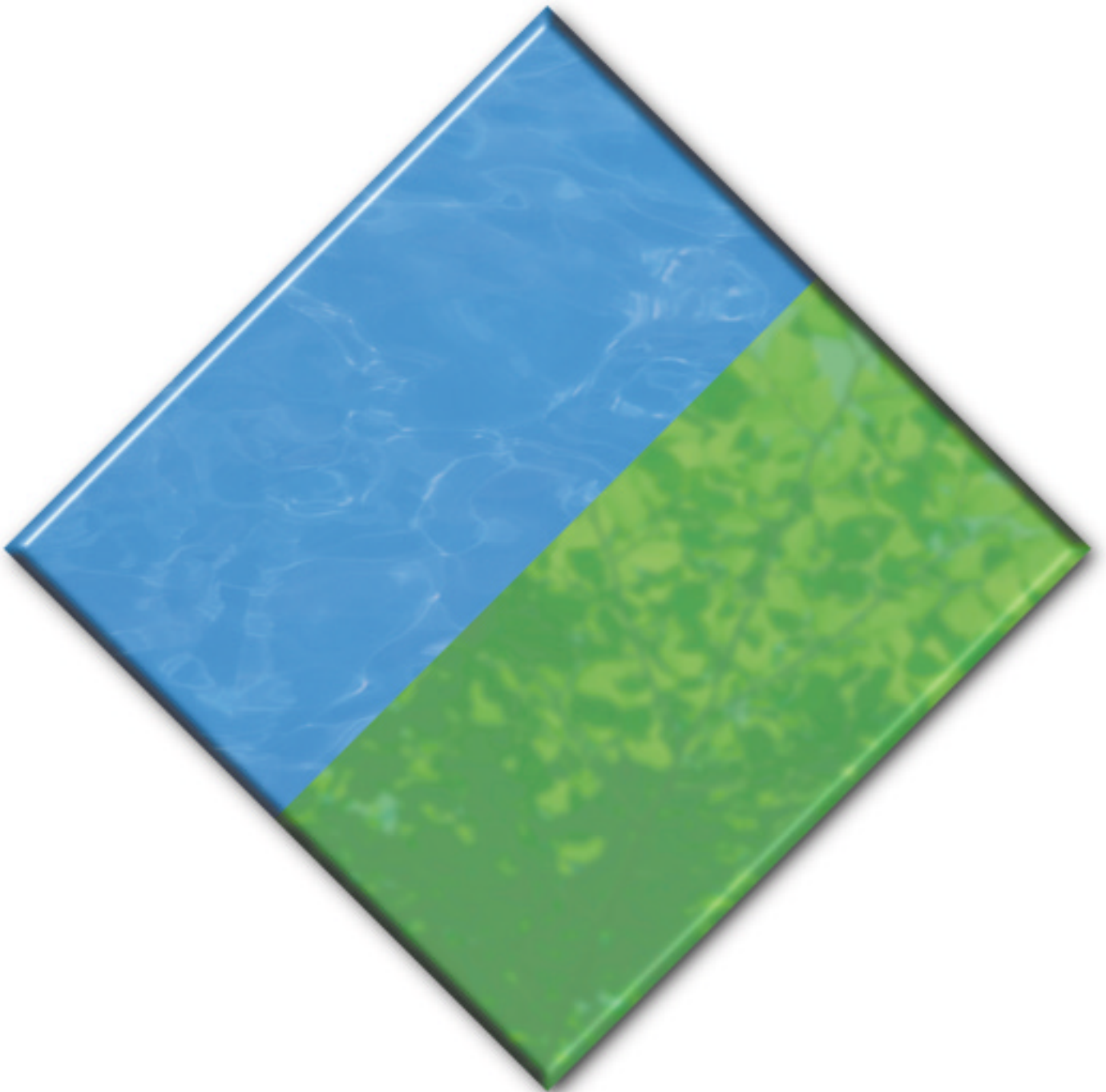


Striving for Harmony with the Earth

SII Group Green Plan



Environmental Report 2000

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CORPORATE DATA

Corporate Name:	Seiko Instruments Inc.	
Established:	September 7, 1937	
Paid-in Capital:	¥1,000 million	
Fiscal Year End:	March 31	
Annual Sales:	¥198,600 million (As of FY 1999) <small>(including ¥32,300 million in sales of Seiko Seiki Co., Ltd.) '98 ¥192,500 million '97 ¥217,000 million</small>	
Sales Breakdown:	Electronic Components	36%
	Production Equipment	22%
	Consumer Products	21%
	Information Devices and Systems	16%
	Others	5%
Number of Employees:	5,600	

BUSINESS COVERAGE

Manufacture and sales of LCD modules, CMOS ICs, micro-batteries, fiber optics, watches, electronic dictionaries, computer peripherals, CAE/CAD/CAM systems, analytic and measuring instruments, and other products

SCOPE OF THIS REPORT

This report describes environmental conservation activities deployed throughout the SII group in fiscal 1999 (from April 1999 to March 2000). All data, such as quantified environmental impact, introduced herein was gathered from SII group's major business units and companies.

CONTACT INFORMATION

Seiko Instruments Inc.

Environmental Administration Office

8, Nakase 1-chome, Mihama-ku Chiba-shi, Chiba 261-8507, Japan

Telephone: +81-43-211-1111/Direct: +81-43-211-1149

Facsimile: +81-43-211-8019

e-mail: eco@sii.co.jp

Website URL: <http://www.sii.co.jp/eco/eg/>



MESSAGE FROM THE PRESIDENT



Furthering commitment to form a sustainable society is virtually essential for all businesses today to prevent global warming and to reduce impact on the environment. The key is to get all individuals involved in environmental activities. Every employee throughout the SII group is involved in all facets of environmental conservation activities based on the "SII Green Plan." This plan was originated in April 1993, that is symbolized by the three "greens" of "green process," "green products," and "green life."

In March 1999, 11 domestic business units and companies obtained the International Environmental Management System ISO14001 certification. SII is accelerating perfection of zero-emissions and eco-design concepts within its group.

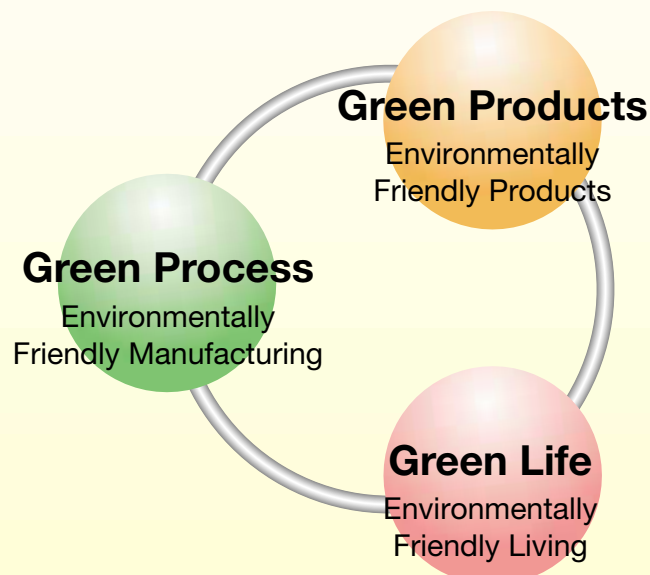
SII demonstrates its leadership as a catalyst in manufacturing energy-saving, resource-saving, compact, lightweight and environmentally friendly products such as watches, low power consumption ICs, liquid crystal displays and other key electronic microparts.

