

SWS Group Environmental Report 2005



Issued by:
Kaoru Ishida, General Manager, Environmental Control Dept., Sumitomo Wiring Systems, Ltd.

Contact:
Comments or questions about this Environmental Report should be submitted to the Environmental Control Dept. Of Sumitomo Wiring Systems, Ltd. (person in charge: Shinkichi Miwa, Yokkaichi Group)
Telephone: (81) 593-54-6374
Facsimile: (81) 593-54-6424

This Report can also be read on our home page
(<http://www.sws.co.jp/>).

Cover design
Lines in various colors express a variety of environmental preservation activities by SWS Group's divisions, and also express streams of clear atmosphere and beautiful rivers, which are the fruits of these activities. This cover is designed based on an image where environmental preservation activities spread all around the world, as if they robe the Earth in greenery, and these activities develop into a wave of harmony with the whole of society, and this wave stretches out toward the attainment of an affluent society.



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Connect with the Best



Sumitomo Wiring Systems, Ltd.

Message from the President

Since its inauguration, the Sumitomo Wiring Systems Group (SWS Group) has been striving to be the best supplier, with the most appropriate response to customer requests worldwide.

The SWS Group has 77 companies in 27 foreign countries as of the end of March this year, and we will unite all of the group's forces on future challenges under the slogan of "Global 20" aimed at achieving a global market share of 20% by 2010.

Amidst our business activities on a global scale, the SWS Group will continue efforts to preserve a healthy and balanced global environment, focusing on "global warming prevention," "resource circulation," and "pollutant emission prevention," based on our fundamental policy of "implementing business activities to create an affluent society with full consideration to environmental preservation."

In order to contribute to the reduction of the global environmental load, we will maintain and enhance the ISO 14001 environmental management system, and perform environmental preservation activities on a company-wide scale with all employees involved, aiming at the improvement of environmental management.

The following details our commitment to environmental activities:

- We will conduct environmental management benchmarking for all our bases throughout the world, not only in Japan, to improve the group-wide level and to further enhance our structure.
- We will enhance our environmental evaluation system to reduce environmental load, and we will increase the number of environmentally friendly "eco-marked products" supplied to the market, through close collaboration with operation divisions, beginning at the product design and development stage.
- We will make efforts to prevent global warming and reduce CO₂ emissions according to the Kyoto Protocol, through activities performed by Special Environmental Subcommittees for related fields, such as product development and design, procurement, and logistics.
- We will take action toward a new target "eliminating external emissions of industrial waste," in addition to continuous action toward eliminating emissions of landfill waste ("zero emission"), in order to reduce total waste emissions.
- To coexist with the local community as "a global citizen member," we will actively move ahead with information disclosure through the introduction of environmental reports and environmental accounting. In addition, we will promote the invitation of our suppliers, and local residents in neighboring areas, to the SWS Group's exhibitions, and actively encourage participation in volunteer activities and presentations at external environmental events.

The SWS Group will continue and expand activities on a global scale, involving the overseas group companies, aiming at the improvement of environmental management. We would be pleased if you would send any comments and suggestions after reading this Environmental Report 2005.



President and Chief Executive Officer
Tadashi Shimokawa

Editorial Policy

Sumitomo Wiring Systems and its group companies have been engaged in a variety of business activities in order to attain a sustainable society. Since 2001 we have released environmental reports every year to move forward with information disclosure.

This report describes the current state of our environmental action as part of our business activities, and the challenges we are currently confronting.

Based on comments and suggestions given so far, we improved the descriptive style wherever possible to make it easier to understand.

We made a special effort to review the edited contents of environmental accounting and disclose overseas environmental information.

■ Reference guidelines

- "Environmental Report Guidelines (Fiscal 2003 Version)" by Ministry of the Environment
- Environmental Accounting Guidelines (Fiscal 2005 Version)

■ Target

Target period: Fiscal 2004 (April 2004—March 2005)

Target organization: Sumitomo Wiring Systems, Ltd. and its group companies (seven companies in Japan)

■ Difference from fiscal 2003 version

No increase/decrease at sites in Japan

■ How to access environmental reports and brochures

SWS website: <http://www.sws.co.jp/>

Executive Editor /

General Manager of Environmental Management Dept.: Kaoru Ishida

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Fiscal 2004 Activity Highlights

With a view to promoting the development of environmentally friendly products, we built a “certification system for environmentally friendly products,” and established our original “eco-mark” in March 2005, which was selected from suggestions invited from the SWS Group’s employees and is to be labeled on certified products. In May 2005, we stipulated certification criteria and set up a Special Environmental Subcommittee for Products, as a body for promoting this certification.



SWS Group's eco-mark

▶ P.11

We established “Green Procurement Guidelines” in August 2004 and transferred these guidelines to SWS group’s suppliers of raw materials, components, packing materials, etc. We conducted supplier investigations on the progress of building environmental management systems and the status of inclusion of controlled chemical substances in their products. Based on investigation results, we provided support or guidance to a supplier where required.



▶ P.14

As a measure for reducing greenhouse gas emissions, the Ibaraki Electric Wire Works introduced a cogeneration facility and began full-scale operation of this facility from April 2004.



▶ P.17

As a logistic measure for reducing CO₂ emissions, we applied modal shift to a larger area. Part of the freight between Yokkaichi and Tohoku was transferred to transportation by train, 20,000 ton kilometers per month were transferred from truck to rail freight.



▶ P.17

- In November 2004, we achieved “zero emission” of landfill waste in all areas of operation, including group companies.
- The Suzuka Plant introduced a wire drawing lubricant waste evaporator, resulting in a reduced amount of waste produced.

▶ P.18,19

- Risk management
- Establishment of a system to control substances of concern
 - Water preservation measure: Primary water storage tank at Suzuka Plant
 - Introduction of soil pollution investigation at all sites for commencement of reexamination
 - Release of Compliance Manual
 - Release of Personal Information Protection Manual

▶ P.15, 22, 23

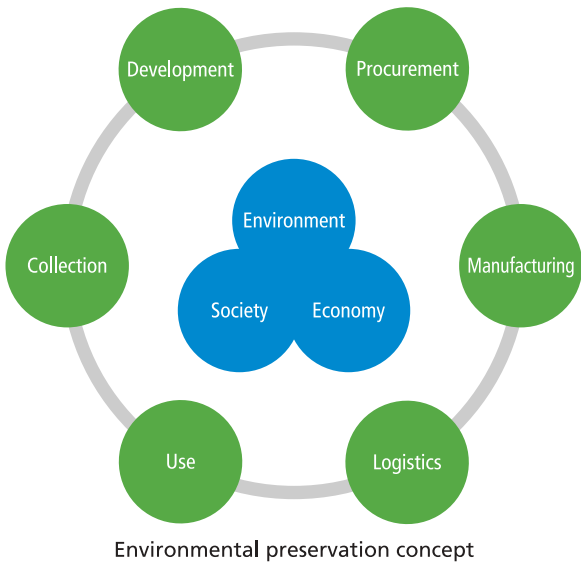
Environmental Management

Environmental Management

Pursuing a “Future Corporation We Should Be”

We have sought a “future corporation we should be,” by assuming what contribution or products we can provide in 2007 for society, community, and customers, through corporate activities.

Exercising imagination at all stages from development and design, through procurement, manufacturing, logistics, use, and collection, we decided to promote actions as described in the next section, aiming at the attainment of a sustainable society. In fiscal 2005 we are performing actions according to “Challenge-Eco 21” that was established in fiscal 2003 for reducing environmental load, chemical substances, and the level of pollution risk in the company’s business.



Maintaining Slogan “Eco-activities by All Members”

In order to reduce environmental load at all stages of corporate activity, we formulated environmental visions and the company-wide environmental preservation activity “Challenge-Eco 21,” and we are presently taking priority actions to achieve the targets for these visions and activities.

Our major products are automotive components. To meet the requirements of the End-of-life Vehicle Recycling Law enforced in January 2005, we consider recyclability from the development and design stage, and are working towards making it a rule to incorporate environmental impact evaluation and LCA in design activity.

Specifically, we are developing products with less load on the environment, through the development of eco-certified products, design of wiring harnesses that can be easily removed from an automobile, and development and selection of materials which contain no harmful substances.

We will further advance green procurement for materials and components procured externally. We held explanatory meetings for the suppliers in our supply chain, to ask them to aggressively promote green activities according to our guidelines. This helps us select better suppliers.

For global warming prevention, we have made efforts in energy saving to cut down the amount of greenhouse gases produced during manufacturing. The emphasis has not only been on saving energy for peripheral equipment, such as lighting and air-conditioning equipment. We are also progressing with further reduction of unit requirements for the manufacturing

process, and further miniaturization of products.

Greenhouse gas emissions due to logistics within Japan accounts for approximately 30% of the amount of greenhouse gasses discharged from our sites, including group companies, in Japan.

In order to decrease this ratio, we have worked for several years on the improvement of transportation efficiency, optimization of delivery routes, the best allocation of logistics bases, and the introduction of modal shift.

Reduction of greenhouse gas emissions and restricted use of harmful substances are important when our products are used in the market, and therefore we are taking action for weight reduction and green procurement at the design and development stage.

At the collection stage, we are supporting recycling facilities to identify any problem with automobile disassembly, not solely developing wiring harnesses designed to be easily removed from an automobile.

● Environmental actions by overseas group companies

We decided to begin, in fiscal 2005, the full-scale management of environmental data (energy, waste), status of compliance with laws and regulations, and status of harmful substance control, with respect to 11 group companies in six countries, most of which are manufacturing bases that are consolidated subsidiaries.

Environmental Preservation Policy

The SWS Group shall implement business activities to create an affluent society with full consideration to environmental preservation.

Action Guidelines

1. Make efforts to develop and improve eco-technology (also known as green engineering) in every field of product planning, development, design, manufacturing methods, production, logistics, usage, and disposal, aiming at product manufacturing with consideration to influence on ecosystems and the protection of resources.
2. Determine self-imposed restraints to reduce the impact on the environment, in addition to observing environmental regulations by the government, local public bodies, and other organizations.
3. Conduct an environmental audit or similar to check the progress of environmental preservation plans and the health of job performance in order to maintain and improve the level of environmental management.
4. Improve environmental awareness in the SWS Group, including overseas sites, and promote environmental preservation activities through communication with local communities.

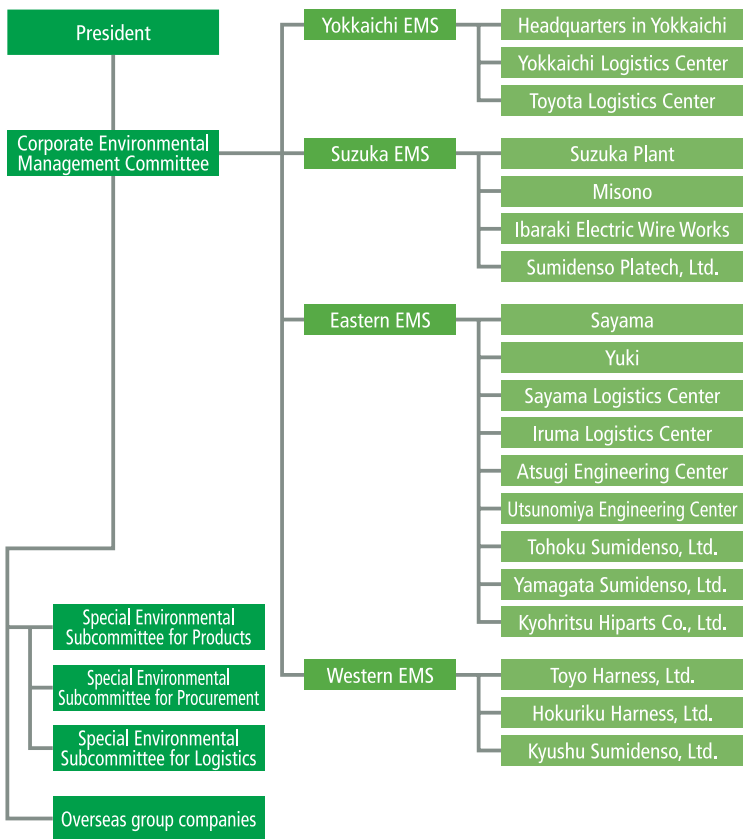
The above are basic rules effective from July 1, 1995.

Operation System for Environmental Preservation

In fiscal 2004, we reviewed the system used to operate the environmental management system, and we promoted the transfer of company-wide environmental targets.

Six conventional EMS subcommittees were reorganized into four EMS subcommittees in fiscal 2005 to consolidate communication routes.

Five working groups, which had existed until the end of the previous year under the former Environmental Subcommittee, were reformed into three divisions: a Special Environmental Subcommittee for Products, Special Environmental Subcommittee for Procurement, and Special Environmental Subcommittee for Logistics. It is intended to use these special subcommittees to promote the certification of environmentally friendly products, enhance green procurement, and improve logistics. These activities will encourage the increase of eco-marked products, the spread of LCA, and assurance of green procurement. In addition to these, we will review forms of transportation and delivery, provide guidance to our carriers, and expand modal shift, in order to reduce CO₂ emissions due to transportation, with the aim of creating a system that can accelerate achievement towards the target.



