

SHARP

Environmental Report 2004

SHARP CORPORATION





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About the Cover

We invited Sharp Group employees and their family members worldwide to send in their ideas for the cover design. From among the 312 entries received, we selected the work of Mr. Masaaki Higashinaka, Assistant Manager, Design Center, Audio-Visual Systems Group, Sharp Corporation.

Message from the Artist

A single flower flutters gently in the wind. Flowers can bloom so beautifully because of a balance of fresh air, clean water and plentiful soil.

For the cover design, I chose a photograph that depicts the theme of a flower in a beautiful environment. The font that I used for the title evokes both a human warmth and the efforts that Sharp is making towards the environment.

Masaaki Higashinaka

About This Report

Areas Covered

This report covers basic policy, fiscal 2003 achievements and future plans related to environmental and social aspects of the Sharp Group. It also includes basic information on our economic situation.

Outline of the Report

The main aims of this report are communication and disclosure.

The communication aspect consists of a Special Report on a photovoltaic power generation project in Mongolia and highlights on 7 major areas in the Sharp Group's environmental activities. These sections will give you an understanding of Sharp's main environmental message.

The disclosure aspect begins on page 25. Like last year's report, this section gives an overview of the Sharp Group's environmental activities with reference to various guidelines. Reading this section along with the Performance Data at the end of this report will give you a detailed understanding of each of our environmental efforts.

What the Report Covers

Period: Fiscal 2003 (April 2003 to March 2004)

There is also information on policies, objectives and efforts for fiscal 2004 and beyond.

Companies: Sharp Corporation, domestic and overseas subsidiaries and affiliates*.

Environmental performance data covers the following.

Sites Covered in Environmental Performance Data

Production sites	36 sites (16 domestic, 20 overseas)
Non-production sites	ISO-certified sites and sites with 300 or more employees (16 domestic, 12 overseas)

- * For details on sites covered in the data, see the list of major Sharp Group sites on page 73.
- * In this report, the Sharp Group is referred to as "Sharp Group," while Sharp Corporation is referred to as "Sharp" or "Sharp Corporation."

Guidelines Used as Reference

- Environmental Reporting Guidelines (fiscal 2000 and fiscal 2003 editions) published by the Ministry of the Environment
- Sustainability Reporting Guidelines 2002 published by the GRI (Global Reporting Initiative)

Contents

Special Report

Decentralized Solar Power Project in the Village of Noyon in Mongolia p. 7



Highlight



Oriented toward the Economy, the Environment and the Community
Sharp's Kameyama Plant—Bringing Together an Array of Environmental Conservation Technologies

p. 11



Environmental Consciousness Throughout the Product Lifecycle
The Life of an AQUOS

p. 13



Contributing to the Prevention of Global Warming
Photovoltaic Power Generation Systems

p. 15



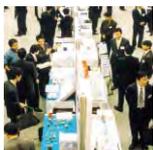
Making Products with an Eye Toward People and Nature
Green Devices Supporting Green Products

p. 17



Technology to Eliminate Resource Waste
Closed-Loop Material Recycling of Waste Plastic

p. 19



Working with Our Business Partners to Protect the Environment
Green Purchasing

p. 21



Fostering a Green Mind
Sharp Green Club

p. 23

A Message to People and the Earth	p. 3
Sincerity and Creativity— The Wellspring that Underlies Sharp	p. 5

Environmental Report

I Environmental Vision	
Basic Stance and Vision Concerning the Environment	p. 25
Major Objectives and Fiscal 2003 Results	p. 27
II Environmental Sustainability Management	
Environmental Sustainability Management	p. 29
Thorough Environmental Compliance	p. 31
Environmental Education	p. 32
Environmental Accounting	p. 33
How Business Activities Relate to the Environment	p. 35
III Efforts Related to Product Lifecycle	
Planning & Design	
Creating Super Green Products	p. 37
Developing Super Green Technologies	p. 41
Manufacturing	
Achievement of a Super Green Factory	p. 43
Reducing Greenhouse Gas Emissions	p. 45
Minimizing and Recycling Waste	p. 47
Appropriate Management and Reductions in the Discharge of Chemical Substances	p. 49
Practicing Risk Management	p. 50
Logistics & Packaging	
Environmentally Conscious Logistics and Packaging	p. 51
Recycling	
Recycling Used Products	p. 53

Social Report

Gaining an Even Higher Level of Trust from Society	p. 57
Delivering "Safety" to Customers	p. 59
Strengthening Information Security and Ethics	p. 62
Creating a Fair and Rewarding Workplace	p. 63
Creating a "Safety-First" Work Environment	p. 65
Environmental Communication	p. 67
Global Social Contribution Activities	p. 68

Economic Report p. 71

Performance Data p. 73

Corporate Profile	p. 79
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A Message to People and the Earth

With Sincerity and Creativity, We Work to Achieve a Sustainable Society



Katsuhiko Machida
President, Sharp Corporation

A handwritten signature in black ink, appearing to read 'K. Machida', written in a cursive style.

Becoming an Environmentally Advanced Company

Solving the critical environmental problems facing the world today demands that we harness the collective wisdom of all humanity to create new social systems that will bring about sustainable development.

In response to these demands, we at Sharp—having built our business on the spirit of “Sincerity and Creativity”—regard it as our mission to contribute to society by making products that encourage new lifestyles.

This fiscal year, Sharp has taken up the challenge to create even more environmentally conscious products and has targeted being an environmentally advanced company as our medium-term goal.

To achieve this objective, we are strengthening our ability to develop what we call Super Green technologies. These technologies take two forms: (1) technologies such as solar cells and Plasmacluster Ion products that contribute to global environmental conservation and improvement of living environments, and (2) technologies that ensure energy efficiency, resource efficiency and ease-of-recycling so as to reduce the burden on the environment. We also emphasize development of environmentally conscious Green Devices, and work proactively to create Super Green Products with the best possible environmental performance.

Furthermore, we are committed to pursuing the highest levels of environmental performance in our manufacturing facilities, creating Super Green Factories that reduce environmental impacts and exist in harmony with local communities and nature. The first of these is our Kameyama Plant, which went into operation in January 2004. This is the world’s first integrated production facility for LCD TVs—from the first stage of fabricating the LCD panels to final assembly. The Kameyama Plant is a state-of-the-art facility that brings together an array of environmental conservation technologies, including a cogeneration system that greatly reduces CO₂ emissions and a recycling system for reusing 100% of the water used in the manufacturing process.

Offering New Lifestyles for the Era of the Environment

Environmental problems affect every person living on the Earth. As a consequence, we all need to work together to change our individual lifestyles and minimize our impact on the environment.

So at the same time that Sharp is pushing the manufacture of products appropriate to the era of the environment, we are also launching a campaign under the slogan, “Let’s Go Ecology Class with Sharp,” that will offer new ideas to society at large about living in harmony with the

environment. The concept is to propose new environmentally conscious lifestyles that maintain a sense of affluence and a feeling of comfort.

We regard this activity as a major campaign, not a one-time effort, but a sustained, long-term commitment not only to our customers, but also to all of Sharp's stakeholders, including our employees. In doing so, our hope is to contribute to greater environmental awareness in society as a whole.

Growing Corporate Social Responsibility

The demands that society places on corporations have changed with the times. Today, initiatives toward corporate social responsibility (CSR) have become a critically important element of management activities. In Japan, too, the number of companies giving priority to the concept of CSR is increasing, so much so that the year 2003 is being referred to as "year zero" in these efforts.

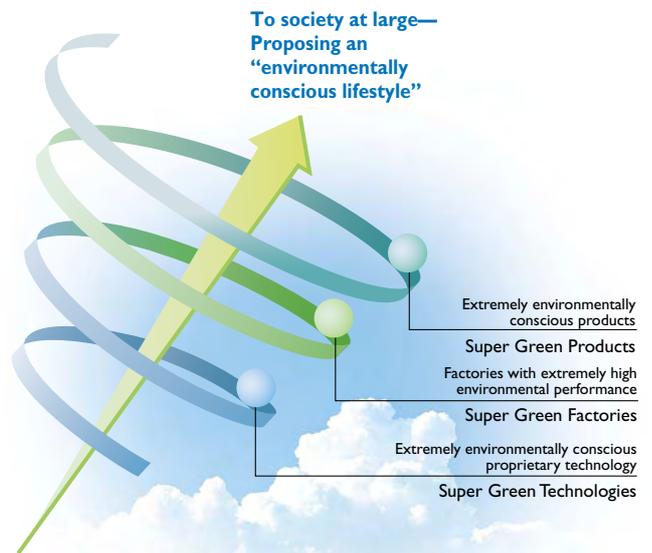
Since its founding, Sharp has consistently managed its business in a way that respects ethical social behavior based on our business creed of "Sincerity and Creativity." In addition, we have also re-organized and re-prioritized Sharp's basic approaches to doing business as embodied in the Sharp Charter of Conduct issued in April 2003.

In October 2003, we also established a CSR Promotion Department to ensure that we uphold all our economic, environmental and social responsibilities as a corporation. This program enables us to reach across organizational boundaries to manage our activities in the areas of environmental conservation, corporate compliance and social contribution, as well as reach our goal of becoming a corporate group that wins everyone's trust and esteem.

Today, we confront not only environmental issues but a host of very real problems on the planet that demand resolution. Sharp is actively working to improve the welfare of humankind, and based on our creed of "Sincerity and Creativity," we will continue striving to fulfill our social responsibilities.

We hope you find this report of value, and we welcome your opinions and comments.

June 2004



Business Philosophy

We do not seek merely to expand our business volume. Rather, we are dedicated to the use of our unique, innovative technology to contribute to the culture, benefits and welfare of people throughout the world.

It is the intention of our corporation to grow hand-in-hand with our employees, encouraging and aiding them to reach their full potential and improve their standard of living.

Our future prosperity is directly linked to the prosperity of our customers, dealers and shareholders...indeed, the entire Sharp family.

Business Creed

Sharp Corporation is dedicated to two principal ideals:

Sincerity and Creativity

By committing ourselves to these ideals, we can derive genuine satisfaction from our work, while making a meaningful contribution to society.

Sincerity is a virtue fundamental to humanity... always be sincere.

Harmony brings strength trust each other and work together.

Politeness is a merit always be courteous and respectful.

Creativity promotes progress remain constantly aware of the need to innovate and improve.

Courage is the basis of a rewarding life accept every challenge with a positive attitude.

Basic Environmental Philosophy

Creating an Environmentally Conscious Company with Sincerity and Creativity

Sincerity and Creativity

The Wellspring that Underlies Sharp



Sharp's founder, Tokuji Hayakawa, was born in Tokyo in 1893.

Hayakawa's parents died when he was very young, and at age nine, he was apprenticed to a craftsman specializing in decorative metalworking. After spending a long period of service under this strict master, he gained his independence at age 19 and started his own metalworking business. He soon invented the famous Hayakawa mechanical pencil (Ever-Sharp Pencil) and expanded his factory.

But then, on September 1, 1923, the Great Kanto (Tokyo) Earthquake destroyed the factory and took the lives of Hayakawa's young family. In the midst of this profound despair and hopelessness, Hayakawa sought a fresh start in Osaka.

After establishing Hayakawa Metal Works in the Nishitanabe area of Osaka (the site of present-day Sharp headquarters), he became aware of the future potential of electronics, and taking advantage of his knowledge of metal processing technologies, he began development of radio and television sets.

"Let's make products that others want to imitate."

Hayakawa often repeated this phrase, and the legacy of his spirit, which valued creativity above all, was passed down to a long line of managers at Sharp. In addition to Japan's first crystal radio, television receiver and microwave oven, we went on to achieve breakthroughs such as the world's first transistor-based electronic calculator and the LCD video camera.

Today, creating sustainable social systems is being pursued as a path to solving environmental problems. We regard contributing to society by manufacturing unique products and proposing new lifestyles to be the foremost responsibility that we as a company must fulfill.

Recently, the phrase "corporate social responsibility" (CSR) is being heard with increasing frequency.

Sharp's steps in this area have certainly not been showy, intended to capture the attention of society. Instead, following in the footsteps of our founder, we have remained consistently faithful to our core business, which is "manufacturing," and have constantly strived to fulfill our responsibility as a member of society using approaches that match our inherent character and spirit.

Our basic management concept advocates that we "work to ensure the mutual prosperity of all stakeholders in our business, including shareholders, business partners and employees." This is embodied in "Sincerity and Creativity," our management creed on which this idea rests, and remains deeply engrained as a guiding principle for the actions of our employees and as the spiritual support on which our business was built.

How should Sharp fulfill its role in society in the future?

We continue to come up with answers to this question, and building on a core of contributing to society through manufacturing, we will work ceaselessly toward turning these answers into reality.



Special Report

Decentralized Solar Power Project in the Village of Noyon in Mongolia

p. 7

Thank you!

Bayarlalaa! Now We Have Electricity All Day Long!

Highlight



Oriented toward the Economy, the Environment and the Community

p. 11

**Sharp's Kameyama Plant—Bringing Together an Array of Environmental Conservation Technologies
Sharp's First Super Green Factory Is Born**



Environmental Consciousness Throughout the Product Lifecycle

p. 13

**The Life of an AQUOS
Environmentally Conscious—from the Time It's Made Until Its Service Life is Over**



Contributing to the Prevention of Global Warming

p. 15

**Photovoltaic Power Generation Systems
There's a Reason Why Sharp Has Been the World Leading Manufacturer of Solar Cells for Four Straight Years**



Making Products with an Eye Toward People and Nature

p. 17

**Green Devices Supporting Green Products
New Ideas to Protect Nature and Make Life More Comfortable**



Technology to Eliminate Resource Waste

p. 19

**Closed-Loop Material Recycling of Waste Plastic
Plastics Find New Life Using an Industry-First Technology**



Working with Our Business Partners to Protect the Environment

p. 21

**Green Purchasing
Applying Ingenuity to Green Purchasing to Make Environmentally Conscious Products**



Fostering a Green Mind

p. 23

**Sharp Green Club
Strengthening the Bonds with People Through Regional Volunteerism**



Decentralized Solar Power Project in the Village of Noyon in Mongolia

Thank you!

Bayarlalaa! Now We Have Electricity All Day Long!



Sharp solar cell arrays are used on satellites and for lighthouses that are exposed to extreme environmental conditions, and have been highly rated for their technical capabilities and performance. Sharp is also developing and marketing solar power products designed for household use, and for four consecutive years since 2000, we have been the world's number-one manufacturer of solar cells in terms of production volume.

At the same time, we are tackling the challenge of using photovoltaic (PV) power generation systems to deliver a reliable supply of electricity in areas where electricity is available only part of the day or where no electrical power grid exists at all. One example of our involvement is a rural electrification project in southern Mongolia where we have been working under commission from NEDO* since August 2002.