SII strives to sophisticate its environmentally oriented Information Technology which is the key to supporting the era of environmental conservation in the 21st century. While enhancing publicity of environment-related information, SII takes the responsibility of creating a sustainable society.

This report summarizes commitment and goals to and of SII group's environmental activities. Your opinion and suggestion is highly appreciated.

Junichi Hattori
President
Seiko Instruments Inc.
September 2000

CONCEPTUAL GREEN PLAN SCHEME





SII GROUP ENVIRONMENTAL POLICY AND PROMOTIONAL ORGANIZATION



SII GROUP ENVIRONMENTAL POLICY (established in June 1996 and revised in June 1999)

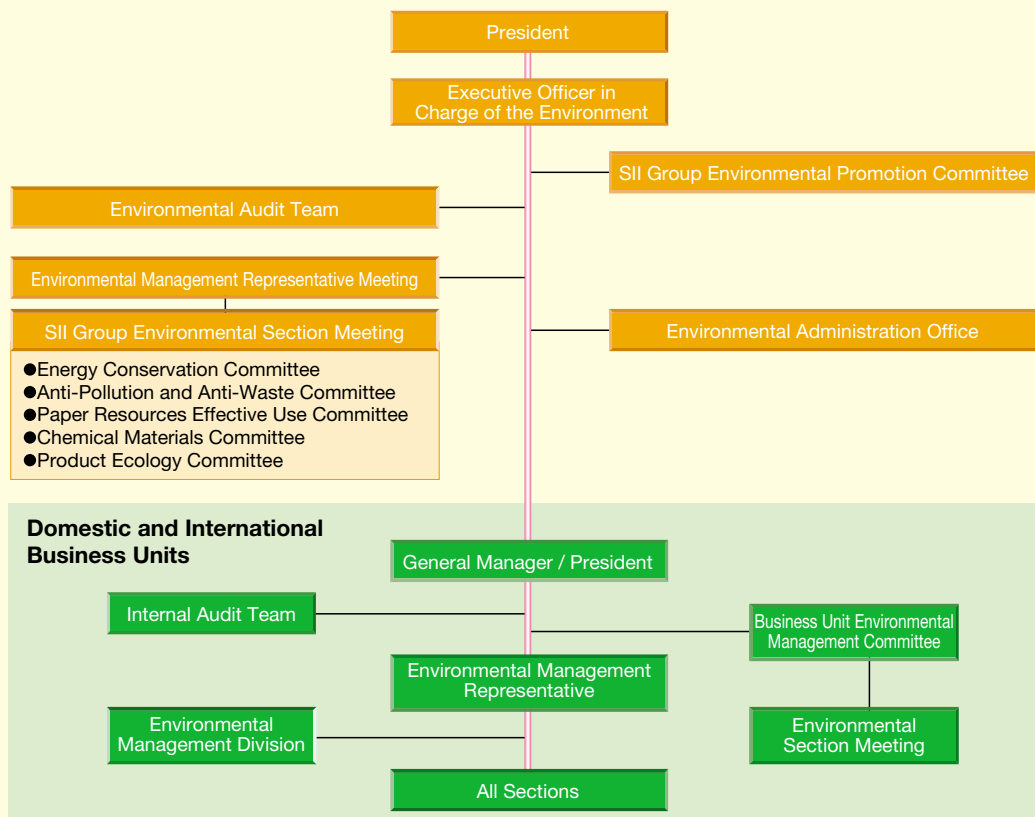
ENVIRONMENTAL CONCEPT

SII is concerned about every facet of the global environment and is aiming toward a world where all living things can exist in harmony together. SII works for the protection of the environment and its continual improvement in every corporate activity.

ENVIRONMENTAL ACTIVITIES GUIDANCE

1. Adjust the company structure and prepare relevant documents to implement improved management of the environment.
2. Observe legal regulations and agreements relevant to the environment, and work to prevent all environmental pollution.
3. Work for the continual reduction of the impact on the environment through the following.
 - (1) Provide environmentally friendly products and services.
 - (2) Save energy and contribute to the end of global warming.
 - (3) Conserve global resources through recycling and reducing waste with the eventual goal of Zero Emissions.
 - (4) Encourage employees to protect the environment in their personal life as well as their professional one.
4. Improve management and disposal of chemical materials and reduce the use of these materials.
5. Perform internal environmental audits to improve employee self-management.
6. Contribute to society through environmental activities.
7. Increase employee awareness of corporate environmental policies. Also, establish an environmental policy at each and every plant.
8. Disclose any and all information about the state of our environmental management to outside parties, if necessary.

ORGANIZATIONAL CHART





ENVIRONMENTAL MANAGEMENT SYSTEM AND ENVIRONMENTAL AUDIT SCHEME



ENVIRONMENTAL MANAGEMENT

The ISO 14001 Environmental Management System (EMS) is an effective framework to establish an economically balanced environmental management. To tackle the challenge of sustainable development conforming to the ISO Standard, SII requires each and every business unit to define and systematically accomplish individual goals, taking into consideration the costs and benefits of implementing such a system. SII is taking great strides to continually reduce the impact on the environment.

ENVIRONMENTAL AUDIT

The internal environmental audit is a key factor in checking the implementation status of the group-wide environmental conservation activities. Authorized internal environmental auditors are in charge. The audit result serves as useful data for the SII group to enhance the EMS. To ensure timely internal audits and to upgrade their reliability, employees are trained as a competent and fair-minded auditor based on the SII's grand scheme of internal environmental education. Trained employees are certified under the "SII Environmental Auditors Certification System" established in 1998.