Challenge-Eco 21

SWS Group's Environmental Performance Program (Challenge-Eco 21)

In fiscal 2003, the SWS Group formulated an environmental performance program covering the period from fiscal 2003 to 2007. In accordance with SWS Group's visions for environmental preservation, this program specifies targets for reduction of environmental load and targets to be achieved for sustainable management, at the development & design, procurement, manufacturing, logistics, and use & collection stages, respectively.

SWS Group environmental performance program(Challenge-Eco 21)			Targets for FY2005	Targets for FY2007
Manufacturing	Prevention of global warming	Reduction of CO2 emissions	5% reduction compared to FY2000	7% reduction compared to FY1990
	Waste	Reduction of total waste emissions	2% reduction compared to FY2004	10% reduction compared to FY2001
Procurement	Green procurement	Application and establishment of procurement standards	Support for building E.M.S. for suppliers	Building E.M.S. for suppliers
	Reduction of chemical substances	Promotion of chemical substance investigation	Application of investigation for suppliers	Use of investigation results for supplier selection
Products	Chemical substances	Disuse or restricted use of chemical substances	Promotion of use of substitute for hexavalent chromium for rust proofing	Establishment of chemical substance control as part of design control
Development, design	Product development	Formulation of certification standards for environmentally friendly products, and certification of products	Implementation of certification system for environmentally friendly products	Certification for a minimum of one product per year
Use, collection	LCA	LCA calculation and analysis	Use of LCA as an item of environmental assessment of products	Establishment of LCA as an evaluation item during environmentally friendly product development
	3R	Improvement in ease of recycling	Use of LCA as an item of environmental assessment of products	Establishment of 3R as a product development assessment item
Logistics	Prevention of global warming	Reduction of CO2 emissions due to transportation	Further promotion of modal mix	7% reduction compared to FY2003
	3R	Promotion of the reuse of containers	Increase in use of plastic boxes	70% or more ratio of containers other than cardboard boxes in 2005

E.M.S. : environmental management system

“Challenge-Eco 21” Activity Results in FY2004

In fiscal 2004, we achieved targets for nine out of a total of 10 items. The level of reduction of CO2 emissions was satisfactory at the wiring harness manufacturing sites, but not satisfactory at the wire and component manufacturing sites due to production increases. Unfortunately, we did not achieve the target for cogeneration introduction. We were able to achieve the target for fiscal 2007 for waste emissions early, owing mainly to a decrease in the amount of packing materials. Green procurement greatly advanced with further application of the guidelines and the progress of a project aimed at taking measures for controlled chemical substances. In the product development field, the eco-mark and the LCA technique are established, encouraging the development of environmentally friendly products. In addition, modal shift was applied to a larger area to prevent global warming caused by logistics.

SWS Group environmental performance program (Challenge-Eco 21)		Target for FY2004	Result of activities in FY2004	Details of activities in FY2004
Manufacturing	Prevention of global warming	●Reduction of CO2 emissions	●5% reduction compared to FY2000	16% increase compared to FY2000 14% reduction in unit CO2 emissions in terms of sales (CO2 / 100 million yen)
	Waste	●Reduction of total waste emissions	●2% reduction compared to FY2003	12% reduction compared to FY2003
Procurement	Green procurement	●Holding explanatory meeting on procurement standards, and application of these standards	●Attitude survey for material suppliers	●Holding explanatory meeting, implementation of supplier evaluation ●Release of Green Procurement Guidelines ●Holding explanatory meeting, analysis of environmental investigation reports
	Reduction of chemical substances	●Promotion of chemical substance investigation	●Investigation of actions taken for controlled chemical substances	●Implementation of investigation Promotion through project aimed at taking measures for controlled chemical substances
Products	Chemical substances	●Disuse or restricted use of chemical substances	●Disuse of lead in bulb glass and protective paint ●Promotion of use of substitute for hexavalent chromium for rust proofing	●Complete elimination of lead ●Start of change to materials without hexavalent chromium ●Implementation of change to lead-free materials ●Start of change to new materials to be substituted for hexavalent chromium (yellow, white)
Development, design	Product development	●Formulation of certification standards for environmentally friendly products, and certification of products	●Formulation of certification standards, and implementation & establishment of certification committee	●Formulation of draft certification standards (issued on May 2005) Establishment of “eco-mark” to be labeled on certified products
Use, collection	LCA	●LCA calculation and analysis	●Introduction and establishment as a technique for environmental assessment of products	●Incorporation in draft standards for environmental assessment of products (issued on May 2005) Building database for wiring harnesses LCA
	3R	●Improvement in ease of recycling	●Commercialization of easily removable wiring harnesses	●Commercialization completed Development of easily removable belts and ground terminals for recycling
Logistics	Prevention of global warming	●Reduction of CO2 emissions due to transportation	●Promotion of modal mix	Increase in JR freight transportation for Tohoku district Improvement of transportation management Improvement of transportation control system, and installation of on-board sensors
	3R	●Promotion of the reuse of containers	●Increase in use of plastic boxes	Ratio of 70% for substitution of plastic boxes Change from cardboard boxes to plastic boxes

Environmental Accounting

In order to enhance the efficiency of environmental management, environmental preservation costs and effects are analyzed, managed, and indicated as an environmental index, and the information is disclosed to the public as part of our environmental communication activities. Regarding environmental accounting for fiscal 2004, we calculated total environmental preservation costs using the data from eight companies, including group companies in Japan, based on the “Environmental Accounting Guidelines (Fiscal 2005 Version)” issued by the Ministry of Environment. Using the same technique, we calculated a budget for environmental costs for fiscal 2005. From this fiscal year, the environmental preservation costs and effects sections in the previous report have been integrated into “Transition of summary data on environmental accounting over recent three terms,” which enables multilateral comparison of these costs and effects.

● Results of environmental preservation costs for FY2004

Category	Result of FY2004		Main use
	Investment	Costs	
1. Costs incurred in operation areas	681,023	168,881	
Pollution prevention cost	82,632	23,115	Installation of digestion tanks & water storage tanks, effluent maintenance & control
Global environmental preservation cost	525,080	3,981	Introduction of cogeneration facilities, measures for energy saving (air condoning, lighting)
Resource circulation cost	73,311	141,785	Wire drawing lubricant waste evaporator, recycling and waste disposal
2. Cost for upstream & downstream processes	0	618	
3. Management cost	40,973	292,131	Greening, maintenance & management for ISO 14001
4. R & D cost	5,800	1,395	
5. Social activity cost	0	698	
6. Cost for environmental damage	0	0	
Total	727,796	463,723	

Total environmental preservation costs increased by 25% compared to those in fiscal 2003, with an 83% increase in investment. The main use was the introduction of cogeneration facilities for global environmental preservation. Although we did not actually invest in this introduction, because this was an ESCO (Energy Service Company) business, we included the amount required for equipment investment for this ESCO business.

● Budget for environmental preservation costs for FY2005

Category	Budget for FY2005		Main use
	Investment	Costs	
1. Costs incurred in operation areas	201,000	150,000	
Pollution prevention cost	55,500	21,000	Repair of digestion tanks, upgrading of forklifts, effluent maintenance & control
Global environmental preservation cost	97,500	4,000	Measures for energy saving (air condoning, lighting)
Resource circulation cost	48,000	125,000	Wire drawing lubricant waste evaporator, recycling and waste disposal
2. Cost for upstream & downstream processes	0	10	
3. Management cost	22,700	315,000	Greening, maintenance & management for ISO 14001, eco-data system
4. R & D cost	0	1,400	
5. Social activity cost	0	700	
6. Cost for environmental damage	0	0	
Total	223,700	467,110	

The budget for total environmental preservation costs has decreased by 42% compared to actual costs for fiscal 2004, with a 69% decrease in investment. This decrease was mainly the result of there being no large investment in equipment such as cogeneration facilities intended for global environmental preservation. The main uses are the employment of wire drawing lubricant waste evaporators, repairs of digestion tanks, upgrading of forklifts, and the building of an eco-data system.

● Transition of summary data on environmental accounting over recent three terms

		Term before previous FY 2002	Previous term FY 2003	Current term FY 2004
Environmental preservation costs (unit: million yen)	Investment	310	397	727
	Cost	509	559	456
Environmental performance index for effects of environmental preservation (When figure for FY2002 is assumed be 100.)	Total energy input	100	100	110
	Water resource input	100	101	98
	Greenhouse gas emissions	100	100	118
	Amount of specified chemical substances discharged/transferred	100	92	94
	Total emissions of waste etc.	100	88	78
	Total effluent volume	100	101	98
	Total environmental load (CO2) / Sales	100	95	97
Total environmental load (waste) / Sales		100	84	68

Total energy input, which is regarded as an absolute value, and greenhouse gas emissions, increased due to an increase in production volume and change in production items. Waste emissions decreased by 22% compared to fiscal 2002, achieving the “Challenge-Eco” target. We have traced figures calculated from “total environmental load (CO2) / sales” and “total environmental load (waste) / sales,” as indexes to evaluate environmental efficiency, and the calculated indexes have decreased, showing that efficiency has been on the rise.

Material Flow

The following indicates details of environmental load, caused in fiscal 2004 by Sumitomo Wiring Systems and its group companies in Japan. We have traced inputs and outputs at the procurement, manufacturing, and shipment stages to make environmental preservation activities effective.

- Inputs** The increased volume of automotive wire and component production also increased raw material input, resulting in a growth in energy consumption. Water consumption was slightly reduced by advancement in cyclic use.
- Outputs** CO2 emissions increased considerably. Total waste emissions were reduced through promotion of “zero emission” activities.

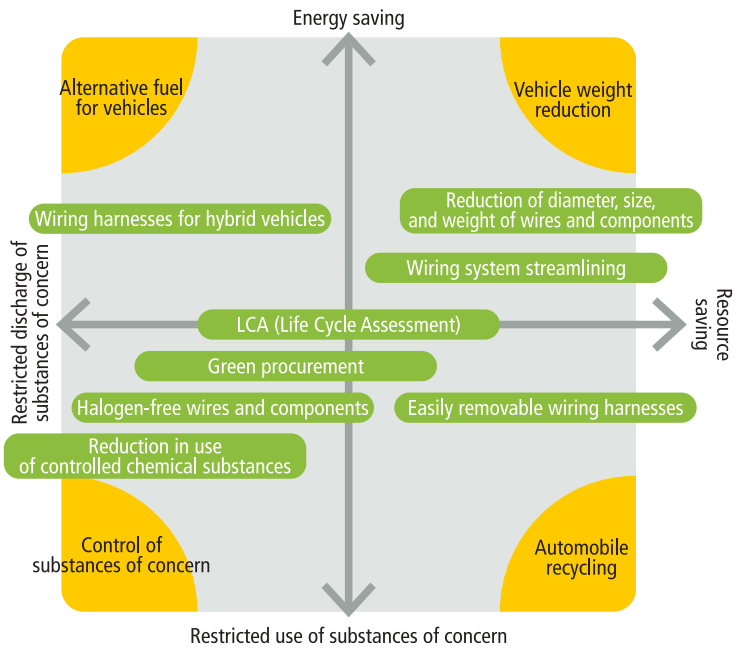


•Percentages in () indicate the ratios of increase/reduction when compared to figures for the previous year.
 •CO2 emissions due to transportation were calculated from fuel consumption.
 •Please see page 32 for the scope of data calculation.

Design

Design Concepts

We believe that supplying environmental friendly products to customers is very important for the promotion of global environmental preservation activities. To supply such products, environmentally friendly elements need to be incorporated in products at the design and development stage. The SWS Group defined “standards for environmental assessment of products” and built a “certification system for environmentally friendly products,” in addition to organizing a Special Environmental Subcommittee for Products, as a body for promoting the development and certification of these products, under the Corporate Environmental Management Committee. The major products of our group are automotive wiring harnesses and electronic components. The diagram on the right shows the relationship between keywords and environmentally friendly actions at the design and development stage.