School 40 kW

Communications center 10 kW

Power center 100 kW



Lack of Electricity Forces the Population to Concentrate in the Capital

Population migration to Mongolia's capital, Ulan Bator, is becoming a serious social issue. One reason that nearly 35% of the total population is concentrated in the capital is that electricity is available 24 hours a day in the city.

Mongolia covers an area of almost 1.57 million sq. km., about four times the size of Japan. With a population of approximately 2.5 million people who live scattered around this vast territory, it is difficult to develop and maintain an electrical power infrastructure across the entire country. Many areas of Mongolia have small-scale coal-fired power plants or diesel-powered generators in towns and villages, but the amount of electricity generated is small and power is available only for limited hours during the day. In addition, many nomads live without electricity.

Against this background, the Mongolian government made regional electrification a major policy focus, and decided to proceed with exploiting renewable energy sources such as sunlight as an approach appropriate for their country.

A Village Where Electricity is Available Only Four Hours a Day

The village of Noyon is located on the edge of the vast Gobi Desert some 650 km south of Ulan Bator. The village is home to approximately 160 families, around 500 people, as well as innumerable grazing goats. Up to August 2003, electricity was only available in the village for four hours per day, from around 7 to 11 p.m. at night.

The village has a hospital and a school. But because electricity wasn't available during daylight hours, required surgeries had to be done at night when equipment such as X-ray machines and UV sterilization lamps could be used. And in the school, classes that used an electronic piano could only take place at night.

No power grid exists to bring in electricity from outside. And the 60 kW of power available to the village was generated by a small diesel-driven generator. It had the capacity to light around 600 lights up to a maximum of 100 W in size. Insufficient fuel meant that electricity might not always be available.

Achieving a World First in an Environment with a Day-Night Temperature Difference of 60°C

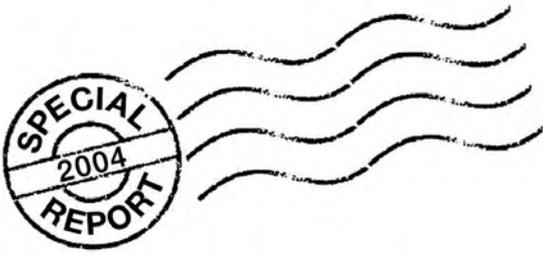
The project staff first visited Noyon in October 2002. They began a survey of village power consumption, the existing electrical plant and equipment, and potential locations for installing a system.

The project faced two difficulties. The first was operating a photovoltaic power generation system under extreme weather conditions in which temperatures reach +30°C in the summer and plunge to -30°C in the winter. The second was ensuring that the system supplied electricity 24 hours a day regardless of changes in weather or whatever system problems might occur.

The survey was repeated, and the resulting final plan featured a system of photovoltaic generation running together with a diesel power system to produce a total of 200 kW, but decentralized to provide a margin of safety. The project planners also decided to use batteries to store electrical power generated by solar energy during the day, enabling continued use during the night and on rainy days.

* NEDO, the New Energy and Industrial Technology Development Organization, is an independent administrative agency of the Japanese government focusing on R&D in industrial technology to foster the creation of new industries, and R&D on clean energy to solve environmental problems. The current project came about in response to a request from the Mongolian government. NEDO solicited public input in Japan for a 2002 Photovoltaic Power Generation System International Cooperative Development Project, Decentralized Solar Power Systems Experimental Research Study (Mongolia). Sharp's proposal was adopted and the project was launched. The results of this project can be found using the "Project Results Search" on the NEDO website (<http://www.nedo.go.jp>).





Frames being assembled against backdrop of Mongolian wilderness



Banks of photovoltaic modules being installed



Brilliant sunshine falls on completed photovoltaic modules

Mongolia has a continental climate, and enjoys approximately 300 days of sunshine a year. The present project is the forerunner of many more in the future that will deploy photovoltaic power generation systems throughout the entire country to take maximum advantage of these climatic conditions.* It was also the first system in the world to function as a decentralized, independent photovoltaic power generation system.

* Promoted by the Mongolian government, the Mongolian Rural Electrification Project now under way will establish 100,000 independent photovoltaic power generation systems by the year 2010. The project uses Sharp products and is making a significant contribution to reducing the number of areas that have no access to electricity.

Construction Completed with the Help of Everyone in the Village

Sharp did the system design and equipment fabrication in Japan. On-site construction began in June 2003, with key components such as construction materials, equipment and supplies shipped from Japan.

However, snow was expected to start falling at the site by October and temperatures to fall rapidly. This meant that installation work normally requiring five months would have to be wrapped up in only three. The Japanese staff of eight worked with 25 people from the local area who acted as interpreters and served as

construction laborers and electrical equipment installers. We also had all the villagers help with activities such as carrying materials, cleaning and acting as night watchmen.

However, things did not go smoothly. Parts and materials that had to be procured in Mongolia could only be obtained from Ulan Bator, requiring a week for the order to reach the capital and then to be shipped back. Then, there was the difficulty of communicating through interpreters and the different ways of thinking. There were many occasions when the Japanese staff was flustered and confused, but by working hard to overcome various difficulties, construction made progress.

On days off, conversations blossomed around volleyball games and the topic of sumo wrestling. On those occasions, we heard many people say, "If electricity was available 24 hours a day, I'd want a refrigerator." Having reliable refrigeration would make it possible to preserve goat meat, their primary food, even during the summer months.

Then, it was late August. After two months of construction work and one month of electrical equipment installation, operational tests began. At last, the village of Noyon had electricity available 24 hours a day.



Thank you
**Bayarlalaa! — Now We Have
Electricity All Day Long!**



At the hospital, examinations are done day and night using a wide range of medical equipment, including an ultrasound imager



At the school, classes using computers have begun



A woman expressed how happy she is that she can use an iron whenever she wants

Electricity for the Hospital, the School and to Change Lifestyles

At the hospital, the doctor's face shone with delight. Medical vaccines could now be kept cool in the refrigerator. Surgery and X-ray exams could be performed whenever needed, and respirators for newborn infants could be used. At the school, classes that used electronic musical instruments could be held in the morning.

The lives of the people also began to change. They were liberated from the coal-fired heaters that were essential to survive the long winter months, and were now able to use electric heaters that didn't pollute the air. Mongolian people pay a lot of attention to their personal appearance and grooming, and they were happy to be able to use the iron whenever they liked.

Sharp's photovoltaic power system is now providing electricity round the clock on need, protecting the lives and health of Noyon's people, as well as transforming their lives and enriching their education.

The Significance of Using Renewable Energy

After construction of the photovoltaic power generation system was complete, the staff addressed the people of Noyon village with the question, "You now have electricity 24 hours a day. Would it be wise to waste it?" They also held seminars in which they made requests such as: "Consider environmental problems and tell the world about the importance of not wasting energy." The significance of this was to make the people of the village aware that there is a link between using solar power and protecting the environment.

Efforts to promote new industries in the village also began. The 200 kW the system provided exceeded the amount needed for everyday living. Using this surplus power, villagers planned to build a bakery, an auto repair shop and a gasoline station. When it came time for the staff to leave, the villagers came to see them off with the words, Bayarlalaa! ("Thank you!").

The lively scene of a photovoltaic power generation system on the steppes of Mongolia should stimulate us to re-think our way of life.



Sharp's First Super Green Factory Is Born

Sharp's Kameyama Plant became operational in January of 2004 to meet rapidly growing demand for LCD TVs. This plant is an integrated "start-to-finish" production facility—from fabrication of LCD panels to final assembly of LCD TVs. It is our first Super Green Factory, designed to minimize the effect of manufacturing activities on the environment and exist with a high level of harmony with nature and with the local community.



Administrative wing of the Kameyama Plant.
Approximately 600 solar cells form the shape
of a giant AQUOS.

Sharp's Kameyama Plant— Bringing Together an Array of Environmental Conservation Technologies

Sharp's First Super Green Factory

Sharp has consistently strived to be the world leader in LCDs. Now, our Kameyama Plant has come on line as one of the world's largest manufacturing facilities for LCD panels and LCD TVs. The unique feature of this plant is the world's first integrated "start-to-finish" production system for LCD TVs. The entire process is carried out in a single plant—from fabricating the LCD panels to final assembly. This system makes it possible to consolidate technical departments and strengthen our development capabilities, as well as shorten the lead-time from order to shipping. Eliminating the need to ship sub-assemblies between distant plants has also enabled us to slash the amount of packaging materials required for shipping and reduce emissions such as carbon dioxide (CO₂).

Another outstanding feature is that this is the first Super Green Factory^{*1}, a facility where we have brought together a wide array of Sharp-developed technologies designed to protect the environment. In preparing for construction, we gave a great deal of careful consideration to protecting the environment, beginning at the initial design stage. Working in consultation with local governments and with nearby residents, we carefully selected the parameters that would be subject to environmental protection measures. We chose the standards that would apply, and confirmed them through evaluation by independent experts. Prior to construction, we transported many of the trees on the site to another location, then replanted them around the factory once construction was complete, thereby mitigating the impact of the work on the local ecosystem.

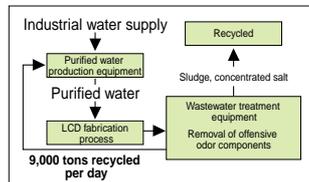


Panoramic view of the Kameyama Plant

^{*1} Super Green Factory: Sharp's term for a manufacturing facility that has extremely high environmental performance and which satisfies Sharp's own exacting environmental standards. The objective is to exist in harmony with the area in which the plant is located. For definitions, refer to page 43.

Adopting a Wide Range of Equipment to Protect the Environment

The fabrication process for LCD panels requires a large amount of water, so we have installed a system that recycles 100% of the water used in the process. The wastewater recovery plant uses biotechnology to recover and recycle up to 9,000 tons of water daily.



100% of the water used at the Kameyama Plant is recycled

We are also using micro-organisms to treat odor-causing materials (bio deodorization using peat moss) so that no offensive odors are generated in the wastewater treatment process. The organic sludge generated by the water treatment process goes through a volume reduction system to reduce the amount of sludge disposed of.

A cogeneration system^{*2} fueled by LNG (liquefied natural gas) enables the facility to self-generate one-third of its total annual electrical power needs. Because the LNG is supplied by a pipeline connected directly to the gas supplier, no exhaust gas is generated by fuel transport trucks traveling on roadways. We have also installed approximately 600 solar panels on the walls of the administrative wing of the plant to generate additional electricity.

The combined effects of these measures and the effects accruing from the integrated production system enable us to cut annual CO₂ emissions by approximately 33,000 tons, equivalent to the amount of CO₂ absorbed by

A Local Government Official

The Kameyama Plant is an excellent role model at an ideal location

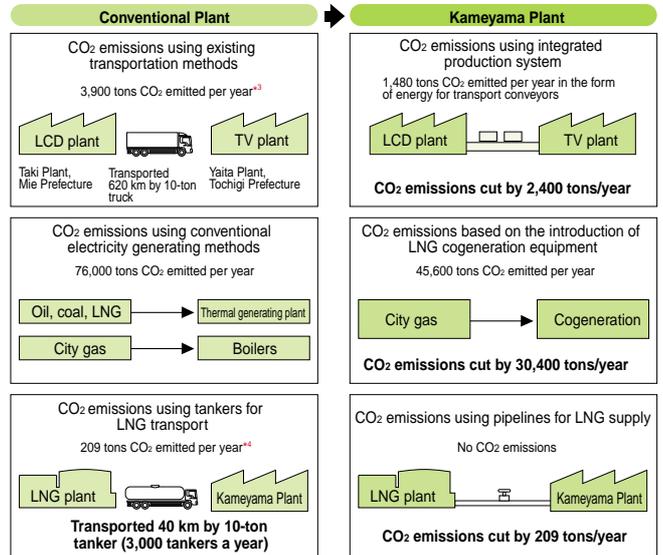
Mr. Eiichi Ishigaki, Department Manager; Department of Agriculture, Fisheries, Trade and Industry; Mie Prefecture

Mie Prefecture has made it a priority to protect the environment. We are grateful for Sharp's efforts in building the Kameyama Plant, as it is an environmentally conscious state-of-the-art facility that we are proud of the world over. I would like to spread word of the Kameyama Plant as a benchmark for other companies to build their plants in Mie Prefecture.

Together with Sharp, Mie Prefecture will continue its effort in promoting the Crystal Valley Project and building an environmentally friendly community.



a forest covering an area of approximately 9,000 hectares (roughly 125 times the forest area cut down for plant construction). (See sidebar below.)



Effects of reducing CO₂ emissions at the Kameyama Plant compared to conventional systems

^{*2} Cogeneration system: A system designed to save energy by using city gas to generate electricity. The waste heat generated is then used in applications such as air conditioning, hot water supply and steam electric generation.

^{*3} 1.742 kg-CO₂/truck • km x 620 km x 300 trucks/month (for production of 100,000 units/month) x 12 months

^{*4} 1.742 kg-CO₂/truck • km x 40 km x 3,000 trucks/month (for production of 100,000 units/month)

Note: CO₂ conversion factor is based on "Practicing Lifecycle Assessments Compiled by the Center for Environmental Information Science, 1996."

Toward a Harmonious Co-Existence with the Regional Economy, Environment and Community

The Kameyama Plant is the centerpiece of the Crystal Valley Project, a revitalization initiative of the Mie prefectural government that seeks to attract LCD-related companies to the region. Plant operation will provide increased job opportunities and generate economic benefits such as accelerating the concentration of LCD-related businesses and promoting the construction of hotels and homes in the area.



Nature park

In one corner of the industrial complex, we have created a natural park with the other companies located within the complex, and have opened it to the public so that the people of the region can use it freely. Working together with local volunteers, we plan to release native fish species into the large pond located in the center of the nature area.

Our hope is that, as our Kameyama Plant, a Super Green Factory, takes root in the region as a state-of-the-art facility that seeks to exist in harmony with the local economy, environment and community, it will serve as a powerful example of environmental stewardship for the world.

A Key Manager Involved in Construction of the Kameyama Plant

Mr. Tetsuo Kusakabe, General Manager, Kameyama Environmental Safety Planning Center, Mie-Kameyama Production Group, Sharp Corporation

In constructing the Kameyama Plant, we tried to think "outside of the box" in introducing functions that would give the facility the highest levels of environmental performance, economy and productivity. We also did our utmost to restore local ecosystems to their original state in efforts to gain the trust and friendship of the local community.

I hope to continue close communication with local residents and government so that we can make the Kameyama Plant an integral and environmentally friendly part of the community.



Environmentally Conscious— from the Time It's Made Until Its Service Life is Over

In fiscal 2003, AQUOS held a 50.9% share of the worldwide market for LCD TVs. AQUOS, which has now become the “face” of Sharp, is a Green Product that features high energy efficiency, low resource utilization and long service life. The environment is given careful and comprehensive consideration in all processes involved in its production—from product planning and design to parts procurement, manufacturing, transport, use and ultimate disposal.