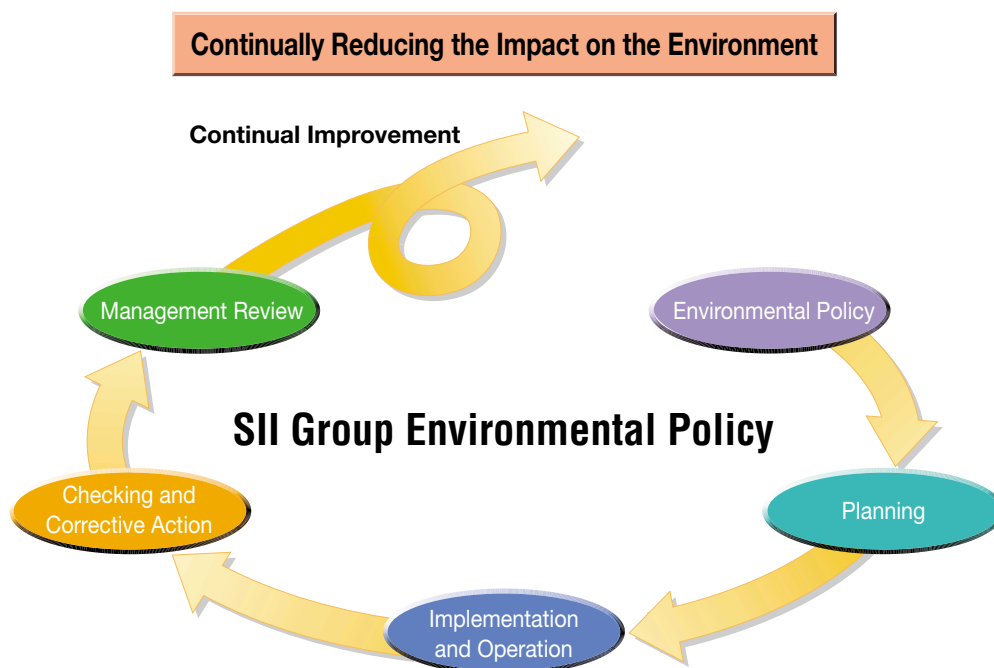
SII GROUP'S ISO 14001 ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) CERTIFICATION STATE

		SII's Business Units and Companies	Certification Date
Domestic	1	Takatsuka Unit	11/13/96
	2	Seiko Seiki Co., Ltd.	01/19/97
	3	Miyakubo Unit	03/25/97
	4	Akita Precision Ltd.	04/01/97
	5	Morioka Seiko Instruments Inc.	04/12/97
	6	SII Quartz Techno Co., Ltd.	02/24/98
	7	Oyama Unit	08/25/98
	8	Akita Seimitsu Denshi Kogyo Co., Ltd.	01/27/99
	9	SII Microparts Ltd.	02/15/99
	10	Ohno Unit	03/10/99
	11	Nastec Precision Co., Ltd.	03/10/99
Worldwide	1	Seiko Instruments Singapore Pte., Ltd.	05/28/97
	2	Asian Electronic Technology Pte., Ltd.	04/30/99

As of March 2000

Qualification		Number of Qualified Employees
SII Certified Environmental Auditors		17
Trainees who completed Environmental Auditor Education		218
Official Environmental Auditors (CEAR* Registered Auditors)	Lead Auditors	3
	Auditors	4
	Provisional Auditors	6

*CEAR : Environmental Management System Auditor Assessment Registration Center
As of March 2000





FY1999 RESULTS AND FY2000 ACTION PLANS



RESULTS IN FY1999

Discontinuation of the use of chlorine solvents, reduction in waste, and increase in the use of recycled paper and the paper recycling ratio were successfully accomplished under the ISO 14001 Environmental Management System adopted in FY1999. This goal was targeted for FY2000 according to the SII Green Plan Mid-term Goals established in 1996.

Items	Targets	Quantified Targets	Actual	Assessment (○: accomplished △: ongoing)	Refer to page	
Energy Conservation	Bring CO ₂ (carbon dioxide) emission levels down to the 1990 level by 2000.	Bring CO ₂ emission levels from 100 down to 100 by the end of FY2000 (20920 tons-C).	104 points 21,754 ton-C	△	SII cut its energy use by drastically implementing energy conservation measures, allowing for a 3.5- point improvement over previous fiscal years.	9
Waste Reduction	Reduce office and factory waste by 10% from the 1992 level by 2000.	Bring waste emission levels from 100 down to 90 by the end of FY2000 (3123 tons).	52points 1,814 ton	○	SII reduced waste emission levels by further recycling sludge and liquid waste, allowing for a 19 point-improvement over previous fiscal years [Early perfection of goals targeted at the end of FY2000].	7・8
Pollutants Reduction	Reduction and discontinuation of Trichloroethylene and Methylene-chloride by 1999.	Discontinue the use of pollutants by the end of FY1999.	No pollutants emitted (as of March 1999)	○	SII reached its goal of discontinuing the use of pollutants in March 1999, allowing for early perfection before the end of FY2000.	6
Paper Resources Conservation	Lower paper use and recycling below the 1993 level by 2000. ・ Office Related Paper Use - 100 to 75	Bring the paper resource use levels from 100 down to 75 by the end of FY2000 (115 tons).	67points 102 ton	○	[Early perfection of goals targeted at the end of FY2000]	8
	・ Paper Reuse - 66 to 95%	Raise paper reuse ratio from 66% up to 95% by the end of FY2000.	96%	○		
	・ Recycled Paper - 19 to 50%*	Raise paper recycling ratio from 19% up to 50% by the end of FY2000.	59%	○		
Environmentally Friendly Product Development	Approach perfection of environmental assessment of products by the year 2000.	Approach perfection of environmental assessment of products by FY2000.	80%	△	Approach perfection is expected to be reached the end of FY2000 through constant implementation.	10

*Paper Recycling $\text{Recycling (\%)} = \frac{\text{Used Paper}}{\text{Used Paper} + \text{Non-recyclable waste}} \times 100$

FY2000 ENVIRONMENTAL CONSERVATION ACTION PLANS

SII prepared its environmental conservation action plan for FY2000 and thereafter based on the goals attained in FY1999.

Items	Goals
Energy Conservation	Bring CO ₂ (carbon dioxide) emission levels down to 3 points from the 1990 level by the end of FY2010.
Zero-Emissions	Attain zero-emissions at SII group's major domestic business units and companies by the end of FY2003.
Chemical Materials Management	Establish a chemical material risk zero management system by the end of FY2002.
Product Design Assessment Implementation	Attain perfection of product design assessment implementation by the end of FY2000.
Lead-Free Solder	Develop a lead-free solder, start its internal use in FY2001 and put it on the market.
Green Purchase	Raise the green purchase ratio up to 30% at the end of FY2000 and attain its perfection by the end of FY2002.



FY1999 MAJOR ACTIVITIES AND RESULTS



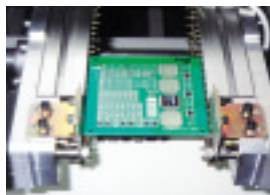
LEAD-FREE SOLDER

As well known, when a person absorbs lead, it becomes difficult for he or she to form his or her blood, or it may result in a lower intellectual capacity or other bio-malfunctions.

Electronic parts are connected to a printed circuit board (PCB) which is a heart of electric or electronic devices with solder made of tin (Sn) and lead (Pb). Electrode pins of electronic parts are also soldered. It has been suggested that this type of solder contains several 10 percents of lead which may result in pollution of ground water due to melting and elusions of lead in acid rain after being disposed of. Pressure is put on industry to urgently develop a lead-free solder as well as its mounting technology. To do this, SII has developed lead-free solder and established a mounting technique to create a joint between PCBs and electronic parts using lead-free solder. From 2001, SII will commercialize lead-free products from time to time.



