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Sumitomo Wiring Systems, Ltd.

SWS Group
Environmental Report 2003

Scope of Environmental Report 2003

This Environmental Report was prepared based on our activities from April 1, 2002 through March 31, 2003 (including some activities from fiscal 2003).
This Report covers our headquarters, factories, plants, centers, and group companies in Japan*1), as listed in the table below, including affiliate companies of these site and group companies*2).

Division	Bases and group companies in Japan	Environmental accounting	Material flow	Energy saving	Resource saving & recycling	PRTR	Observation of regulations
SWS sites	Headquarters, Yokkaichi area	●	●	●	●	●	●
	Yokkaichi Logistics Center	●	●	●	●	●	●
	Toyota Logistics Center	●	●	●	●	●	●
	Suzuka Plant	●	●	●	●	●	●
	Misono	●	●	●	●	●	●
	Ibaraki Automotive Wire Works	●	●	●	●	●	●
	Sayama	●	●	●	●	●	●
	Ibaraki	●	●	●	●	●	●
	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.	●	●	●	●	●	●
	Chugoku Harness, Ltd.	●	●	●	●	●	●
	Kyushu Sumidenso, Ltd.	●	●	●	●	●	●
	Kyohritsu Hiparts Co., Ltd.	●	●	●	●	●	●
	Sumidenso Platech, Ltd.	●	●	●	●	●	●

Notes
*1) Group company in Japan: Defined as an unlisted company engaging in production, with 50% or more shares held by us.
*2) AutoNetworks Technologies, Ltd.
S D Engineering Co., Ltd.
Sumidenso Service, Ltd.
SY Travel Co., Ltd.
Sumitomo Wiring Systems Mediatech, Ltd.
Sumitomo Wiring Computer Systems, Ltd.
Sumidenso Logistics Network Co., Ltd.
SWS Management Support, Ltd.
Sumiden Electronics, Ltd.

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Message from the President

"Earth," a planet abundant with water, has seen the evolution of many different kinds of creatures, including us, human beings, and sustained these creatures. However, our resource consumption based economy has resulted in environmental destruction, so serious as to be beyond the abilities of the earth's natural purification processes, leading to the acceleration of environmental pollution, exhaustion of resources, and global warming. This presently jeopardizes the continued existence of many creatures, not only human beings. It is time that each of us tackled these environmental problems in order to pass on the bountiful natural environment that our ancestors and we ourselves enjoyed, to following generations.

As part of our corporate activities, we will continue to take action to recycle resources and prevent global warming and pollutant emission, which represents our fundamental attitude toward the realization of an affluent society.
Based on our general policy of "implementing business activities to create an affluent society with full consideration to environmental preservation," we, the Sumitomo Wiring Systems Group, have set up four action guidelines, introduced the ISO 14001 environmental management system on a company-wide level, and are now promoting sustainable management that encourages all employees to make their day-to-day work more environmentally friendly.

The main business of our group is the manufacture of automotive wire harnesses. In this field, we have implemented wire harnesses that adopt halogen-free wires, and succeeded in the development of wire harnesses that can be easily removed when vehicles are scrapped. These easily removable wire harnesses began to be used in actual production vehicles in May 2003. In addition, we are providing products that have less environmental impact and are suitable for a recycle-based society, by promoting the elimination and reduction of controlled chemical substances contained in our products.

In our business activities, we have promoted "eco activates by all members," where every employee participates in environmental preservation activities and "zero emission activities" that aim at the complete elimination of landfill waste, in order to prevent waste release and reduce energy consumption. These activities were successful in our 11 main bases in Japan in May 2003, and we are currently gearing up activities for increasing the number of successful bases and reducing the amount of waste released.
This Environmental Report 2003 presents you with the outcomes of these activities. Our group will continue to perform such activities to enhance sustainable management, and we would be pleased if you would send any comments and suggestions on our activities to us.

Tadashi Shimokawa, President,
Sumitomo Wiring Systems, Ltd.

Striving to Reduce Environmental Impact Through Activities by All Members

At the Sumitomo Wiring Systems Group, including its group companies, we have worked on environmental preservation activities in respective areas, based on our environmental preservation policy. Notably, we have made much progress with our "zero emission" activities, intended to promote the effective use of waste produced during business activities as resources for other processes and aiming to reduce landfill waste to zero in fiscal 2003. One year ahead of schedule, we have achieved "zero emission" in our 11 main bases in Japan, through activities for recycling all types of waste, including complete sorting by waste type, decomposition of waste, and searching for recycling points, depending on the actual situation in each area. Currently, we are pushing ahead to increase the number of successful bases.

Striving to reduce the environmental impact of our products and business activities, we have organized project teams for the themes listed below and are implementing activities for them.

1. Environmental impact evaluation during product development and design, and reduction of controlled chemical substances
2. Reduction of total emissions of waste, including recyclable waste
3. Energy conservation by reduction of CO^2 emissions
4. Expansion of field of contribution to society, and increased awareness among employees

Our major products, automotive wire harnesses, consist of components such as wires, terminals, and connectors, and these components must satisfy the need to eliminate environmental impact of their material, reduce size and weight, and be recyclable when vehicles are scrapped. To meet these requirements, we put halogen-free wires into practical use in 2002, we also made these wires thinner and lighter than conventional wires, and we are currently planning to promote further development and expansion activities. To facilitate automobile recycling, we have developed and commercialized wire harnesses and components that can be easily removed when vehicles are scrapped or disassembled. With the continuous research and development of these products, we are progressing with the manufacture of products that have less environmental impact. Our contribution to local communities is represented by company environmental exhibitions in respective areas, to present our information to local public bodies and associated persons, and cooperation and support activities for local NPOs, in addition to monthly clean-up campaigns for the areas surrounding our plants and offices.

We will further enhance our activities and strive to reduce the environmental impact of our products by getting all members involved, placing great importance on your advice and suggestions.

Koichi Ueda,
Managing Executive Officer and Corporate Environmental Administrator

Outline of the Environmental Management System

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 restrains 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.

Organization for Promoting Environmental Preservation

Responsibility system

President → Director in charge (Corporate Environmental Administrator) → General Manager, Environmental Control Dept. (Corporate Environmental Manger) → Person in charge of environmental management in each area (Member of Corporate Committee for Environmental Management)

Organization for promoting environmental preservation

Corporate Committee for Environmental Management

Chairperson:
Corporate Environmental Administrator

Committee members:
General Manager of Environmental Control Dept., and persons in charge of environmental management in all areas

Groups specializing in environmental activities

EMS in each area
Administrators
Managers
Chairperson of area management committee

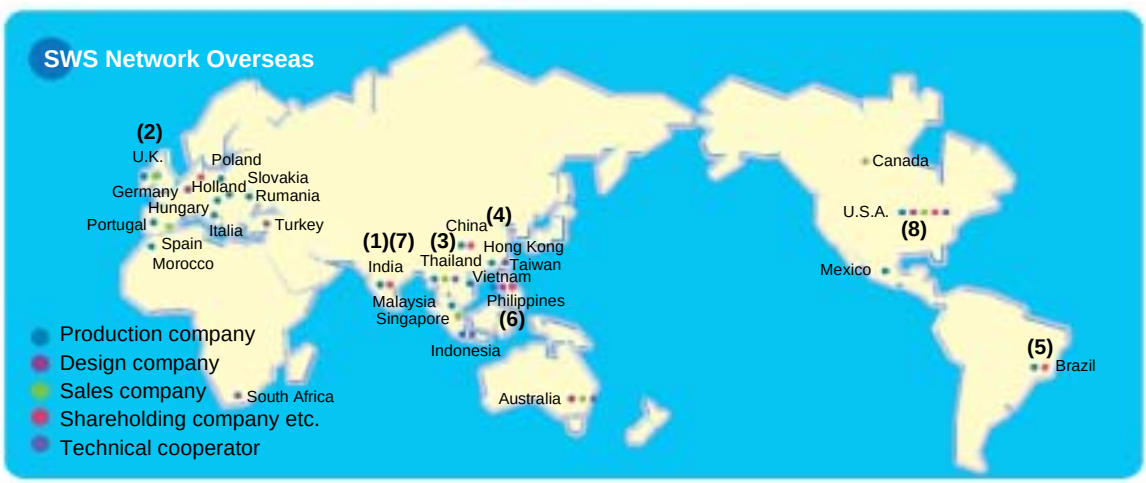
Yokkaichi area EMS	3 SWS sites; Headquarters & Yokkaichi area, Yokkaich Logistics Center, Toyota Logistics Center
Suzuka area EMS	3 SWS sites; Suzuka Plant, Misono, Ibaraki Automotive Wire Works
Eastern area EMS	6 SWS sites incl. Sayama and Ibaraki, 4 Tohoku Sumidenso sites, 1 Yamagata Sumidenso site
Western central area EMS	6 Toyo harness sites, 4 Hokuriku Harness sites, 5 Kyushu Sumidenso sites
Sumidenso Platech EMS	2 Sumidenso Platech sites
Kyohritsu Hiparts EMS	4 Kyohritsu Hiparts sites

The above EMS (Environmental Management System) includes group companies etc., affiliated with respective sites.

Acquisition of ISO 14001 Certification

By forming SWS and its group companies' sites in Japan into four blocks plus two companies, according to business area and activities, we acquired ISO 14001 certifications for all sites under an integrated certification system that includes group companies (Kyohritsu Hiparts is expected to acquire this certification in December 2003).

1. Head Office: Yokkaichi
2. Suzuka Plant
3. Misono Plant
4. Electric Wire Works: Ibaraki
5. Sayama Plant
6. Ibaraki
7. Tohoku Sumidenso
8. Yamagata Sumidenso
9. Hokuriku Harness
10. Toyo Harness
11. Kyushu Sumidendo
12. Sumidenso Platech
13. Kyohritsu Hiparts



Certification acquired

(1) Sumi Motherson Innovative Engineering, Ltd. (India)
(2) Sumitomo Electric Wiring Systems (Europe) Ltd. (U.K.)
(3) Sumitomo Electric Wiring systems (Thailand) Limited (Thailand)
(4) H.K. Wiring Systems, Ltd. (China)
(5) Sumidenso do Brazil Industries Eletricas Ltda. Mateus Leme (Brazil)
(6) International Wiring Systems (Phils.) Corporation (Philippines)
(7) Motherson Sumi Systems Ltd. (India)
(8) Sumitomo Electric Wiring Systems, Inc. (U.S.A.)

Certification to be acquired

Sumidenso do Brazil Industries Electricas Ltda. Pouso Alegre (Brazil)

SUMI-HANEL Wiring Systems Co., Ltd. (Vietnam)

P. T. Sumi Indo Wiring Systems (Indonesia)

Visions for Environmental Preservation

Implementing business activities with full consideration to environmental preservation

3R: Reduce, Reuse, Recycle

Eco Activities by All Members

OA introduction to promote paperless offices
Promotion of using back of printed paper
Diagnosis of energy saving level
Effective use of production equipment
Practical use of timers and sensors
Keeping air conditioning temperature within optimum range
Waste reduction through eco activities
Reuse of packing materials etc.
Reduction of dead stock
Promotion of reuse
Practical use of LCA
Development of environmentally friendly products
Promotion of green purchasing
Practical use of recycled products
Introduction of pollution prevention equipment
Support for green planting
Creation and maintenance of green spaces
Environmental exhibitions and tours to other companies, and other enlightenment activities

SWS Group 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.
According to SWS Group's visions for environmental preservation, this program specifies targets for reducing environmental impact and targets to be achieved for sustainable management, at the development & design, procurement, manufacturing, logistics, and usage & collection stages, respectively.