The new HDTV-compatible AQUOS (LC-37GD1) uses a high-resolution, 3.15 million-dot LCD panel, which minimizes screen glare caused by indoor lights and sunlight.

The Life of an AQUOS

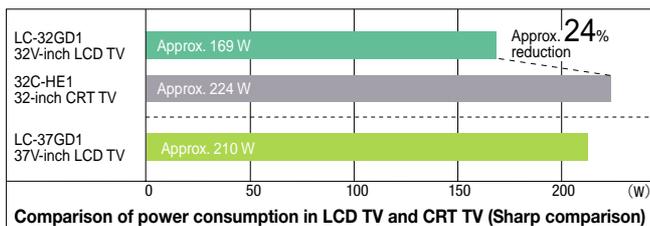
**Planning and Design—
Taking Maximum Advantage of the Environmental
Characteristics of LCDs**

Sharp seeks to take maximum advantage of the properties of LCDs to protect the environment in all aspects of the AQUOS, beginning at the planning and design stage. For example, energy efficiency. Taking the 32V-inch model as a typical example, not only does it consume 24% less power*1 than the equivalent size CRT TV, but all models feature systems designed to minimize wasted power, such as a function that automatically turns the set off when it hasn't been used for a specified period of time.

Long service life is also an important feature. There's almost no deterioration in the LCD panel itself, and simply replacing the backlight will allow users to enjoy a beautiful picture for many years to come. Beyond that, the backlight itself is also designed with a service life of approximately 60,000 hours (equivalent to approximately 10 years of viewing, 16 hours per day).

We are also working for resource conservation. The AQUOS features the industry's thinnest display at just 7.05 cm (used in the 37V- and 32V-inch models) and the industry's lightest display at 14.5 kg (for the 37V-inch model; 13 kg for the 32V-inch)*2. In addition to reducing the amount of raw materials used, it also frees space in living areas.

*1 Power consumption of the AQUOS LC-32GD1 compared to the 32C-HE1 CRT TV
*2 Compared to the same size flat-panel TV as of January 26, 2004



**Procurement—
Eliminating High-Environmental-Impact Materials to the
Greatest Extent Possible**

In selecting the electronic components and structural elements that make up the AQUOS, we apply standards that give maximum consideration to the environment. Taking the AQUOS G Series as an example, for the main cabinet, we use non-halogen resins, which do not generate dioxins when incinerated, and in the speaker enclosures, we use easily recyclable aluminum. We have also eliminated the use of polyvinyl chloride (PVC), which has the potential to generate toxic substances when incinerated, in power cords and in wiring inside the main unit.

Recycled plastic is used in the base stand and speakers. We have also completely eliminated heavy metals (hexavalent chromium) from screws and nuts, and the frame that supports the LCD backlight. Our efforts to bring environmental awareness into the AQUOS extend down to the tiniest detail, such as using lead-free solder on the main circuit boards.

A Satisfied AQUOS Customer

Environmental friendliness was what sold me on the AQUOS

Ms. Bando, Osaka Prefecture

Until I went to the store, I hadn't decided which brand of TV to buy, but the instant I read the catalog for the AQUOS at the shop, I thought, "This is the one." The determining factor was its design to reduce carbon dioxide, the cause of global warming. Anyway, if I was going to buy something, I wanted to choose a product that took the environment into consideration.

Even in my daily life, I try to be environmentally aware and I make an effort to save energy. I'm delighted that I found such a wonderful product.



**Manufacturing—
At the Super Green Factory**

Large-screen AQUOS models are manufactured at our Kameyama Plant in Mie Prefecture, which became operational in January 2004.

This plant is a "Super Green Factory" that aims to exist in harmony with nature and the regional community, and to minimize the impact on the environment in its manufacturing activities. (See pages 11 and 12.)



Kameyama Plant

**Transportation—
Reduced Packaging and Improved Recyclability**

The outstanding features of thin profile and light weight also play an important role when transporting AQUOS products. The simple fact that a larger number of units can be transported at one time compared to conventional CRT TVs means greater transportation efficiency, as well as a significant reduction in the amount of packaging materials (cartons and wrappings) used.

**Recycling—
Developing a Proof-of-Concept by 2005**

Total worldwide demand for LCD TVs in fiscal 2004 is estimated to be 7.5 million units.*3 A number of attractive features are proving popular with consumers, and can be said to be behind the extremely rapid adoption of these products. For this reason alone, we can predict that the number of products discarded will increase significantly in the future.

Anticipating such a trend, in September 2003, Sharp launched a Recycling Technology Development Project for LCD Application Products implemented by a multidisciplinary team that crosses departmental boundaries to bring together staff from the Environmental Protection Group, LCD manufacturing groups and various groups responsible for LCD application products.

This project tackles development themes such as technologies to make recycling easier by using shape-memory materials, design technologies that do not incorporate toxic chemical substances like lead and cadmium, and material recycling technologies for cabinets and LCD panels. Plans call for recycling proof-of-concept trials to be conducted by fiscal 2005.

When it's made, when it's used, and even after it's used...our goal is to bring environmental consciousness to the entire product lifecycle. AQUOS will continue to evolve with this concept in mind.

*3 For screen sizes 10 inches and larger; Sharp estimate.

An Employee in AQUOS Product Planning

Thin profile combines environmental consciousness and usability

Mr. Kenichi Watanabe, Products Planning Dept. 1, LCD Digital Systems Division, Audio-Visual Systems Group, Sharp Corporation



AQUOS is more than just an environmentally conscious product. We planned the AQUOS to be a product that combines environmental consciousness with usability. An example is the sensor that detects ambient brightness. In addition to saving energy, it also contributes to images that are easier on the eyes. We also thought of the user by designing the AQUOS to be easy to set up.

We aim to continue cooperating with other divisions in Sharp in order to make an AQUOS that is even more environmentally conscious and user friendly.

There's a Reason Why Sharp Has Been the World Leading Manufacturer of Solar Cells for Four Straight Years

Everyone on the planet today faces the twin problems of global warming and depletion of energy resources. To solve such problems and achieve a sustainable society, Sharp has for many years been tackling the development and manufacture of energy-creating photovoltaic (PV) power generation systems.

As a pioneer in this field in Japan, we are working to bring solar power generation into greater use the world over.



Solar Town in Matsudo, Chiba Prefecture. All homes in a subdivision of ready-built tract houses are equipped with solar power generation systems. Winner of the International Trade and Industry Minister's Prize in the 1999 New Energy Awards

Photovoltaic Power Generation Systems

Contributing to the Spread of Solar Power as a Leader in Technology Development

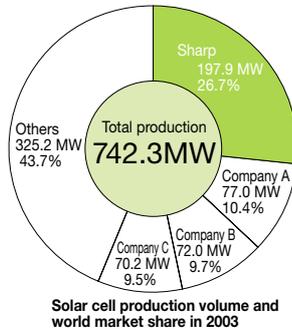
Sharp has a long history of involvement in solar power generation extending back nearly half a century.

The fundamental theory underlying silicon solar cells, which are the predominant type in use today, was announced by Bell Laboratories in 1954. A scant five years later, Sharp began R&D on solar cells and successfully launched mass production in 1963. Since then, we have become a technology leader in this field thanks to a series of trailblazing efforts, including development of solar cells for use in outer space. In 1994, we commercialized a residential photovoltaic power generation system, and have made significant contributions to bringing solar power generation into wider use in ordinary homes.

Today, photovoltaic (solar cell) modules developed by Sharp have been installed in a wide range of locations in Japan and around the world, not only on houses, factories and power generating stations, but also in outer space on orbiting space satellites. Sharp solar energy products provide clean electric power and are playing their part to provide comfortable living.

Balancing Performance and Value

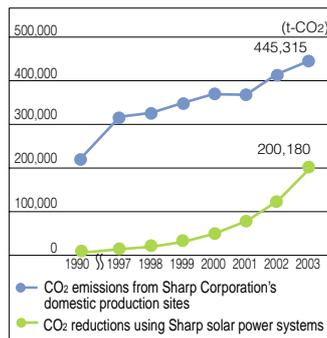
The great advantage of Sharp's solar power systems is the balance between performance and value. In our R&D efforts, we have consistently sought higher conversion efficiencies, a measure of how much power a single solar cell can create, and set a goal to bring production costs down so that they could be used by greater numbers of people. What enabled Sharp to be widely acclaimed as the world's largest-volume manufacturer of photovoltaic modules for four years in a row since 2000 was our technological prowess and product reliability, as well as the high level of cost-performance of our solar energy products.



Toward Achieving Energy Balance

The amount of power generated in a year based on solar cells manufactured by Sharp up to 2003 was approximately 565.5 GWh. The resulting CO₂ reduction effect^{*1} was approximately 200,000 tons, equivalent to the amount of CO₂ absorbed by a forest of 60,000 hectares (2.7 times the area of the city of Osaka).

In fiscal 2003, Sharp's domestic production sites were responsible for the emission of approximately 445,000 tons of CO₂ through their business activities. In the near future, we hope the amount of CO₂ emissions reduced as a result of using solar power will exceed this amount.



A Customer Who Installed a Photovoltaic Power Generation System

Enjoyment beyond merely saving on electricity costs

Mr. Ezaki, Aichi Prefecture

I installed a solar power generation system when I had my house built. I'm certainly satisfied with the amount of electricity it produces, which is beyond what I expected. I'm surprised that the amount of money I get by selling the surplus power back to the utility company is more than my electricity bill!

There's also an unanticipated effect in that the whole family is aware that we're generating this electricity ourselves. We take care now to turn switches off. As a result, we've seen our electricity use drop. I feel that, in many ways, life has become more enjoyable.



Toward Higher Conversion Efficiencies and Lower Costs

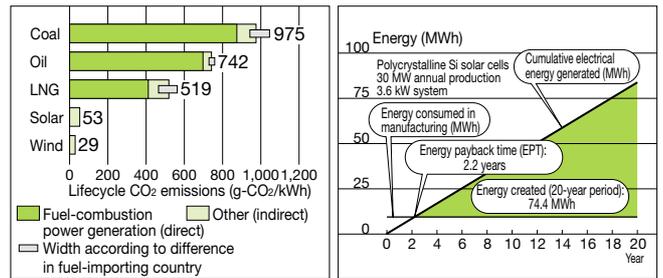
When generating electricity, photovoltaic power generation systems emit no CO₂ gas, the cause of the greenhouse effect. Even looking at lifecycle CO₂^{*2}, the amount of CO₂ emitted by photovoltaic power generation is no more than 1/18th to 1/14th of that emitted by thermal power generation.

In addition, the payback time required to recoup the energy used in their production is approximately 2.2 years for polycrystalline silicon solar cells^{*3}, currently the most common type manufactured for general use. Assuming an average service life of 20 years, they will continue to provide energy for an additional 17.8 years with no further injection of new resources required.

The amount of solar energy striking the surface of the Earth in one hour is comparable to the amount of energy consumed by all the people living on the planet in one year. Solar power generation, which takes full advantage of this vast, limitless energy source, can be described as an ideal solution for solving problems such as global warming and resource depletion.

Sharp is actively engaged in R&D for higher conversion efficiencies and lower costs. For the future, we will be filling out our product line-up by tackling product development intended to meet a wide range of needs. It will envision usage scenarios where even greater numbers of people are able to take advantage of photovoltaic power generation.

For the sake of the future, and for the sake of our irreplaceable planet Earth, our desire is to deliver the bounty of the magnificent sun to the whole of society. That is our goal.



Lifecycle CO₂ emissions by type of power generation

Source: Central Research Institute of Electric Power Industry, "CRIEPI Report No. 45 (November 2001)"

Energy payback time for photovoltaic power generation

Source: "Research to Evaluate Photovoltaic Power Generation Systems," 2000 report on research conducted on commission from NEDO

*1 CO₂ reduction effect was calculated using CO₂ emission factors at the receiving end (0.407kg/kWh), announced by the Federation of Electric Power Companies of Japan. Forest land area is calculated using the figure of 0.90t-c/ha of fixed CO₂ for natural forests, from the Report on Environmental Conservation and Forests, published by the Ministry of the Environment.

*2 Lifecycle CO₂: Total CO₂ emissions generated by all processes, including burning of fuels to generate electricity, as well as manufacturing electrical generating equipment, starting from resource extraction, fuel transport, etc.

*3 Polycrystalline solar cell: Sharp produces this type as a "mass-market" solar cell.

An Employee Responsible for Solar Cell Development

Aiming at a 20% conversion efficiency for mass-market types

Mr. Kyotaro Nakamura, Doctor of Engineering, Engineering Dept. 2, Solar Systems Development Center, Solar Systems Group, Sharp Corporation

Conversion efficiencies for mass-market solar cells now hovers around 13 to 14%, but our current goal is to raise this figure to around 20%. We would also like to bring down the selling price of systems by reducing manufacturing costs and so reduce the cost of generating electricity which, now is about 7 to 10 times that of thermal power generation. Eventually, we'd like to lower the cost to the same level as the utility companies.

Striking a balance between improved performance and lower costs is not easy to do, but we are working hard to make clean energy widely available.



New Ideas to Protect Nature and Make Life More Comfortable

Environmental consciousness at Sharp goes beyond consideration of the natural environment. The desire to “bring well-being to both people and nature” has given birth to many ‘Green Products’ that give careful thought to the everyday environment in which we live. Their development begins with the development of environmentally conscious ‘Green Devices.’



Ag+ Ion Coating Washing Machine



Hard Water Ion Dishwasher



Plasmacluster Ion Air Conditioner

Green Devices Supporting Green Products

Environmentally Conscious Products Start with Device Development

Protecting the Earth's environment through energy efficiency, resource efficiency and recycling. Protecting people's living and working environments through health-promoting products. These are the goals of Sharp's device development efforts.

Sharp constantly strives to improve existing technologies, of course, but we are also constantly developing completely new technologies.

Here are three device/product families as examples of our efforts.

Ag⁺ (silver) Ion Generator: Using a Coating of Ions to Disinfect*1

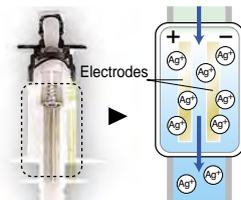
We asked ourselves, why can't we disinfect and deodorize clothes while doing the laundry? A Green Device that was born out of this concept is the Ag⁺ (silver) ion generator, and the Green Product that makes use of it is the Ag⁺ ion coating washing machine.

Ag⁺ ions are used in deodorizing sprays and in water filters to kill bacteria, as well as in first-aid adhesive bandages. Their safety and antibacterial effectiveness have long been proven. Using this fact, Sharp devised a way to apply a minute coating of silver to clothing by releasing silver ions into the rinse water at the end of the laundry wash cycle.

Recently more and more people in Japan are drying laundry indoors, but clothing has a tendency to not fully dry in an enclosed indoor environment, resulting in an unpleasant, musty smell. But applying a coating of silver ions to the laundry makes it possible to suppress the growth of bacteria that cause these musty odors, without using bleach to kill the bacteria. It also reduces environmental pollution caused by the discharge of bleach into wastewater.

