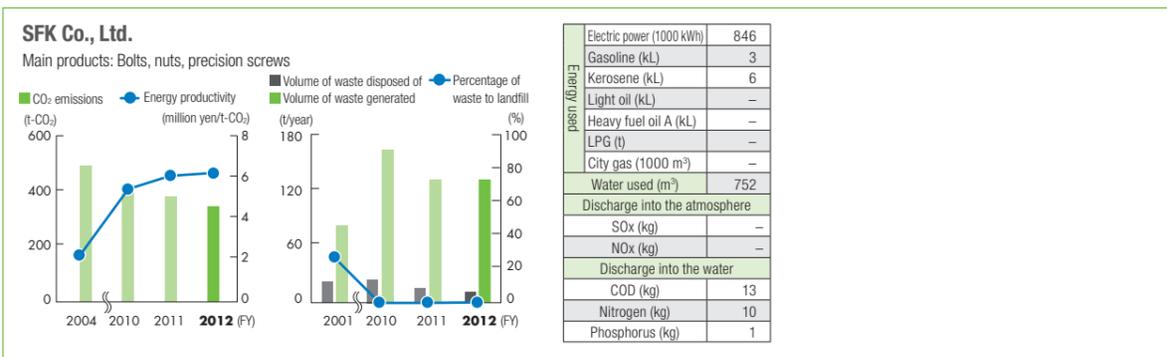
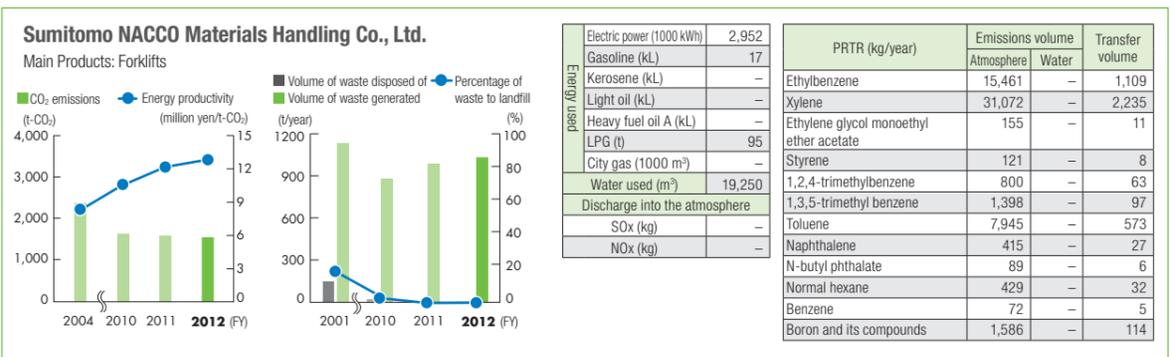
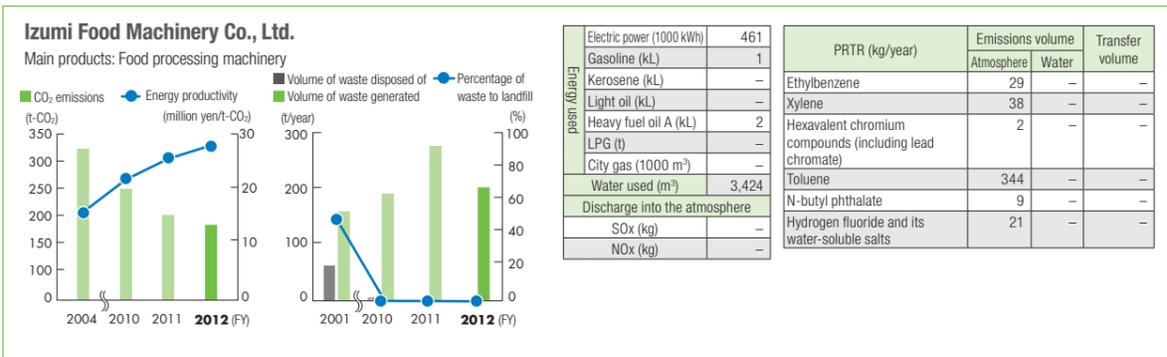
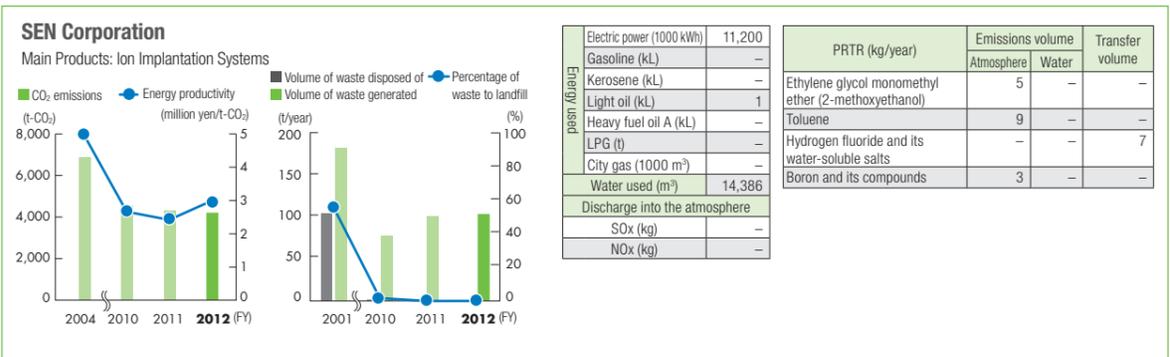
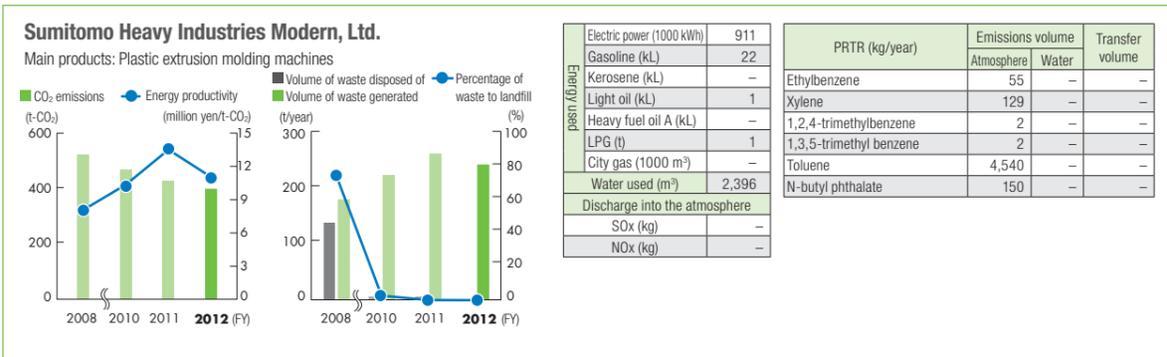
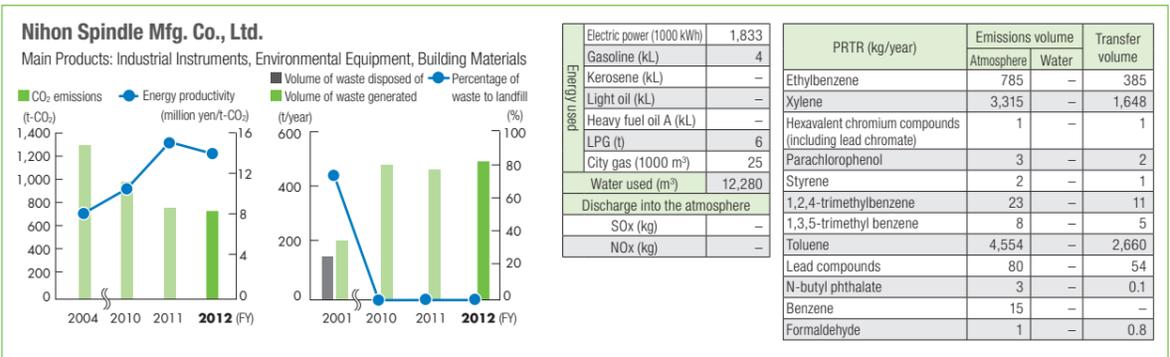
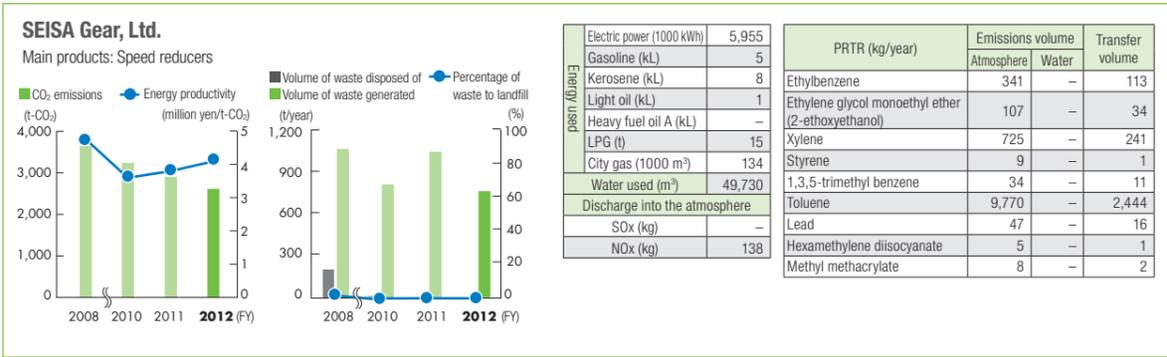
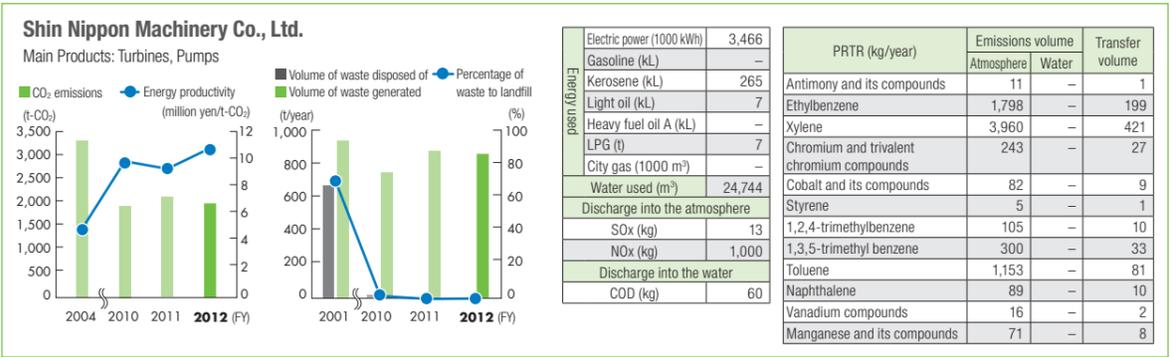
Energy used	Value	PRTR (kg/year)		
		Atmosphere	Water	Transfer volume
Electric power (1000 kWh)	21,319			
Gasoline (kL)	15			
Kerosene (kL)	21			
Light oil (kL)	91			
Heavy fuel oil A (kL)	761			
LPG (t)	443			
City gas (1000 m <sup>3</sup> )	-			
Water used (m <sup>3</sup> )	655,053			
Discharge into the atmosphere				
SOx (kg)	906			
NOx (kg)	1,122			
Discharge into the water				
COD (kg)	120			
Nitrogen (kg)	773			
Phosphorus (kg)	12			
PRTR (kg/year)				
Water-soluble zinc compounds	30	-	-	-
Acetonitrile	123	-	-	-
Bisphenol A	29	-	-	-
Ethylbenzene	19,109	-	-	1,412
1-octanol	19	-	-	-
Xylene	29,340	-	-	2,543
Toluene	18,029	-	-	2,021
Lead compounds	73	-	-	201
Arsenic and its inorganic compounds	73	-	-	-
Hydrogen fluoride and its water-soluble salts	114	-	-	-
Boron and its compounds	44	-	-	75
Molybdenum and its compounds	4	-	-	26