SWS Group environmental performance program (Challenge-Eco 21)			Targets for FY2003	Targets for FY2007
Manufacturing	Prevention of global warming	Reduction of CO_2 emissions	40% reduction compared to 1990	7% reduction compared to 1990
	Waste	Reduction of total waste emissions	2% reduction compared to 2001	10% reduction compared to 2001 2% reduction annually
	Chemical substances	Reduction of amount of PRTR specified substances being released or transferred	Formulation of reduction plan	Complete elimination of lead compounds and chromium compounds
Procurement	Green procurement	Attitude survey for material suppliers	Formulation of procurement standards and evaluation of suppliers	Complete application of these standards and evaluation for supplier selection by 2005
	Reduction of chemical substances	Promotion of chemical substance investigation	Inclusion of data in procurement standards	Thorough use of this data for supplier selection by 2005
Products (Development, design) (Usage, collection)	Chemical substances	Elimination or restricted use of chemical substances	Elimination of lead and sexivalent chromium from W/H (*1) components (excl. soldering related)	Complete elimination through design control
	Product development	Formulation of certification standards for environmentally friendly products, and certification of these products	Formulation of certification standards and organizing certification committee	Certification of 1 or more environmentally friendly product every year
	LCA	LCA calculation and analysis	Test calculation for inclusion in design control activities	Establishment of this as evaluation item during product development
	3R	Improvement in ease of recycling	Commercialization of easily removable W/H	Introduction of recycleability evaluation system by 2005
Logistics	Prevention of global warming	Reduction of CO_2 emissions due to transportation	Promotion of modal mix	7% reduction compared to 2003
	3R	Promotion of reuse of containers	Increase in use of plastic boxes	Ratio of containers other than cardboard boxes be 70% or more in 2005

(*1) W/H: Wire harness

Plans for Environmental Preservation 2002 and Achievements of Past Activities

Category	Item	Area	FY2002		Action details
			Target	Result	
Energy	Reduction of electricity consumption	Yokkaichi area	4% reduction compared to 1999	4.6% increase	• Replacing equipment with energy saving equipment • Practical use of energy saving diagnosis • Centralization of shared facilities • Keeping set temperature for air conditioning • Control of compressor operation
		Suzuka area		2.5% increase	
		Tobu area		33.0% reduction	
Resource circulation	Waste reduction	Yokkaichi area	10% or less ratio of landfill waste (*2)	Achievement of zero (0) landfill waste in 11 sites in March 2003	• Sorting and recycling of waste to be buried • Disassembly and sorting of equipment and tools/jigs • Reuse of equipment and furnishings • Research and selection of recycling points
		Suzuka area			
		Tobu area			
	Reduction of paper consumption	Yokkaichi area	8% reduction compared to 2001	2.7% increase	• Use of projectors for meetings etc. • Use of double-sided copies and using back of paper • Practical use of electronic mail etc. • Practical use of electronic recording media • Reduction of paper materials
		Suzuka area	12% reduction compared to 1999	23.0% increase	
		Tobu area	10% reduction compared to 1998	7.6% reduction	
	Reduction of production loss	Tobu area	Equivalent or reduction compared to 1998	6.3% increase	• Improvement of production system/equipment • Improvement of POP system
	Disposal and reduction of dead stock	Yokkaichi area	6% reduction compared to 2001	7.1% reduction	• Shortening of production lead time • Reduction of stock volume • Improvement of preparation accuracy
		Tobu area	27.7% reduction compared to 1999	47.3% increase	
	Green purchasing	Yokkaichi, Suzuka, and Tobu areas	Preparation of standards for purchasing other articles	Preparation of standards for green purchasing for consumables	• Application of standards for introducing green products
Toxic substance	Employment of halogen-free products	Yokkaichi, Suzuka, and Tobu areas	Building system for controlling environmental impact of substances at product development & design stage	Supplier investigation and data entry in system for environmental impact of substances	• Entry of data for environmental impact of substances
	Emergency prevention	Yokkaichi, Suzuka, and Tobu areas	Emergency prevention of spillage of waste oil etc.	No spillage	• Daily control, and test for an emergency
	PRTR (Pollutant Release and Transfer Register)	Yokkaichi, Suzuka, and Tobu areas	PRTR investigation, notification	Completion of PRTR investigation and notification	• Investigation into amount procured and consumption, and calculation of amount released
	Observation of effluent standards, and emergency prevention	Yokkaichi area	Observation of effluent standards, and emergency prevention of effluent	Conformance to standards or no effluent	• Verification of effluent test data, prediction of state of emergency, and implementation of training
Training etc.	Training for internal auditors	Yokkaichi area	Improvement of internal auditing	Training for 13 auditors	• Implementation of internal audit training • Holding meetings before and after internal audit to improve level of auditors • Mutual implementation of internal audits between areas to improve level of auditors
		Suzuka area		Training for 10 auditors	
		Tobu area		Training for 23 auditors	
	Business activities with consideration to surrounding community	Yokkaichi, Suzuka, and Tobu areas	Business activities with consideration to surrounding community	Cleaning surroundings, making parking lots neat Inviting local public bodies and neighboring residents' associations to environmental exhibitions	• Cleaning surroundings, making parking lots neat • Inviting local public bodies and neighboring residents' associations to environmental exhibitions • Participation in environmental fairs etc.

(*2) Waste burying ratio = Amount of waste buried / (Amount of waste + Amount recycled)

Environmental Data

Based on the guidelines provided by the Ministry of the Environment, we calculated total equipment investment, expenses, and labor costs, and then examined the effects of these.

(Unit: 1,000 yen)

Category	Result of FY2002		Main use
	Investment	Costs	
Pollution prevention cost	51,110	28,251	Addition of effluent monitoring devices and waste water treatment devices, measurement of exhaust gas, effluent, etc.
Global environmental preservation cost	134,519	6,657	Improvement of lighting and air conditioning systems, enhancement of demand control, diagnosis of energy saving level
Resource circulation cost	71,419	151,543	Improvement of equipment for halogen-free wires, waste disposal
Cost for upstream & downstream processes	4,500	22,691	Use of returnable containers instead of cardboard boxes, employment of plastic reels
Management cost	10,708	253,267	Environmental management activities, creation and maintenance of EMS, maintenance and management of green spaces
R & D cost	38,054	45,900	Halogen-free wire testing devices, building chemical substance control system
Social activity cost	0	658	Participation in environmental fairs, membership fees for environmental NPOs
Cost for environmental damage	0	0	
Total	310,310	508,967	

(Unit: 1,000 yen)

Category	Budget for FY2003		Main use
	Investment	Costs	
Pollution prevention cost	43,000	32,161	Improvement of private sewage treatment tanks, noise reduction, measurement of exhaust gas, effluent, etc.
Global environmental preservation cost	268,800	4,300	Cogeneration related activities, improvement of compressors, improvement in photovoltaic power generation and gas air conditioning
Resource circulation cost	43,800	156,059	Installation of waste storage and crushers, waste disposal
Cost for upstream & downstream processes	30,000	33,734	Use of returnable containers instead of cardboard boxes, employment of plastic reels
Management cost	81,700	253,794	Maintenance of green spaces , environmental management activities, creation and maintenance of EMS
R & D cost	20,000	47,900	Wire twisters for weight reduction, building LCA system for environmental design
Social activity cost	0	669	Participation in environmental fairs, membership fees for environmental NPOs
Cost for environmental damage	0	0	
Total	487,300	528,617	

Notes

a. Investment and costs were limited to those for activities predominantly for environmental preservation.
b. Depreciation is included in investment and is therefore excluded from calculation.
c. Only completely reliable data was used to calculate effects.

Effects of environmental preservation for FY2002

(Unit: 1,000 yen / year)

Category	Economic effect	Contents
Effect of pollution prevention cost	—	
Effect of global environmental preservation cost	26,489	Improvement of energy conservation in air conditioning, lighting, and production equipment
Effect of resource circulation cost	313,511	Reduction of costs for disused articles, sale of recycled articles
Effect of cost for upstream & downstream processes	20,210	Effect of eliminating cardboard boxes
Effect of management cost	—	
Effect of R & D cost	—	
Effect of social activity cost	—	
Effect of cost for environmental damage	—	
Total	360,210	

Environmental index

Ratios of total environmental impact / sales have been evaluated as an index for environmental preservation activities.

(Unit: ton / 1 hundred million yen)

Item	Index	
	FY2001	FY2002
Total environmental impact (CO_2) / Sales	5.14	4.75
Total environmental impact (waste) / Sales	0.56	0.39

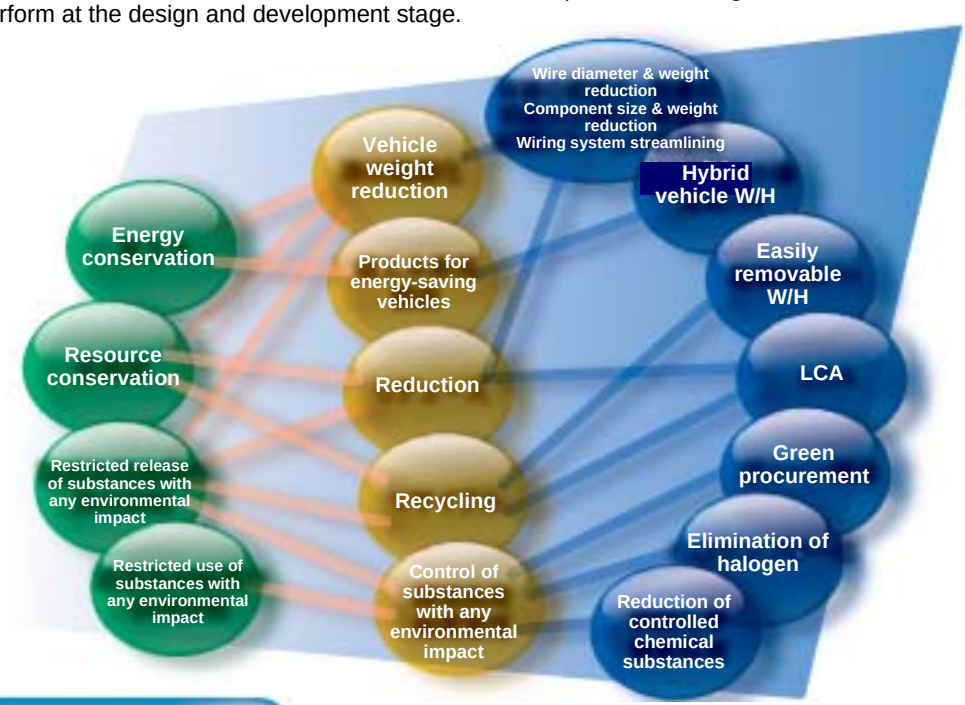
Scope of environmental accounting information

- Period: Fiscal 2002
- Range of calculation:
  As described in "Scope of Environmental Report 2003" inside of the cover

Environmentally Friendly Actions in Design and Development

Concepts for Environmentally Friendly Design

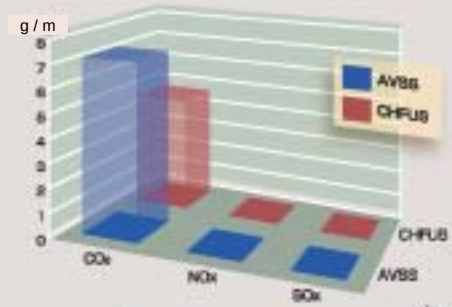
It can be said that most of the influence a product has on the environment is determined at the design and development stage. The SWS Group is improving the design and development stage, with consideration given to the effective use of energy (energy conservation) and resources (resource conservation) and restrictions on the use and release of substances with any environmental impact.
Our major products are automotive wire harnesses and electronic components. The figure below indicates keywords for actions we perform at the design and development stage.



LCA (Life Cycle Assessment)

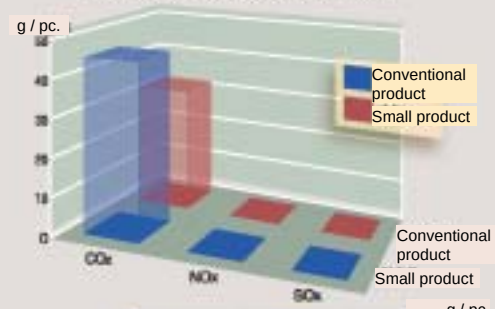
We are encouraging the introduction of LCA to quantitatively evaluate the environmental impact of our products. Using software made by the Japan Environmental Management Association for Industry, we have conducted quantitative comparisons of the environmental impact up to the manufacturing stage, between conventional automotive vinyl-insulated wires (AVSS) and halogen-free wires (CHFUS), and between conventional connectors and small connectors. To examine the conductors of automotive wires, we have employed the ISO standards for halogen-free wires, although the JASO standards were adopted for conventional wires, and have endeavored to try and reduce the diameter of halogen-free wires.
As a result, we evaluated the quantitative reduction in environmental impact to be approximately 20% and 30% for automotive wires and connectors, respectively.
We will continue to promote the practical application of LCA for product evaluation to further reduce the environmental impact of products.