During development, we analyzed nationwide water quality data, and ensured that local differences in water quality would not affect the concentration of silver ions generated.

*1 Testing organization: Kyoto Microbe Research Institute



Ag⁺ ions are released into the water as it flows between the electrodes

Ion Exchange System: Using Hard Water to Wash Away Stubborn Dirt

Sharp was the first to successfully apply an ion exchange system to the field of dishwashers. Our hard water ion dishwasher added a water-quality anti-pollution effect to the water conserving and energy efficiency so highly rated in our conventional dishwashers.

The key is "hard water." By adding table salt to tap water, which is "soft" water, and passing this "salt-water brine" through an ion exchange unit, it becomes hard water, which is ideal as a cleaner. Hard water is highly effective in dissolving protein residue such as dried-on egg from plates, and it can



Ion exchange resin beads packed tightly in the unit

A Satisfied User of Our Hard Water Ion Dishwasher

Delighted with my "Smart Helper" that thinks about both the household budget and the environment

Ms. Tomo'oka, Gifu Prefecture

I learned that dishwashers are more economical than hand washing from a TV program, but in a household with just my husband and myself, I felt it was a luxury item and put off buying one. But when I found out about the hard water ion dishwasher that uses table salt to do the washing, and since I was also concerned about using synthetic detergents, I decided to buy one right away. Now I put my "Smart Helper" to work twice a day, every morning and evening.



thoroughly clean ordinary food residues without the need to use a detergent.

Ion exchange systems can also generate soft water with only one-sixth to one-fourth the hardness of ordinary tap water. Using this soft water in the rinse cycle prevents water spots from appearing on glassware after drying, leaving washed dishes sparkling clean.

Plasmacluster Ion Generator and Dust Sensor: Efficiently Controlling the Generation of Plasmacluster Ions*2

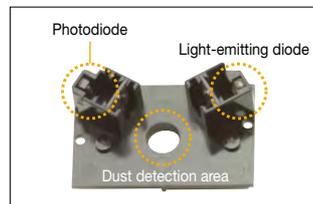
Sharp has added a new "healthful" value to the home appliance field using Plasmacluster Ion technology. This technology uses a plasma discharge to generate positive and negative ions from water vapor in the air. These ions inactivate airborne mold, viruses and allergens. The technology is now being utilized in a wide range of products, not only from the Sharp Group, such as Plasmacluster Ion air conditioners, but is also cutting across the traditional lines of industry to include automobiles, elevators, bathroom fixtures, forced-air heaters and many others.

A dust sensor is a device that efficiently controls the generation of Plasmacluster Ions and contributes to saving energy. This highly sensitive sensor, developed by Sharp, reliably detects a wide range of airborne contaminants, including tobacco smoke, household dust, mold and pollen. Its use ensures that no Plasmacluster Ions more than necessary are generated, hence eliminating wasteful power consumption.



Leading manufacturers who have adopted Plasmacluster Ion technology

*2 Testing organization for airborne mold: Ishikawa Health Service Association
Testing organization for airborne viruses: Kitasato Research Center of Environmental Sciences
Testing organization for airborne allergens: Hiroshima University, Graduate School of Advanced Sciences of Matter



Dust sensor reliably detects airborne particles as small as one ten-thousandth of a millimeter in size



Low-power-consumption Plasmacluster Ion generator generates several tens of thousand ions per cubic centimeter

The number of Green Products equipped with Green Devices and exhibiting superb environmental consciousness is growing.

Sharp will continue to create devices and products to serve people and nature based on flexible concepts and proprietary technologies.

For more information on Plasmacluster Ion appliances, see the following URL: http://sharp-world.com/plasma_c/index.html

A Developer of the Ion Exchange System

Aiming for even greater water and energy savings

Mr. Kazushi Furukawa, Junior Manager, Engineering Department 2, Kitchen Appliances Systems Division, Appliance Systems Group, Sharp Corporation

We thought if we could find some way to alter the properties of the water to boost cleaning effectiveness, we could reduce the amount of detergent used. The answer turned out to be "ion exchange" that makes both hard and soft water.

We noted that hard water dissolves protein and conceived of a system that would make use of hard water and soft water separately in the wash/rinse cycle. The reason we used salt was because we wanted to use natural substances as much as possible. In the future, we're aiming for even greater water and energy savings.



Plastics Find New Life Using an Industry-First Technology

Sharp has developed the industry's first closed-loop material recycling technology that repeatedly recycles and reuses scrap plastic from used home appliances as new materials for manufacturing home appliance products.

This technology contributes to a resource recycling-based society and was the recipient of the Education, Culture, Sports, Science and Technology Minister's Prize, the Global Environment Award.*1

*1 Prize awarded by the Minister of Education, Culture, Sports, Science and Technology in the 13th Global Environment Award sponsored by the Japan Industrial Journal. Aiming to balance industrial progress with the global environment, the award recognizes companies and self-governing bodies that are actively involved in environmental conservation activities.

Collected plastic and pellets recycled based on Sharp's closed-loop material recycling technology

Closed-Loop Material Recycling of Waste Plastic

Using Waste Plastic as Raw Material for Four Home Appliance Categories

The Home Appliance Recycling Law, which went into effect in 2001, mandated the recycling of four categories of home appliance products—air conditioners, televisions, refrigerators and washing machines. However, what ended up being recycled was mostly metals such as steel and aluminum. Most plastic was buried in landfills or incinerated.

To make the most effective use of finite resources, we need material recycling systems that also recycle and reuse plastics. Even before the Home Appliance Recycling Law went into effect, Sharp was tackling development of plastic recycling technologies based on this concept.

What first caught our attention were the washtubs of washing machines, which use large amounts of only one type of plastic. Beginning in 1999, we started development of closed-loop material recycling technology that uses washtubs from scrapped washing machines as a raw material to make new washtubs. This technology was put to practical use in 2001. In 2002, we began trials to collect plastic from three additional parts such as the rear cabinets of TV sets and recycle it into new parts for refrigerators and air conditioners. This technology was put to practical use in 2003.



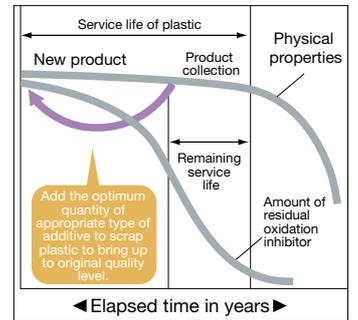
Collected washing machine washtubs Recycled washtubs

Technology to Shorten the Time to Measure Plastic Degradation from 20 Days to 1 Hour—a World First^{*2}

Sharp embarked on research to develop a new method to measure the level of degradation of collected scrap plastic. Because exposure to oxygen and ultraviolet radiation causes scrap plastic to degrade, it must be mixed with additives such as oxidation inhibitors in the optimum combination and quantity to enable it to be recycled for use in consumer durable goods such as home appliances. Based on that assumption, an

accurate means to judge the degree of degradation is essential.

After trying a wide variety of methods, in May 2003, we succeeded in developing a technology to shorten the measurement time, which formerly required 20 days, to one hour. We accumulated a large volume of sample data as a result, enabling us to statistically characterize the type and quantity of additives needed. Efficient production of recycled plastic was now possible.



Degradation characteristics of plastic

In July 2003, we also developed proprietary washtub dismantling equipment for scrapped washing machines. Mechanization boosts the dismantling efficiency, enabling us to accelerate the closed-loop material recycling of plastic.



Washtub dismantling equipment

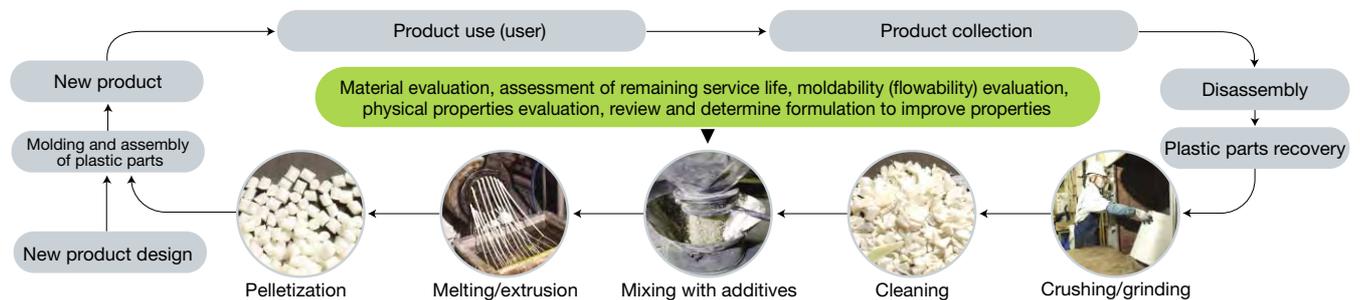
^{*2} Announced in May 2003

Focusing on Four Product Categories for Recycling

In recycling plastic materials, it's possible to take scrap plastic recovered from products in the four home appliance categories and use it as raw material for different product categories. However, Sharp has chosen to focus on "closed-loop" recycling to the greatest extent possible within the framework of the four home appliances. Staying within the bounds of the four product categories, for which recovery systems have already been established, will ensure that products are returned to the recycling plant and enable on-going recycling with Sharp's new technology.

Plastic material recycling is only just getting off the ground. We face quite a lot of problems, such as developing technologies to separate and classify mixed plastics, and developing fasteners that are reliable, yet readily dismantled. As we clear these hurdles, Sharp is actively working to achieve a true recycling-oriented society.

Closed-loop plastic material recycling



An Employee of a Recycling Plant that Uses the Washtub Dismantling Equipment

Nearly 100% of plastic in washtubs is recovered

Mr. Hideyuki Tamba, Senior Engineer, Recycling Division, Kansai Recycle Systems Corporation

Used home appliances of different manufacturers, machine types and product eras are brought in to our company. Washing machines have a wide variety of designs and construction. Manually dismantling them is often difficult, and in the past, we had no choice but to dispose of about half of the washing machines without recovering the washtub. However, since introducing this new dismantling equipment, the recovery rate for plastic tubs is nearly 100%, and on top of that, we've been able to boost our work efficiency too.



The Developer of the Washtub Dismantling Equipment

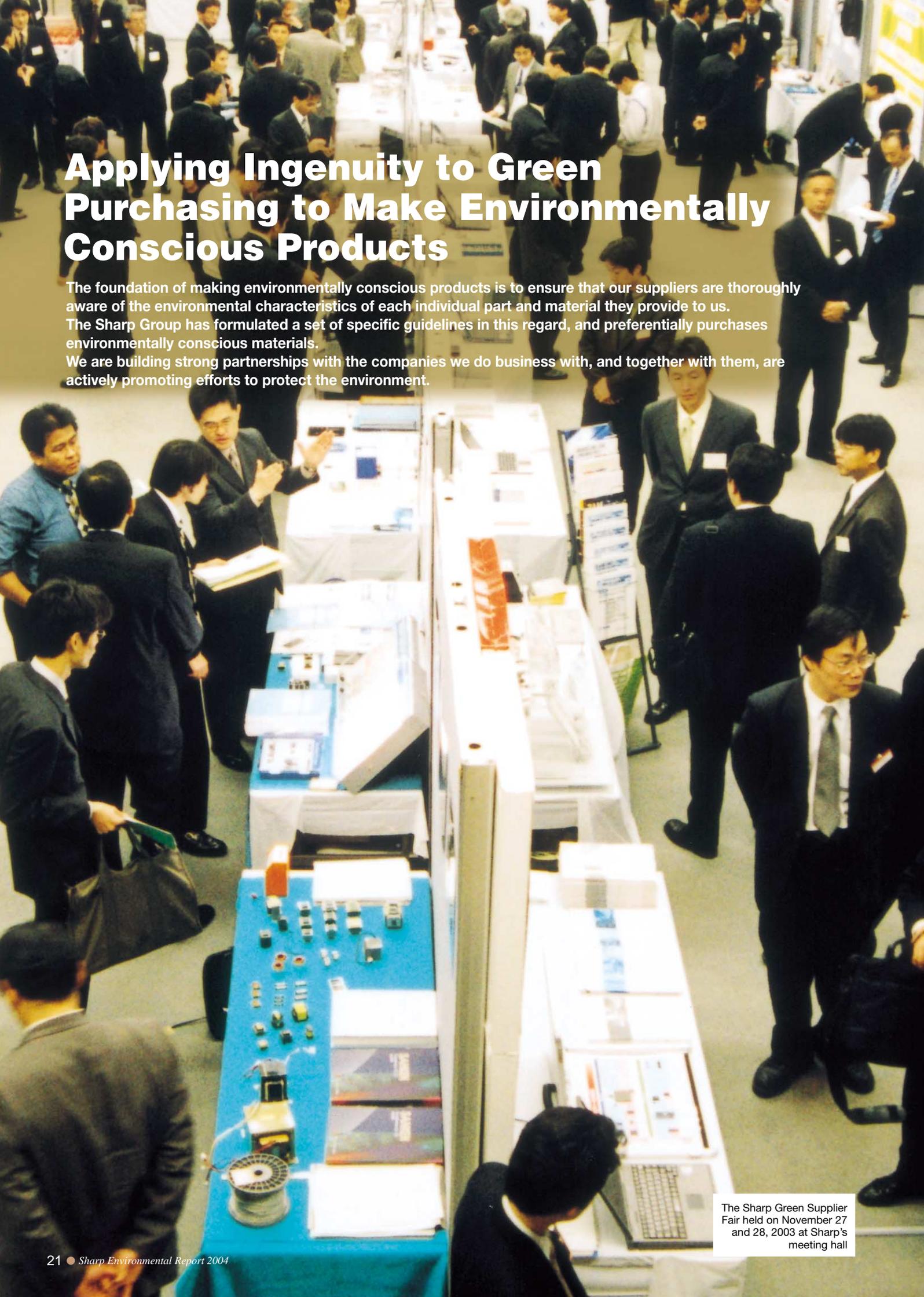
Recycling technology that goes beyond washing machines

Mr. Naoyuki Harada, Junior Manager, A1234 Project Team, Sharp Corporation

This current system can handle nearly all types of washing machines, which now number more than 1,000 from various manufacturers. We incorporated feedback from the people at Kansai Recycle Systems, who are the users of the equipment, and we gave careful consideration to safety. I'd be pleased if it were introduced into recycling plants nationwide and became the dominant system for recovering washing machine tubs.

We'd like to develop recycling technologies that can handle not just washing machines, but a wide variety of other manufactured products as well.





Applying Ingenuity to Green Purchasing to Make Environmentally Conscious Products

The foundation of making environmentally conscious products is to ensure that our suppliers are thoroughly aware of the environmental characteristics of each individual part and material they provide to us.

The Sharp Group has formulated a set of specific guidelines in this regard, and preferentially purchases environmentally conscious materials.