### Ehime Works (Saijo Factory)

■ Established in 1973 ■ ISO14001 (obtained in February 1999)  
 ■ Site Area: 535,000m<sup>2</sup> ■ Building Area: 91,500m<sup>2</sup>  
 ■ Main Products: Steel Structures, Pressure Vessels, Stirring and Mixing Equipment, Coke Oven Machines

Energy used	Value	PRTR (kg/year)		
		Atmosphere	Water	Transfer volume
Electric power (1000 kWh)	5,507			
Gasoline (kL)	13			
Kerosene (kL)	-			
Light oil (kL)	55			
Heavy fuel oil A (kL)	-			
LPG (t)	394			
City gas (1000 m <sup>3</sup> )	-			
Water used (m <sup>3</sup> )	56,268			
Discharge into the atmosphere				
SOx (kg)	30			
NOx (kg)	97			
Discharge into the water				
COD (kg)	387			
Nitrogen (kg)	427			
Phosphorus (kg)	38			
PRTR (kg/year)				
Ethylbenzene	2,287	-	-	1,978
Xylene	10,350	-	-	8,811
Styrene	53	-	-	40
1,2,4-trimethylbenzene	81	-	-	99
1,3,5-trimethylbenzene	200	-	-	179
Toluene	4,189	-	-	3,629
Butyl methacrylate	18	-	-	12

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



[Environmental impact data for main overseas Group companies]

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

Energy used	
Electric power (1000 kWh)	8,388
Gasoline (kL)	-
Kerosene (kL)	-
Light oil (kL)	-
LNG (t)	-
LPG (t)	-
Natural gas (1000 m³)	1,929
Water used (m³)	48,739

Discharge into the atmosphere	
VOC emissions (t/year)	9
SOx emissions (kg/year)	160
NOx emissions (kg/year)	1,060

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

Energy used	
Electric power (1000 kWh)	2,121
Gasoline (kL)	1
Kerosene (kL)	-
Light oil (kL)	-
LNG (t)	-
LPG (t)	-
Natural gas (1000 m³)	-
Water used (m³)	50,648

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

**Sumitomo (SHI) Cyclo Drive China, Ltd.** Country: China Main products: Power transmission equipment

Energy used	
Electric power (1000 kWh)	4,405
Gasoline (kL)	-
Kerosene (kL)	-
Light oil (kL)	279
LNG (t)	-
LPG (t)	-
Natural gas (1000 m³)	-
Water used (m³)	35,706

Discharge into the atmosphere	
VOC emissions (t/year)	42
SOx emissions (kg/year)	-
NOx emissions (kg/year)	-

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

Energy used	
Electric power (1000 kWh)	5,059
Gasoline (kL)	-
Kerosene (kL)	-
Light oil (kL)	-
LNG (t)	-
LPG (t)	9
Natural gas (1000 m³)	1
Water used (m³)	1,729

Discharge into the atmosphere	
VOC emissions (t/year)	4
SOx emissions (kg/year)	-
NOx emissions (kg/year)	-

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

Energy used	
Electric power (1000 kWh)	5,353
Gasoline (kL)	-
Kerosene (kL)	-
Light oil (kL)	21
LNG (t)	-
LPG (t)	-
Natural gas (1000 m³)	-
Water used (m³)	63,225

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

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

Energy used	
Electric power (1000 kWh)	27,041
Gasoline (kL)	-
Kerosene (kL)	-
Light oil (kL)	-
LNG (t)	-
LPG (t)	-
Natural gas (1000 m³)	2,307
Water used (m³)	36,028

Discharge into the atmosphere	
VOC emissions (t/year)	61
SOx emissions (kg/year)	96
NOx emissions (kg/year)	4,196

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

Energy used	
Electric power (1000 kWh)	7,905
Gasoline (kL)	-
Kerosene (kL)	-
Light oil (kL)	17
LNG (t)	-
LPG (t)	15
Natural gas (1000 m³)	2,713
Water used (m³)	14,600

Discharge into the atmosphere	
VOC emissions (t/year)	Under 1 t
SOx emissions (kg/year)	120
NOx emissions (kg/year)	1,620

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

Energy used	
Electric power (1000 kWh)	8,782
Gasoline (kL)	-
Kerosene (kL)	-
Light oil (kL)	3
LNG (t)	-
LPG (t)	201
Natural gas (1000 m³)	-
Water used (m³)	11,000

Discharge into the atmosphere	
VOC emissions (t/year)	6
SOx emissions (kg/year)	-
NOx emissions (kg/year)	-

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

Energy used	
Electric power (1000 kWh)	11,161
Gasoline (kL)	-
Kerosene (kL)	-
Light oil (kL)	-
LNG (t)	-
LPG (t)	262
Natural gas (1000 m³)	-
Water used (m³)	41,923

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

**Hansen Industrial Transmissions NV** Country: Belgium Main products: Power transmission equipment

Energy used	
Electric power (1000 kWh)	9,793
Gasoline (kL)	-
Kerosene (kL)	-
Light oil (kL)	-
LNG (t)	-
LPG (t)	-
Natural gas (1000 m³)	908
Water used (m³)	7,023

Discharge into the atmosphere	
VOC emissions (t/year)	5
SOx emissions (kg/year)	-
NOx emissions (kg/year)	-

With the employees taking the initiative, we are planning and implementing activities that serve as social contributions in each region.