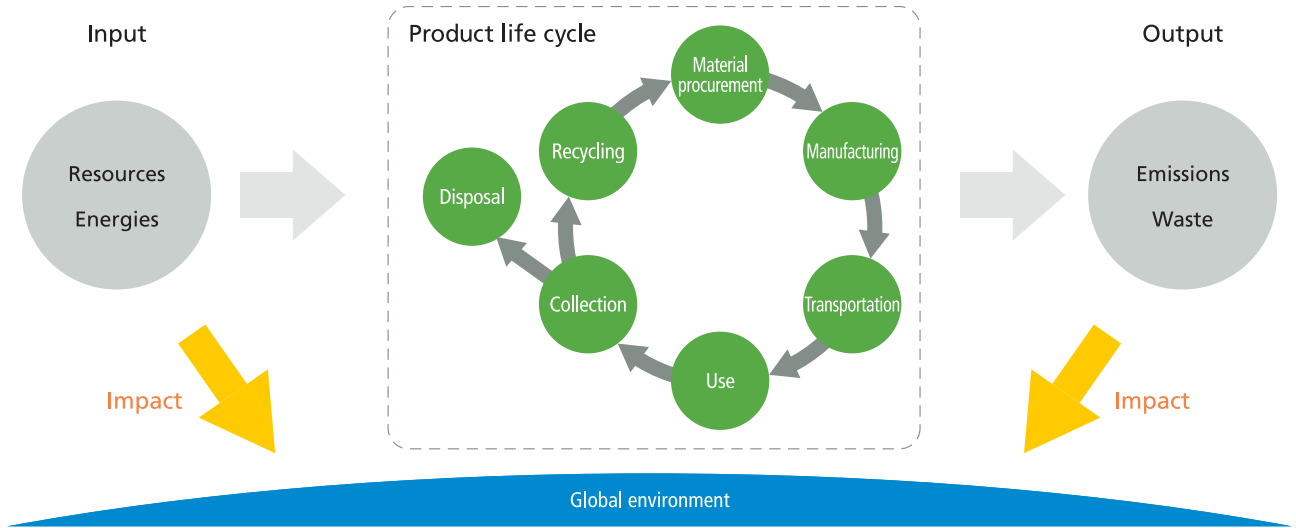


LCA (Life Cycle Assessment)

As a technique to assess environmental load given by a certain product, we practically employ LCA (Life Cycle Assessment). LCA is a method to quantitatively evaluate the input of resources and energies and the output of discharged substances of concern, including CO2, during the process through raw material mining, material manufacturing, product assembly, logistics, use, and disposal after reuse and recycling. We organized an LCA study group with the purpose of in-house expansion of LCA knowledge and practical use for

product design and development. This group provides seminars on a regular basis and performs maintenance of the database on energies (electric power etc.) required for manufacturing, processing, and assembly of wiring harnesses or their components. This group is currently promoting the use of LCA when calculating the amount of CO2 etc. discharged until the manufacturing stage, and is also promoting the use of calculated values for product design and manufacturing with consideration to the environment.

LCA conceptual diagram

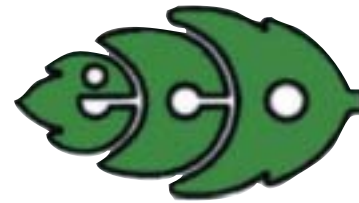


Design

Certification System for Environmentally Friendly Products

In May 2005 we began a “certification system for environmentally friendly products,” with a view to furnishing environmental information on our products to the market, as well as promoting development of environmentally friendly products to proceed with global environmental preservation activities company-wide. In accordance with ISO 14021 (JIS Q 14021) “Environmental labels and declarations—Self-declared environmental claims (Type II environmental labeling),” we selected the environmental claims described below, for certifying an environmental friendly product. With this, we organized the Special Environmental Subcommittee for Products under the Corporate Environmental Management Committee, intended to promote the development and certification of environmentally friendly products, and this subcommittee began operating in May 2005.

We award our original “eco-mark” to a certified product, and clearly indicate this mark on the product itself, catalogs, technical data, etc., in order to declare that this is an environmentally friendly product. This “eco-mark” was established in March 2005 and was selected from invited suggestions from the employees of the SWS Group.



SWS Group's eco-mark



Special Environmental Subcommittee for Products

Environmental Assessment of Products

We mandated the environmental assessment of a product, for this product to be certified as an environmentally friendly product. The environmental assessment of a product is regarded as evaluation for determining whether a product has been planned and designed so that this product has less environmental load throughout its life stages, from raw material procurement, through manufacturing, logistics, use, and disposal. The items described on the right are to be applied to the product itself, container, and packing material, respectively, and the implementation of LCA is basically required.

In May 2005, we established standards for environmental assessment of products.

●Evaluation items in environmental assessment of products

1. Resource saving
2. Restricted use of substances of concern
3. Life extension
4. Ease of reuse
5. Ease of recycling
6. Ease of disassembly
7. Reduction of environmental load during production
8. Reduction of environmental load during disassembly
9. Reduction of environmental load during disposal

*Items 1, 2, 5, and 9 are applied to containers and packing materials.

Environmentally Friendly Products

Major Environmentally Friendly Products We Have Developed

●Halogen-free wire for automobiles

As part of making automobiles less harmful to the environment, we developed ISO halogen-free wires (hereinafter referred to as HF wires) that use polyolefin resin in place of conventional PVC.

As there are no halogen compounds in the insulation, HF wires do not emit halogenated gas during combustion. This facilitates thermal processing for collection and recycling, and enables reduction of the volume of buried dust. HF wires conform to international ISO standards, and have a smaller diameter than conventional wires (by approximately 20%).



●Flat harnesses for automobiles

We have developed and are currently producing wiring harnesses that use a thin and light FFC (flexible flat cable). This produces a maximum 70% reduction in weight and reduction in wiring space.



●Wiring harnesses for hybrid vehicles

We manufacture wiring harnesses for motor circuits used in hybrid vehicles.

In addition to using halogen-free wires wherever possible, we provide a structure where wires are braided and shielded together in order to facilitate processing and to prevent electronic parts on the route from being affected by electromagnetic noise.



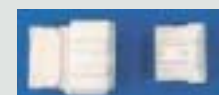
●Compact connectors

We have pursued the development of smaller and lighter connectors to reduce the weight of a wiring harness and decrease wiring space required.

Compared to a conventional connector, a new connector achieved approximately 45% reduction in space and 30% reduction in weight.



Conventional connector



New connector

Environmentally Friendly Products

Major Environmentally Friendly Products We Have Developed

● Easily removable ground terminals

To enhance ease of wiring harness disassembly, we limited the load required to separate ground terminals from collected wiring harnesses, to 500 N or less. This makes it easier to remove wiring harnesses from a vehicle.



When crimped



When separated

● Lead-free solder for electronic boards

We have promoted the elimination of hexavalent chrome from rustproof screws, elimination of cadmium from printing ink, and adopted lead-free solder, in order to reduce the amount of controlled substances used in electronic boards.



● Connectors not requiring solder

We developed a terminal that enables electrical connection by press-fitting alone, as solder was conventionally required for electrical connection between PCBs and connectors. This press-fit terminal reduced the amount of solder used to zero.



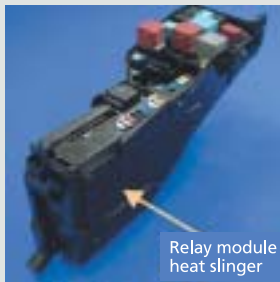
● Relay boxes

There is a demand for more compact relay boxes mounted in an engine compartment, in order to ensure advanced functions of in-vehicle electrical devices and increased passenger comfort.

In our efforts to make relay boxes more compact, we enhanced heat radiation when placed in an engine compartment, and developed a world's first relay module that has relays mounted on the surface of a printed circuit board.

The surface-mounted relays on the relay module achieved a 52% reduction in volume when compared to conventional plug-in relays.

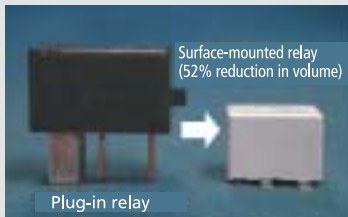
This development allowed one relay box to incorporate parts that had been previously incorporated in another relay box, resulting in 35% reduction in size and approximately 42% reduction in weight when compared to conventional components attached to a vehicle of the same size.



Compact relay box



Relay module



Surface-mounted relay

Procurement

Environmentally Friendly Actions in Material Procurement

The SWS Group has promoted “green procurement” for procuring raw materials and components, and “green purchasing” for purchasing consumables such as office and stationary supplies and OA appliances. This is part of activities aimed at disuse/reduction of substances of concern.

● Green procurement

The EU ELV Directive* and RoHS Directive** represent laws and regulations that define the rules for disuse/reduction of substances of concern used in raw materials, components, packing materials, or consumables. To assist suppliers, we present them with the “Green Procurement Guidelines” (established in August 2004) to encourage suppliers to work enthusiastically on environmental preservation activities, which include actions for compliance with the rules specifying the non-inclusion of lead, hexavalent chromium, mercury, cadmium, etc., which are banned substances according to the above directives.

In addition to requesting actions concerning banned substances, we present suppliers with the requirement that they have acquired ISO 14001 or equivalent certification from an outside organization for their environmental systems, or that they are performing effective and systematic activities for environmental preservation.

We evaluated the state of environmental actions by the suppliers, and provided requests and support for environmental preservation activities to suppliers rated C or D after evaluation.

● Green purchasing

To achieve the Environmental Preservation Policy defined in the basic environmental management rules, we established the green purchasing rules for office and stationary supplies and office appliances used in general operation, and we are promoting the preferential purchase of eco-labeled products, Energy Star labeled products, for example.

*EU ELV Directive End of Life Vehicle Directive (EU Directive)

**RoHS Directive Restriction of Hazardous Substances Directive (EU Directive)

Introduction of low-emission vehicles

We have even applied a green procurement policy to company vehicles to contribute to an increased ratio in the introduction of low-emission vehicles.

There is a dealer introduction system in-house for employees planning to purchase a vehicle for personal use. We are presently considering the preparation of a brochure, and the creation of an incentive system, to encourage the purchase of low-emission vehicles by our employees.

● Ratio of low-emission vehicles in company vehicles

Hybrid vehicle	2005 standard		2000 standard			Vehicles other than low-emission type
	4-star vehicle	3-star vehicle	3-star vehicle	2-star vehicle	1-star vehicle	
9	13	15	49	55	36	109
3.1%	4.5%	5.2%	17.1%	19.2%	12.6%	38.1%



● CO2 emissions (calculated from fuel consumption)

826 tons CO2

Control of Substances of Concern

It is important to decrease environmental load in products to reduce adverse impact on ecosystems caused at the disposal stage. The SWS Group specified substances to be banned in products in Japan and overseas, and then established a system to stringently check and control the use of substances of concern contained in components or materials.

Control of Substances of Concern in Products

In response to the ELV Directive and RoHS Directive, the following actions were commenced by the procurement, design, manufacturing, inspection, and assurance departments, respectively, in order to control substances of concern contained in products.

1. Clarification of roles of each in-house department and group company
2. Control system building
3. Supplier audit and guidance
4. Design control
5. Product assurance
6. Support for group companies

● System for controlling substances of concern

As a tool to control substances of concern, we introduced a system that allows us to retrieve data using a database, prepare a range of materials, and conduct consolidated management.

1. Control of contents of SWS-specified substances of concern (approximately 1,500 substances), which are contained in products, components, or materials
2. Management of conformance to customers' regulations
3. Support for customers' investigation of substances of concern (IMDS*, etc.)
4. Data retrieval under various conditions
 - Specifying a wiring harness product number identifies a substance of concern contained in this wiring harness.
 - Specifying the name of a substance of concern retrieves the product number of a wiring harness that contains this substance.
 - Specifying the name of a regulation/customer and the expiration date of a regulation retrieves the name of a substance of concern beginning to be regulated for use after an exemption period.

*IMDS International Material Data System (global database on materials used in automotive components)

● X-ray analysis system

Using a fluorescent X-ray analyzer (refer to photograph, upper-right section), we analyze four ELV substances (lead, mercury, hexavalent chrome, and cadmium) and bromine contained in components, wires, or materials. We manage analysis data.

● Supplier audit and guidance

For audit and guidance, we conduct a reliable check for the suppliers' use of substances of concern contained in their components, wires, or materials, according to the check sheet below.

5. Evidence of non-inclusion of substances of concern in products delivered to SWS (substances in this sections refer to 5 substances: lead, mercury, sexivalent chrome, cadmium, and bromine.)	
1) When delivering initial products, check that you have evidence of non-inclusion of substances of concern indicated below, and submit required data to the initial product management dept. [Evidence of non-inclusion of substances of concern] Evidence from Tier2 is data proving contents (wt., %) of 5 substances of concern (composition table, or analysis data etc.)	There is evidence for purchased materials.
	There is evidence for purchased subsidiary materials.
	There is evidence for purchased components.
	Action to be taken when evidence is unobtainable is clear.

Extract from check sheet



Fluorescent X-ray analyzer



Retrieval screen

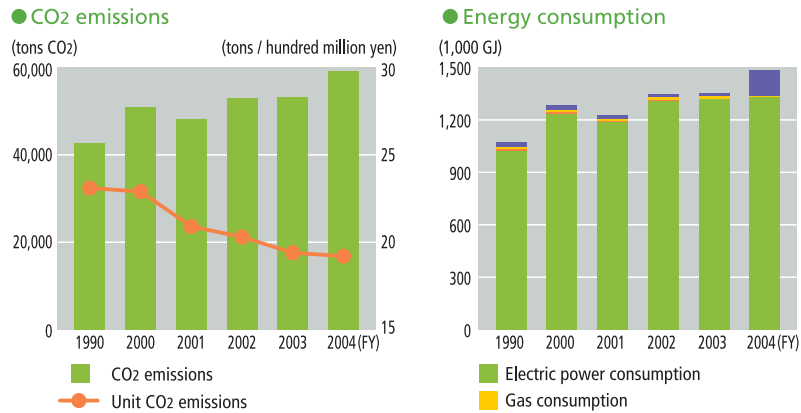
Global Warming Measures

Ratification of the Kyoto Protocol in February 2005 has made clear the obligation to reduce CO2 emissions. Since most of our CO2 emissions are produced from energies, we are taking action to reduce unit energy consumption in the manufacturing process, focusing on energy saving measures.

Transition of Greenhouse Gas Emissions

Target for fiscal 2007 40,000 tons
Target for fiscal 2004 48,500 tons
Result of fiscal 2004 59,300 tons

Our continued efforts towards energy saving resulted in the reduction of over 3,000 tons CO2 cumulatively, achieving a certain level of effect, although production increase in 2004 resulted in the CO2 unit emissions remaining almost the same as the previous year.