We are building strong partnerships with the companies we do business with, and together with them, are actively promoting efforts to protect the environment.

The Sharp Green Supplier Fair held on November 27 and 28, 2003 at Sharp's meeting hall

Preferential Purchasing of Environmentally Conscious Parts and Materials Based on Our "Green Purchasing Guidelines"

In fiscal 2000, the Sharp Group formulated its Green Purchasing Guidelines. We set standards for not only reducing the environmental impact of parts and materials, but also for evaluating our business partners' efforts in environmental conservation. Adding "quality, cost and delivery" to these criteria, the guidelines prescribe how we should make purchasing decisions.

The most important theme in green purchasing at the present time is eliminating the six substances regulated under the RoHS Directive from the EU. The RoHS Directive bans sales of all electrical and electronic equipment containing mercury, cadmium, lead, hexavalent chromium, as well as specified bromine-based flame retardants (PBB, PBDE) in the European market, and it is scheduled to go into effect in July 2006. Sharp participates in the planning of the Japan Green Procurement Survey Standardization Initiative*. Following the unified standards emerging from this effort, we are pursuing research on the chemical substances contained in parts and materials purchased from our suppliers, which number approximately 3,300 companies both inside and outside of Japan.

* A council consisting of 3 organizations and 70 companies, mainly electronic manufacturers, including Sharp Corporation, which works to standardize research on chemical substances contained in parts and materials.

Sharp Green Supplier Fair Attracts the Participation of 119 Companies

In November 2003, Sharp held a Sharp Green Supplier Fair that brought together under one roof a host of environmentally conscious parts and materials handled by our suppliers. Its goal is to advance environmentally conscious product manufacturing beyond the level where it stands now. A total of 119 companies participated in the exhibition. Approximately 700 staff members visited the fair, including key executives and staff from our technical and R&D departments, as well as product planning and materials departments. The event fostered an energetic exchange of information among suppliers and our staff.



Green Supplier Fair

A Supplier

We succeeded in removing formaldehyde from electronic office equipment parts

Mr. Kazunobu Noda, Chief of Osaka Sales Section, Precision Parts Sales Dept., Precision Parts Division, Starlite Co., Ltd.

Our company develops plastic gears and bearings. Up to now, we have been using a great deal of polyacetal-based materials in electronic office equipment, but there's a problem in that they generate formaldehyde, which is a cancer-causing substance. We have now developed a product using polyolefin-based resins that solves this problem. It is now being used in Sharp copiers and printers.

In the future, we will be pursuing product development of plant-derived environmentally conscious plastics.



A Supplier

Emphasizing both reducing burden on the environment and saving energy

Mr. Kinya Yanagawa, Manager, Flat Product Engineering Department, Sheet Steel and Building Material Company, Sumitomo Metal Industries, Ltd.

With sheet steel widely used in home appliances, it is important to be environmentally responsible for all aspects of this material. By using material that does not contain chromium, our company has developed chrome-free sheet steel with high anti-corrosive properties. We call it the NEO Coat series and it has been used in Sharp's products.

We also hope to contribute to energy savings through our newly developed heat-dissipation coated sheet steel that improves heat dissipation in consumer electronics.

Our company will continue efforts to provide environmentally friendly materials.



In the event space, each company displayed their unique technologies for environmentally conscious parts and materials, particularly replacement materials for the six substances banned by the RoHS Directive. Demonstrations of systems to test for the content of toxic chemical substances were also given.

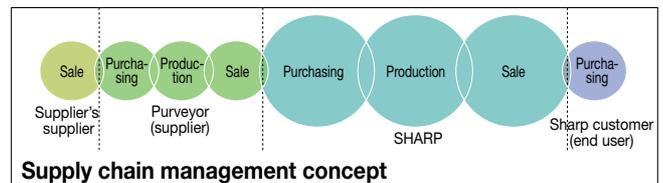
Sharp personnel in attendance commented that the fair enabled them to share product development problems and obtain hints about how to proceed in substituting with environmentally conscious components. The event also received favorable reviews from participating companies, with exhibitors noting how they were inspired by the progressive, forward-thinking efforts of all the companies involved.

Constructing a Traceability System Through the Entire Supply Chain

The suppliers of the Sharp Group in Japan and internationally are themselves supplied with parts and materials from numerous suppliers. This is true also when a member company of the Sharp Group serves as a supplier to other companies.

In other words, to supply customers with environmentally conscious products, we must endeavor to protect the environment by working not individually, but with all companies in the entire supply chain. It is absolutely essential that we work together, staying aware of all the individual links that make up the supply chain...not only direct suppliers, but also their suppliers, and the suppliers of their suppliers.

From the viewpoint of supply chain management, Sharp will remain committed to green purchasing in the future, and will also work to build a traceability mechanism (to verify the processing history and origins of parts and materials) into its procurement system.



A Supplier

Machining technologies that prevent material loss also lead to productivity gains

Mr. Toshio Kondo, Managing Director (CEO), Sohbi Kohgei Co., Ltd.

Our company provides the frames for the LCD panels used in AQUOS LCD TVs. Up to now, when we made the frames, we machined out the section where the LCD panel would be placed. Because the process requires a margin, it inevitably wasted material. However, adopting a new method using spot welding to join the frame eliminated the loss of material and also led to a reduction in the number of process steps.

In the future, we'd like to present new metal-processing techniques and work on even more ideas to protect the environment.



A Planner for Green Purchasing

We'll be expanding the Green Supplier Fair

Mr. Mitsuji Goto, Junior Manager, Corporate Procurement Center, Sharp Corporation

Sharp has announced the goal of completely eliminating substances covered by the RoHS Directive by March 2005. Many materials and components that comply with this directive were exhibited at the Sharp Green Supplier Fair held for the first time last year, and we were able to pick up valuable information to encourage the use of substitutes.

We are now planning to expand this fair further and increase its frequency to twice a year. We'll also establish a theme and plan to hold it at each Sharp site in Japan.



Sharp Green Club



Strengthening the Bonds with People Through Regional Volunteerism

The Sharp Group is involved in volunteer activities such as environmental protection campaigns initiated by the Sharp Green Club, which was founded jointly by labor and management in June 2003.

We are also supporting our employees in making a contribution to the community by introducing a system that will allow them to take vacation or leave time to participate in volunteer activities.

Nara Park/Wakakusayama Clean-Up Campaign held as the kick-off event following inauguration of the Sharp Green Club on July 26, 2003

Interweaving the Weft of Green Mind with the Warp of Volunteers

The mother of the Sharp Green Club (SGC) is the Green Mind Campaign that has been conducted company-wide since 1998. The activities of this campaign included a Zero Waste Campaign and a Zero Garbage Campaign, as well as Environmental Citizen Activities, and it was the focus on this latter effort, which involved working to protect the regional environment, that gave birth to SGC.

For example, if you get everyone together to clean up an area, naturally, that area becomes beautiful. However, doing clean-ups is not the only purpose of SGC. Changing employees' mindset and the corporate culture behind such activities, in other words, fostering a Green Mind, is the most important purpose of SGC.

Today in Japan, social expectations for volunteer activities are increasing. With the advance of urbanization and the diversification of lifestyles, communications in regional communities tends to be lost. People are starting to realize that volunteer activities might have the power to reunite the community.

It's not that volunteer activities will solve this problem. But working up a sweat as a volunteer for the sake of a community has the potential to create an atmosphere in which such voluntary actions themselves would serve to connect the people in the regional community.

A weft of Green Mind and a warp of volunteers—SGC lies where these two intersect to make the whole cloth of community.

Participants in the Wakakusayama Clean-Up Campaign

Mr. Shunju Anzai, Manager, Digital Document Systems Product Development Center, Digital Document Systems Group, Sharp Corporation

Recently, it seems that people being interviewed for jobs often get asked whether they have any volunteer experience. But inside companies, the topic of volunteering in the local community almost never comes up. Although I've participated in tree-planting activities with my residents' association, very few people seem to be aware of the connection between volunteering and the region as a whole, so I didn't feel like I was fully involved. So it didn't take much convincing to get me to say yes to participating in the Wakakusayama Clean-Up.

Mr. Hirokazu Tanaka, Manager, Human Resources Development Center, Human Resources Group, Sharp Corporation

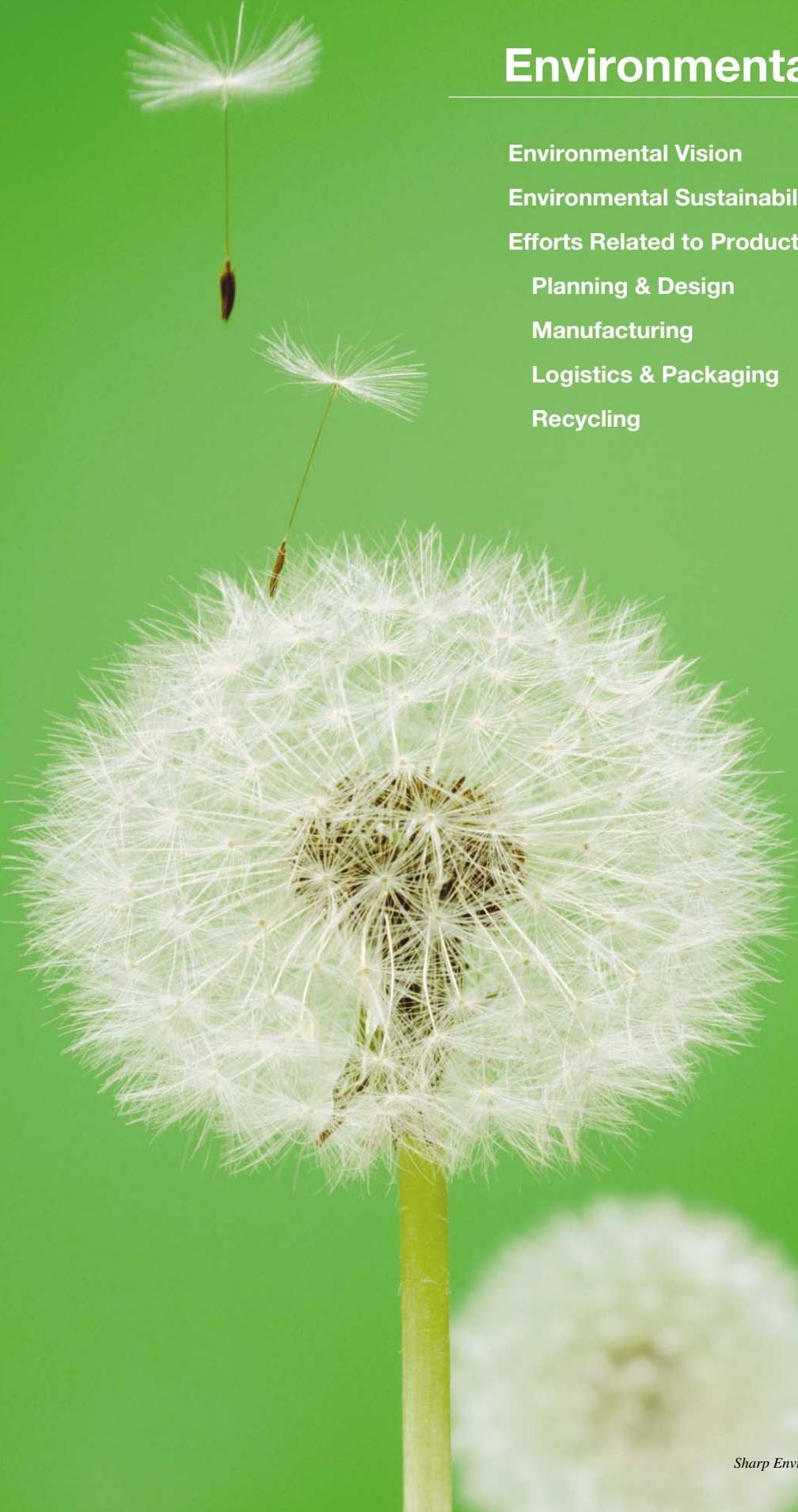
I think that even people who would like to participate in volunteer activities find it hard to make the move on their own initiative. It was impressive to see so many employees together with their families working up a sweat pulling up weeds. I think the participants gained a sense of satisfaction and community spirit when it was all done. Ultimately, I hope we can create an atmosphere in which people see volunteering not as something special but rather as something we can easily take part in.

Mr. Kohji Hisakawa, Junior Manager, Electronic Components Development Center, Electronic Components Group, Sharp Corporation

Although I had previously been interested in volunteer activities, unfortunately few opportunities seemed to come up. I thought it would be nice to climb Mt. Wakakusayama for the first time in a long while and, at the same time, help make it more beautiful. Initially, I didn't think it was necessary to provide participants with clippers or offer prizes since this was a volunteer activity. But volunteerism can take shape in various ways. People would probably be more willing to join in if they knew the tools were being prepared for them. I realized that I had a rather narrow-minded way of thinking about volunteerism.

Mr. Daisuke Taira, Assistant Supervisor, Advanced Technology Planning, Integrated Circuits Group, Sharp Corporation

I'm currently involved as a volunteer in providing regional information in the north of Nara Prefecture via a Web site and FM radio broadcasts. I participated in the Wakakusayama event together with my children. I think it was good that we were able to chat about things like the reason for volunteering, the current state of Wakakusayama and Nara Park, and the wider topic of ecosystems and the global environment. Being a volunteer, it often feels like I get more credit from people around me than I would have expected. I'd very much like it if many more people could have this experience.



Environmental Report

Environmental Vision

Environmental Sustainability Management

Efforts Related to Product Lifecycle

Planning & Design

Manufacturing

Logistics & Packaging

Recycling

Basic Stance and Vision Concerning the Environment

Under our Basic Environmental Philosophy and Charter of Conduct, Sharp is pursuing environmental consciousness in all aspects of business activity. Since fiscal 2003, we have been strengthening our efforts to raise environmental consciousness in three areas — technology, products and factories — with the goal of becoming an environmentally advanced company.

Basic Environmental Philosophy

Creating an Environmentally Conscious Company with Sincerity and Creativity

Sharp Charter of Conduct

Activities for the conservation of the environment

- Comply with all applicable environmental laws, regulations and territorial agreements and engage in voluntary activities for the conservation of the global environment, such as practicing efficient use and conservation of resources and energy, in the recognition that environmental conservation is an essential facet of corporate and individual pursuits.
- Strive for disclosure of information on the chemicals used in research, development and manufacturing, and ensure their proper control at the levels determined by laws and regulations or stricter.
- Engage in the active acquisition, reporting and promotion of environmental information at an international level, and promote communication with shareholders and local residents.

Development of an environmental management system

- Strive to acquire third-party certification of the ISO environmental management system for all domestic and overseas business sites and affiliates, as well as production sites. Further, conduct practical, internal audits for constant improvement of the environmental management system.
- Determine to obtain certification for any future additional ISO standards.