Result of automotive wire LCA



	CO_2	Nox	Sox
AVSS	7.1	0.014	0.052
CHFUS	5.6	0.010	0.040

Result of connector housing LCA



	CO_2	Nox	Sox
Conventional product	45.0	0.064	0.040
Small product	32.7	0.047	0.029

Environmentally Friendly Products

Environmentally Friendly Protector

We are encouraging the elimination of PVC and halogen from the tape, tubes, sheets, and convoluted tubes used for processing wires into wire harnesses, in addition to automotive wires.

Conventional products

PVC Products

Contains chlorine in base material.
Contains halogen in flame retardant.
- Tape
- Tube
- Sheet

PP & PA products

Contains halogen in flame retardant.
- Convoluted tube

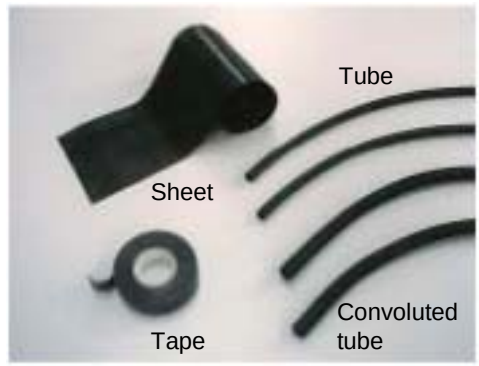
Environmentally Friendly Products

PVC-free Products

Uses olefin material as base material.
Composition:
Olefin base material + Brominated flame retardant

Halogen-free products

Does not contain any halogen in base material or flame retardant.
Composition:
Olefin base material + Inorganic flame retardant
Target in 2005 and after:
Complete elimination of PVC and halogen



Types of protector

- Tape
  Used for branching and binding wires to manufacture wire harness. One side is adhesive.
- Sheet
  Prevents external damage to the trunk wires and branch wires of wire harness.
- Tube
  Protective tube for wire harness
- Convoluted tube
  Flexible protective tube for wire harness

Connector Miniaturization and Weight Reduction

Conventional products

New product

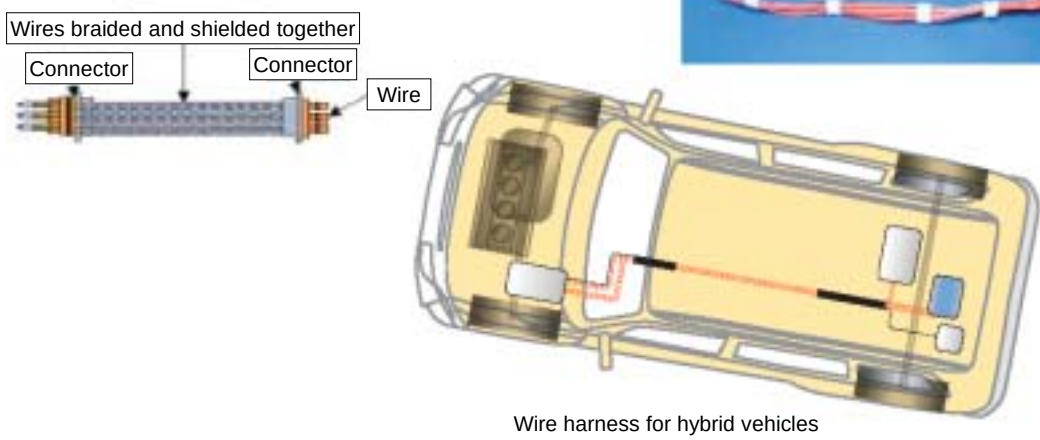
We are promoting reduction of the size and weight of connectors to decrease the weight of the wire harness and the space required for wiring.
Compared to the conventional product (040 type), the new product (025 type) is approximately 30% lighter and takes up approximately 45% less space.

Halogen-Free Wire for Automobile

As part of making automobiles less harmful to the environment, we have developed ISO halogen-free wires (hereinafter referred to as HF wires). Using polyolefin resin for the HF wire insulation and metalhydroxide as a flame retardant causes the generation of water (H_2O) from the metal compound when the wire catches fire, providing a mechanism that uses this water to absorb heat and extinguish flames.
As there are no halogen compounds in the insulation, HF wires do not emit halogenated gas during combustion. This enables thermal processing for collection and recycling, and can reduce the volume of buried dust. HF wires conform to international ISO standards, and have a smaller diameter than conventional wires (by approximately 22%).

Wire Harness for Hybrid Vehicles

We completed the development of a large conductor wire harness for motor circuits required for hybrid vehicles.
In addition to using halogen-free components, we employed wires that are braided and shielded together in order to facilitate processing and prevent control circuits nearby from being affected by electromagnetic noise.



Wire harness for hybrid vehicles

Easily Removable Wire Harness

Quick-release belt for recycling

A quick-release belt for recycling is mounted on the vehicle in advance so that wire harnesses can be easily removed from cars that will no longer be used. This can shorten the time required to remove the wire harness when a vehicle is disassembled and increase the amount of wire harnesses collected.

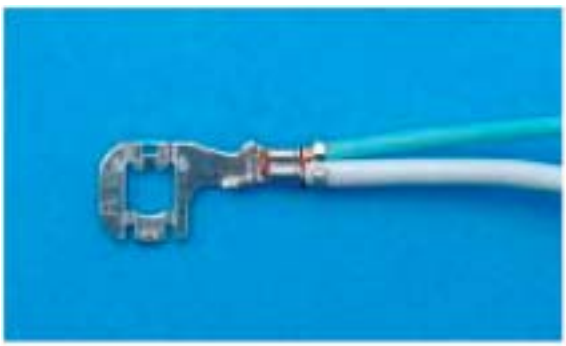
The wire harness is hung on the belt when the vehicle is disassembled.

Quick-release belt for recycling

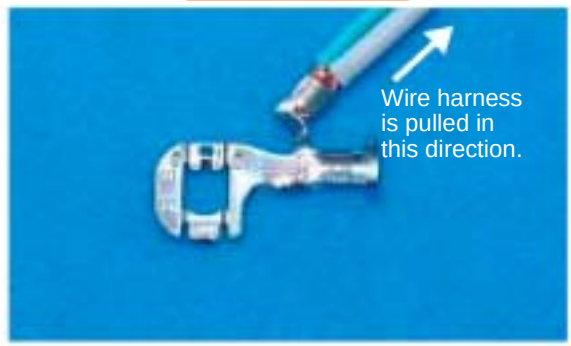
Quick-release ground terminal

In order to increase the efficiency of collecting wire harnesses, we have applied controls to maintain a load of 500 N or less on the necks of ground terminals when they are separated from collected wire harnesses. This makes it easier to remove wire harnesses from a vehicle.

When crimped

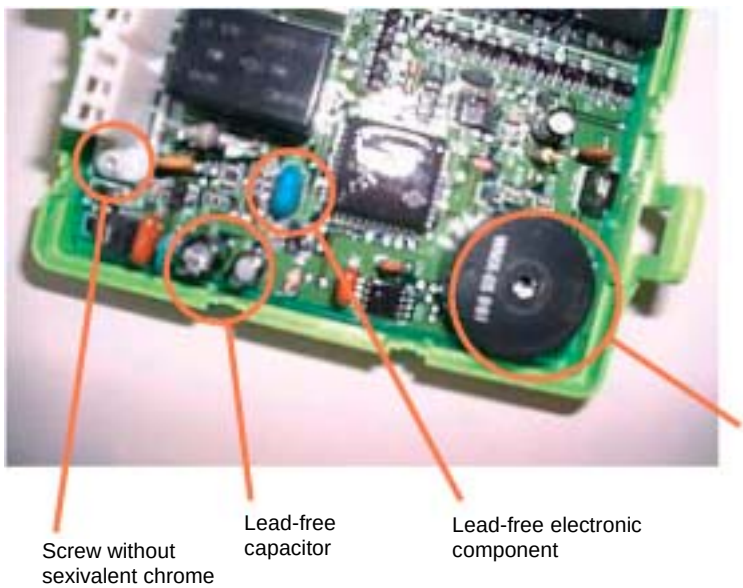


When separated



Reduction of Controlled Chemical Substances in Products

We are promoting the reduction of the amount of chemical substances used that are controlled by the PRTR law, Law Concerning the Examination and Regulation of Manufacture etc. of Chemical Substances, ELV Directive and RoHS Directive by EU, etc. In principle, we have already prohibited the use of lead, cadmium, sexivalent chromium, and mercury, except for use in specific components.
For other controlled chemical substances, we are currently formulating voluntary standards and will push for the reduction and replacement of these substances so that these can be achieved as early as possible.



We have also applied improvements to components in ECU (in-vehicle computer) to reduce environmental impact. The use of lead-free solder is now being considered.

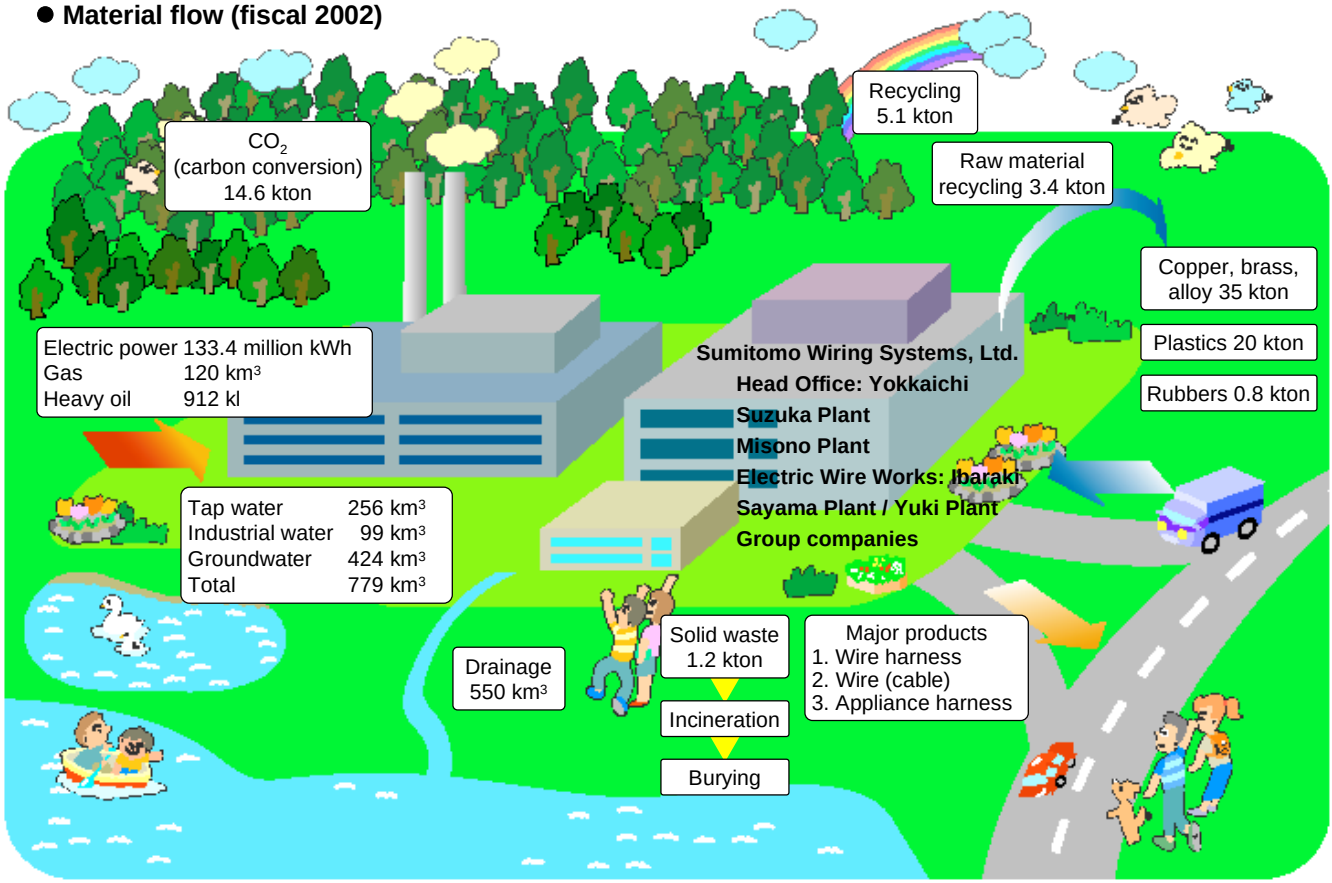
Certification System for Environmentally Friendly Products

With a view to advancing the development of environmentally friendly products, we are creating a special certification system for these products. Standards for this certification will be set based on ISO 14021 "Environmental labels and declarations - Self-declared environmental claims (Type II environmental labeling)."