● CO2 conversion factor

Quoted from "Results of study on calculation of greenhouse gas emissions" (September 2000) issued by the Environment Agency. Each year we use the same factor to calculate the emissions so that the effects of our global warming measures are clearly understood. The figure for fiscal 2004 includes the effect of cogeneration.

● Energy conversion method

Consumption of each energy source was calculated using a joule conversion factor in reference to "Revision of calorific power table for each energy source" (2001) issued by the Agency for Natural Resources and Energy.

● Measures for reducing emissions of greenhouse gas etc. in air

Air-conditioning equipment	Lighting equipment	Production equipment
Introduction of inverter system for air conditioners	Introduction of inverter system for lighting equipment	Replacement of chillers (electric power → exhaust heat by CGS)
Control of temperature settings for air conditioners	Reduction in number of fluorescent tubes (use of dummies)	Introduction of arcuate rotators with less air resistance
Installation of demand controllers	Change to set time for lighting parking area	Color change without line stop (reduction of standby power consumption)
Reduction in number of air conditioners	Turning off lights in unnecessary places	Change of contract demand
Keeping temperature set within optimum range	Removal of 40 W fluorescent tubes from conveyers	Turning off electric water heaters
Installation of timers for air conditioners	Installation of sensors for automatic lighting control	Use of generator (light oil type) to reduce power consumption
Installation of ice-thermal storage air conditioners	Installation of pull switches for fluorescent tubes	Review of max. air pressure for equipment
Introduction of Lossnay ventilators	Change of switch locations	Introduction of inverter system for roof fans
Installation of circulators		Introduction of inverter system for water pumps
Heat retention by exhaust heat ducts		Introduction of inverter system for compressors
Upgrading to high-efficiency, gas absorption-type cooling/heating machines		Reduction of number of compressors
		Equipment inspection for air leakage, equipment repairs

Energy saving achievements	Air-conditioning equipment (MWh)	Lighting equipment (MWh)	Production equipment (MWh)	Total (MWh)	Reduction effect converted to CO2 emissions (tons CO2)
1998 and before	430	408	389	1,226	463
1999	80	—	—	80	30
2000	31	558	329	919	347
2001	312	41	236	589	222
2002	93	34	1,057	1,184	448
2003	98	12	184	295	111
2004	358	150	4,145	4,653	1,759
Total	1,402	1,203	6,642	9,247	3,495

*Only effects that can be theoretically calculated were gathered.

● 2004 achievements in the use of new energies

Electric power generation by cogeneration energy	14,000 MWh / year
Electric power generation by solar energy	13 MWh / year



Hybrid light using solar light and force of wind
Silicon solar cell: 96 W
Wind power generation: 50 W

Example of Energy Saving Measure

The Oita Plant of Kyushu Sumidenso introduced a hybrid power generated light. Hybrid power generation employs a combination of solar light and wind force, so the capacitance is relatively small, but this light is used practically for lighting the parking area at night.

Global Warming Measures

Improving Energy Production Efficiency to Save Energy

As the Ibaraki Electric Wire Works produces over 20% of the CO₂ emissions from all our sites and group companies in Japan, this plant has played an important role in global warming reduction measures.

In fiscal 2004, marked by the introduction of a cogeneration facility, approximately 500 tons CO₂ emissions were reduced by using exhaust heat for the existing steam boiler, introducing an absorption refrigerator in place of the chiller used to produce coolant and chilled water, and installing a cooling/heating unit for the air-conditioning facility.

Over two years, improvements in production equipment achieved a 3% reduction in CO₂ emissions produced in the manufacture per one-kilometer of wire.

Specific measures for unproductive use elimination include identifying all pieces of equipment still running in non-manufacturing time, to stop unnecessary power usage, and upgrading low-efficiency devices to high-efficiency devices. In addition, loss in the manufacturing process was reduced.

List of measures and effects (examples in fiscal 2004)

1. Replacement of chiller used to produce chilled water (use of exhaust heat by cogeneration)
2. Shortening time that production equipment is stopped
3. Upgrading of compressors and introduction of an inverter system
4. Saving electric power used for wire twisters (reduction in rotator loss)
5. Thermal insulation of plant building (improvement of air-conditioning efficiency)
6. Diagnosis and practice presented during energy saving consulting

● Staff column (Toshio Muto, Ibaraki Electric Wire Works)



At the Ibaraki Electric Wire Works, we were early to promote energy saving activities, including switching to inverter lights, stopping motors when not necessary, introducing an inverter system for air compressors, and controlling pump and fan rotation speeds.

As we had started with cost-effective activities to engage in the continuous improvement required by ISO 14001, measures that can meet cost under the present circumstances were decreasing in number. Therefore, we practically used ESCO business that did not require initial investment, and adopted unit emissions (CO₂ emissions per unit production volume) as an indicator, which allowed us to continue to work on energy saving. We focused on, and promoted, the further efficient operation of production equipment, resulting in achievement of the objective.



Energy data monitoring system



Inverter system air compressor

Logistics Actions to Reduce CO₂ Emissions

We have promoted modal shift to reduce CO₂ emissions due to logistics, and last year we changed a part of transportation between Chubu and Tohoku Districts to JR freight transportation. The total volume of transport, which is indicated in ton kilometer*, slightly increased compared to the previous year, and CO₂ emissions increased accordingly.

Target for 2007 20,151 tons CO₂/year (7% reduction compared to '03)

Target for 2004 20,801 tons CO₂/year (2% reduction compared to '03)

Result of 2004 23,037 tons CO₂/year (6% increase compared to '03)

Actual CO₂ emissions in fiscal 2004 greatly exceeded the target. This was caused by less application of modal shift than scheduled, not only because of a 7.1% increase in transport volume (in ton kilometer) when compared to the previous year.

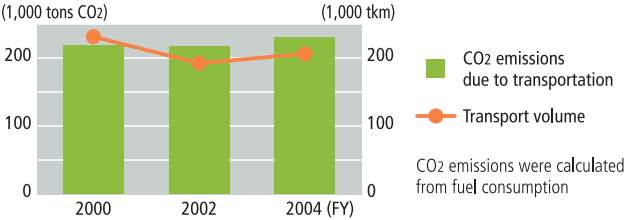
At the initiative of the Special Environmental Subcommittee for Logistics, we will work on the further application of modal shift, review of transpiration routes, and improvement of transportation efficiency, in order to reduce CO₂ emissions.

*ton kilometer One ton kilometer indicates one-kilometer transportation of one-ton freight.

● Modal shift status

Shift to	Section	Time of application	CO ₂ emissions reduced
JR freight	Yokkaichi-Hanamaki (Tohoku)	From Oct. 2004	256 tons CO ₂ /year
JR freight	Yokkaichi-Oita (Kyushu)	From Sept. 1996 to Aug. 2001	257 tons CO ₂ /year
Ferry	Osaka-Oita	From Nov. 1997	348 tons CO ₂ /year
Ferry	Osaka-Oita	From Feb. 1998	521 tons CO ₂ /year

● Transportation results



Waste Reduction Strategies

To pursue the efficient use of limited resources, it is significant to plan fundamental measures before making efforts toward environmental preservation. These measures include the analysis of waste causing factors, promotion of waste sorting and recycling, and review of resource input at the manufacturing stage.

Reduction of Total Waste Emissions

Target for FY2007 5,162 tons

Target for FY2004 5,485 tons

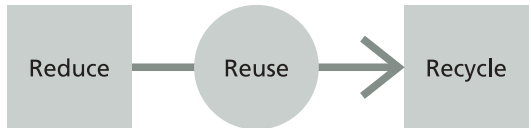
Result of FY2004 4,922 tons

Thanks to efforts exerted at all sites in Japan for elimination of landfill waste ("zero emission"), we have achieved much progress in reducing mainly waste paper and resin, resulting in the achievement of the initial target for fiscal 2007. A large increase in fiscal 2002 indicated by the graph on right, was caused by the addition of a new group company (four sites) in Japan, adding to the scope of the calculation.

In terms of waste classification, we were able to increase the initial 30% ratio of recycled materials to over 95% in fiscal 2004.

We will continue to implement waste reduction actions to achieve future targets, and we are now forming a plan to select a model plant that will have the goal of finding a method to eliminate waste discharge from operational sites.

● Recycling flow (3R)



Achievement of Zero Emission

Through our commitment to "zero emission" activities since 2002, we have been able to achieve the target set for the end of March 2005, ahead of schedule in 2004.

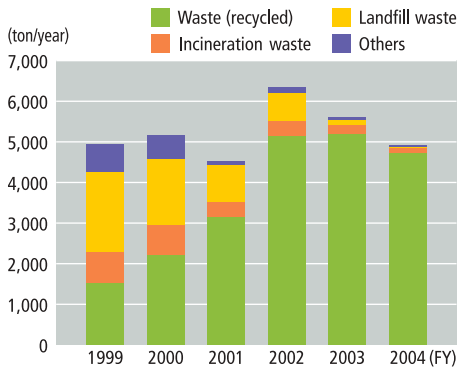
This achievement can be mainly attributed to our intensive efforts in waste plastic sorting, which enabled thermal recycling of waste plastic into fuel materials.

*Definition of "zero emission"

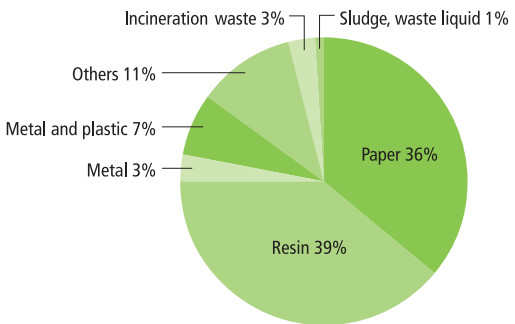
"Zero emission" is defined as a state where the amount of landfill waste is reduced to 0.5% or less of total waste emissions in weight, and the landfill disposal column is deleted from the waste sorting sheet.

The value to be controlled includes the amount of general waste, but does not include the amount of residue after incineration.

● Transition of waste emissions



● Ratio by waste type



Division	Bases and group companies in Japan	Time of achievement
SWS site	Headquarters, Yokkaichi	July 1, 2003
	Yokkaichi Logistics Center	July 1, 2003
	Toyota Logistics Center	Feb 2, 2004
	Suzuka Plant	July 1, 2003
	Misono	July 1, 2003
	Ibaraki Electric Wire Works	July 1, 2003
	Sayama	July 1, 2003
	Yuki	July 1, 2003
	Sayama Logistics Center	July 1, 2003
	Iruma Logistics Center	July 1, 2003
	Utsunomiya Engineering Center	July 1, 2003
Group companies in Japan	Atsugi Engineering Center	July 1, 2003
	Tohoku Sumidenso, Ltd.	Apr 1, 2004
	Yamagata Sumidenso, Ltd.	Jan 6, 2004
	Hokuriku Harness, Ltd.	Dec 1, 2004
	Toyo Harness, Ltd.	June 24, 2004
	Kyushu Sumidenso, Ltd.	Nov 1, 2004

	Kyohritsu Hiparts Co., Ltd.	June 1, 2004
	Sumidenso Platech, Ltd.	Mar 1, 2004

Waste Reduction Strategies

Manufacturing Process Reviewed to Address Waste Reduction

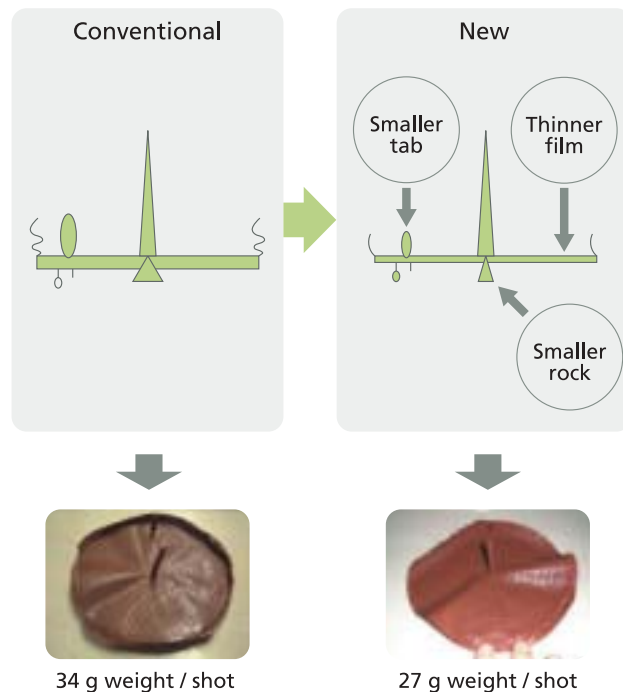
Rubber runner scraps are produced during the manufacturing of wire seals used for sealed connectors of automotive wiring harnesses. These runner scraps could not be recycled and were therefore disposed of as waste.

At Yamagata Sumidenso, the runner scraps account for one third of the amount of unrecyclable waste, so this company, in terms of production engineering, addressed reducing the amount of these scraps as a priority action. After a process of trial and error, a reduction of approximately 20% is now possible.