**Biodiversity Measures**

The Sumitomo Heavy Industries Group endorses the biodiversity declaration issued by Nippon Keidanren (the Japan Business Federation), and we have joined the partners promoting it. We determined our policy in the third medium-term environmental plan, and we are committed to afforestation and planting greenery to contribute to the protection of biodiversity.

Our Tanashi Works is preserving the Musashino Forest, which occupies approximately 30% of the 43,000-m<sup>2</sup> 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.

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.

With its abundant greenery, the Tanashi Works has named a portion of these woods the Forest of

Inspiration and opened it to the public as a place where local communities and corporations can think together about the future of the earth. Artificial plantings have been avoided so that visitors can get a feeling of what the original Musashino landscape was like. Barrier-free walking paths have been set up with wooden benches to make a place where local residents can come to relax. In the autumn, nursery school children come to gather acorns.

The acorns gathered in the forest at the Tanashi Works are distributed to other works and Group companies for use in our tree-planting campaigns. Our aim is to make effective use of the space within the works, expand the green area, and make it an ecologically friendly facility.

This Forest of Inspiration also has rainwater infiltration pipes installed. Most of the rainwater to date has been channeled through underground rainwater drainage pipes into nearby rivers and streams. There has been

some concern that this was causing groundwater to diminish, so that ground subsidence could occur as a result. The occurrence of unanticipated, localized heavy rainstorms and other such phenomena that are thought to be caused by the worldwide environmental problem of global warming has raised concern about flooding damage in neighboring areas, including residential neighborhoods. The rainwater infiltration pipes that return rainwater into the earth constitute a measure for protection of the natural environment by remedying the depletion of groundwater, reducing the risk of ground subsidence, and so on.

At the Niihama Factory, we have demolished buildings as part of redevelopment of the campus and converted those areas to greenery. Plans call for continuing expansion of green areas. All our factories are also engaged in green curtain activities.



Green curtain at the Niihama Factory



Main building at the Tanashi Works



View from the commuter gate

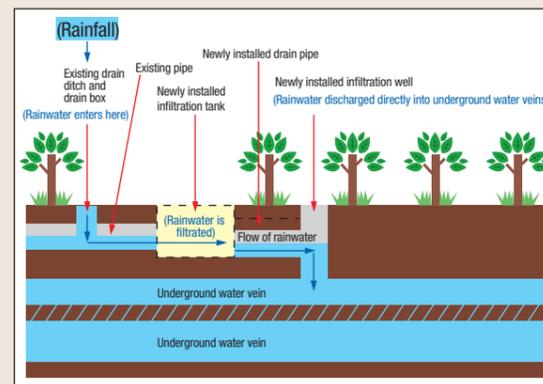


Sidewalk border changed to planting area (Nihon Spindle Mfg. Co., Ltd.)



Kindergarten children enthusiastically gathering acorns in the Forest of Inspiration

**Rainwater Infiltration Pipes Laid Underground**



**Overseas Biodiversity Measures**

Link-Belt Construction Equipment Company located in the state of Kentucky in the United States, has a campus of 425,000 m<sup>2</sup>, where for many years they have been conserving natural trees and planting many other trees. They have also constructed ponds where fish can live. Employees can fish in these ponds, but they practice a strict catch-and-release policy.

As a result, the expansive LBCE campus has preserved a rich natural environment that is inhabited by many wild creatures. Among them are skunks, bats, woodchucks, turtles, opossum, muskrats, various small birds, geese, and bees.

There are wild geese that breed on the campus, and the goslings are hatched at the factory. Some of the goslings become prey for creatures such as foxes, hawks, coyotes, snakes, and raccoons, but this is the working of nature, and the employees do not try to interfere by saving the goslings.