Procurement, Production, and Logistics Actions

Production

- **Material flow (fiscal 2002)**

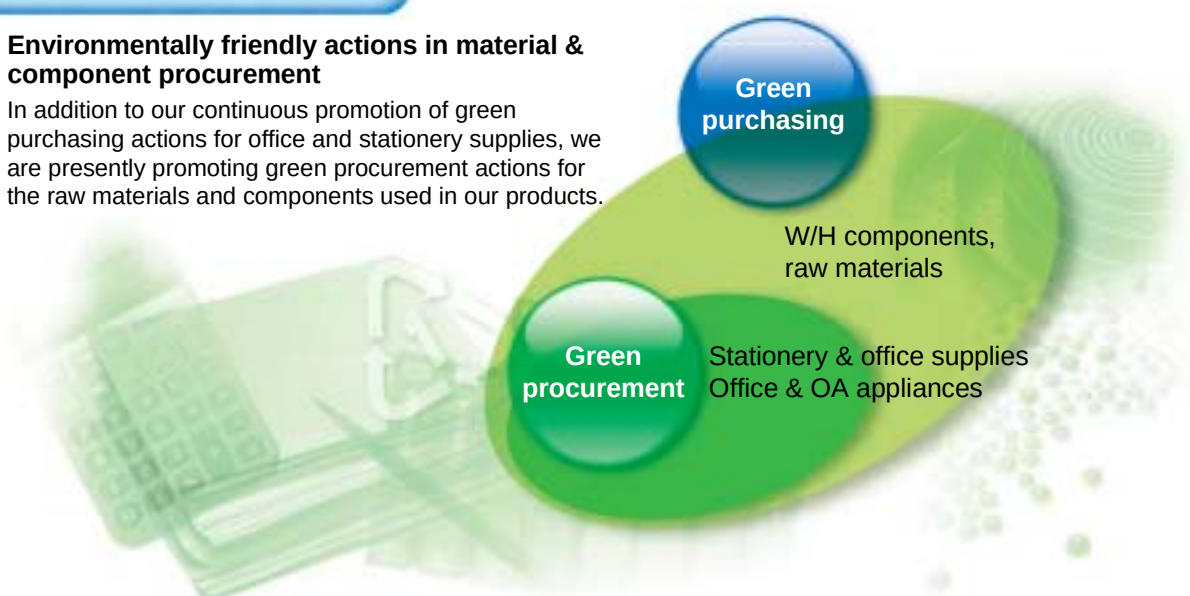


Scope
As described in "Scope of Environmental Report 2003" inside of the cover

Procurement, Logistics

- **Environmentally friendly actions in material & component procurement**

  In addition to our continuous promotion of green purchasing actions for office and stationery supplies, we are presently promoting green procurement actions for the raw materials and components used in our products.



Environmentally friendly actions in material & component procurement

Green purchasing

To satisfy our environmental preservation policy defined in the "basic rules for environmental management," in fiscal 1999 we established the green purchasing rules for office & stationery supplies, office appliances, and other articles required for general operation, and we are promoting the preferential purchase of eco-labeled products.

Green procurement

To reduce the environmental impact of substances in our products, we are promoting the preferential purchase of raw materials and components that have less environmental impact for use in our products. Currently, we are preparing the "Green Procurement Guidelines" to clearly define the standards for purchasing theses materials and components. The selection of suppliers will depend on the progress of their environmental management systems and the inclusion of controlled substances in their products. We plan to investigate major suppliers through questionnaires or surveys and provide support where required.

- **Results of green purchasing**

Category	Replacement ratio
Copy paper	100%
Stationery supplies	97%

- **"Clear-at-a-glance system"**

Shipment

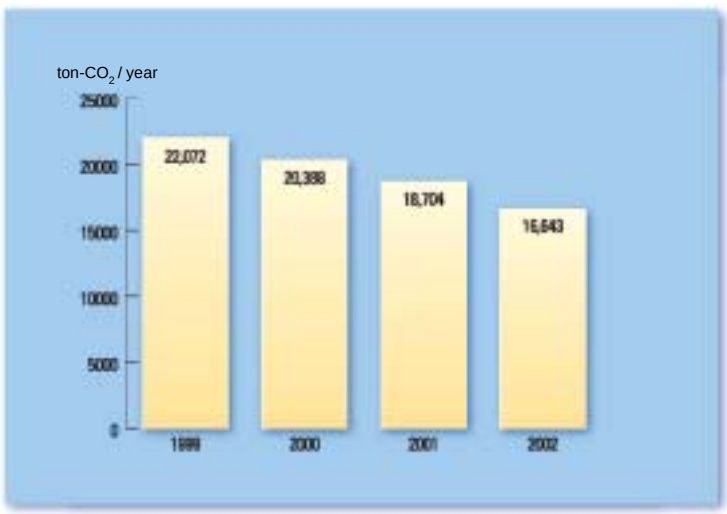
Data entry

Information displayed

Logistics

We are implementing actions to streamline logistics, to restrict carbon dioxide emissions and reduce the environmental impact of exhaust gases, etc. produced in the course of logistics. Logistics efficiency has been promoted through the increase of loading efficiency, optimization of transportation routes, enhancement of logistics centers, and practical application of a truck delivery system using GPS (this delivery system is called the "clear-at-a-glance system").

- **Carbon dioxide emissions during transportation (special trucks)**



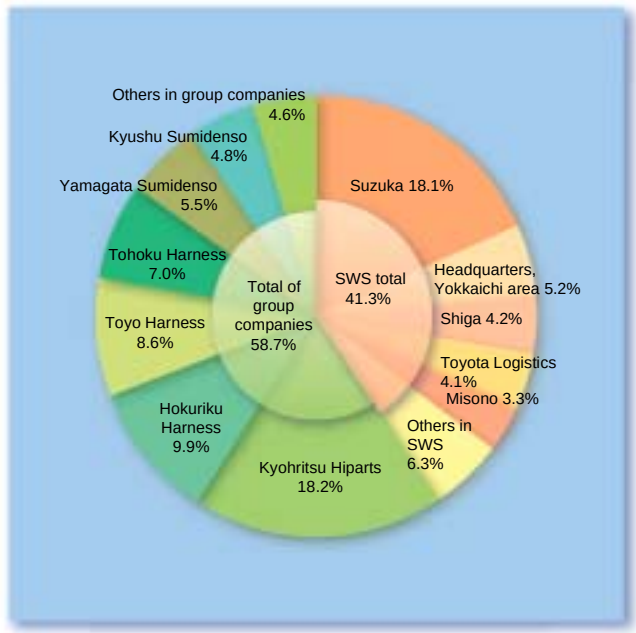
Waste / Recycled Products

We are engaged in actions for restraining the generation of waste that must be burnt, buried, or requires post-treatment for disposal, and actions for recycling these waste through sorting and decomposition.

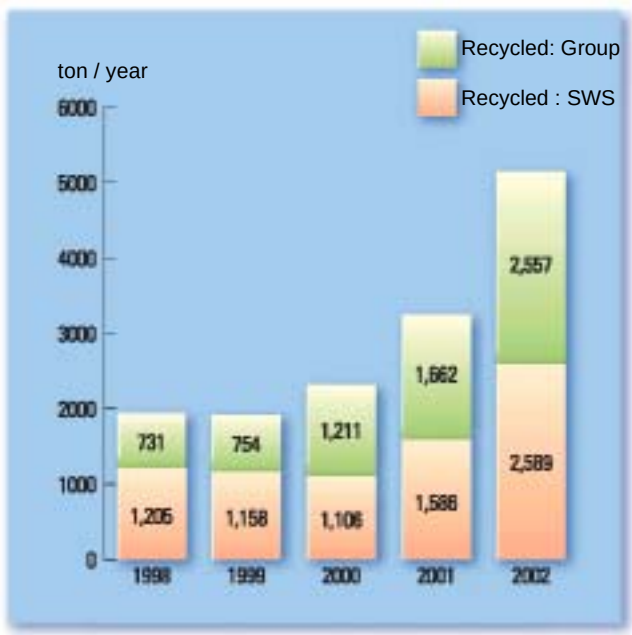
In May 2003, we achieved "zero emission (zero landfill waste)" at 11 SWS sites.

● Transition of waste amount

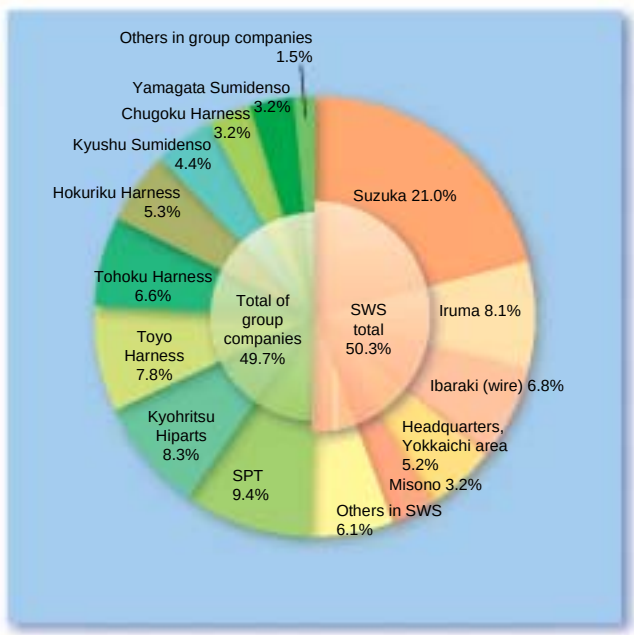
● Ratio of waste amount by business place (FY2002)



● Transition of recycled amount



● Ratio of recycled amount by business place (FY2002)



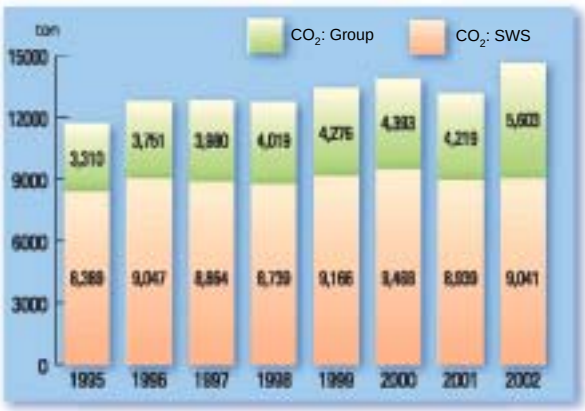
Energy Saving

To reduce the amount of carbon dioxide produced from business activities, we are taking actions for the prevention of global warming, while maintaining our target of reducing electrical energy consumption by 6% by fiscal 2003 compared to fiscal 1999.