Lead-free solder-based PCB mounting machine (under development)



Lead-free solder-mounted PCB sample

GREEN PURCHASE

To form a sustainable society, it is indispensable for people to purchase products with low environmental impact (Green Purchase).

In October 1999, the SII group originated the Green Purchase Manual which describes the purchase guidelines for each product in concert with the Procurement Division and the Environmental Administration Office, and distributed it group-wide. At the same time, the Green Purchase Standards were established and made public to all suppliers



Green Purchase Documents

of the SII group. Among which about 300 suppliers and subcontractors responded to the questionnaire developed by SII to investigate their environmental management system, green purchase status and so on. The investigation results are utilized in and reflected in the manufacture of environmentally friendly products.

In September 1999, SII opened an Internet Office Paper and Supplies Purchase System, in order to recycle paper and to product other environmentally friendly products, allowing personnel in charge of procurement of office supplies to deepen their awareness of the environmental conservation.

CHEMICAL MANAGEMENT AND REDUCED USE

SII recognizes chemical materials as a serious environmental concern. In February 1998, SII created an "SII Chemical Materials Guide" to raise immense awareness among all employees in charge of development, design, production, and waste disposal, and to improve their chemical management. Chemicals are classified into three categories: 1) Prohibited chemicals, 2) Controlled chemicals, and 3) Approved chemicals. In particular, new chemicals to be newly introduced are specified and implemented after having been subject to check and approval of the Environmental Committee established by each individual business unit and company.

Following early discontinuation of ozone-layer depletion materials (discontinuation of specific fluorine: August 1992; Trichloroethane in November 1993) and voluntary discontinuation of organic chloride solvents, such as Trichloroethylene, SII discontinued in March 2000 the use of alternative fluorine HCFC-141b whose global warming factor is high.

Prior to the legislation of the Pollutant Release and Transfer Register (PRTR) Law, SII investigated chemical materials used by all domestic manufacturing plants in FY1999. The result is shown below. The total amount of chemical materials is 124 tons. SII will continuously try to manage, control and recycle chemical materials. Parallel to this, SII is voluntarily disclosing PRTR information to outside parties.

PRTR Investigation Result in FY1999

(unit: t)

Name	Amount of use	Elutions to air	Elutions to water	Consumption	Amount of removal*1	Amount of transfer	Amount of recycling
Antimony and its compounds	0.620	0	0	0.140	0	0	0.480
Xylenes (mixtures)	22.210	2.990	0	0	0	18.870	0.350
Silver compounds	32.070	0	0	30.470	0	0	1.600
Cyan compounds	1.650	0.004	0	0	0.356	1.290	0
Toluene	1.780	1.330	0	0	0	0.450	0
Nickel compounds	5.321	0	0.010	3.766	0.355	0.740	0.450
Benzene	0.090	0.010	0	0	0	0.080	0
Boron and its compounds	0.294	0.104	0.102	0.088	0	0	0
Manganese compounds	8.200	0	0	2.830	4.670	0.700	0
Iodine	0.220	0	0	0	0	0.220	0
DDVP	1.130	0.310	0	0	0	0.820	0
Aluminum compounds (soluble salt)	33.210	0	0	0	33.210	0	0
HCFCs	13.895	12.535	0	0	0	0.980	0.380
HFCs	3.240	3.240	0	0	0	0	0
Hex-sulfuryl fluoride	0.032	0.006	0	0	0.026	0	0
Lead solder	0.325	0	0	0.163	0	0	0.162
Total	124.287	20.529	0.112	37.457	38.617	24.150	3.422

* 1 Amount of removal: Means the amount of transformation to another material due to neutralization, dissolution, chemical reaction and other processing of PRTR materials in sites.

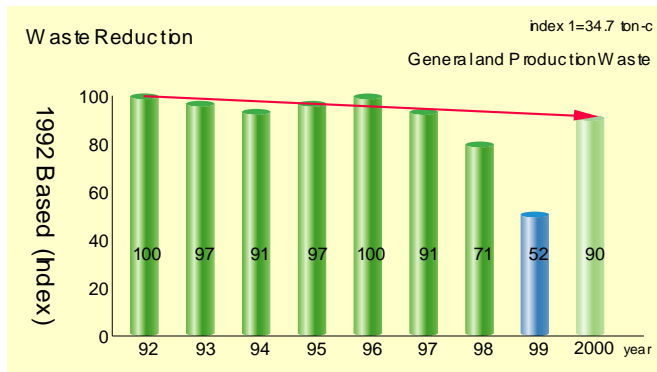


GREEN PROCESSING AT ZERO-EMISSIONS

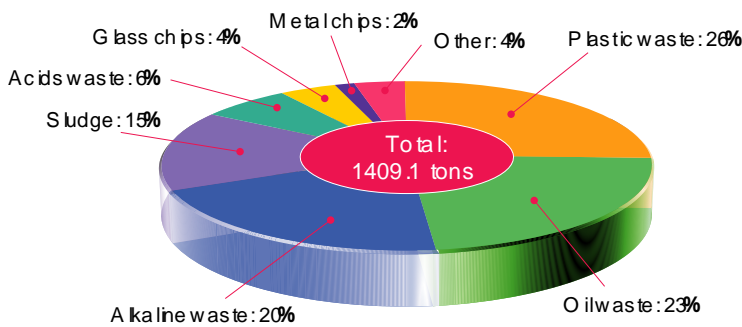


Reduction in wastage of resources is fundamentally compatible with the sustainability that will enable a sustainable society on the Earth, humans and other life thereon.

To ensure the goal of "no waste to be emitted," called Zero-Emissions, one criterion for a society to be sustainable, SII tries not only to reduce the amount of waste emitted by each individual business unit, but also reuse the recovered waste. SII is concentrating on early implantation of the zero-emissions concept (targeted at March 2004) by promoting the recycling of used paper, plastic waste, waste oils, liquid waste, and sludge.



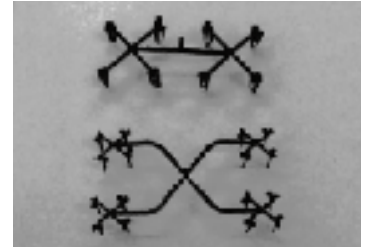
Breakdown of Industrial Waste



SII investigated the final disposal state of waste emitted by each individual business unit in FY1999 in cooperation with its contracted waste disposal companies. To further reduce the amount of waste to be sent to the final waste disposal site, SII contacted and contracted additional recyclers. Each business unit prepares a ZERO-EMISSIONS report to share environment-related information and technology throughout the SII group. 6 business units and companies in the KEIYO district collectively recycle batteries, fluorescent tubes, office equipment in corporation with recyclers.