Currently these runner scraps are recycled into a fuel resource, and the company is continuing efforts to make improvements in terms of manufacturing technology, resulting in a more effective use of resources, by importantly, reducing the amount of raw material input.

● Staff column (Mamoru Ebukuro, Yamagata Sumidenso)

Decreasing runner weight was challenging in terms of production engineering, so we were all united in the work. We enhanced the flowability of materials, made improvements in mold design, and continued trials to make a stable mold to prevent short shots. Although we are engaged in environmentally aware activities on a daily basis, we are very pleased to make such a discernible achievement.



Reducing the Volume of Wire Drawing Lubricant Waste (Introduction of Evaporator)

The Suzuka Electric Wire Works previously employed thermal recycling for wire drawing lubricant waste (hereafter referred to as “the lubricant waste”). The volume of the lubricant waste produced is very large (10 to 15 tons/month), and represented a major challenge in reducing the total amount of waste generation and emissions. As a measure to address this challenge, we decided to introduce a volume reduction system exclusively for liquid waste, as shown in the photograph on the right. With a focus on the fact that water constitutes the majority of lubricant waste (approximately 95%), this system, which is called the “wire drawing lubricant waste evaporator,” was designed to evaporate water by heating, thereby reducing the volume of lubricant waste discharge from the plant as much as possible. Currently the volume can be reduced to up to approximately 30%, and there is an advanced target to be achieved in the near future of 20% or less. A range of safety features, including a shutdown device in the event of earthquake and a boil-dry prevention device, are provided for this evaporator because it has a heater. In addition, this evaporator has an innovative mechanism to prevent oil-containing vapor from being emitted into the air when the concentration of the lubricant waste reaches high levels. The technology for this evaporator will also be introduced at other bases where liquid waste of the same kind is generated.



Wire drawing lubricant waste evaporator

Enlightenment and Education

Providing Continued Environmental Education

In fiscal 2004 we provided a variety of education programs to our employees, as described in the table on the right. In response to changes in ISO standards, we implemented education for EMS personnel in every area, to help them understand these changes.

● Environmental audit

Internal and external audits are conducted to check conformity of business operation to ISO 14001 standards. An audit in fiscal 2004 revealed a minor defect, and we implemented system improvements and other strategies. With the aim of enhancing the quality of internal auditing, we reeducate internal auditors in all areas.

● Training for emergency

Every year, we train employees working at facilities that encompass the “critical environmental aspects” specified in the environmental management system, and we review standards based on the result of this training.

Education program	Education contents	Target	Number of students
General education	General environmental knowledge	New employees etc.	1,055
	Details of EMS activities	Promoted employees	358
Education for internal auditors	Qualification education	Internal auditors	13
	Reeducation	Internal auditors	19
Explanation of new standards	Changes in ISO 14001 standards	EMS personnel	37
Others	Revision education	Employees	1,379
	Follow-up education & advanced education	Employees	107
	Waste sorting	Employees	301
	Education/training for abnormal state	Employees concerned	66
	Education for persons in external organizations	Persons involved in work, etc.	52



Scene of external audit

Enlightenment (Holding Environmental Exhibitions)

It is important that every member, from management to new employees, maintains interest in environmental preservation on a daily basis, in order to promote environmental preservation activities company-wide.

With a view to implementing our slogan “eco-activities by all members,” we hold environmental exhibitions in each area to encourage employees to make efforts toward environmental preservation during their daily routines.

At these exhibitions, we present our environmental preservation actions in each area using panels, display samples of recycled products, introduce environmentally friendly products, and provide environmental lectures.

We opened these exhibitions to local residents, public office staff, and our customers and suppliers, so that people outside the company could gain understanding of our environmental activities. The number of participants who attended our in-house environmental exhibits in fiscal 2004 is indicated in the table.

● Data for in-house environmental exhibition

Division	Number of venues for exhibition	Employees participating	Outside participants
SWS	5	2,984	95
Group companies in Japan	4	1,173	38



Headquarters, Yokkaichi (lecture)



Suzuka Plant (lecture)



Ibaraki Electric Wire Works



Sayama



Yamagata Sumidenso



Hokuriku Harness



Toyo Harness



Kyohritsu Hiparts

Communication

Presentation at Environmental Fairs

As part of environmental communication, we have zealously participated in local environment-related fairs, to gain public understanding of our environmental preservation activities.

- Presentation at “21st Century Leading Industry Exhibition in Mie”
Held in May 2005, with approximately 1,600 visitors
At this exhibition, we demonstrated a virtual assembly system, presented our technologies, including front corners monitoring camera with downward viewer, and introduced our environmental activities.

- Presentation at “Children’s Environment Experience Fair 2004”
Held in August 2004

Other Social Activities

- Support for environmental NPO: Collaboration in “Earth Project 21”
- Collaboration with Azechi River purification association
- Participation in “Grand Yokkaichi Festival”
- Registration on a list of supporting companies that offer their premises as a place of shelter in the Yokkaichi area
- Collaboration in Japan’s Red Cross blood donor program

Gathering with People from Residents’ Association

Local residents visited our environmental exhibition at the Yokkaichi site, giving us valuable comments on:

- Clean-up activities for the area surrounding our premises: Four comments
- Noise from roads and parking area: Two comments
- Activities by Azechi River purification association: One comment

Winning “Environmental Preservation Promotion Award”

Yamagata Sumidenso, Ltd. received the “2005 Environmental Preservation Promotion Special Award,” the second award they have received from the Yamagata Prefecture, followed by the “2003 Environmental Preservation Promotion Award.” As part of a promotion to achieve the goals defined by the Environmental Conservation Conference of Yamagata Prefecture, this award was designed to publicly recognize the pioneering environmental preservation actions of companies and their employees in this prefecture.

Sending Environmental Information

We have published Environmental Reports since 2001, with English versions available from 2003. These reports can be obtained from our website.
<http://www.sws.co.jp/>



21st Century Leading Industry Exhibition in Mie



Children's Environment Experience Fair 2004



Signboard indicating shelter in Yokkaichi area



Grand Yokkaichi Festival



Compliance

Soil Pollution Investigation

Soil pollution has adverse characteristics, which make early recognition difficult. There is difficulty ascertaining an overall picture of the process when the cause is in the past, and there is little hope of spontaneous purification in the short term. Considering costs required for measures and recovery, and in regard to possible damage to the health of people in the neighboring area, we believe soil pollution must be deemed an environmental risk and therefore subject to reliable management.

We investigated the history of use, the amount used, etc., for substances of concern used at our sites that are believed to bear a relatively large environmental load. The investigation was based on production history and other data. We then conducted soil analysis according to the investigation results. From this fiscal year, we expanded the scope of investigation to target the history of the land use before our acquisition, in order to ensure the reliable management mentioned above.

Aerial photo in 1987



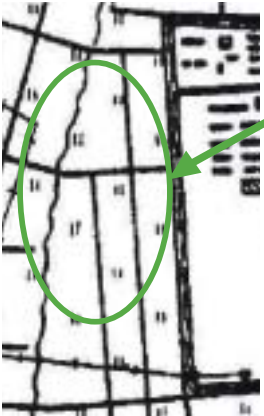
Yokkaichi Logistics Center

Aerial photo in 1947



Other company's housing for employees

Old map (1937)



Dry paddy field

Source: Geographical Survey Institute

Investigation has progressed based on reliable and available material, such as aerial photographs, topographic maps, and copies of registers.

PCB Storage

At SWS and its group companies, waste equipment that contains PCB is stored under strict control. In addition to this, notification, and other processes required by law are also ensured.

There is equipment, such as heavy electrical equipment, which is assumed incapable of having PCB completely eliminated, and presently we are investigating the PCB usage of this equipment. However, it is very difficult to make an early

assessment regarding the status of PCB inclusion in every piece of equipment, because most of the equipment is in operation, and the types, manufacturers, and models of the equipment have barely been identified.

We therefore decided to put the emphasis on pollution prevention, and have strategies in place to stage disuse, so that the use and supply of electric power is not interrupted, while considering control and disposal systems.



Equipment not including PCB



Equipment where PCB inclusion is not checked



Equipment including PCB

Compliance

Compliance

Our continuous activities led by the Compliance Committee set up in 2004 resulted in the appearance of our “Compliance Manual,” which we published in February 2005.

Main contents of this manual are:

1. Employees’ code of behavior
2. Implementing fair corporate activities
3. Being a corporation member with good judgment
4. Creating a work environment friendly to employees
5. Points of concerns in daily work
6. Contact (General Affairs Department)

Aiming to strengthen the confidence of society, we provide compliance education to all our regular and temporary employees, so that every employee fully understands and implements the objectives of compliance.



● Personal information protection

To comply with the Personal Information Protection Law enforced from April 2005, we published a “Personal Information Protection Manual” and provide education to all employees.

Installation of New Water Storage Tank to Prevent Pollution by Effluent Defects

In March 2005 we completed the installation of a “300-ton storage tank for pollution prevention” at the Suzuka Plant. This tank temporarily stores effluent to prevent the external dispersion of defective effluent contaminated with wire drawing lubricant, heavy oil, equipment oil, paint, etc. used within this plant.

Although supply tanks are equipped with oil dykes to dam discharged lubricant or oil, up to the volume of the tank capacity, to prevent leakage into effluent, there is a possibility that the lubricant or oil may flow into effluent if discharged during oiling or from equipment. Previously, there was an oil film detector system used to find oil leakage in a terminal bath within the plant, to prevent defective effluent being discharged from this bath, and to temporarily store it in a 60-ton water storage tank. This 60-ton tank filled in only three hours, so a new 300-ton tank was installed for use with the conventional tank, providing an 18-hour capacity (a pumpage rate of 20 t/h.).

This enabled the complete prevention of contaminated effluent being discharged outside the plant. Contaminated effluent in the pollution prevention tanks will undergo water examination by professionals, and be disposed of by specialists when release is not possible.



Environmental Complaints

Here is our fiscal 2004 report with respect to environmental complaints from third parties, violation of laws or regulations, penalties, accidents, and general complaints, which Sumitomo Wiring Systems, or its group companies, are responsible for. After water examination, there was a request for improvement to our headquarters in Yokkaichi, from the sewage sys-

tem management section of Yokkaichi City. This examination revealed the amount of hexane extract was 8 mg/l, surpassing a regulated value (5 mg/l), so we addressed this request by investigating the cause and implementing temporary and permanent measures (removal of source equipment).

Global Highlights

Contributing to the Local Community and Continuing Efforts in Global Environmental Preservation

Our overseas bases consist of 77 companies in 27 foreign countries as of the end of March 2005. From this fiscal year, we began support for environmental preservation activities by our overseas consolidated companies, tracing data on energy consumption, the amount of waste, etc.

Sumidenso Mediatech (Huizhou), Ltd.



Established: July 2005
Location: Huizhou, China
Business activities:
Manufacture and processing of wiring harnesses for office appliances and on-board devices
Number of employees: 2,600
ISO 14001 certification acquired (January 2002)

In China, the people are unaccustomed to the appropriate sorting of trash before throwing it away in public places, so it is important to thoroughly implement waste sorting within the company. In light of this, we incorporated an outdoor clean-up activity in the new employees’ education program in order to change the employees’ awareness of the environment. The “Kiku Club,” an activity group in our company, invited volunteers from the employees, and about 40 members went to Nankun Mountain, a famous mountain in Huizhou, to perform an environmental clean-up. The members left the company premises by bus at nine Saturday morning, arriving at the destination after a three-hour drive, and all members, including our president, worked industriously, picking up trash to clean up the mountain. Although some members were embarrassed at first, all members, after being praised by tourists passing by, were enthusiastically looking for, and picking up trash, by the end of the day.



Pilipinas Kyohritsu Inc.



Established: December 1988
Location: Lipa City, The Philippines
Business activities:
Manufacture, design, and sales of wiring harnesses, processing of resin products
Number of employees: 3,459

Pilipinas Kyohritsu Inc. is located at the south of Manila, and it is 17 years since its inauguration.

We have continued activities that contribute to society, which are welcomed by the local community. Here is a report of part of the activities carried out.

1. Giving Christmas gifts to neighboring residents (upper photo)
2. Forming a marching band, and participation in the city festival (middle photo)
3. Dental checkup for 60 children, to prevent children’s teeth from decaying (lower photo)
4. Donation for extension and reconstruction of high school and college buildings, and receipt of certification of appreciation from the mayor

We will keep performing activities that contribute to the community, to ensure continuous development with the community.



Global Highlights

Sumidenso Mediatech Suzhou Co., Ltd.



Established: June 2002
Location: Suzhou, China
Business activities:
Manufacture and processing of wiring harnesses for office appliances and on-board devices
Number of employees: 2,500
ISO 14001 certification acquired (July 2004)

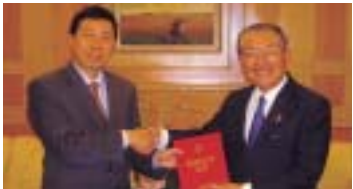
The SARS epidemic, which broke out in 2003, shocked China. As employees come from every region of China, Sumidenso Mediatech Suzhou readily took appropriate measures against in-house infection, overcoming the difficult situation.

In light of our experience, we made a donation to the town government in June 2003 for SARS infection control. In June 2004, our participation in a charity project sponsored by the area government was highly esteemed, and led to us being granted a certification of appreciation.