Sometimes one will see a procession of goslings led by a parent goose, and the employees refer to these by adding the company name and calling them "Link-Belt Geese."

Our other factories worldwide are likewise contributing to biodiversity by engaging in afforestation and planting activities.



Woodland scene



Cherry trees at Sumitomo Heavy Industries (Tangshan), Ltd.



A procession of geese

**Holding classes on the environment**

The Sumitomo Heavy Industries Environment Co., Ltd. held classes on the environment in Fujisawa City, Kanagawa Prefecture.

The difference between clean water and polluted water was explained to the children in the class, who learned about the importance of protecting river and ocean environments.

We had the children look through actual microscopes and conduct an experiment in how powdered activated charcoal can make polluted water clean.

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



Scenes of our class in session

**Participating actively in local community events**

Sumitomo Heavy Industries Group takes an active part in events in local communities, as well.

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, so the sports days suffered from a shortage of participants. Upon the community's request, we sent three of our people to take part. The weather was fine on the day of the event, and it was a very enjoyable and meaningful day of exchange with members of the local community as well as with many other volunteers.



Volunteers who participated in the sports day

**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 2012 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.

In addition, the Saijo Factory and SEN Corporation took part in the "Refresh Setouchi" Inland Sea cleanup activities at Takasu Beach in Saijo City, Ehime Prefecture. This Takasu Beach is the only natural sand beach still remaining in Saijo City, and the community hopes to protect the environment there.

This activity started in 1993, and this year is its 21st year. It is a major event for volunteer activity in the city.

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

\* Adopt Program  
This is 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 (Niihama Factory)



Group employees who participated in cleanup of Takasu Beach in Saijo City

**Traffic safety measures**

Our Group is a member of local Traffic Safety Associations and as such we participate in traffic safety campaigns. We also hold lectures in all of our districts to heighten awareness of traffic safety among Group employees, and we seek the cooperation of transportation contractors that carry loads into and out of our factories.

The Nagoya Works and Sumitomo NACCO Materials Handling Co., Ltd. regularly take on traffic monitoring duties, and they are actively cooperating on traffic safety with local communities.

The Yokosuka Works participated in the year-end traffic accident prevention campaign, distributing leaflets calling for traffic safety. The campaign was focused on the following three points:

- (1) Eradication of drunk driving
- (2) Prevention of traffic accidents involving pedestrians (especially elderly people) and bicycles
- (3) Making sure that everyone fastens their seatbelts and that child seats are properly used

We also conduct traffic safety training at the head office for members of the sales and service divisions and other employees who drive company vehicles.



Traffic safety training



Handing out year-end traffic safety leaflets

**Cooperation with Safety Training and Emergency Drills for Police Department Personnel**

The Yokosuka Works provided cooperation for personnel of the Kanagawa Prefectural Police, the Taura Police Department, and the Uruga Police Department who are members of Emergency Management and Countermeasures Departments through safety training and emergency drills. We also offered the use of our Safety Training Center.

The drills covered a wide range, including rescue drills using vehicles for high-lift work, experiential training about electric shock, practice in using chain hoists in scenarios for rescue of people trapped under collapsed structures, practice in using jacks in scenarios for rescue of people trapped under collapsed structures, instruction on dealing with people whose hands get caught up when using motors, experiential training in hanging by a safety harness, instruction in the use of gas cutting torches, and instruction on using forklifts for rescue.

Employees who led the drills were impressed. Some remarked that seeing the trainees work so hard at learning was a learning experience for them, as well, while others observed that the trainees were disciplined and energetic, and left a very good impression.



Drill with vehicle for high-lift work



Experiencing electric shock



Training with jacks

**Cooperation with Blood Donation Drives**

Group collaboration with blood donation drives has continued over many years, and for our employees, this is the social contribution activity they feel most familiar with. In fiscal year 2012, a total of 1,107 Group members donated blood.

Sumitomo Heavy Industries Marine & Engineering Co., Ltd. was recognized for its many years of cooperation with blood drives by the Japan Red Cross, which presented it with a Silver Border Letter of Commendation. The Sumitomo Heavy Industries Group is committed to continuing these efforts with lifesaving blood donation drives.



A blood drive under way



An award ceremony