Development of environmentally conscious products

- Engage in the reduction of resource use, reduction in the size and weight of products, use of recycled materials, and the development of long-lasting, energy-saving products.
- Avoid in principle the use of any harmful substance that might damage the environment or human health.
- Use recyclable materials wherever possible, with product development focused as a matter of policy on structures that are detachable or capable of dismantling, and suited to recycling.

Promotion of environmentally conscious business activities

- Work to counter global warming through the active introduction of energy-saving facilities and technologies and clean energy sources such as solar cells.
- Select and purchase materials that are harmless to the global environment, local residents and employees, for the resources needed for business activities (equipment, raw materials, subsidiary materials, tools, etc.).
- Practice 3R (reduce, reuse and recycle) to the utmost and strive to minimize the amount of final landfill disposal, in the recognition that waste is itself a valuable resource.



The Sharp Charter of Conduct was established in April 2003 as a revised version of our previous Business Standards and Action Guidelines, established in 1998. The above is an excerpt from descriptions of our environmental conservation efforts.

● Extremely Environmentally Conscious Proprietary Technology

Sharp divides environmental technology into two categories: 1) technologies that contribute to global environmental conservation and improvement of living environments, and 2) technologies that reduce the burden on the environment. We are also developing proprietary Super Green Technologies based on 5 themes, including prevention of global warming and effective use of resources.

- Prevention of global warming: Reduce CO₂ emissions and save energy
- Reduction of chemical substances: Use no harmful substances
- Effective use of resources: Reduce, reuse and recycle
- Improvement of optional functions: Health, cleanliness and peace-of-mind
- Improvement of core functions: New energy and energy creation

Developing Super Green Technologies

Environmentally Advanced Company

Creating Super Green Products

Building Super Green Factories

● Factories with Extremely High Environmental Performance

We are boosting efforts in our factories to reduce environmental burden from manufacturing activities. We are also working to build Super Green Factories that co-exist in harmony with the natural environment and that earn the trust of the local community.

- Use cogeneration systems, natural energy sources and substitutes for greenhouse gases; install facilities to eliminate greenhouse gases
- Reduce waste, recycle waste into valuable material, use waste fluid from one process for another, reuse wastewater
- Eliminate harmful chemical substances through treatment technology that uses active charcoal and microorganisms

● Extremely Environmentally Conscious Products

Concepts such as energy saving, resource saving and recycling form the basis of our efforts to create Super Green Products that are extremely environmentally conscious.

We are also developing Super Green Devices, a key to the creation of Super Green Products.

- Energy-saving products
- Safe products
- Resource-saving products
- Easy-to-recycle products
- Products that use recycled materials
- Eco Mark status products
- Products that comply to the RoHS Directive
- Easy-to-disassemble products
- Long-life products

Major Objectives and Fiscal 2003 Results

The Sharp Group divides environmental efforts into activities related to Environmental Sustainability Management and activities—Planning and Design, Manufacturing, Logistics, and Recycling—related to product lifecycle. For each of these, we set medium-term and annual objectives and measures. In fiscal 2003, we achieved 18 of our 19 main objectives.

Fiscal 2003 Achievements

In fiscal 2003, we either met or exceeded all but one of our 19 main objectives.

In Environmental Sustainability Management, we introduced the Sharp Environmental Management System (S-EMS), a standard that adds 49 of our own voluntary management items to those specified under ISO 14001 standards.

In Planning and Design, we certified 145 new products as Green Seal Products, well above our objective of 100 products. These products comply with our strict environmental criteria. We also received the Education, Culture, Sports, Science and Technology Minister's Prize in the Global Environment Award for the success of our plastic material recycling technology.

In Manufacturing, considerable public attention was drawn to the start of operations at the Kameyama Plant, the first Super Green Factory under strict new environmental performance criteria set by Sharp. Since fiscal 2001, we have been implementing efforts to reduce high-priority-control chemical substances under a 3-year plan. As of fiscal 2003, we had successfully reduced use of these substances by 79% compared to fiscal 2000.

In Social Responsibility, over 8,000 employees from 28 domestic sites participated in environmental social contribution activities. Sharp is also receiving praise from the general public around the world as overseas bases work to help out and become an integral part of local communities.

We plan to meet the one objective that we have not yet fully achieved—elimination of lead solder in in-house-designed circuit boards—sometime in fiscal 2004.

Future Efforts

In Environmental Sustainability Management, we are introducing environmental accounting throughout the Sharp Group, so that we can understand how our business activities are impacting the environment. We are also introducing S-EMS to more sites so that we can have a consistent environmental management system across the entire Group. We are also contributing to increased environmental awareness across the Sharp Group by offering environmental education programs that include e-learning courses available over the Internet to employees in Japan and around the world.

In Planning and Design, we will continue to create new Super Green Products, products that go beyond Green Seal Products by meeting stricter environmental standards. These efforts will be aided by the development of revolutionary environmental technologies.

In Manufacturing, we will convert our existing plants into Super Green Factories in Japan in continuing efforts to reduce environmental burden. We will also step up efforts to reduce the environmental burden of overseas sites.

In Logistics and Recycling, we will continue to do our utmost to reduce environmental burden.

Main Objectives and Achievements in Fiscal 2003

Stages	Themes	Main objectives
Environmental Sustainability Management	Improve environmental management system	Implement the Sharp Environmental Management System (S-EMS) Acquire ISO 14001 certification
	Promote environmental sustainability management	Maximize environmental/economic value in terms of environmental sustainability management indexes
	Hold environmental education programs	Hold environmental seminars
Planning and Design	Develop Green Products	Increase Green Seal products' share of total net sales Formulate and implement new certification system
	Establish 3R technology	Widen the scope of closed-loop plastic material recycling
		Incorporate materials (easy-release fasteners) in products that make disassembly easy Establish recycling process for LCD TVs
	Improve safety level of parts and materials	Use lead-free solder in all products Reduce chemicals contained in products
Manufacturing	Convert factories to Green Factories	Build Super Green Factories
	Reduce greenhouse gas emissions	Reduce CO ₂ emissions (per production unit)
	Reduce and recycle waste	Reduce waste
	Reduce the risk from harmful chemicals	Reduce release of chemicals under high-priority control Set original risk assessment criteria
Logistics	Reduce distribution-related CO ₂ emissions	Change modes of transportation
Recycling	Recycle used products	Expand the line of recyclable products
Social Responsibility	Social contribution activities	Expand and diversify environmental social contribution activities

Self evaluation ◎ Achieved more than targeted ○ Achieved as targeted
 △ Achieved more than 80% of initial target × Achieved less than 80% of initial target

	Fiscal 2003 objectives	Fiscal 2003 achievements	Self-evaluation	Fiscal 2004 objectives	Fiscal 2006 objectives	See page
	Introduce S-EMS into domestic production sites	Implemented at 9 production sites	○	Introduce S-EMS into 28 domestic non-production sites	Implement S-EMS at all domestic and overseas production sites Introduce S-EMS into 90 domestic non-production sites	29~30
	Acquire certification at 3 overseas sites	Acquired certification at 4 overseas sites	◎	Complete certification at all domestic and overseas production sites Acquire certification at 8 overseas non-production sites	Complete certification at all domestic and overseas consolidated subsidiaries	
	Formulate environmental sustainability management indexes	Added environmental strategy indexes into balanced score cards	○	Introduce pilot version of environmental accounting as a tool to promote environmental sustainability management	Apply environmental accounting across the entire Group	33~34
	Environmental education participants General: 1,500, Expert: 300	General: 6,322 participants Expert: 292 participants Compliance: 679 participants	◎	General: Start e-learning in Japan Expert: Continue Compliance: Hold programs for overseas production sites	General: Have all employees in Japan and overseas participate Expert: Improve curriculum Compliance: Hold programs for domestic and overseas sites	32
	Release 100 models and make them account for 50% of total net sales	Released 145 models, accounting for 54% of total net sales	◎	Make Green Seal products account for 55% of total net sales and Super Green products 10%	Make Super Green products account for 30% of total net sales	37~38
	Formulate new Sharp Green Seal certification system	Formulation completed, started using in products released in fiscal 2004	○			
	Develop closed-loop plastic material recycling technology and put to practical use	Used 270 t of recycled plastic in new products	◎	Use 420 t of recycled plastic in new products	Use 500 t of recycled plastic in new products	41
	Develop mass production technology for easy-release fasteners	Developed shape-memory washer parts	○	Use in communications equipment	Use in audio-visual equipment	42
	Study recycling technology for major parts	Formulated guidelines for manual disassembly of LCD TV fluorescent tubes to raise recycling efficiency	○	Develop LCD panel recycling technology	Develop closed-loop recycling technology for resin used in LCD TV cabinets	
	Completely abolish lead solder in in-house designed circuit boards	Achieved in all products except some mobile phones and copiers	△	Abolish all lead solder in purchased circuit boards and parts (in new products for main markets)	—	42
	Initiate inspection of chemicals contained in parts and materials	Carried out inspections for chemicals contained in parts and materials at all domestic and overseas production sites	○	Abolish use of the six RoHS substances (in new products for main markets)	—	39
	Strengthen efforts to fulfill Super Green Factory concept	Turned one site into a Super Green Factory and 8 into Green Factories	○	Japan: Turn 2 sites into Super Green Factories and 8 into Green Factories Overseas: Assess production sites	Japan: Turn all production sites into Super Green Factories (in 2007) Overseas: Turn all production sites into Green Factories (in 2007)	43~44
	Japan: Product sites: Reduce by 2% from previous year Device sites: Reduce by 5% from previous year Overseas: Reduce by 2% from previous year	Japan: Product sites: Reduced by 29% from previous year Device sites: Reduced by 14% from previous year Overseas: Increased by 2% from previous year	○	Japan: Product sites: Reduce by 2% from previous year Device sites: Reduce by 5% from previous year Overseas: Reduce by 2% from previous year	Japan: Product sites: Reduce by 2% from previous year Device sites: Reduce by 5% from previous year (reduce by 25% from FY1990 in FY2010) Overseas: Reduce by 2% from previous year	45~46
	Japan: Continue zero discharge to landfill, recycle waste into valuable materials Overseas: Reduce by 2% per production unit from previous year	Japan: Final landfill disposal rate 0.05% (0.06% for previous year) Overseas: Reduced by 7% from previous year	◎	Japan: Recycle 12% of waste into valuable materials Overseas: Reduce by 2% per production unit from previous year	Japan: Recycle 18% of waste into valuable materials Overseas: Reduce by 2% per production unit from previous year	47~48
	Reduce by 67% from fiscal 2000 at domestic production sites	Reduced by 79% from fiscal 2000	◎	Reduce risk of chemical discharges beyond site boundaries by 15% from fiscal 2003 at domestic production sites	Reduce risk of chemical discharges beyond site boundaries by 40% from fiscal 2003 at domestic production sites	49~50
	Set original risk assessment criteria	Formulated risk assessment criteria for chemical discharges beyond site boundaries	○			
	Railway cargo transport: 450 containers/month Reduce 172 t/month of CO ₂ emissions	577 containers/month, reduced 220 t/month of CO ₂ emissions	◎	Railway cargo transport: 625 containers/month Reduce 250 t/month of CO ₂ emissions	Railway cargo transport: 800 containers/month Reduce 320 t/month of CO ₂ emissions	51~52
	Carry out survey for building recycling system in Europe for electrical/electronic equipment	Investigated recycling status in 10 EU countries (out of the current 15, as of March 2004)	○	Build collection/recycling system in EU countries	Observe each country's recycling laws and operate collection/recycling system efficiently	53~55
	Japan: 7,800 employees (from 28 sites) participate in SGC activities Overseas: Organize system for social contribution activities at major sites	Japan: 8,209 participants (from 28 sites) in SGC activities Overseas: Established organizations in 21 major sites and carried out social contribution activities	○	Japan: 10,000 employees from 29 sites (1/3 of all employees) participate in SGC activities Overseas: Expand number of active sites to 30	Japan: 30,000 employees (almost all employees) participate in SGC activities Overseas: Expand and root SGC activities at major sites	68~70

Environmental Sustainability Management

We introduced the Sharp Environmental Management System (S-EMS), a standard consisting of our own management items to supplement those specified under ISO 14001 standards, in an effort to reduce the burden that our business activities place on the environment. We have also established an S-EMS Auditor Certification System to ensure that we have the highest auditing capabilities possible, which are necessary for the proper operation of S-EMS.

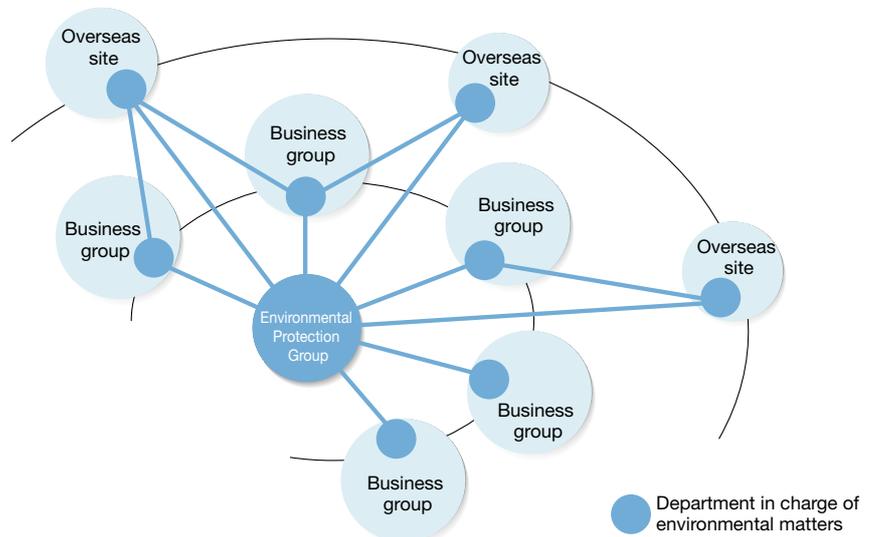
Objectives for Fiscal 2003	Achievements	Objectives for Fiscal 2004	Objectives for Fiscal 2006
<ul style="list-style-type: none"> ● Introduce S-EMS into domestic production sites ● Acquire ISO 14001 certification at three overseas production sites 	<ul style="list-style-type: none"> ➔ Implemented S-EMS at nine production sites ➔ Acquired certification at four overseas sites 	<ul style="list-style-type: none"> ● Introduce S-EMS into 28 domestic non-production sites ● Complete ISO 14001 certification at all domestic and overseas production sites ● Acquire ISO 14001 certification at 8 overseas non-production sites 	<ul style="list-style-type: none"> ● Implement S-EMS at all domestic and overseas production sites ● Introduce S-EMS into 90 domestic non-production sites ● Complete ISO 14001 certification at all domestic and overseas consolidated subsidiaries

Company-Wide Efforts Centered on Environmental Protection Group

The Environmental Protection Group and the departments in charge of environmental matters in business groups and overseas sites communicate closely to plan and promote environmental policies, strategies and measures for the entire Sharp Group, business groups and overseas sites.