In support of rural regions, we have regularly purchased Koshihikari-brand rice grown in Xide Xian, Sichuan Province, since July 2004.

In addition, we supplied the handicapped with daily necessities, such as towels and gloves, in October 2004.

These activities were acknowledged as a contribution to the Suzhou region, and our Chairman Morimoto was given the “Friend of Suzhou Award” in October 2004.



Overseas Energy Consumption

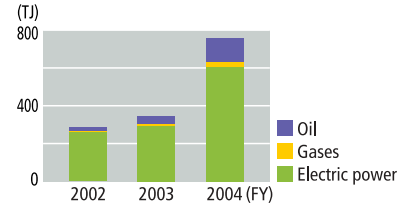
In fiscal 2005, we launched a full-scale investigation targeting the manufacturing companies that are our consolidated subsidiaries (over 50% shareholding by Sumitomo Wiring Systems, Ltd.).

This investigation covers waste, compliance with laws and regulations, and quantities of chemical substances used, not energy data alone.

There are a total of 11 overseas manufacturing companies subject to this investigation: three companies in China, one company in India, one company in Indonesia, two companies in The Philippines, three companies in Mexico, and one company in Brazil.

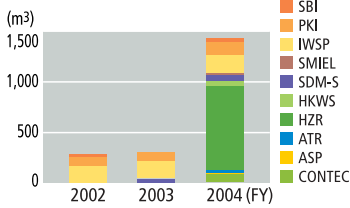
The results of fiscal 2004 were calculated from energy and waste data obtained from nine companies, and we plan to conduct a further investigation for the period before that.

Energy consumption

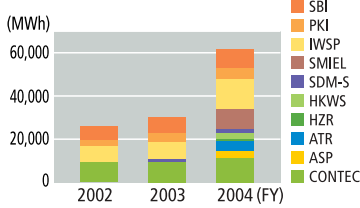


Note: Since data for FY2002 to 2003 was not available for some companies, the values shown are smaller than actual.

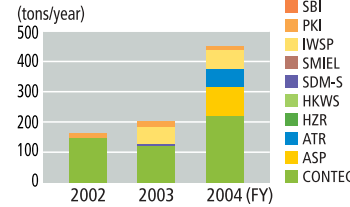
Water consumption



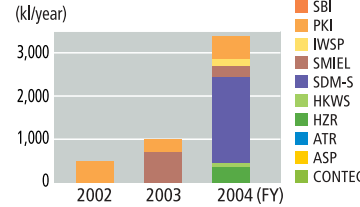
Electric power consumption



Gas consumption



Oil consumption



Data Collection

Data Collection

Company Overview

Official trading name Sumitomo Wiring Systems, Ltd.

Established December 1917

Capital 7,330,239,078 yen (as of March 31, 2005)

Number of employees 3,043 (as of March 31, 2005)
Note: The above figure excludes employees on loan to other companies (1,603 employees).

Headquarters (Yokkaichi) 1-14 Nishisuehiro-cho, Yokkaichi, Mie 510-8503

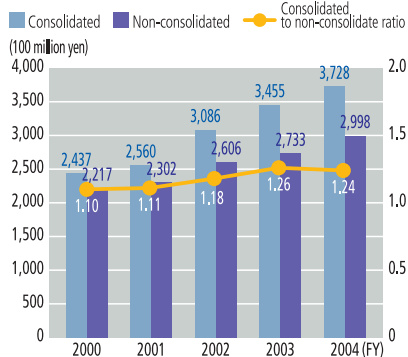
Headquarters (Tokyo) Akasaka Center Bldg. 2, 1-3-12 Motoakasaka, Minato-ku, Tokyo 107-0051

Business activities Manufacture and sales of wiring harnesses for automobiles and appliances, manufacture and sales of components for wiring harnesses and electrical appliances, manufacture and sales of electrical wires for automobiles

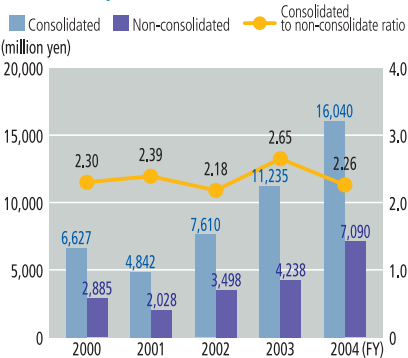
- Operation divisions**
- **Wiring harness division**
Wiring harnesses for automobiles and appliances, engine cables
 - **Wiring harness component division**
Connectors, functional components, exterior parts
 - **Electrical wire division**
Electrical wires for automobiles and appliances
 - **Optical electronics division**
Optical connectors and adapters, optical links, optical junction blocks, body electronics control units, multiplex communication control units, LCD units, remote control switches



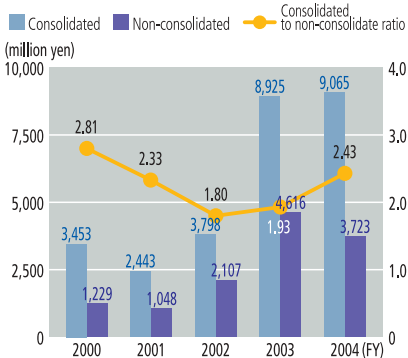
Sales



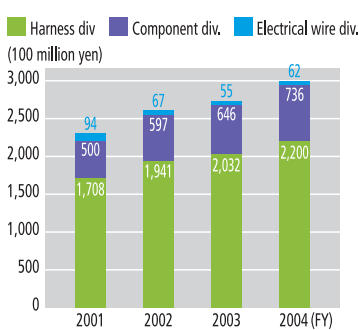
Ordinary income



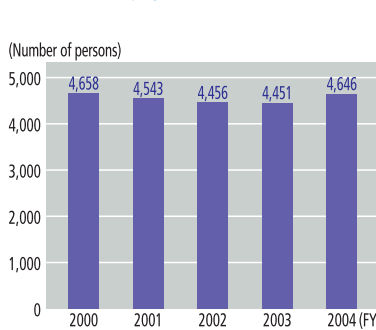
Current income



Transition of sales (non-consolidated)

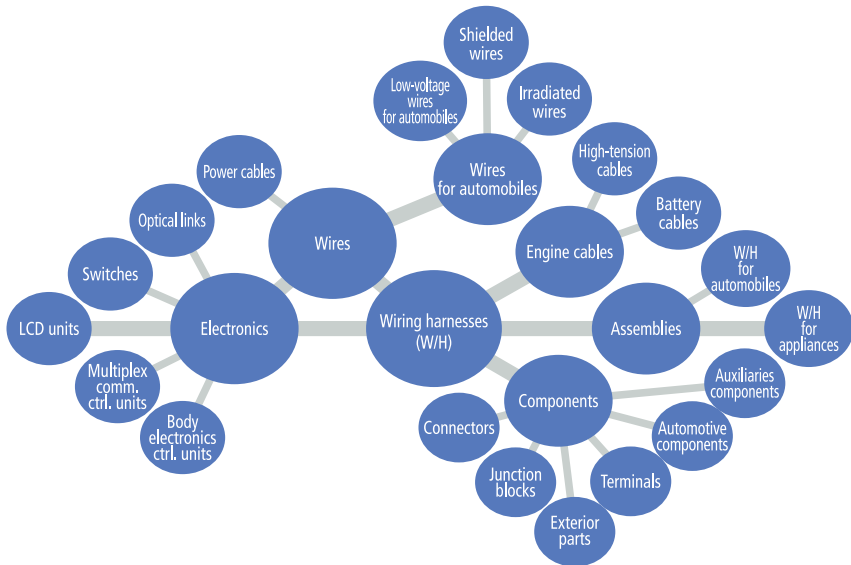


Number of employees (incl. employees on loan)



The SWS's mission is to provide reliable, continuous, circuits for information and energy transmission throughout an automobile, and to build an ideal energy circuit and network, which can be said to be that vehicle's lifeline, making full use of our unique leading-edge technology. Rapid evolution of information and communication technology is spreading widely across the globe, as if unifying all nations of the world; it enables real-time connection across borders.

We hope we will always be able to satisfy customers' requests that are becoming more difficult to meet, by continuing to be a communication supplier that is active in creating links with people from every corner of the world, and to contribute to help shape an affluent future.



Wiring harness



Center cluster



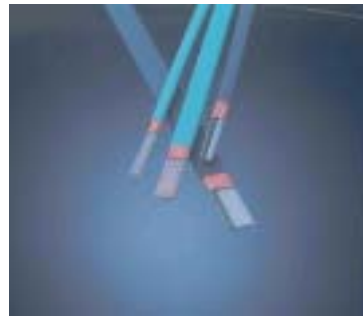
Front corners monitoring camera



Navigation system



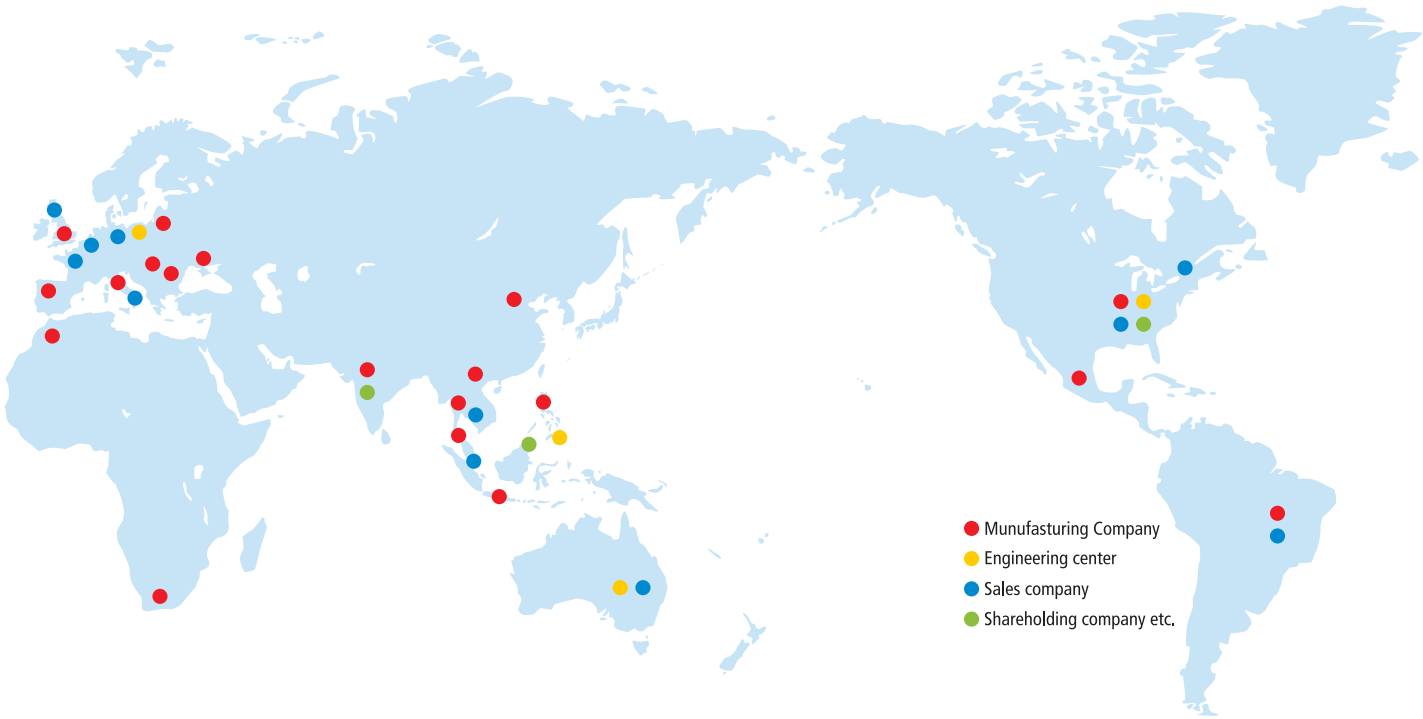
Wiring harness for hybrid vehicle



Halogen-free wire

Acquisition of ISO Certification

The number of our overseas bases totals 77 companies in 27 foreign countries, among which, 21 companies have acquired ISO 14001 certification and are engaging in environmental preservation activities. Seven companies are currently moving toward the acquisition of this certification. We are promoting activities to obtain overseas environmental data from 11 companies consisting mainly of manufacturing bases that are our consolidated subsidiaries.