PLASTICS RECYCLING AND REDUCED USE

Over 90% of plastic materials used in watches are lost from the runner during injection molding. To minimize this loss, SII decreased the size of the runner, improved production from 4 units to 8 to 16 units, and increased the recycling ratio to 75%. As a result, the use of plastics was reduced by 27.4%.



Runner Before improvement (Top)
After improvement (Bottom)
Doubling yield and reducing waste materials

MACHINING OIL RECYCLING THROUGH

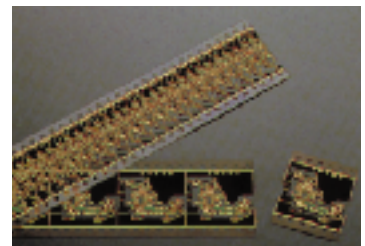
SII introduced a new machining oil recycling system in 1998. The system consists of an iron, stainless steel and aluminum chip processor, a chip chute and a chip collection bin. When workpieces are processed by automatic lathes or grinding machines, oil collects on the chips. The chip processor automatically separates the oil from the chips and breaks down the chips into small pieces, and collects the pieces for recycling. The oil retrieved from this process accounts for 40% of the machining oil used at specific plants with in the SII Group.



Chip Processor: Separates the oil from the chips and breaks the chips down into small pieces for recycling.

FERRIC-CHLORIDE RECYCLING

With the help of recycling companies, SII recovers resources from the ferric chloride formed by the circuit board etching process. This recycling reduces the amount of industrial waste from our facilities and cuts our waste treatment costs.



WASTE WATER RECYCLING

SII introduced a waste water recycling system to turn waste water produced at other plants into pure water. The pure water is then used in the etching process for printed circuit boards (PCB) and for washing parts.



Waste water Recycling system Recycles a total of 150 tons a day.

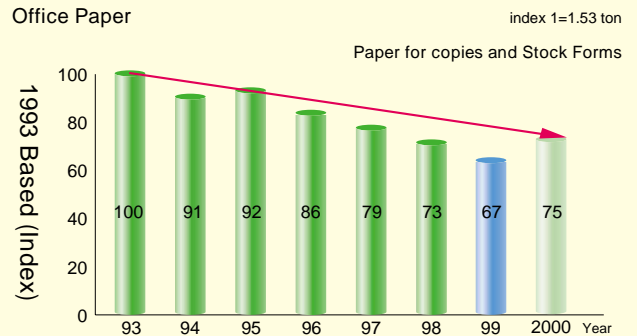
RECYCLING PAPER

SII is continuously striving for perfection of recycling paper. The "Clean Arrow" Recycling Packer Truck, introduced in 1993, collects used paper from the Makuhari Head Office and neighboring business units (Keiyo District). Sorting, litter collection and one-time processing of confidential paper by a large-scale shredder makes it possible to recycle a total of 400 tons of paper a year, which translates to about 8000 trees.

SII received an award for recycling from the Recycle Promotion Committee in October 1996.



Office Paper

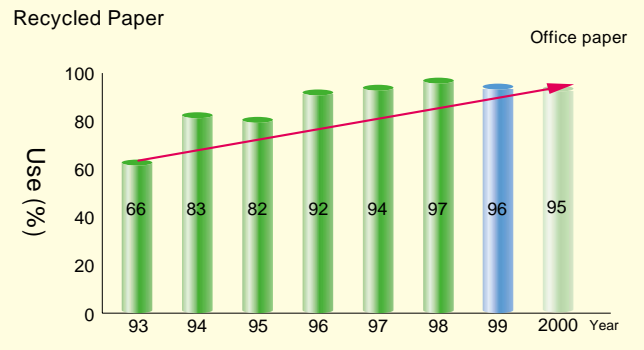


PACKING MATERIALS REDUCTION AND RECYCLING

In an effort to lower the consumption of packing materials, all divisions have been instructed to design packages that use less paper, are non-toxic, more durable, and can be easily recycled.



Recycled Paper

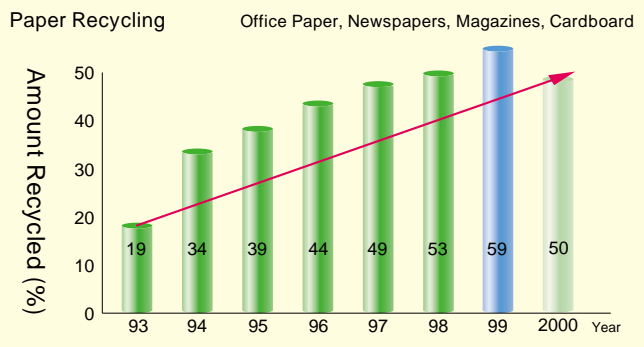


PROCESSING KITCHEN WASTE

Since the installation in kitchens of the Makuhari Head Office's cafeterias in April 1996, large-scale kitchen waste processors not only reduce the amount of kitchen waste, but also process kitchen waste to organic compost, which is now being offered to employees free of charge upon their request. At SII's other business units and companies, kitchen waste produced from their cafeterias is processed and used as compost to raise flowers and ambari hemp in and around sites.

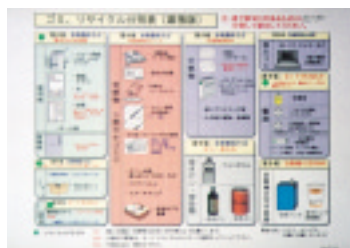


Paper Recycling



SORTING AND COLLECTION

Waste generated through everyday corporate activities, such as used paper (print paper, newspaper, confidential documents), corrugated cardboard boxes, cans, plastic bottles, flammables, batteries, and inflammables are sorted correctly and collected.



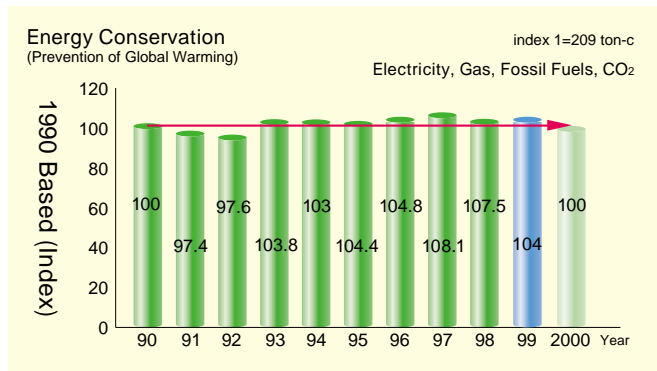


GREEN PROCESS: ENERGY-SAVING AND PLANT ENVIRONMENTAL CONSERVATION



ENERGY CONSERVATION

To solve global-wide environmental issues such as global warming, the pressure is put on all humans on the Earth to further reduce CO₂ through all possible individual energy-saving approaches. The SII group is trying to minimize the energy being consumed by everyday offices and factory workplaces. In other words, SII is aiming not at "Energy-Saving" but "Lowest Possible Energy."