The Environmental Protection Group coordinates cooperation among these environmental departments. By participating in special-interest committees and work groups that are formed when special needs arise, these departments identify problems and come up with solutions, thus contributing to consistent environmental activities across the entire Sharp Group.

● Network of Sharp Group environmental departments centered on Environmental Protection Group



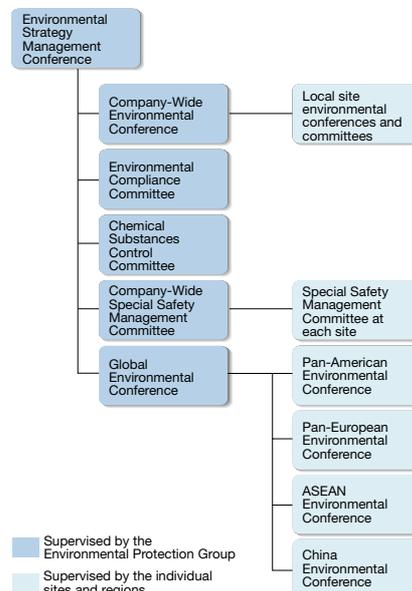
Environmental Conferences and Committees

Environmental Strategy Management Conferences, overseen by the director in charge of environmental affairs, are vital for decision-making on environmental policy. In addition to discussing and deciding on matters such as company-wide environmental policies, strategies and objectives, conference participants keep the rest of the Sharp Group informed on the latest developments in environmental laws and regulations.

Company-wide Environmental Conferences act as forums where participants discuss concrete actions and measures and where sites report their progress in implementing environmental conservation efforts.

Each Sharp site also has its own environmental conferences and committees that allow participants to discuss and report on the progress of environmental policies and measures and to inform all employees on Sharp corporate policies.

● Environmental conferences and committees



Affiliated subcommittees

- Company-Wide Environmental Conference**
- CO₂ Reduction Committee
 - Waste Reduction Committee
 - PFC Countermeasure Committee
 - Recycling Technology Development Project for LCD Application Products
 - Green Purchasing Promotion Project
 - Company-Wide Lead-Free Soldering Technique Liaison Committee
- Chemical Substances Control Committee**
- PRTR Measures Working Group
 - Sharp Chemical Management System (S-CMS) Working Group
 - Risk Communicator Liaison Committee



Held every two years in Japan, the Global Environmental Conference brings together environmental leaders from domestic and overseas sites to formulate environmental policy on an international level. At annual regional (Pan-American, Pan-European, ASEAN, China) Environmental Conferences, each region's environmental leaders discuss and establish environmental measures and update each other on items such as changes in environmental laws and regulations and market trends.

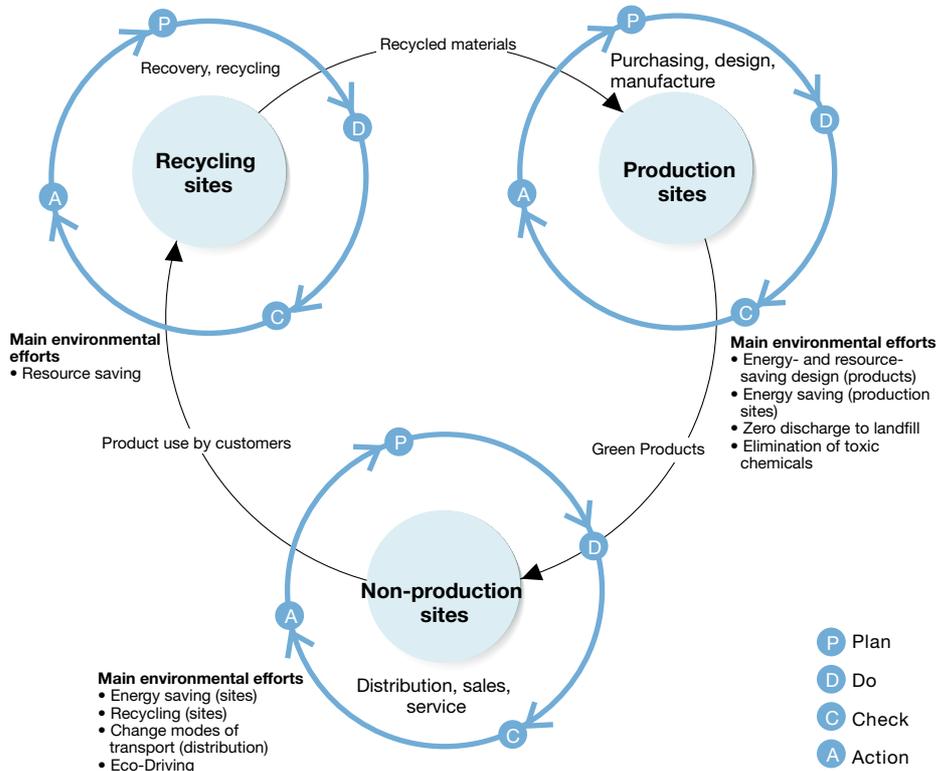
ISO 14001 An Environmental Management Tool

The Sharp Group is working to achieve certification for the ISO 14001 environmental management system in order to ensure we can continue to effectively reduce the environmental burden of our business activities. Efforts cover the entire product lifecycle as environmental management systems are applied to product planning, design, materials procurement, manufacture, distribution, sales, service and recycling.

Ever since the Hiroshima site received ISO 14001 certification in September 1995, other domestic and overseas production sites and major non-production sites have been following suit. We plan to have all domestic and overseas production sites certified for ISO 14001 within fiscal 2004.

See page 73 for a list of ISO-certified sites.
See page 73 for the ratio of ISO-certified site employees to total Sharp employees.

Environmental management system model

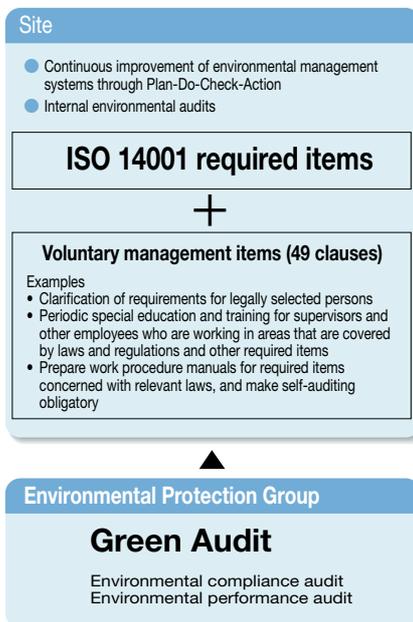


S-EMS Voluntary Management Items to Supplement ISO Standards

To accommodate the increasing number of ISO-certified sites, Sharp established the Sharp Environmental Management System (S-EMS) in fiscal 2002, a standard consisting of 49 voluntary management clauses to supplement those specified under ISO standards. This will allow us to improve environmental performance and ensure strict compliance. In fiscal 2003, we made S-EMS a company-wide standard and implemented it at all domestic production sites. We plan to introduce it to domestic non-production sites in fiscal 2004 and to overseas production sites in fiscal 2005.

As well, from fiscal 2004 we will reinforce our auditing systems through measures that include the implementation of Green Audits (audits on environmental performance and environmental compliance) by the Environmental Protection Group at S-EMS sites, in addition to internal audits conducted by the sites themselves.

S-EMS structure



Auditor Training Under the S-EMS Auditor Certification System

S-EMS sites require strict internal audits that include voluntary management items. To ensure the highest possible auditing capabilities, we have revised our previous internal environmental auditor certification system to create the new S-EMS Auditor Certification System. This new system requires auditors to renew certification after 3 years by taking training that includes classroom study and by meeting minimum requirements for audits performed during the 3-year period.

Based on this new certification system, 139 auditors completed S-EMS auditor certification renewal training at all domestic production sites in fiscal 2003.

We plan to carry out S-EMS auditor training at domestic non-production sites in fiscal 2004 and at overseas production sites in fiscal 2005.

Thorough Environmental Compliance

Through the activities of Sharp voluntary programs and an organizational structure combining the environmental departments of each Sharp Group company, we are creating a corporate mindset in which strict compliance to environmental laws is a top priority. Experts in environmental law carry out regular audits at all domestic sites, pointing out what must be done to improve environmental performance. We also train new auditors.

Expansion of the Applicable Range of Environmental Compliance Programs

The entire Sharp Group works to meet our primary responsibility of adhering to all laws and regulations that cover our business activities.

In fiscal 2001, we established the Environmental Compliance Program in order to focus on creating systems and a corporate mindset conducive to adhering to environmentally related laws. In fiscal 2002, we established the Environmental Compliance Committee, an organization to implement this program across all company groups. The committee oversees a wide range of efforts, including environmental compliance education, auditor training at individual sites, environmental compliance auditing, and assessment of audit results and correction of problematic operations and systems.

In fiscal 2003, we raised the Sharp Group's overall level of environmental performance by boosting environmental compliance in sales and service companies. This was done by putting representatives from sales and service companies on the Committee and by expanding and upgrading our environmental compliance systems and auditing capabilities.

Selection of Environmental Compliance Auditors

To achieve strict environmental compliance, employees working in areas regulated by law must have the necessary specialized knowledge. Therefore, each site selects environmental compliance auditors who have acquired specialized knowledge on environmentally related laws and regulations.

The Environmental Protection Group is constantly gathering the latest information on environmental laws and regional bylaws and passing this on to environmental compliance auditors at all sites. The Environmental Protection Group also holds training for new environmental compliance auditors.



Environmental compliance training

Swift Feedback of Environmental Compliance Audits

In addition to carrying out regular self-audits to ensure compliance to laws and regulations, sites are also audited by environmental compliance auditors well versed in environmental law.

Audits at Sharp's 10 production sites and 65 non-production sites in Japan in fiscal 2003 found no violations of laws and regulations. Matters that did require improvement or correction were swiftly dealt with.

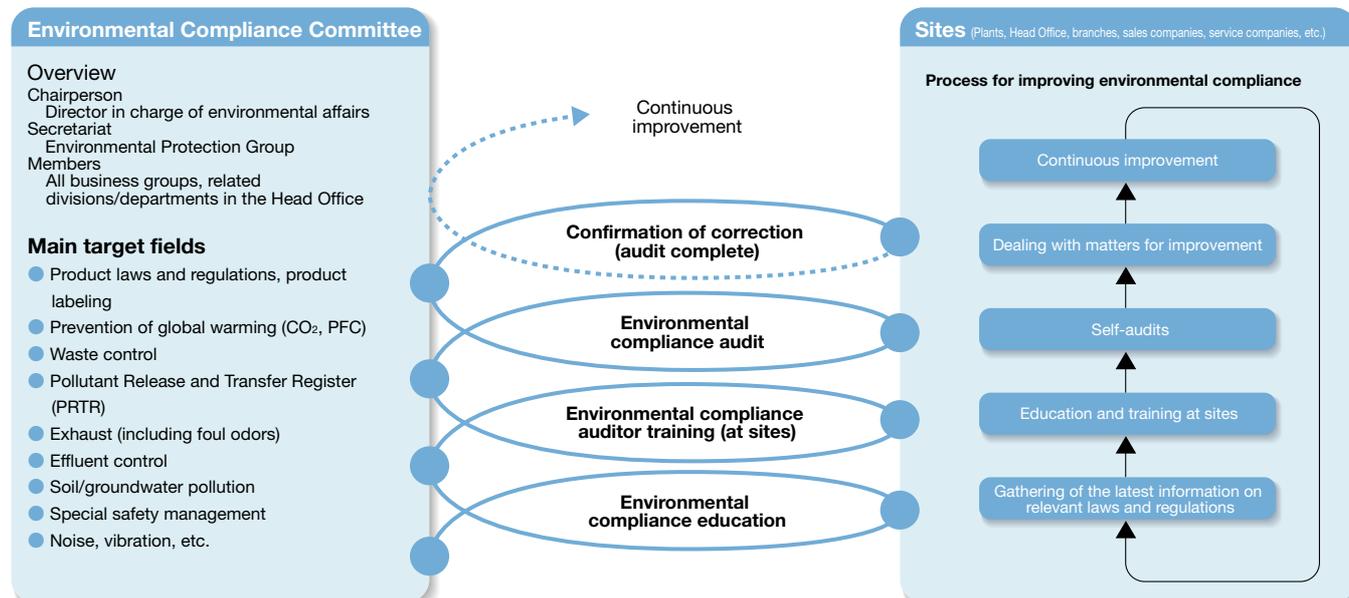
To ensure even stricter compliance to the law in future, we are re-examining the content of the Environmental Compliance Program and increasing the number of divisions and departments covered by in-house standards. Starting in fiscal 2005, we plan to carry out environmental compliance audits at overseas sites to ensure they are adhering to local laws and regulations.

Results of environmental compliance audits

	No. of sites audited	No. of cases requiring action
Production sites	10	45
Non-production sites	65	643

• Note: Within the environmental compliance audit, there were no violations of laws and regulations.

Overview of the Environmental Compliance Committee and Environmental Compliance Program



Environmental Education

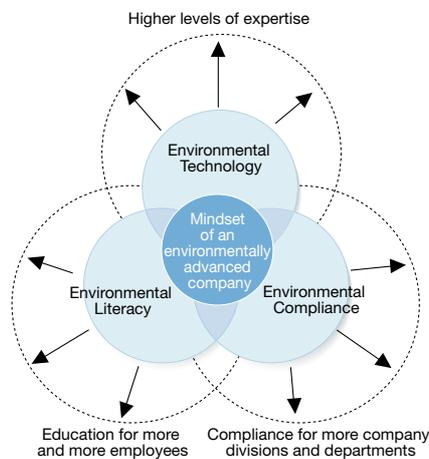
We hold training based on three themes: Environmental Literacy, Environmental Compliance and Environmental Technology. Our effective programs include basic training via satellite communication and practical training on the product disassembly line at the home appliances recycling plant.

Employee Education Based on Three Themes

To make the Sharp Group an environmentally advanced organization with a corporate mindset in which all employees take the initiative in protecting the environment, it's crucial that we raise the environmental awareness of each and every employee. To this end, the Sharp Group has developed educational programs based on three major themes. Environmental Literacy raises awareness of environmental problems and gives employees the necessary basic knowledge; Environmental Compliance teaches environmental laws and how to comply with them; and Environmental Technology helps acquire the specialized knowledge necessary to protect the environment depending on the kind of work involved.

In fiscal 2004, we will continue environmental education at domestic sites while working to get programs up to speed at overseas sites.

- Environmental education will make the Sharp Group an environmentally advanced organization



Environmental Literacy Education

In fiscal 2003, we held training in the sales groups (Domestic Sales and Marketing Group, Sales and Marketing Group—Electronic Components and Devices).

At the Domestic Sales and Marketing Group, 5,500 employees took part in initial satellite communication training that explained the basics. The next held was practical training, which dealt with environmental measures at 29 sites in Japan.