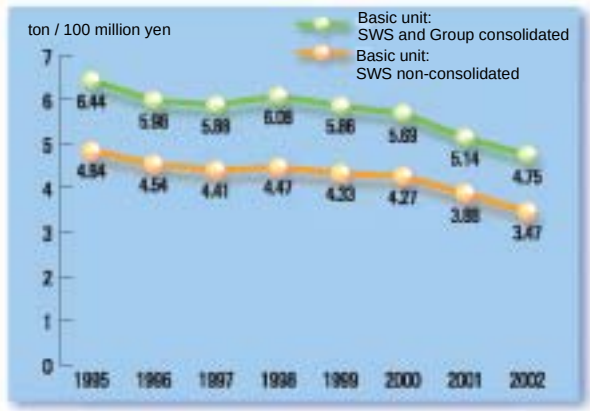
Concepts for energy saving

(1) Elimination of non-useful elements → Leakage, excessive voltage and lighting
(2) Replacement with more efficient equipment
(3) Others → Heat recovery, energy-efficient devices

- **Transition of CO_2 emissions (carbon conversion)**



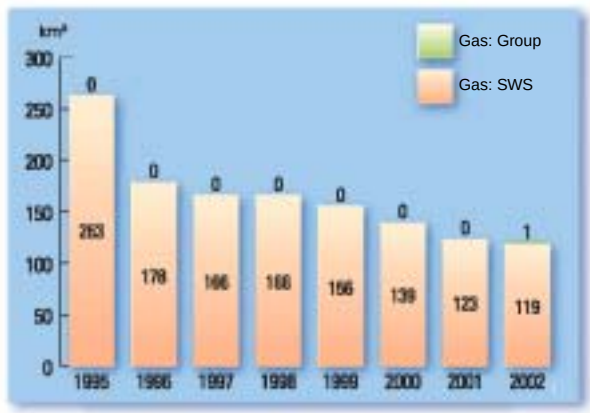
- **Transition of CO_2 emissions per basic unit of sales**



Result

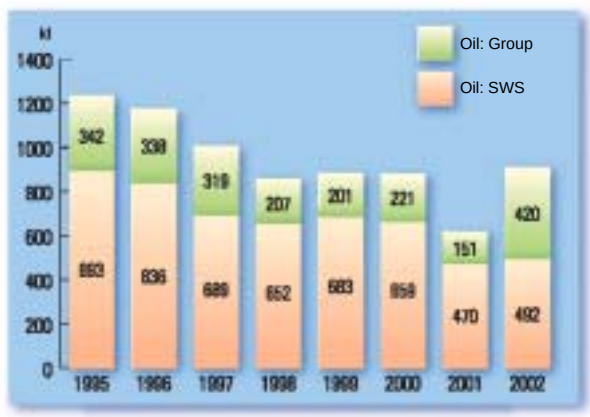
To save energy, we have engaged temperature control and the use of inverters for fluorescent lamps and air conditioners. Through the diagnosis of energy conservation levels etc., we are promoting the efficient use of energy, aiming to reduce energy consumption.

- **Transition of gas consumption**



- **Transition of electric power consumption**

- **Transition of oil consumption**



Note:
Kyohritsu Hiparts Co., Ltd. has been included since fiscal 2002.

Achieving "Zero Emission"

Activity Development until "Zero Landfill Waste" is Achieved

1 Setting environmental performance target in April 2001

We set a target of reducing industrial waste (landfill waste) to zero by the end of fiscal 2003.

2 Formation of task team in April 2002

- We determined to move the deadline for this target one year ahead of schedule.
- We investigated the contents of waste produced.

3 Drafting recycling plan for each type of landfill waste

- We looked for and investigated recycling points and determined a measure for each type.

4 Change in waste classification sheet

- We classified waste into over 30 types according to recycling procedures.
- We defined waste sorting rules and circulated environmental news to ensure thorough implementation of these rules.
- We changed the layout of resource waste sorting stations according to classification.

5 Workshop patrols, witness checks at resource waste sorting stations

- The eco club conducted patrols and witness checks to provide thorough instructions on sorting.

6 Scheduled delivery to recycling companies

- We created a "Not Classifiable" corner for waste that employees are unable to classify.

7 Achievement of "zero" landfill waste

To reach "zero emission," meaning the reduction of industrial waste (landfill waste) produced during business activities to zero, one of our environmental performance targets, we have placed a great amount of effort into seeing that every piece of waste can be recycled, through activities for recycling all types of waste, including thorough sorting by waste type, decomposition of waste, and finding recycling points. To achieve thorough sorting in particular, we have classified waste into over 30 types and periodically patrol our workshops and resource waste sorting stations to provide sorting instructions, through activities within the environmental management system. These activities have allowed us to establish a system where there is no landfill waste released. The main 11 SWS sites set a record of "zero landfill waste over three months or longer," which eliminated "landfill" from the sorting classifications, and achieved our target of "zero emission."
We will work aggressively on promoting the 3R (Reduction, Reuse, Recycling) activities in order to further reduce the total amount of waste, as well as continuing the "zero emission" standard.

Recycling Example

- **Waste plastics (excluding PVC)**

We have sorted waste plastics, excluding PVC, from the waste collection to be buried, and thermally recycled these plastics into solid fuel (RPF).

Compressed waste plastics

General waste
Convoluted tube
Connector housings, etc.

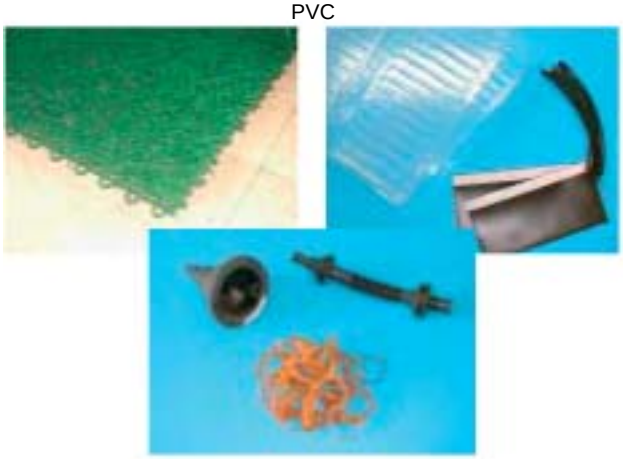
High-calorie solid fuel made from waste plastics and industrial waste paper

Solid fuel
RPF
(Refuse Paper & Plastic Fuel)

PVC, Rubber

We have thermally recycled PVC and rubber, which are not suitable for RPF, using an incinerator equipped with a power generator and exhaust gas treatment.

PVC



Rubber

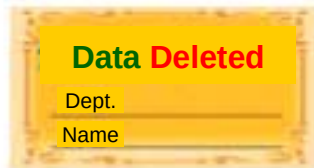
OA Appliances

We decided to sell any personal computers that are no longer used, via a recycling company (for reuse).

Personal computer no longer used

Data is Not Completely Deleted by Formatting Only!

Data deletion software



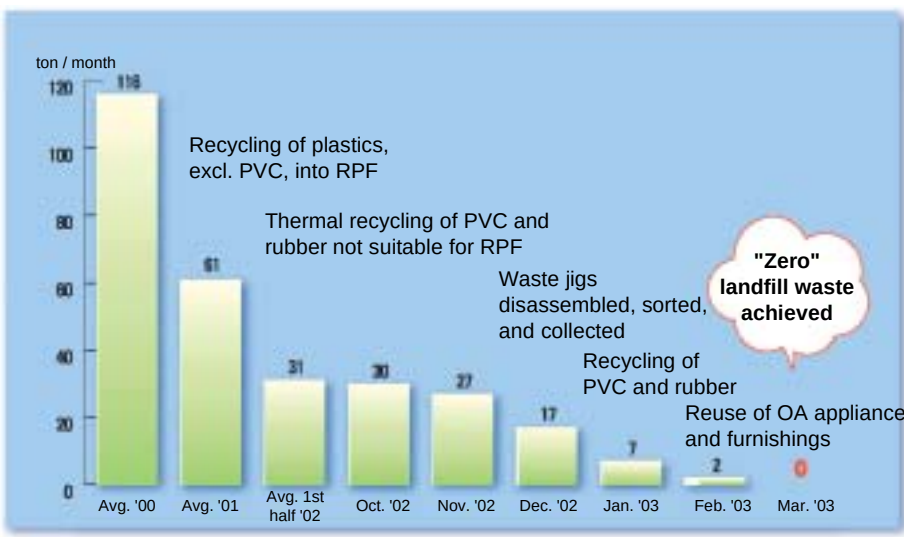
Labeling ensures that date has been deleted.

Mixture of different materials

Waste with a mixture of metal, wood, and plastic is sorted and disassembled wherever possible. Mixtures that cannot be sorted or disassembled are recycled into iron production materials, or are crushed and then sorted for thermal or material recycling.

Mixtures of different materials before being crushed

- **Transition in amount of landfill waste (11 SWS sites)**



SWS Actions in Each Area

In each area, there is a district committee with subcommittees and groups that specialize in saving energy, the 3R (Reduction, Reuse, Recycling) policy, and eco club activities. These committees and groups perform a variety of activities to promote environmental preservation.

Energy Saving

Actions

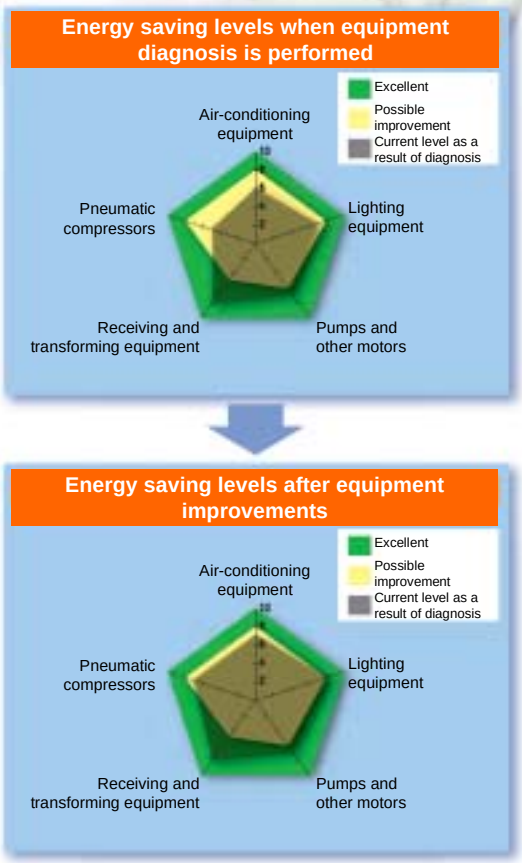
Promotion of effective use of energy required for production equipment that has spent 70% of total energy consumption, through diagnosis of energy conservation levels etc.

Use of inverter for air conditioning and lighting, patrol to check energy saving conditions (every summer & winter), use of switch for lighting canopy, employment of eco-cooler using ice, turning CPU power off (when operator leaves)

Sensor automatically turns lights on and off.

Timers on air conditioners automatically turn them off when not necessary.

- **Improvements through diagnosis of energy saving levels**



Operation control and integration of compressors according to the conditions in which they are used, inverters are upgraded to the latest model

Energy saving check patrols in summer and winter to maintain room temperatures within optimum range

3R (Reduction, Reuse, Recycling)

Actions

Achieving "zero emission (zero landfill waste)" does not mean that we produce no waste. We started up a group to specialize in the promotion of 3R (Reduction, Reuse, Recycling) activities in the future.

Old uniforms are collected for thermal recycling.

Winter uniform made of fabric recycled from PET bottles

Summer uniform made of fabric recycled from PET bottles

Eco Club

In each area, the eco-club members gather from their working places every month, make a patrol to check the conditions of waste sorting, and provide instructions on correct sorting where required.

In addition, this club periodically tours other companies to study environmental actions at these companies and to improve the awareness of members.

Pollution Prevention

We assess environmental conditions, including air quality, drainage, noise, vibration, and odor, in order to preserve the environment of surrounding communities. We also implement improvements, such as preventing the release of substances with environmental impact and using a deodorizing device for odor prevention.

Targets

Observation of laws and regulations
Prevention of environmental or pollution problems

Actions

Prevention of air pollution:
Exhaust gas monitoring
Prevention of water pollution:
Drainage monitoring

● Pollution prevention equipment

Although dichloromethane was previously used as cleaning agent in the terminal manufacturing process, we have examined discontinuing the use of dichloromethane with consideration to the impact on the human body and the environment. The development of a new cleaning technique has enabled us to use a cleaning agent with less environmental impact, resulting in the complete elimination of dichloromethane.