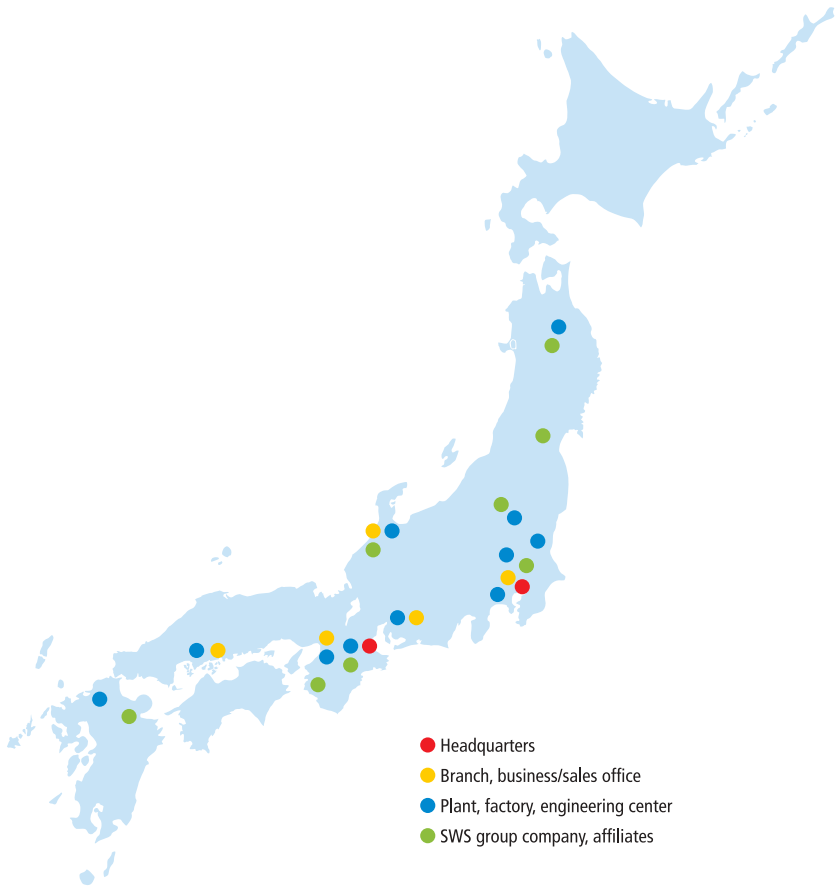


Consolidated Subsidiaries									
▲ SEWS-AWH Hungary		● SEWS-E U.K.		SAFE Netherlands		SDE-HZ China		SDE-PH Philippines	
● HZR China		● HKWS China		● SDM-S China		● SWS-I India		● SMIEL India	
MIND India		SWS-A Australia		SWS-S China		SBI Indonesia		SEAPS Singapore	
SWS-T Thailand		SAT-A Philippines		SDM-U U.S.A.		● ASP Mexico		● ATR Mexico	
SWS-USA U.S.A.		HARTEC U.S.A.		SAIS U.S.A.		● SDB Brazil		● CONTEC Mexico	
▲ SDE-AM U.S.A.		SWS-HRS U.S.A.		SDL-AM U.S.A.		SWS-B Brazil			

Affiliates									
● SEWS-E U.K.		● SEWS-P Poland		FJK China		IEWP Philippines		● SEWS U.S.A.	
SEWS-CI Italy		SEWS-CP Poland		TJWS China		● SHWS Vietnam		STW U.S.A.	
SEWS-S Slovakia		SEWS-CEP Poland		TJWSC China		JKWH Malaysia		SEWS-Canada Canada	
SEWS-CEH Hungary		Cabelauto Portugal		HZAW China		JKS Malaysia		K&S Mexico Mexico	
▲ SEWS-H Hungary		SEWS-CM Morocco		● SEWT Thailand		● MSSL India		K&S USA U.S.A.	
● SEWS-R Romania		SEWS-DE Germany		● SEWS-CT Thailand		▲ SWS Indonesia			
● SEWS-CE Netherlands		SEWS-TR Turkey		SEWS-CHZ China		HZC China			
SEWS-Es Spain		▲ SEWS-SA S.Africa		SZAW China		▲ SDVN Vietnam			
				WHSW China		SEWS-A Australia			
				HZSW China		SEWS-STC China			
				● KIC S.Korea		IWSR Philippines			
						8 GIFTS Philippines			

● indicates a base that acquired ISO 14001 certification
▲ indicates a under contemplation ISO 14001
□ and □ indicate a manufacturing and non-manufacturing bases, respectively

Scope of Report



This Environmental Report was prepared based on our activities from April 1, 2004 through March 31, 2005 (including some activities from fiscal 2005).

This Report covers our headquarters, factories, plants, centers, and group companies in Japan*), as listed in the following table, including affiliate companies of these site and group companies**).

* Group company in Japan: Defined as an unlisted company engaging in production, with 50% or more shares held by us.

** AutoNetworks Technologies, Ltd.
Sumitomo Wiring Computer Systems, Ltd.
S D Engineering Co., Ltd.
Sumidenso Logistics Network Co., Ltd.
Sumidenso Service, Ltd.
SWS Management Support, Ltd.
SY Travel Co., Ltd.
Sumiden Electronics, Ltd.
Sumitomo Wiring Systems Mediatech, Ltd.

The SWS Group has 12 sites and seven affiliates in Japan, all of which have acquired ISO 14001 certification.

Division	Bases and group companies in Japan	Environmental accounting	Material flow	Energy saving	Resource saving & recycling	PRTR	Observation of regulations	Acquired ISO 14001 certification	Manufacturing
SWS sites	Headquarters, Yokkaichi area	●	●	●	●	●	●	●	●
	Yokkaichi Logistics Center	●	●	●	●	●	●	●	
	Toyota Logistics Center	●	●	●	●	●	●	●	
	Suzuka Plant	●	●	●	●	●	●	●	●
	Misono	●	●	●	●	●	●	●	●
	Ibaraki Electric Wire Works	●	●	●	●	●	●	●	●
	Sayama	●	●	●	●	●	●	●	●
	Yuki	●	●	●	●	●	●	●	
	Sayama Logistics Center	●	●	●	●	●	●	●	
	Iruma Logistics Center	●	●	●	●	●	●	●	
	Utsunomiya Engineering Center	●	●	●	●	●	●	●	
	Atsugi Engineering Center	●	●	●	●	●	●	●	
Group companies in Japan	Tohoku Sumidenso, Ltd.	●	●	●	●	●	●	●	●
	Yamagata Sumidenso, Ltd.	●	●	●	●	●	●	●	●
	Hokuriku Harness, Ltd.	●	●	●	●	●	●	●	●
	Toyo Harness, Ltd.	●	●	●	●	●	●	●	●
	Kyusyu Sumidenso, Ltd.	●	●	●	●	●	●	●	●
	Kyohritsu Hiparts Co., Ltd.	●	●	●	●	●	●	●	●
	Sumidenso Platech, Ltd.	●	●	●	●	●	●	●	●

Environmental Data

PRTR

Based on the PRTR Law, the table below describes the quantities of substances released or transferred from the SWS Group's sites in fiscal 2004.

In fiscal 2005, each site followed the procedure specified by that law and completed all required notifications by the deadline. As the period for interim measures under this law expired, the annual quantity of Class 1 designated chemical substances (excluding special Class 1 designated chemical substances) handled, which requires notification, was changed from five tones or more to one tone or more.

Since autonomous investigation, we have set a very low level for the annual maximum quantities of Class 1 designated chemical substances handled, and we endeavor to improve investigation accuracy and perform thorough control.

● FY2004 release and transfer of substances with environmental impact (PRTR law) Target period : April 1, 2004 to March 31, 2005 (Unit : ton)

	Class I specific chemical substance	Transaction volume	Air	Water area	Soil	Solid waste	Sewerage
Headquarters,Yokkaichi area	Lead and its compounds	0.11	0.00	0.00	0.00	0.02	0.00
	Nickel compounds	0.25	0.00	0.00	0.00	0.00	0.00
	Nickel	0.80	0.00	0.00	0.00	0.00	0.10
Suzuka Plant	Xylene	0.64	0.33	0.00	0.00	0.32	0.00
	Toluene	2.23	1.88	0.00	0.00	0.36	0.00
	di-2-ethylhexyl phthalate	393.45	0.00	0.00	0.00	39.34	0.00
	Lead and its compounds	3.14	0.00	0.00	0.00	0.38	0.00
	Antimony and its compounds	6.45	0.00	0.00	0.00	0.65	0.00
	Bisphenol type A epoxy resin	0.16	0.00	0.00	0.00	0.05	0.00
	Chloroform	0.66	0.06	0.00	0.00	0.60	0.00
Ibaraki Electric Wire Works	di-2-ethylhexyl phthalate	158.80	0.00	0.00	0.00	0.55	0.00
	Toluene	0.46	0.46	0.00	0.00	0.00	0.00
	Xylene	1.00	1.00	0.00	0.00	0.00	0.00
	Poly(oxyethylene) nonylphenyl ether	0.24	0.00	0.00	0.00	0.24	0.00
	Ethylbenzene	0.65	0.65	0.00	0.00	0.00	0.00

Group companies

Mediatech Division (Misono)	Lead and its compounds	4.30	0.00	0.00	0.00	0.32	0.00
	Bisphenol type A epoxy resin	0.46	0.00	0.00	0.00	0.00	0.00
Kyohritsu Hiparts Fujisawa	Xylene	0.27	0.27	0.00	0.00	0.00	0.10
	Lead and its compounds	0.21	0.00	0.00	0.00	0.04	0.00
Yamagata Sumidenso	N-cyclohexyl-2-benzothiazolesulfenamide	0.19	0.00	0.00	0.00	0.12	0.00
	Bis (2-ethylhexyl) adipate	0.45	0.00	0.00	0.00	0.26	0.00
Toyo Harness, Kameyama	Toluene	1.32	0.98	0.00	0.00	0.34	0.00
	Xylene	0.77	0.31	0.00	0.00	0.46	0.00
Sumidenso Platech	Di-n-butyl phthalate	0.31	0.00	0.00	0.00	0.16	0.00
Tohoku Sumidenso, Ninohe	Lead and its compounds	0.41	0.00	0.00	0.00	0.00	0.00

The table below only includes data for substances handled in amounts of 0.1 ton or more per year.

PRTR : Pollutant Release & Transfer Register

Observance of Laws and Regulations by SWS Sites

Headquarters, Yokaichi area

Air	Item	Equipment	Regulation value	Previous year	FY2004
	Smoke & soot	Boiler	0.05g/Nm ³	0.005	0.005
	SOx	Boiler	1.33m ³ N/h	0.002	0.004
	NOx	Boiler	150ppm	61	24

Water (release to river)	Item	Regulation value	Previous year			FY2004		
			Max.	Avg.	Min.	Max.	Avg.	Min.
	Discharge (m ³ /day)	—	145	133	118	155	136	114
	pH	5.7–8.7	8.7	7.5	6.1	8.7	7.5	6.1
	SS	300mg/l	130.0	57.5	12.0	240.0	94.3	33.0
	BOD	300mg/l	197.0	87.4	17.0	270.0	146.6	17.0
	Mineral oil	5mg/l	1.0	1.0	1.0	1.0	1.0	1.0
	Animal & vegetable oils	30mg/l	5.0	3.0	1.0	23.0	6.9	1.0
	Phenol	1.000mg/l	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
	Copper	0.100mg/l	0.0300	0.0250	0.0200	0.0400	0.0250	0.0200
	Zinc	5.000mg/l	0.7960	0.2583	0.0230	0.1100	0.0890	0.0360
	Soluble iron	10.000mg/l	0.8100	0.2325	0.0200	1.4000	0.4325	0.0200
	Soluble manganese	10.000mg/l	0.0300	0.0225	0.0200	0.0500	0.0275	0.0200
	Total chrome	2.000mg/l	0.0400	0.0400	0.0400	0.0400	0.0400	0.0400
	Fluorine	15.000g/l	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
	Cadmium	0.100mg/l	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010
	Cyanogen	1.000mg/l	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
	Organophosphorus	1.000mg/l	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
	Lead	0.100mg/l	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100
	Chrome (VI)	0.500mg/l	0.0400	0.0400	0.0400	0.0400	0.0220	0.0040
	Arsenic	0.100mg/l	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050
	Mercury	0.0050mg/l	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005

Noise	Item	Regulation value	Previous year		FY2004	
			Max.	Min.	Max.	Min.
	Morning & evening	65dB	58	51	64	53
	Daytime	70dB	63	56	62	55
	Night	60dB	59	53	55	49

Vibration	Item	Regulation value	Previous year		FY2004	
			Max.	Min.	Max.	Min.
	Daytime	65dB	45	39	44	38
	Night	60dB	40	31	43	29

Misono

Water	Item	Regulation value	Previous year			FY2004		
			Max.	Avg.	Min.	Max.	Avg.	Min.
	Discharge (m ³ /day)	—	52	28	20	98	39	30
	pH	5.8–8.6	7.2	6.3	5.8	6.8	6.1	5.8
	BOD	25mg/l	10	6.6	2.5	8.1	4	1
	COD	25mg/l	18	15.3	11	17	11	4.1
	SS	70mg/l	16	7.3	2	15	4	1

Noise	Item	Regulation value	Previous year		FY2004	
			Max.	Min.	Max.	Min.
	Morning & evening	65dB	52	49	59	43
	Daytime	70dB	60	49	55	43
	Night	60dB	52	48	54	43

Vibration	Item	Regulation value	Previous year		FY2004	
			Max.	Min.	Max.	Min.
	Daytime	65dB	31	22	29	25
	Night	60dB	25	20>	28	20>

Sumidenso Platech, Headquarters

Water	Item	Regulation value	Previous year			FY2004		
			Max.	Avg.	Min.	Max.	Avg.	Min.
	Discharge (m ³ /day)	Groundwater consumption	1098	689	100	925	665	400
	BOD	120mg/l		0.7		25.0	13.1	1.1
	COD	120mg/l		0.9		51	25.8	0.5
	Normal hexane	5mg/l		0.5		0.6	0.6	0.5

Noise	Item	Regulation value	Previous year		FY2004	
			Max.	Min.	Max.	Min.
	Morning & evening	45dB	54	49	55	49
	Daytime	50dB	55	50	55	50
	Night	40dB	55	48	55	48

* Affected by noise from national road.