The SII group shifted to inverter-controlled and individually-optimized air-conditioning, and newly employed gas heat pumps. Parallel to this, additional cool and warm water generating systems were set up in FY1999. The energy-saving status at SII's Makuhari Head Office was diagnosed by the Japanese Energy-Saving Center. A 5% energy reduction in CO₂ over the previous FY had been achieved according to the positive tests.



Cool and warm water generating system



Energy saving in a clean room

PLANT ENVIRONMENT CONSERVATION AND RISK-SOLUTIONS

Drainage, gas waste, noise, vibrations and other serious factors emitted from factories are restricted under manufacturers' voluntarily-established standards which are stricter than governmental ordinances. Environmental conservation and pollution protection at factories and their surroundings are ensured through regular measurements of environmental risk factors as well as maintenance, management, and control of environmental conservation facilities and machines. In FY1999, SII invested 132 million yens in environmental facilities to take measures against nitrogen and phosphor discharges into Tokyo Bay, minimize noises generated from factories and upgrade facilities and machines.

Each factory is not only equipped with an emergency drainage and rain interrupter, liquid tank protectors to mitigate risks, but also regularly provides realistic emergency training to its employees.



Scrubber



Sound isolator



GREEN PRODUCTS ENVIRONMENTALLY FRIENDLY PRODUCTS



The SII group shows its long standing concern for the environment with everything it makes, providing consumers with products which are free of any toxic materials and consume less resources and energy.

ECOLOGY ORIENTED DESIGN AND ASSESSMENT

The SII group established an ecology oriented design system to create products with low impact on the environment. In this system, environmental reviews are made at the product design stage, where even the product life cycle is considered in regard to environmental conservation and safety.



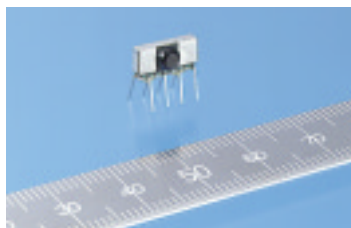
DISPLAY OF THE TYPE OF PLASTIC USED

SII stamps the type of plastic used in a product containing 25 g or more directly on the product to facilitate recycling.



REMOTE CONTROLLED INFRARED LIGHT SENSITIVE MODULES

This module drastically reduces the power consumed by the standby setting of home electronics. SII strives to develop and commercialize a further miniaturized and power-saving light sensitive module.



ULTRA SMALL SURFACE MOUNT QUARTZ CRYSTAL RESONATORS

SII created ultra small crystal resonators with half the mount area of conventional products. These energy efficient resonators are used in state-of-the-art products such as cellular and PHS phones, PDA camera-integrated VTRs, digital camera timers, digital clocks, and other high-tech devices.



COLOR LASER PLOTTERS/PRINTERS

The Color Laser Plotter/Printer LS-3300 is a registered product with the International ENERGY STAR Office Equipment program. It meets the standby power consumption standard.



As an ENERGY STAR® Partner, Seiko Instruments Inc. has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

ENVIRONMENTALLY FRIENDLY, ENERGY-SAVING PORTABLE PERSONAL COMPUTERS

The WX-1110 PC is equipped with the world's first reflective color LCD and has a very low power consumption, allowing it to run for 5 to 10 hours on a single lithium battery. It is a registered product with the International ENERGY STAR Office Equipment Program.



GAS HEAT PUMP COMPRESSORS

SII manufactures energy-saving, and environmentally clean gas-heat compressors for use in office and shop airconditioners as a solution to global warming.





SII'S UNIQUE ENVIRONMENTAL COMMITMENT TOWARDS THE 21ST CENTURY



ANALYTIC INSTRUMENTS

Ordinances such as the Law Concerning Special Measures against Dioxins and the Basic Law for Formation of Sustainable Society were established in 1999 and 2000. Companies and citizens must follow these ordinances. SII is dedicated in providing customers with a broad range of environmental analytic instruments to support their environmental conservation activities.

HIGH-FREQUENCY INDUCTIVE CONTACT PLASMA (ICP) MASS-SPECTROMETER

Inductive Contact Plasma (ICP) Mass-Spectrometer: Equipped with an optimized environmental analysis system, the ICP mass-spectrometer analyzes multiple elements in several types of specimens at one time. It is widely used in universities, company laboratories, and production lines.



Near-Infrared Portable Spectrophotometer

It sorts 15 different types of plastics in a moment to recycle waste plastics.

ENVIRONMENTAL IMPACT REDUCTION AND INFORMATION TECHNOLOGY (IT)

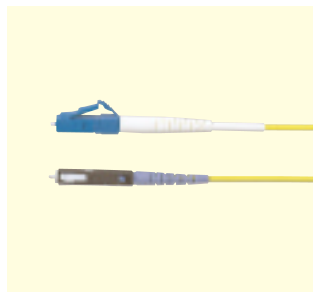
With the remarkable swelling of the Internet, wireless and optical telecommunication as a communication infrastructure to support the IT revolution, the society moves towards less movement of people, things and cash. This is accelerating social and industrial trends towards a greater decrease in the impact on the environment. The SII group is continuously trying to manufacture small size, lightweight, power-saving wireless and optical communication systems and devices with high reliability.

CREPICO: SII has succeeded in commercializing the Japan's first wireless credit card terminal system that has been on the market since April 1999. The CREPICO series includes the world's smallest debit card terminal to provide customers with higher convenience at a taxi charge payment.

Optical Communication Supporting Parts: SII is offering optical connectors and switches to ensure highly reliable connection and branching of optical fibers.



Japan's first wireless credit card terminal CREPICO

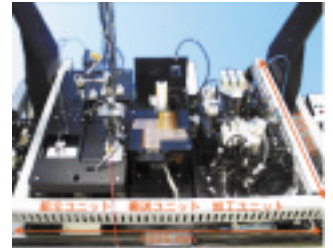


Optical fiber connectors
(Top: LC-type connector; Bottom: MU-type connector)

RESEARCH OF A MICROFACTORY

SII is performing research in pursuit of a dream of an ultrasmall, compact and power-/resource-/ and space-saving factory called a microfactory. The microfactory will result in a futuristic and promising plant towards the 21st century where all processes of microparts ranging from carrying/loading/unloading, machining, and assembling to inspection are vertically integrated in only a 1 square meter space and with one tenth to one hundredth energy and resource. In the microfactory, only a few devices are run because they have multiple functions which flexibly respond to the effective manufacture of diversified and complicated products.

SII is proceeding with this research project which has been commissioned through the Macromachine Center Corporation by the NEDO* under the Industrial and Scientific Technology Research and Development System. SII is now modeling a micro-machining and assembling prototype system that is subject to further discussion on their practical use and problems. Specializing in electrolytic machining technique, SII offers a useful and cost-effective system to electrolytically machine workpieces.



A future microfactory will make it possible to provide a new space covering from corporate manufacturing to personal creation, and bring a decisive contribution to a new century of energy-saving and resource-saving production.