Cleaning machine using dichloromethane

New cleaning machine

● Soil pollution survey and results

In May 2002, we completed a survey of the SWS sites in Japan that have records of using chlorinated organic solvents or heavy metals, and verified that there is no soil pollution.

Sites subject to this survey

SWS Headquarters, Misono, and Suzuka Plant
Sumidenso Platech

PRTR

● FY2001 release and transfer of substances with environmental impact (PRTR law)

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

(Unit: ton)

	Class I specific chemical substance	Air	Water area	Soil	Solid waste	Sewerage
Headquarters, Yokkaichi area	Nickel	0.00	0.00	0.00	0.20	0.10
	Nickel compounds	0.00	0.00	0.00	0.00	0.04
	Lead and its compounds	0.00	0.00	0.00	0.00	0.00
Suzuka Plant	Antimony and its compounds	0.00	0.00	0.00	2.43	0.00
	Xylene	0.25	0.00	0.00	0.13	0.00
	Chromium (VI) compounds	0.00	0.00	0.00	0.01	0.00
	Chloroform	0.01	0.00	0.00	0.37	0.00
	o-dichlorobenzene	0.00	0.00	0.00	0.16	0.00
	Toluene	0.92	0.00	0.00	0.61	0.00
	Lead and its compounds	0.00	0.00	0.00	1.28	0.00
	Bis (2-ethylhexyl) phthalate	0.00	0.00	0.00	38.42	0.00
	Bisphenol type A epoxy resin	0.00	0.00	0.00	0.02	0.00
Ibaraki Electric Wire Works	Antimony and its compounds	0.00	0.00	0.00	0.00	0.00
	Xylene	2.23	0.00	0.00	0.00	0.00
	Toluene	2.26	0.00	0.00	0.00	0.00
	Poly (oxyethylene) nonylphenyl ether	0.00	0.00	0.00	0.27	0.00
	Bis (2-ethylhexyl) phthalate	0.00	0.00	0.00	0.50	0.00
Misono Plant	Bisphenol type A epoxy resin	0.00	0.00	0.00	0.02	0.00
	Lead and its compounds	0.00	0.00	0.00	0.25	0.00

Group companies

Tohoku Sumidenso, Ninohe	Lead and its compounds	0.00	0.00	0.00	0.00	0.00
Toyo Harness, Kameyama	Toluene	0.63	0.00	0.00	0.45	0.00
	Xylene	0.51	0.00	0.00	0.37	0.00
Hokuriku Harness, Takaoka	Antimony and its compounds	0.00	0.00	0.00	0.03	0.00
Yamagata Sumidenso	N-cyclohexyl-2-benzothiazolesulfenamide	0.00	0.00	0.00	0.16	0.00
	Bis (2-ehtylhexyl) adipate	0.00	0.00	0.00	0.37	0.00
Kyohritsu Hiparts	Ethylene glycol	0.00	0.00	0.00	0.12	0.00
	Toluene	0.35	0.00	0.00	0.00	0.00
Sumidenso Platech	Di-n-butyl phthalate	0.00	0.00	0.00	0.12	0.00

PRTR: Pollutant Release and Transfer Register

Established as "Law Concerning the Reporting of the Release into the Environment of Specific Chemical Substances and Promoting Improvements in Their Management" in July 1999.

Headquarters, Yokkaichi area

	Item	Equipment	Regulation value	Previous year	FY2002
Air	Smoke & soot	Boiler	0.05 g/Nm^3	0.001	0.005
	Sox	Boiler	1.33 m^{3}N/h	0.004	0.004
	Nox	Boiler	150 ppm	84	43

	Item	Regulation value	Previous year			FY2002		
			Max.	Avg.	Min.	Max.	Avg.	Min.
Water (release to sewerage)	Discharge (m^3/day)	-	169	145	121	150	133	119
	pH	5.7 – 8.7	8.6	7.0	(*1) 5.4	8.5	7.0	5.9
	SS	300 mg/l	116	63	9	59.0	31.8	4.0
	BOD	300 mg/l	(*2) 471	257	43	225.0	76.5	5.0
	Mineral oil	5 mg/l	1	1	1	1.0	1.0	1.0
	Animal & vegetable oils	30 mg/l	(*3) 33	17	1	16.0	5.6	1.0
	Phenol	1 mg/l	0.5	0.5	0.5	0.500	0.300	0.100
	Copper	0.1 mg/l	0.07	0.07	0.07	0.040	0.030	0.200
	Zinc	5 mg/l	0.148	0.111	0.074	0.483	0.212	0.014
	Soluble iron	10 mg/l	0.26	0.16	0.06	0.360	0.115	0.020
	Soluble manganese	10 mg/l	0.02	0.02	0.02	0.020	0.020	0.020
	Total chrome	2 mg/l	0.04	0.04	0.04	0.040	0.040	0.040
	Fluorine	15 mg/l	0.1	0.1	0.1	0.100	0.100	0.100
	Cadmium	0.1 mg/l	0.01	0.0055	0.001	0.001	0.001	0.001
	Cyanogen	1 mg/l	0.1	0.1	0.1	0.100	0.100	0.100
	Organophosphorus	1 mg/l	0.1	0.1	0.1	0100	0.100	0.100
	Lead	0.1 mg/l	0.01	0.01	0.01	0.010	0.010	0.010
	Chrome (VI)	0.5 mg/l	0.04	0.04	0.04	0.040	0.040	0.040
	Arsenic	0.1 mg/l	0.005	0.005	0.005	0.005	0.005	0.005
	Mercury	0.005 mg/l	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005

	Item	Regulation value	Previous year		FY2002	
			Max.	Min.	Max.	Min.
Noise	Morning & evening	65 dB	62	52	63	55
	Daytime	70 dB	64	59	63	57
	Night	60 dB	59	53	59	53

	Item	Regulation value	Previous year		FY2002	
			Max.	Min.	Max.	Min.
Vibration	Daytime	65 dB	48	39	49	38
	Night	60 dB	41	32	39	30

(*1), (*2), (*3): Although these values temporarily exceeded the regulation values, after installing bio-system treatment equipment for wastewater from the cafeteria, the current values meet the regulation values.

Suzuka Plant

	Item	Equipment	Regulation value	Previous year	FY2002
Air	Smoke & soot	Boiler	0.3 g/Nm^3	0.005	0.005
	Sox	Boiler	0.71 m^{3}N/h	0.04	0.04
	Nox	Boiler	180 ppm	71	80

	Item	Regulation value	Previous year			FY2002		
			Max.	Avg.	Min.	Max.	Avg.	Min.
Water	Discharge (m^3/day)	-	811	634	493	708	618	536
	pH	5.8 – 8.6	7.5	7.2	6.9	7.2	7.0	6.8
	BOD	25 mg/l	11	7	3	4	2	1
	COD	25 mg/l	9	7	4	7	5	2
	SS	70 mg/l	8	5	1>	6	4	2
	Mineral oil	1 mg/l	1>	1>	1>	1>	1>	1>
	Animal & vegetable oils	10 mg/l	1>	1>	1>	1>	1>	1>
	Phenol	1 mg/l	0.5>	0.5>	0.5>	0.5>	0.5>	0.5>
	Total nitrogen	60 mg/l	50	10	2.4	7.06	4	0.72
	Total phosphorus	8 mg/l	2.6	1.1	0.3	1.6	0.9	0.2
	Colon bacillus	3000 pcs./l	1100	168	0	350	72	0
	Copper	1 mg/l	0.02>	0.02>	0.02>	0.02	0.02>	0.02>
	Zinc	5 mg/l	0.174	0.171	0.168	0.151	0.1235	0.096
	Soluble iron	10 mg/l	0.08	0.07	0.06	0.07	0.06	0.05
	Soluble manganese	10 mg/l	0.02>	0.02>	0.02>	0.02	0.02	0.02
	Chrome	2 mg/l	0.04>	0.04>	0.04>	0.04>	0.04>	0.04>
	Fluorine	15 mg/l	0.1	0.1>	0.1>	0.2	0.1>	0.1>

	Item	Regulation value	Previous year		FY2002	
			Max.	Min.	Max.	Min.
Noise	Morning & evening	65 dB	59	43	60	40
	Daytime	70 dB	60	46	62	45
	Night	60 dB	58	41	60	40

	Item	Regulation value	Previous year		FY2002	
			Max.	Min.	Max.	Min.
Vibration	Daytime	65 dB	40	27	41	28
	Night	60 dB	45	23	38	23

Misono Plant

	Item	Regulation value	Previous year			FY2002		
			Max.	Avg.	Min.	Max.	Avg.	Min.
Water	Discharge (m^3/day)	-	27	22	14	28	19	17
	pH	5.8 – 8.6	7.2	6.6	5.9	6.7	6	5.8
	BOD	25 mg/l	18	8.1	3.6	12	6	1.8
	COD	25 mg/l	20	14.5	10	19	16	8.1
	SS	70 mg/l	10	6	1	7.2	4	1.2

	Item	Regulation value	Previous year		FY2002	
			Max.	Min.	Max.	Min.
Noise	Morning & evening	65 dB	51	44	56	47
	Daytime	70 dB	54	42	56	47
	Night	60 dB	52	44	55	47

	Item	Regulation value	Previous year		FY2002	
			Max.	Min.	Max.	Min.
Vibration	Daytime	65 dB	33	21	29	21
	Night	60 dB	28	20>	26	20>

Ibaraki Electric Wire Works

	Item	Regulation value	Previous year			FY2002		
			Max.	Avg.	Min.	Max.	Avg.	Min.
Water	Discharge (m^3/day)	-	387	295	207	728	469	346
	pH	5.8 – 8.6	8.3	7.8	7.2	8.0	7.6	7.3
	BOD	25 mg/l	10.8	5.6	2.8	8	4.6	0.6
	COD	25 mg/l	6.4	4.7	1.7	18	5.6	2.8
	SS	40 mg/l	7.6	5.9	1.5	6.5	4.0	1.5
	n-hexane extractable material	5 mg/l	1>	1>	1>	1>	1>	1>
	Copper	3 mg/l	0.03	0.03	0.01	0.05	0.02	0.01>

	Item	Regulation value	Previous year		FY2002	
			Max.	Min.	Max.	Min.
Noise	Morning & evening	65 dB	57	48	58	56
	Daytime	70 dB	58	50	59	57
	Night	60 dB	57	47	57	56

	Item	Regulation value	Previous year		FY2002	
			Max.	Min.	Max.	Min.
Vibration	Daytime	65 dB	41	31	39	36
	Night	60 dB	40	27	39	38

Sumidenso Platech, headquarters

	Item	Regulation value	Previous year			FY2002		
			Max.	Avg.	Min.	Max.	Avg.	Min.
Water	Discharge (m^3/day)	-	1,384.7	699.7	100.0	1,177.4	709.3	100.0
	BOD	120 mg/l	1.6	1.3	0.9	1.1	0.8	0.5
	COD	120 mg/	1.0	0.8	0.5	0.6	0.6	0.6
	Normal hexane	5 mg/l	0.5	0.5	0.5	0.7	0.7	0.6

	Item	Regulation value	Previous year		FY2002		
			Max.	Min.	Max.	Min.	
Noise	Morning & evening	45 dB	55	47	56	48	(*4)
	Daytime	50 dB	54	48	56	47	
	Night	40 dB	55	42	56	47	

	Item	Regulation value	Previous year		FY2002	
			Max.	Min.	Max.	Min.
Vibration	Daytime	60 dB	30>	30>	30>	30>
	Night	50 dB	35	30>	34	30>

(*4): Although there is a high level of background noise and the measured value exceeds regulations, there have been no complaints from the neighborhood.