Vibration	Item	Regulation value	Previous year		FY2004	
			Max.	Min.	Max.	Min.
	Daytime	60dB	34	30>	34	30>
	Night	50dB	35	30>	35	30>

We omitted data for the sites not having any facilities subject to, or specified by, a law or regulation aimed at the prevention of air, water, vibration, and noise pollution.

Suzuka Plant

Air	Item	Equipment	Regulation value	Previous year	FY2004
	Smoke & soot	Boiler	0.3g/Nm ³	0.005	0.005
	SOx	Boiler	0.71m ³ N/h	0.025	0.028
	NOx	Boiler	180ppm	71	64

Water	Item	Regulation value	Previous year			FY2004		
			Max.	Avg.	Min.	Max.	Avg.	Min.
	Discharge (m ³ /day)	—	772	639	590	1223	690	216
	pH	5.8–8.6	7.3	7.1	6.9	7.5	7.1	6.7
	BOD	25mg/l	7	3.2	1	8.0	2.8	1.0
	COD	25mg/l	10	4.7	1	7.0	3.7	1.0
	SS	70mg/l	7	2.9	1>	8.0	3.7	1.0
	Mineral oil	1mg/l	1>	1>	1>	1>	1>	1>
	Animal & vegetable oils	10mg/l	2	1>	1>	1>	1>	1>
	Phenol	1mg/l	0.1>	0.1>	0.1>	0.1>	0.1>	0.1>
	Total nitrogen	60mg/l	7.9	4.7	2.9	8.3	5.1	2.6
	Total phosphorus	8mg/l	1.8	0.7	0.1	1.0	0.6	0.2
	Colon bacillus	3000 pcs./l	2900	434	3	4000*	966	0
	Copper	1mg/l	0.04	0.03	0.02	0.03	0.025	0.02
	Zinc	5mg/l	0.41	0.4	0.39	0.3	0.2	0.1
	Soluble iron	10mg/l	0.1	0.08	0.06	0.07	0.06	0.05
	Soluble manganese	10mg/l	0.05	0.05	0.04	0.03	0.025	0.02
	Chrome	2mg/l	0.04>	0.04>	0.04>	0.04>	0.04>	0.04>
	Fluorine	15mg/l	0.1>	0.1>	0.1>	0.1>	0.1>	0.1>

*Addition of sterilization process completed.

Noise	Item	Regulation value	Previous year		FY2004	
			Max.	Min.	Max.	Min.
	Morning & evening	65dB	63	42	64	42
	Daytime	70dB	67	49	65	46
	Night	60dB	60	41	65*	46

*Changing direction of exhaust duct in cafeteria completed.

Vibration	Item	Regulation value	Previous year		FY2004	
			Max.	Min.	Max.	Min.
	Daytime	65dB	44	26	43	27
	Night	60dB	43	24	46	26

Ibaraki Electric Wire Works

Air	Item	Equipment	Regulation value	Previous year	FY2004
	Smoke & soot	Generator	0.1	—	0.02
	SOx	Generator	5.27	—	0.815
	NOx	Generator	950	—	817

Water	Item	Regulation value	Previous year			FY2004		
			Max.	Avg.	Min.	Max.	Avg.	Min.
	Discharge (m ³ /day)	—	1198	530	398	540	395	232
	pH	5.8–8.6	7.8	7.6	7.5	7.7	7.5	7.2
	BOD	25mg/l	7.2	4	1.7	15	7	1.7
	COD	25mg/l	4	3	1.9	7.3	5	3.3
	SS	40mg/l	4	2	1.1	7.2	4	2.5
	Animal & vegetable oils	5mg/l	1>	1>	1>	1>	1>	1>
	Copper	3mg/l	0.07	0.03	0.02	0.11	0.05	0.03

Noise	Item	Regulation value
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History of Environmental Actions

Year	Environment-related events at SWS	Environment-related events in Japan and overseas
1970's	•Commenced energy conservation activities.	•Amended Basic Law for Environmental Pollution Control, abolished Water Pollution Control Law, and enacted 14 pollution-related bills, incl. Waste Disposal and Public Cleansing Law, at Pollution Session of the Diet. •Environmental pollution caused by PCB became an issue, and PCB production discontinued the following year. •Promulgated Offensive Odor Control Law. •Issue of the first environmental paper by Environmental Agency. •First Environment Week •Promulgated Vibration Control Law. •Issue of hexavalent chromium pollution recognized.
1980's	•Suzuka Plant: Specified as Class I "Energy Management Plant" (Chubu Bureau of International Trade & Industry). •Osaka Works: Received "Ministry of International Trade & Industry Director's Award." •Suzuka Plant: Achieved good results for energy conservation and received a testimonial from the Director of Chubu Bureau of International Trade & Industry. •Formed pollution prevention committee. •Formed company task force for measures against fleon.	•Implemented Ramsar Convention (on Wetlands of International Importance Especially as Waterfowl Habitat). •Implemented Washington Convention (on International Trade in Endangered Species of Wild Fauna and Flora) •Adopted Vienna Convention for the Protection of the Ozone Layer. •Nuclear meltdown at Chernobyl in former Soviet Union •World population exceeded 5 billion. •Implemented Vienna Convention.
1991		•Promulgated Law for the Promotion of Utilization of Recycled Resources
1992	•Suzuka Plant: Received "Resource and Energy Agency Director's Award."	
1993	•Started Environmental Control Office.	•Established Basic Environment Law. •Implemented Basel Convention and Convention on Biological Diversity. •Amended Law Regarding the Rationalization of Energy Use.
1994	•Completely eliminated use of trichloroethylene (Suzuka). •Completely eliminated specific fleon and trichloroethane. •Use of electric vehicles for conveyance within plant premises.	
1995	•Great Hanshin Earthquake occurred, with over 5,500 people dead or missing. •Established Law for Promotion of Sorted Collection and Recycling of Containers and Packaging. •Held 1st Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP1).	•Great Hanshin Earthquake occurred, with over 5,500 people dead or missing. •Established Law for Promotion of Sorted Collection and Recycling of Containers and Packaging. •Held 1st Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP1).
1996		•Established 1996 version of ISO 14001.
1997	•Practical use of lead-free wires •Suzuka Plant acquired ISO 14001 certification.	•Held 3rd Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, at Kyoto (COP3). •Determined greenhouse gas reduction targets for developed countries.
1998	•Developed halogen-free wires for automobiles. •Completed special building for electric wave experiments, at Suzuka Plant.	•Established Law Concerning the Promotion of Measures to Cope with Global Warming. •Enforced Waste Disposal and Public Cleansing Law.
1999	•Built system for measuring quantities of waste. •Headquarters and Yokkaichi area acquired ISO 14001 certification.	•Established Law Concerning Special Measures against Dioxins. •Enforced amended Law Regarding the Rationalization of Energy Use. Established PRTR Law.
2000	•Yokkaichi Logistics Center acquired ISO 14001 integrated certification. Toyo Harness, Hokuriku Harness, and Kyushu Sumidenso acquired ISO 14001 certification. •Ibaraki Plant and Misono Plant acquired ISO 14001 integrated certification. Sumidenso Platech acquired ISO 14001 certification. Yuki, Sayama, Logistics Center, etc. acquired ISO 14001 certification.	•Completely enforced Law for Promotion of Sorted Collection and Recycling of Containers and Packaging. •Enacted Basic Law for Establishing Recycling-Based Society. •Amended Waste Disposal and Public Cleansing Law. •Enacted Law for the Promotion of Effective Utilities of Resources (amended version of Law for the Promotion of Utilization of Recycled Resources). •Enacted Law on Promoting Green Purchasing.
2001	•Chugoku Harness, Yamagata Sumidenso, and Tohoku Sumidenso acquired ISO 14001 integrated certification. •Presentation at MIE Environmental Fair 2001 •Replaced all lighting equipment that uses PCB containing stabilizers. •Accredited as "waste reduction promoting plant/office" by Suzuka City. •Made report during improvement presentation meeting held by "Suzuka Industry Club" of Suzuka Eco Club. •Released Environmental Report (first).	•Completely enforced Waste Disposal and Public Cleansing Law and Home Appliance Recycling Law. •Completely enforced Food Recycling Law. •Promulgated Law Concerning Special Measures Against PCB Waste. •Enacted Amended Automobile NOx Law (Automobile NOx PM Control Law) •Promulgated Fluorocarbons Recovery and Destruction Law. •Promulgated End-of-life Vehicle Recycling Law.
2002	•Support for Earth Project 21 (environmental NGO) •Developed and commercialized wiring harnesses that use halogen free wires. •Participation in CO2 emissions trading simulation in Mie Prefecture.	•Issued Environmental Accounting Guidelines. •Mandated notification under PRTR Law.
2003	•Kyohritsu Hiparts acquired ISO 14001 certification. •Developed and commercialized easily removable wiring harnesses. •Yamagata Sumidenso received "Environmental Preservation Promotion Award" from Yamagata Prefecture.	•Implemented WEEE (EU Directive on Waste Electrical and Electronic Equipment), enforced ELV Directive. •Implemented RoHS (EU Directive on Restriction of Hazardous Substances in electrical and electronic equipment). •Enforced Soil Contamination Countermeasures Law.
2004	•Awarded "Kansai Recommended EcoOffice." •Achieved "zero emission" at all sites. •Established Green Procurement Guidelines.	•Established 2004 version of ISO 14001.

Third-party Opinion

The SWS Group has promoted environmentally managed business with program "Challenge-Eco 21," as a main pillar of, and with an energetic spirit for global business expansion under the slogan "Global 20." It is significant that they release annual environmental reports that compile their environmental activities each year. The content of this Environmental Report 2005 showed SWS Group's enthusiasm for being environmentally friendly on a global and local community level.

● Highly evaluated points

1. Placing the "Data Collection" section at the end of the report made it easy to read and understand.
2. The report begins with a "Message from the President" referring to policies for, and items of environmentally friendly business activities, and "Fiscal 2004 Activity Highlights" introducing specific activities, which is a good guide for the reader to proceed to further details.
3. With the establishment of an original "eco-symbol mark" and formation of a main body called the Special Environmental Committee for Products, the SWS Group built a system to further promote the "certification system for environmentally friendly products." Future outcomes are expected.
4. "Green Procurement Guidelines" were established to promote green procurement, and the system was improved to involve the suppliers in achieving green procurement. It is desirable to set specific targets for procured items and the procurement ratio.
5. The outcomes of modal shift were indicated numerically and can be clearly recognized. Further expansion of "modal shift" is expected.
6. The "zero emission" target for fiscal 2007 was achieved at all sites in Japan, ahead of schedule, and the SWS Group have implemented 3R actions, including waste plastic sorting for horizontal recycling.
7. The "PRTR Law" and "Observance of Laws and Regulations by SWS Sites" sections prove satisfactory compliance with applicable laws and regulations, and most of "Challenge-Eco 21" targets for fiscal 2004 were achieved. This convinced me that there was no problem with business development in Japan. When compared to the previous year, values for some items were higher because of production increase etc.
8. For the manufacture of environmentally friendly products, the SWS Group has progressed with system improvement so that LCA starts to be introduced from the design stage and used for product certification. Quantification of evaluation items is desirable.
9. The reports show sincere efforts for compliance, environmental education & enlightenment, and liaison with local communities.
10. The operation system for environmental preservation was improved to be highly active in target achievement, by reforming, as a result of review, the former Special Environmental Subcommittee into three special subcommittees. It is desirable to create the further functional cycle of PDCA.

● Advice for future improvement

1. From the worldwide viewpoint of "The Global 20," it is very necessary to collect, analyze, and evaluate data concerning overseas bases, consisting of 77 overseas group companies in 27 foreign countries. It is desirable to set targets for them with international vision.
2. It is advisable to consider a strategy for applying LCA to the overall environmental management system, not only to product design, and to take measures against influencing factors beginning with the factors with the largest value. For this, I recommend LCIA (Life Cycle Impact Assessment), where diversified types of environmental load are standardized, as an efficient method for evaluation.
3. In conjunction with environmental accounting, it is desirable to introduce the idea of LCC, eco-efficiency, green productivity, carbon dioxide emissions trading, or the like, to set a new evaluation standard to stimulate investment incentive.
4. It is believed that eco-business should be evaluated by the total effects of the activities as described in 2. and 3. above.
5. The recommended order of report contents begins from "Challenge-Eco 21," then proceeding to "previous year's summary and challenges," "this year's targets, achievement, and comprehensive evaluation," "review and evaluation of details," and "improvements proposed for the next year, amended numerical targets," in that order. This will make the report more systematic.

● SWS's comments on third-party opinion

We requested Mr. Kato, Professor, and Dean of the Faculty of Engineering, Mie University, to provide his opinion on this page. We will faithfully consider the matters raised by him, and promise our future activities will reflect his recommendations.



Professor
Dean of Faculty of Engineering,
Mie University
Seizo Kato

Doctor of Engineering, engaging in research on LCA and eco-product design, CO2 reforms using plasma and photocatalyst, hydrogen energy systems, heat control, etc.