* NEDO: New Energy and Industrial Technology Development Organization

Citi Service Co., Ltd.

Global conservation oriented services including comprehensive facilities maintenance to reduce the use of energy while improving efficiency and ensuring a safe operational environment.



Seiko I Techno Research Co., Ltd.

Technical consultancy specializing in environmentally friendly testing, measurement and analysis methods including the measurement of EMI (Electromagnetic Interference) to meet the increased needs of environmentally oriented customers.



SII Logistics Inc.

Packaging design consultancy specializing in environmentally friendly packaging and distribution systems. Paper-like cushion material which ensures perfect shock resistance during transportation, is used instead of plastic.





GREEN LIFE: ENVIRONMENTAL CONSERVATION-ORIENTED LIFE



Through a myriad of activities, SII strives to raise the awareness of each and every employee toward the environment at both work and home. These programs are beginnings to pay dividends in the form of reduced waste and consumption in every facet of life.

AMBARI HEMP CULTURE

At the Oyama unit, kitchen waste produced from its cafeterias is processed and used as compost to cultivate ambari hemp in and around the site. Approximately 140 kg of ambari hemp (3.85 m long at maximum) was yielded in FY1999. Contributed to local welfare homes, ambari hemp is reproduced into cane-twisted picture frames, sheath-tissue dyeing paper, and ambari hemp dyeing shawls by people of the homes.

*Ambari Hemp: An annual mallow that is well known to absorb CO₂.



UNNECESSARY CAR IDLING REDUCTION CAMPAIGN

Since June 1997, SII has campaigned against unnecessary car idling because CO₂ emissions are a key of cause of global warming. The campaign includes the attachment of "STOP CAR IDLING" bumper stickers to each company car and bus; and the placement of "STOP CAR IDLING" flags in the parking to inform suppliers and vendors, too.



RECYCLING MILK CARTONS

Each and every business unit collects and recycles empty milk cartons disposed of at vending machines or internal shops. Milk carton recycling is led mainly by the SII Labor Union.



ENVIRONMENTALLY-ORIENTED COMMUNITIES

Aiming at realizing a global enterprise in harmony with the environment and communities, SII holds Eco-Events, such as the "Cleanup Campaign," "Factory-Tour," and "Summer Festival" in neighboring communities to improve environmentally friendly activities. SII's Makuhari Head Office offers an exhibition space and utilities for the "Eco-Messe Chiba" held in the Makuhari New Metropolitan, makes questions in an environmental quiz show and parti-cipates in Eco-Events including EcoBazaar every year.



*2 Eco-Messe Chiba:
To be held under a sponsorship of Chiba Prefecture and other organizations by citizens, enterprises, and administrative organs unanimously at the Makuhari New Metropolitan area every year since 1996 as one environmental problem solution.

HOME ENERGY MANAGEMENT GUIDE

Since energy consumption for and at home accounts for 50% of the total, a review of lifestyles employee is indispensable for reducing CO₂. SII published a Home Energy Management Guide so that everyone in the SII group can record and strive to reduce daily energy consumption at home.



ENVIRONMENTAL ACCOUNTING ENVIRONMENTAL EDUCATION SYSTEM



ENVIRONMENTAL ACCOUNTING

SII has introduced an environmental accounting technique that is an important tool to quantify the environmental conservation costs as well as their effects, and to facilitate effective environmental conservation activities throughout the SII group. The SII group collected the widest possible environmental data as the company's first trial environmental accounting for FY1999 according to the FY2000 Report entitled "Towards Implementation of an Environmental Accounting System" published by the Environmental Agency Japan in May 2000. From now on, SII is trying to collect data comprehensively and utilize it for its environmental management. Comprehensively-collected environmental information is disclosed to outside parties.

ENVIRONMENTAL CONSERVATION COSTS AND THEIR EFFECTS

Data collected by: SII Head Office, and 11 domestic business units and companies Data collected from: April 1, 1999 through March 31, 2000. Unit: 1 million yen (an "under bar" used herein means that there is no data collected in FY1999)

Environmental Conservation Costs				
Classification		Description	Investment (yen)*1	Costs (yen)*2
(1)	Environmental conservation costs to reduce the environmental impact produced in and around each business unit and company through the production, service and other corporate activities (Internal Business Costs).			
Breakdown	a. Pollution prevention costs	Water, atmosphere, noise and vibration	132.3	371.4
	b. Global conservation costs	Global warming prevention and ozone-layer protection	51.7	179.1
	c. Recycling costs	Resource-saving and waste-reducing costs	53.4	294.0
(2)	Environmental conservation costs to reduce the environmental impact produced up-stream and down-stream through production, service and other corporate activities (Up- and Down-Stream Costs).	Product, package recycling		
(3)	Environmental conservation costs through management and other corporate administrative activities (Administrative Activities Costs).	Implementation of environmental education and environmental management.	0.0	314.4
(4)	Environmental conservation costs through R & D activities (R & D Costs).	Development of environmentally-friendly products, lead-free solder mounting technology.	10.0	40.0
(5)	Environmental conservation costs through social activities (Social Activities Costs)	Tree planting, spectacular preservation, disclosure of environmental information	0.0	26.2
(6)	(6) Environmental damage recovery costs (Environmental Damage Costs)	Soil pollution recovery fees	0.0	0.0
Total			247.3	1,225.1

*1: For only FY1999 *2: Including depreciation of investment for FY 1998 and previous fiscal years

Effects were calculated based on the environmental conservation and economic effects gained through environmental conservation activities. Presumable economy effects were calculated based on the SII's unique definition.

Environmental Conservation Effects		Economical Effects Through Environmental Conservation Activities		Total 987.5	
Environmental Impact	Reduced Amount (FY98 to FY99)	Substantial Amount	Subtotal 227.8	Presumable Effect	Subtotal 759.7
CO ₂	725 t-C	184.0		Prevention of any operational stop due to air or water pollution and other serious factors	267.0
City water	89,000 m ³	2.3		Soil pollution prevention	400.0
Paper resources	9.9 t	3.2	Profit of sales of securities 38.3	Prevention of punishment due to unlawful (malicious) abandonment	92.7
Industrial waste	612 t				
General waste	55 t				

(unit: 1 million yen)

ENVIRONMENTAL EDUCATION SYSTEM

Because the success of each environmental protection activity depends on the cooperation and action of every employee, SII provides a set of environmental education seminars to increase employee consciousness of the environment and deepen the understanding of SII's environmental policy. SII's environmental education system consists of general, special, and environmental auditor seminars.

352 employees have participated in the Special Environmental Education Seminar and 218 in the Environmental Auditor Education Seminar. After participation in the seminars, the newly trained auditors are sent out to further enhance the EMS and environmental performance of each business unit and employee.