Sumidenso Platech, Natsukari Plant

	Item	Regulation value	Previous year			FY2002		
			Max.	Avg.	Min.	Max.	Avg.	Min.
Water	Discharge (m^3/day)	-	6.9	5.8	0.0	8.0	6.6	0.0
	BOD	120 mg/l	1.0	1.0	1.0	17.0	9.0	1.0
	COD	120 mg/	1.6	1.6	1.6	25.0	13.3	1.6
	Normal hexane	5 mg/l	0.5	0.5	0.5	0.5	0.5	0.5

	Item	Regulation value	Previous year		FY2002	
			Max.	Min.	Max.	Min.
Noise	Morning & evening	70 dB	59	60	56	48
	Daytime	65 dB	58	47	56	47
	Night	60 dB	49	35	56	47

	Item	Regulation value	Previous year		FY2002	
			Max.	Min.	Max.	Min.
Vibration	Daytime	70 dB	41	30>	39	33
	Night	65 dB	33	30>	39	30>

Environmental Preservation Actions by Group Companies

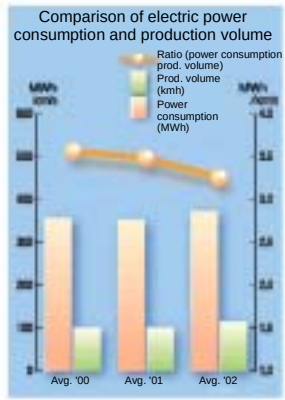
Tohoku Sumidenso, Ltd.

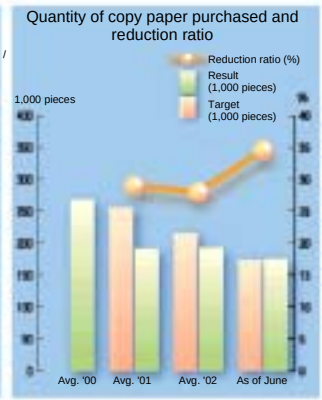
Tohoku Sumidenso, Ltd., with four places of business in Iwate Prefecture, is the northernmost site among the SWS group companies in Japan. In 2001 we acquired ISO 14001 certification, and almost three years have passed since we began our EMS activities.

Over these three years, we have endeavored to work on basic challenges, focusing on reducing environmental impact in fields familiar to us (energy consumption reduction) and reducing waste and improving recycling.
With the total cooperation of all members, we have diligently continued activities to save energy and eliminate non-useful elements, resulting in the steady reduction of energy consumption required for the same production volume and a decrease in the amount of disused articles.

We held an environmental exhibition in October 2002 with participants from local communities, promoting communication with local residents.

With the imminent introduction of the Automobile Recycling Law, we believe that components manufacturers must lead the mission to advance research and development of wire harnesses that have less environmental impact. As a member of the SWS Group, we will continue to strive for further reduction of environmental impact.





Environmental exhibition

Yamagata Sumidenso, Ltd.

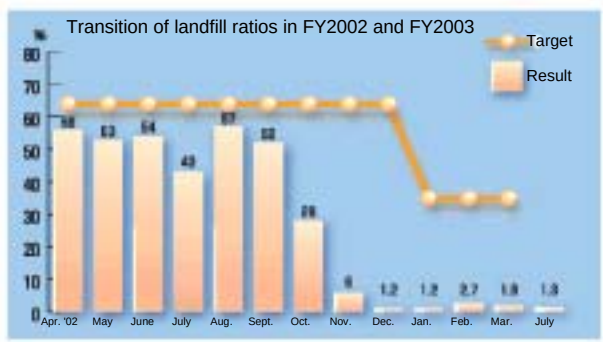
At Yamagata Sumidenso, Ltd., we recognize that one of the most important corporate challenges is the continuous improvement of environmental preservation activities. As a member of the local community, we are acting to contribute to environmental preservation in this community.

We held an environmental exhibition in 2002, and at this exhibition we presented our actions to many participants; people from companies in the neighboring industrial area, companies we do business with, prefectural & municipal government officials, mass media, and local residents. As part of a clean-up campaign for the areas surrounding our premises, our employees, including corporate executives, voluntarily perform annual clean-up activities.

On June 12, 2003, we received the "Environmental Conservation Promotion Award" from Yamagata Prefecture. 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. This fiscal year, this award went to five companies, including us. We won this award because of the high evaluation for our steady and diligent efforts in environmental preservation and clean-up campaigns.

"Zero emission (zero landfill waste)" is one of the priority challenges we set for 2003. Last year, we changed disposal companies to a company that supports thermal recycling, resulting in a remarkable reduction in the landfill ratio, from 50% to 1.9%, as well as a reduction in disposal costs. We are currently taking actions to apply thermal recycling to waste still to be buried. Another priority challenge is to reduce the amount of electricity consumed by compressors, and we are also taking actions to achieve this.

Lastly, we would like to declare our intention to continue our efforts to protect the environment, because we believe that these environmental preservation activities are vital for preserving the earth into the distant future, and also contribute to improving corporate management.



Environmental clean-up activity

Environmental Conservation Promotion Award

Hokuriku Harness, Ltd.

At Hokuriku Harness, Ltd., most of our wire harnesses are produced in Ishikawa Prefecture. The heart of our production base is located in the Noto Peninsula where the beautiful ocean and mountains still well preserved, so we feel a strong sense of purpose when performing ISO 14001 activities, because the main principle of these activities is the preservation of the global environment.

Since acquiring ISO 14001 certification in November 2000, we have implemented a variety of activities, beginning with actions that "can be done easily." Our recycling achievements in fiscal 2002 are described below.

(1) Recycling of waste plastics
We changed the disposal method for waste plastics so that they are now recycled into materials for blast furnaces at ironworks.

(2) Recycling of waste boards
When a model change occurs, plywood boards for the production of previous model become out of use. We changed the disposal method for these boards so that they are now crushed and recycled into soil in farmland.

(3) Recycling of waste fluorescent lamps
We changed the disposal method for waste fluorescent lamps so that they are now disassembled and mercury, scrap glass, and waste metal are recycled.

New disposal companies that provide the services described above were found thanks to steady information collection by the subcommittee's secretariat that promotes our ISO 14001 activities. The persistent efforts of the subcommittee members has gradually spread these environmental preservation activities throughout our employees and, as a result, every employee now fully recognizes the importance of these activities.

Our present mission is to reach "zero emission (zero landfill waste)" and the "enhancement of sustainable management." With the combined strength of all employees, we will continue to challenge these targets and pursue improvements to prevent adverse influence on posterity.

Disposal of waste boards

Boards no longer required: Before disassembly

After disassembly

Crushed wood waste (chips) are delivered to stock farms and chicken farms and then scattered over the floor. Scattering the waste this way eliminates odor, and the waste decomposes into fertilizer for the pasture after one year.

Toyo Harness, Ltd.

At Toyo Harness Ltd., we started promoting full-scale environmental preservation activities from October 1999 and acquired ISO 14001 certification in November 2000, and we have continued these activities since then.
Recently, in an effort to achieve "zero emission," which is a prime objective of the environmental preservation activities, we are promoting the reduction of surplus waste through TPS*1 activities, using returnable trays instead of cardboard boxes for components, and the introduction of thermal & material recycling by thorough sorting of waste. We changed the disposal company for our waste fluorescent lamps, created new rules, and commenced recycling these lamps. We intend to achieve "zero emission" by the end of this fiscal year.

As part of our energy saving activities, we installed timers on air conditioners in the main administration building and started collecting data to determine the results of this. We are now considering introducing this in other plants also. In addition, we conducted capacity diagnosis for some compressors and applied improvements based on the results of this diagnosis, in order to reduce electricity consumption.

This fiscal year, we held our second environmental exhibition at the Shingu Plant, resulting in extensive publicity for our activities, informing local public bodies and related groups as well as enlightening our employees.

As we have in the past, we will continue to pursue these environmental activities.

*1 TPS: Total Production System

Scene in exhibition hall

Scene in exhibition hall

Kyushu Sumidenso, Ltd.

Kyushu Sumidenso, Ltd. consists of its headquarters and the Oita Plant in Hita City of Oita Prefecture, the Kumamoto Plant in Kikuchi City of Kumamoto Prefecture, and the Shimane Plant (ex-Chugoku Harness merged in April 2003) in Ohara-gun of Shimane Prefecture. All of these plants are surrounded by beautiful natural scenery, and mainly produce wire harnesses for automobiles.

At Kyushu Sumidenso, we acquired ISO 14001 certification in November 2000, and we are currently enhancing environmental activities with the involvement of all employees, by promoting the reduction of electricity consumption, reduction of waste, manufacturing loss, and quantity of paper purchased, in both plants and offices. Hita City, home to our headquarters and Oita Plant, is the third municipality in Japan to acquire ISO 14001 certification for an environmental management system. We thoroughly sort and control waste according to the waste sorting rules of this city.

At the headquarters and Oita Plant, we have introduced a waste sorting, weighing, and a collection system based on a device designed by us that uses barcode readers and a personal computer, and effectively used this system for data control (this system has also has been introduced in the Kumamoto Plant). This enabled us to maintain "zero emission (zero landfill waste)" of waste plastics since April 2002, thanks to thermal and material recycling.

At the Kumamoto and Shimane Plants, continuous improvements are being promoted to achieve "zero emission (zero landfill waste)" as early as possible, taking advantage of the region's natural characteristics.

Waste sorting, weighing, and collection system

Barcode of department releasing waste is read.

Weighing result is displayed.

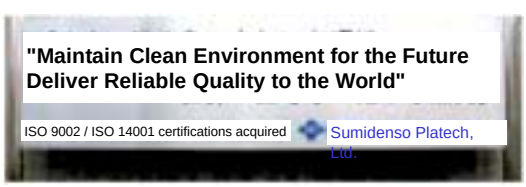
Sumidenso Platech, Ltd.

At Sumidenso Platech, Ltd., we produce electrical components for vehicles, mainly connectors, in an environment abundant with nature, including our sacred mountain, Mt. Fuji.

Since we have developed our business in such environment, environmental activities are one of our top themes. We have formulated a new mid-term plan starting from this fiscal year and implemented priority actions in this plan, aiming to become a sustainable company that cares about people and the environment.

<<Priority actions>>

1. Waste control (achievement of "zero emission")
   In-process reuse and change of sorting method enabled a recycle ratio over 99%, a one point increase compared to the previous year. We are striving to achieve zero emission by the end of this fiscal year.
2. Coexistence and co-prosperity with local communities
   In addition to controlling waste and caring for noise and vibration, we will spread the Shining Clean (Pika-Pika!!) Campaign outside the company as a voluntary activity, contributing to building a community that is neat and pleasant.



EMS Activity Report

(1) Waste control

- Thorough sorting by color-coding
  (Blue) Box for hard waste
  (Red) Box for soft waste
  (Green) Box for paper waste

- Paper collection box for recycling
  Memo pads used on both-sides, colored paper, etc.
- General waste box
  Trash collected when cleaning floor

- Waste sorting methods
  Listed on a sheet and posted near collection boxes for each section.

Paper to be Recycled

- Sign (4.5 cm length, 9.5 cm width)
  This sign must be attached boxes that store used paper before they are placed in a collection area.

[Miscellaneous]

- Requesting dealers to collect empty boxes from products purchased from them
- Providing thorough instructions to employees to take home waste from personal articles (food stuff etc.)
- Indicating section names on disposal bags used by respective sections to clarify those responsible for sorting

(2) Shining Clean (Pika-Pika!!) Campaign (outside clean-up activity)

Kyohritsu Hiparts Co., Ltd.

At Kyohritsu Hiparts Co., Ltd., we produce wire harnesses and components such as terminals and connectors. Our headquarters are in Saitama Prefecture, with production bases in the Kyushu and Tohoku districts and the Philippines, places richly endowed with nature.

To promote environmental activities in all sites, including those overseas, we decided to introduce the ISO 14001 environmental management system, as a step to building our own environmental system and structure. This introduction was kicked off at headquarters and sites in the Iwate area in January 2003, and progressed to acquire certification in December of the same year.

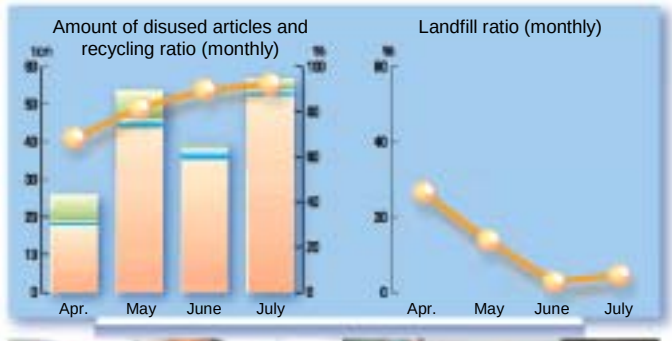
Since we entered the SWS Group in July 2002, we have further promoted these activities and implemented improvements such as:

- Control of waste generation and elimination of landfill waste
- Promotion of energy saving, focusing on electricity
- Response to emergencies in case of natural disaster, accident, etc.

These have enabled us to greatly reduce the amount of landfill waste and increase the recycling ratio in a short period. Actually, the landfill ratio has fallen from 26.6% in April to 4.6% in July, and the recycling ratio increased from 68.3% in April to 92.4% in July.

The essence of the environmental management system is the environmental awareness and behavior of every person. This system cannot function well if there is no change in personal awareness and behavior, even if it is well established.

We will continue to cultivate our employees' awareness of environmental preservation and encourage them to achieve goals set by themselves, aiming to further reduce any negative impact on the environment.



Correct sorting of disused articles is checked.

Compressor drain check

Clean-up activities by all employees for areas surrounding our premises

Education and Enlightenment Activities

Under the slogan of "eco activities by all members", it is important that all members, from new employees to management, recognize environmental issues and tackle the promotion of environmental preservation in a united effort.

Since continuous and repeated actions are required for environmental preservation, we consider that education is necessary to improve awareness, and carry out the education and enlightenment programs described below.

Education program	Target	Education contents
New employee education	New employees	General education on environment
General education (Refreshing education)	General employees	Actual situation of environmental preservation activities
	Mid-level employees	Environmental preservation activities focusing on operation management
	Promoted employees	Condition of our environmental preservation activities and roles of managerial staff
Training for internal auditors for environment	Person recommended by superior	Contents of ISO 14001 standard and techniques for audits
Environmental lecture	Executives, management-level employees, general employees	Presentation of environmental actions actually performed by environmentally advancing companies etc.

Environmental lecture

Enlightenment & Publicity

It is significant to periodically provide a variety of publications and events to provide an opportunity to spread corporate policies on environmental issues and improve the environmental awareness of every employee. We create diversified one-year schedules for in-house activities including the introduction of improvement examples.

(1) Making use of company journals and e-mail

1) Periodic report in company journal "PEOPLE“ Monthly actions, topics, etc.

2) Release of environmental news Introduction of examples of energy saving, waste reduction, etc.

3) Putting up environmental protection posters

(2) Environmental exhibitions

Held at four SWS sites.

Held at group companies.

Held at Shingu Plant of Toyo Harness (June).

Appearance in company journal "PEOPLE"

Release of environmental news

Environmental exhibition

Environmental exhibition

Contribution to Society

With a positive attitude toward coexistence with local communities, we are performing volunteer activities and environmental preservation activities, and contributing to these communities.

Communication with Local Communities

(1) Implementation of clean-up activities for areas surrounding our plants

(2) Support for environmental NPOs

1) Tree planting in Nepal

2) Purification of the Asechi River

(3) Participation in a variety of activities sponsored by prefectures and local groups

1) Mie Prefecture "Corporate Environmental Network MIE"

- Presentation in "Children Environment Experience Fair 2003"
- Participation in suggestion project of Mie-style CO_2 emissions trading system

2) Environmental Partnership Organizing Club (EPOC)

(4) Conducting plant tours

Children and teachers from Nepal

(5) Lecture activities outside company

(6) Providing recycling boxes to Kintetsu Railways platforms

Clean-up campaign

Purification of the Asechi River

Tree planting in Nepal

Conducting plant tours

Children and teachers from Nepal

Children Environment Experience Fair 2003

Participation in suggestion project of Mie-style CO_2 emissions trading system

Lecture at Mie Prefectural Environmental Conservation Corporation

Recycling boxes on Kintetsu Railways platform

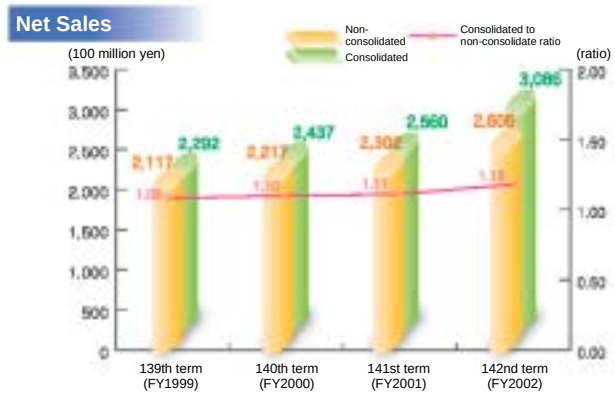
History of Environmental Actions

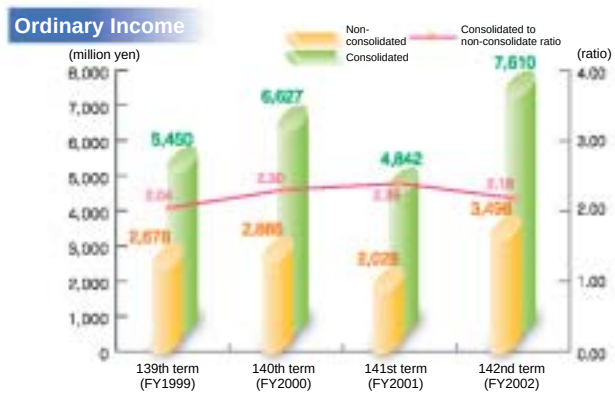
	History of SWS environmental actions	Socially environmental history
1970's	Commenced energy conservation activities.	Established Sea Pollution Prevention Act in Japan. UN Conference on Human Environment ('70) Established UN Environment Program ('72).
1980's	Suzuka Plant: Specified as Class I "Energy Management Plant" (Chubu Bureau of International Trade & Industry). Osaka Works: Received "Ministry of International Trade & Industry Director's Award". Suzuka Plant: Achieved good results of energy conservation and received testimonial from Director of Chubu Bureau of International Trade & Industry. Formed pollution prevention committee. Formed company task force for measures against fleon	Held 1st National Trust Symposium in Japan ('82). Held 1st World Lake Conference in Japan ('84) Concluded Vienna Convention for Protection of Ozone Layer ('85). Adopted Paris Declaration on forest conservation ('86).
1990's		Held 1st National Convention for Promotion of Waste Reduction in Japan ('90) Commenced experiment of huge greenhouse "Biosphere 2" ('91).
1992	Suzuka Plant: Received "Energy Resource Bureau Director's Award".	Held Earth Summit.
1993	Started Environmental Control Office.	
1994	Completely eliminated use of trichloroethylene (Suzuka). Completely eliminated specific fleon and trichloroethane. Use of electric vehicles for conveyance within plant premises.	Commenced waste sorting and collection at all 36 stations on JR East's Yamanote Line.
1995	Established environmental policies. Obtained approval from Mie Prefecture's governor, for general building business toward development and sales of advanced wiring system SATNET.	Started Children's Eco Club.
1996		Commenced ISO 14001 series.
1997	Practical use of lead-free wires Suzuka Plant acquired ISO 14001 certification.	Established Environmental Impact Assessment Law.
1998	Developed halogen-free wires for automobiles. Completed special building for electric wave experiments, at Suzuka Plant.	Executed NPO law. Established Household Appliances Recycling Law.
1999	Built system for weighing solid waste. Headquarters and Yokkaichi area acquired ISO 14001 certification.	Established Law Concerning Special Measures against Dioxins.

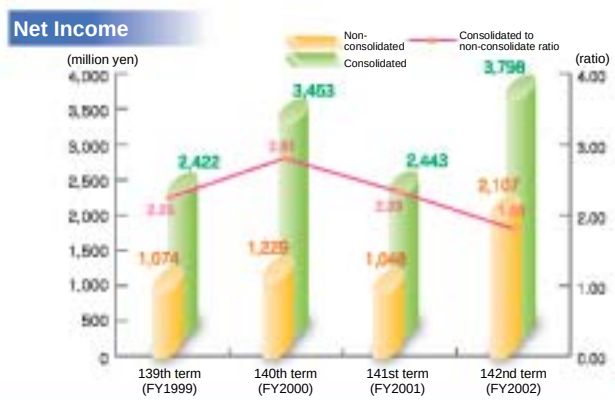
	History of SWS environmental actions	Socially environmental history
2000	Yokkaichi Storing & Shipping Center acquired ISO 14001 integrated certification. Toyo Harness, Hokuriku Harness, and Kyushu Sumidenso acquired ISO 14001 certification.	Held exposition in Hannover, Germany.
	1st in-house environmental exhibition	
	Ibaraki Plant and Misono Plant acquired ISO 14001 integrated certification. Sumidenso Platech acquired ISO 14001 certification. Yuki Plant, Sayama Plant, Sayama Storing & Shipping Center, etc. acquired ISO 14001 certification.	
2001	Chugoku Harness, Yamagata Sumidenso, and Tohoku Sumidenso acquired ISO 14001 integrated certification.	Introduced ETC traffic system.
	Lectured on EPOC environmental seminar for medium and small enterprises held in Mie.	
	Participation in MIE Environmental Fair 2001.	
	Replaced all lighting equipment that uses PCB containing stabilizers.	
	Accredited as "waste reduction promoting plant/office" by Suzuka City.	
	Issued Environmental Report (first).	
	Made report during improvement presentation meeting held by "Suzuka Industry Club" of Suzuka Eco Club.	
2002	Commercialized wire harnesses that use halogen free wires.	Enacted law concerning regulation of NOx and PM from vehicles, which prescribes car type control and submission of transportation control plan.
	Participation in MIE Environmental Fair 2002.	Executed act of industrial waste tax in Mie Prefecture.
	Held 2nd in-house environmental exhibition.	Concluded Kyoto Protocol of UN Framework Convention on Climate Change.
	Published substances with environmental impact according to PRTR law.	
	Participated in CO_2 emissions trading simulation in Mie Prefecture.	
	Tohoku Sumidenso and Yamagata Sumidenso held environmental exhibitions.	
2003	Developed and commercialized easily removable wire harnesses.	Executed Soil Pollution Countermeasures Law.
	Achieved "zero emission" at 11 SWS sites, including headquarters.	Executed ELV directive by EU (directive concerning end-of-life vehicles)
	Yamagata Sumidenso received "Environmental Conservation Promotion Award" from Yamagata Prefecture.	

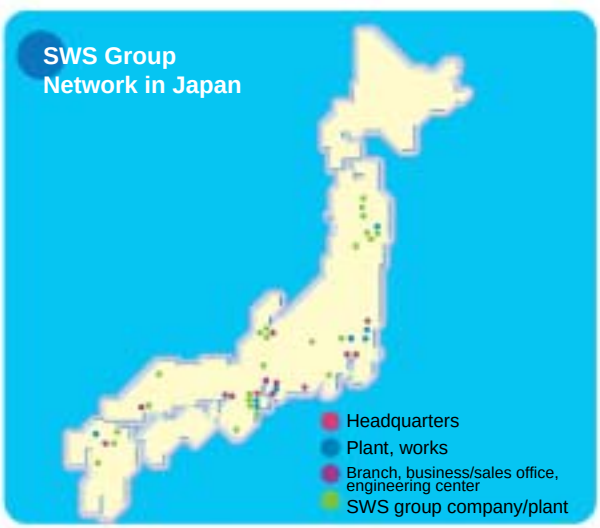
Company Overview

Official company name	:	Sumitomo Wiring Systems, Ltd.
Business activities	:	Manufacture and sale of wiring harness and other electric wires
Established	:	December 1917
Capital	:	5,034,280,510, yen (as of March 31, 2003)
Number of employees	:	3,064 (as of March 31, 2003) Note: The above figure excludes employees on loan to other companies (1,392 employees).
Head office	:	1-14 Nishisuehiro-cho, Yokkaichi, Mie 510-8503









Environmental Report
2003

Sumitomo Wiring Systems,Ltd.

Issued by:

Tomoyuki Sugitani, 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)

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