GENERAL ENVIRONMENTAL EDUCATION SEMINARS

Seminars	Participants	Curriculum
Current environmental issues and measures	New employees	SII group's environmental measures
EMS	Middle and senior staff	Environmental management techniques and the ISO14001
Environmental management system enhancement and performance improvement	Managers	Global Environmental Trends Performance Improvement Measures

SPECIAL ENVIRONMENTAL EDUCATION SEMINARS

Seminars	Participants	Curriculum
Chemical handling and Waste management	Chemical handling personnel Environmental facility and equipment operators	Chemical materials study and management of chemicals, water and environmental pollution prevention related knowledge, and waste related knowledge
Energy-saving measures	Manufacturing and production engineers	Energy-saving manufacturing technologies and other energy-saving approaches
Product environmental impact assessments	Product development personnel	Approaches to reduce the impact of products on the environment, and examination of other manufacturer's environmentally friendly products
Dangerous article handling and high pressure gas handling	Dangerous article handling personnel Qualified high pressure gas handling personnel	Key points of safekeeping and management of dangerous articles and high pressure gases

ENVIRONMENTAL AUDITOR EDUCATION SEMINAR

Seminar	Participants	Curriculum
Internal environmental auditor training	Dedicated auditors at each and every business unit	Necessary skills to conduct internal environmental audits



ENVIRONMENTAL CONSERVATION ACTIVITIES TIMELINE



ENVIRONMENTAL AWARD SYSTEM

SII holds a meeting in April to award business units and employees who have achieved the best results in their environmental activities.

PUBLICITY AND INTERNAL PROMOTION

SII provides outside entities with information relevant to the environmental protection activities throughout the SII group.

PR Brochures and Documents	SII Green Plan (Annual Voluntary Environmental Protection Activities Plan and Report), Official Website of SII Green Plan
Environmental Information Exchange	Answer environment related questions Setup environment related lectures requested by outside authorities Participate in the exchange of environment related information and meetings sponsored by corporations in different fields.
Promotion Activities	Unnecessary Car Idling Reduction Campaign
Cooperation with suppliers and subcontractors	Inform suppliers and subcontractors of SII Environmental Policy and request them for their cooperation. Exchange environmental information of supplies.

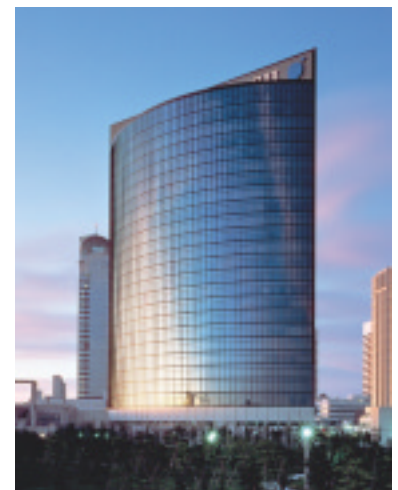


EXTERNAL ENVIRONMENTAL AWARDS

- October 1996: SII group's 6 business units and companies received the "Recycling Promotion Association President Award" for their paper recycling activities.
- June 1998: Akita Precision Ltd. received the "Environmental Grand Prize" sponsored by Akita Prefecture.
- June 1998: Morioka Seiko Instruments Inc. received the "Excellent Environmental Conservation Enterprise Award" sponsored by Iwate Prefecture.
- May 2000: SII's Head Office received the "Chiba-City Specific Building Environmental Hygiene Control Association Chairman Award" sponsored by Chiba City.

ENVIRONMENTAL CONSERVATION ACTIVITIES TIMELINE

- Dec. 1988 Fluorocarbon Countermeasures Promotion Committee Established
- Aug. 1992 Use of CFCs Discontinued
- Dec. 1992 Environmental Administration Office Established
- Apr. 1993 Environmental Protection Plan, "SII Green Plan," Created
- Aug. 1993 Used Paper Collection Packer Truck, "Clean Arrow," Introduced
- Nov. 1993 Use of Trichloroethane Discontinued
- Apr. 1994 Monthly Management of Energy, Paper Use, and Waste Initiated
- Aug. 1995 Environmental Management System (ISO14001) Introduced at SII Board Meeting
- Aug. 1996 "SII Green Plan," Including Reports on Environmental Protection Activities, Revised
- Oct. 1996 Chiba keiyou-6 Business Unit. Awarded for Paper Recycling
- Nov. 1996 Takatsuka Unit (Chiba) ISO14001 Certified
- Jan. 1997 Seiko Seiki Co., Ltd. (Chiba) ISO14001 Certified
- Mar. 1997 Miyakubo Unit (Chiba) ISO14001 Certified
- Apr. 1997 Akita Precision Ltd. (Akita) ISO14001 Certified
- Apr. 1997 Morioka Seiko Instruments Inc. (Iwate) ISO14001 Certified
- May. 1997 Seiko Instruments Singapore Pte., Ltd. (Singapore) ISO14001 Certified
- Dec. 1997 Campaign to Reduce Unnecessary Car Idling Started
- Feb. 1998 SII Quartz Techno Co., Ltd. (Tochigi) ISO14001 Certified
- Feb. 1998 SII Chemical Management Guide Published
- Jun. 1998 Akita Precision Awarded for "Best Environmental Activities" in Akita Prefecture
- Jun. 1998 Morioka Seiko Awarded for "Superior Environmental Activities" in Iwate Prefecture
- Aug. 1998 Oyama Unit (Shizuoka) ISO14001 Certified
- Jan. 1999 Akita Seimitsu Denshi Kogyo Co., Ltd. (Akita) ISO14001 Certified
- Feb. 1999 SII Microparts Ltd. (Miyagi) ISO14001 Certified
- Mar. 1999 Ohno Unit (Chiba) ISO14001 Certified
- Mar. 1999 Nastec Precision Co., Ltd. (Tochigi) ISO14001 Certified
- Mar. 1999 ISO14001 Certification Completed at All 11 of Our Major Domestic Plants
- Apr. 1999 Asian Electronic Technology Pte., Ltd. ISO14001 Certified
- Mar. 1999 Use of Chlorine Solvents (trichloroethylene/methylene-chloride) Discontinued
- Oct. 1999 SII Standard of Purchasing Green Materials Published
- Mar. 2000 218 Employees Completed the SII Internal Auditor Training Seminar



SII's Makuhari headquarters received the "Nikkei Superior Trend-Setting Office Award in 1993"

from the Nikkei Newspaper Group. The building was built to convey, and has since been recognized as, SII's continual commitment to the improvement of the environment. It is equipped to handle today's fast paced, information oriented society and strives to create the most productive environment for each and every employee.



Activity Symbol



Seiko Instruments Inc.

Seiko Instruments Inc.

Environmental Administration Office
8, Nakase 1-chome, Mihama-ku Chiba-shi, Chiba 261-8507, Japan
Telephone: +81-43-211-1111/ Direct: +81-43-211-1149
Facsimile: +81-43-211-8019
e-mail: eco@sii.co.jp
Website URL: <http://www.sii.co.jp/eco/eg/>



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