In fiscal 2004, Sharp will expand this training to all worldwide bases by offering an environmental basics course via the Internet and other media.

Environmental Compliance Education

In fiscal 2003, Sharp held Environmental Compliance Training for 679 employees at 10 production sites and 65 non-production sites in Japan.

In fiscal 2004, we will hold environmental compliance training at overseas production sites. Divided into two programs, product and factory, the training will stress the importance of compliance while dealing with matters specific to each country, such as laws and regulations, and culture.

Environmental Technology Education

In fiscal 2003, Sharp held recycle design training (basic and practical courses) for the product design and technology departments at Kansai Recycle Systems Corporation, a home appliances recycling plant partially owned by Sharp Corporation.

In the practical course, participants joined the plant's product disassembly line and took apart products like TVs and refrigerators that they themselves had designed. This gave them a firsthand look at the importance of considering recycling at the design stage and allowed them to come up with ideas for designing easy-to-recycle products and for improving the product disassembly process. This training will also continue in fiscal 2004.



Recycle design training (basic course)



Recycle design training (practical course)

Environmental Report Cover Design Contest and Environmental Photo Contest

During June, the Environment Month in Japan, we held an Environmental Report Cover Design Contest and an Environmental Photo Contest open to all Sharp Group employees and their families around the world. A grand prize and awards of excellence were awarded to the best of the over 400 entries. These contests attracted a large number of entries from overseas and provided employees and their families with an opportunity to think about the importance of protecting our environment.

The grand prize winner's design graced the cover of this year's Environmental Report, while the awards of excellence in the photo contest were made into a computer screen desktop calendar and given to employees.



Environmental photo contest

Environmental Household Accounting Contest

The Sharp Group holds the Environmental Household Accounting Contest, an event that gives people a chance to think about how changing their lifestyles could help prevent global warming. This contest recognizes outstanding efforts by households to save energy and water by using the Environmental Household Account Book to keep track of how much energy they use, and how much CO₂ they emit over a one-year period and the like.

This contest aims to stimulate the enthusiasm of Sharp Group employees and their families for protecting the environment by raising environmental awareness and by showing them that environmental conservation starts at home with everyday activities, such as recycling and saving electricity and water.

Environmental Accounting

As means of quantitatively measuring and assessing the costs and effects of our environmental conservation activities, the Sharp Group has been conducting environmental accounting since fiscal 1999, and has applied the results to achieve even greater environmental sustainability management efficiency. To facilitate understanding of the contents of environmental accounting, we revised our information disclosure methods in fiscal 2003.

Disclosure Process

Our environmental accounting is based on the 2002 Environmental Accounting Guidelines published by the Ministry of the Environment. We revised the process for disclosing environmental accounting information in fiscal 2003, making the information more useful for the practice of environmental sustainability management and easier for general consumers to understand.

Classification of environmental conservation costs

Environmental conservation activities in the Sharp Group are disclosed by category.

Relationship between environmental conservation costs and economic/environmental conservation effects

Instead of disclosing each of the figures (environmental conservation costs, economic effects and environmental conservation effects) separately, the relationships are organized in a table along with categories of the Sharp Group's environmental conservation activities.

Evaluation concept for environmental conservation effects

We have selected indexes that can present and grasp the effects brought about through environmental conservation activities.

Describing burden on the environment

Comprehending the burden being placed on the environment is extremely important in understanding environmental accounting. Considering this, we identified environmental burdens that are closely related to the categorized conservation activities and have reported it along with the environmental accounting information. To simplify the comparison of environmental burden over the years, data for two consecutive years is provided in this issue.

Disclosure of details of each environmental conservation activity

Since various measurement units are used to describe the effects of environmental conservation, picturing the overall image is a difficult task. For fiscal 2003 environmental accounting, instead of using an integrated index to describe the overall effects of environmental conservation, we used the most appropriate measurement units for each environmental conservation activity and supplied the details of this environmental accounting on pages describing our environmental activities. This method should give readers a deeper understanding of the effects of environmental conservation.

Scope and Terms of Totalization

Sites covered

Ten Sharp Corporation sites (Tochigi, Yao, Hiroshima, Nara, Shinjo, Fukuyama, Mie, Tenri, Mihara and Kameyama) and the Environmental Protection Group

Period covered

April 1, 2003, through March 31, 2004

Referenced guidelines

The 2002 Environmental Accounting Guidelines by the Ministry of the Environment

Calculation Process

Total for environmental conservation expenses

The main expenses for environmental conservation are calculated by dividing the total corporate operation expenses by the amount of time spent on environmental conservation activities. The expenses for environmental conservation also include depreciation cost.

Economic effects

The amount of income and cost savings resulting from environmental conservation activities are included in the calculation.

What Environmental Accounting Reveals

As production increases, environmental burden generally increases as well. In order to reduce greenhouse gas emissions, we invested 5.1 billion yen to cut back on the consumption of power and fuel. As a result, we curbed CO₂ emissions by 37,000 t-CO₂. However, due to increase in production output, our total emissions increased by 7% from the previous year. For cost-effectiveness of individual environmental conservation effects, please refer to the introduction pages.

Classification of Environmental Conservation Activities		Category based on Guidelines*
Environmental Sustainability Management		Management activities
Planning and design		R&D
Manufacturing	Controlling greenhouse gas emissions	Global environmental conservation
	Discharge control and recycling of waste	Recycling resources
	Preventing pollution	Preventing pollution
	Reducing risk of harmful chemical substances	Preventing pollution Recycling resources
	Response to environmental damage	Response to environmental damage
Logistics		Upstream/downstream
Recycling		Upstream/downstream
Social Responsibility		Social activities
Total		

Future Efforts

In order to better identify cost-effectiveness and make environmental accounting more useful in implementing environmental sustainability management, we will refine the methods used to calculate environmental conservation costs, economic effects and environmental conservation effects.

We also plan to improve and strengthen our environmental management accounting system so that it may be used as a tool for our corporate environmental management strategies.

Environmentally conscious cost planning

To encourage efficient environmentally conscious cost planning, we will set up a framework for itemizing individual product costs and clarifying the expenses related to environmental conservation.

Material flow cost accounting

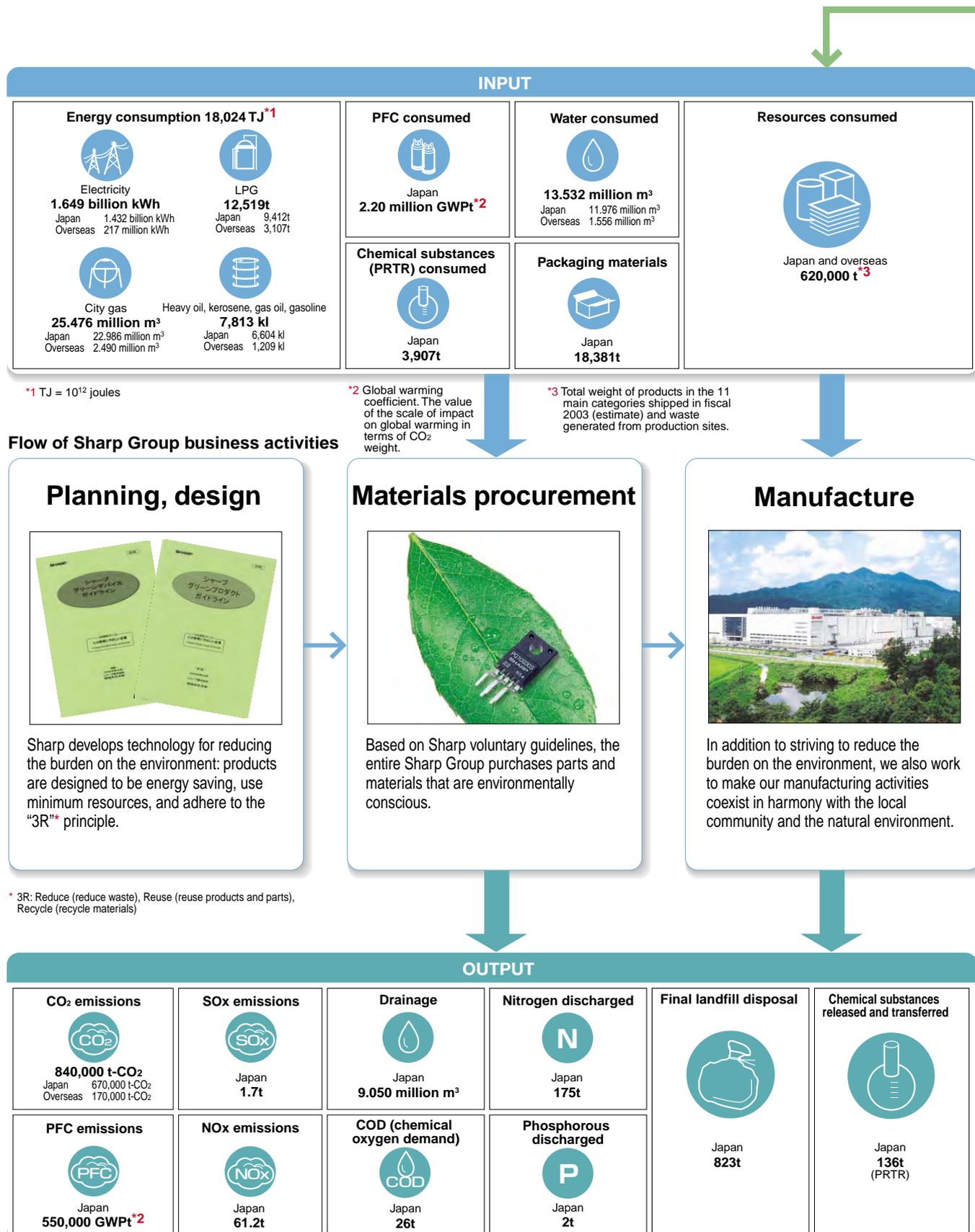
Centering on production sites with high environmental burden, we will identify material loss including raw materials and energy input in manufacturing processes. In doing so, we will be able to reduce both environmental burden and production costs.

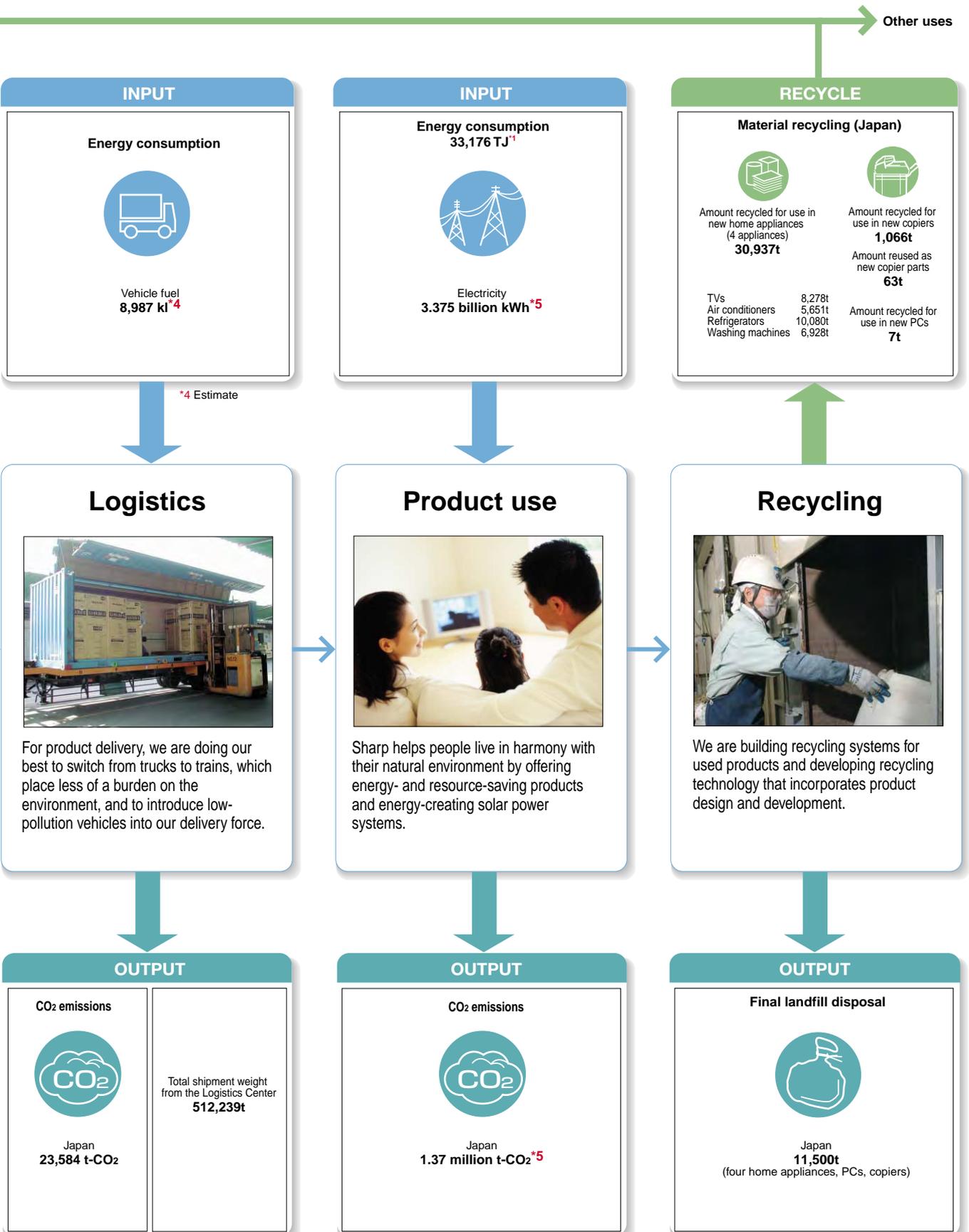
	Environmental conservation costs (unit: ¥million)		Economic effects (unit: ¥million)	Environmental conservation effects	Environmental burden			See page:
	Investment	Expenses			Index	Fiscal 2002	Fiscal 2003	
54	2,445	—	—	Promoting environmental sustainability management Number of sites that acquired ISO14001 certification 10 Enhancing environmental awareness Number of employees who received environmental training (general training) 6,322 Number of employees who received environmental training (expert training) 292 Number of employees who attended SGC activities 8,209		—		25-32
—	4,518	—	—	Supplying environmentally conscious products Green Seal products' share of total net sales 54% CO ₂ emission control effect through energy-saving design/development 62,603t-CO ₂ Waste reduced through easy-to-recycle design 38,117t		—		38
5,091	1,525	824	824	Greenhouse gas emissions reduced by controlling electricity and fuel consumption CO ₂ emissions controlled 37,146t-CO ₂ PFC emissions controlled 183,563GWP t	Energy applied 9,778TJ CO ₂ emissions 415,682t-CO ₂ PFC emissions 633,428GWPt	10,488TJ 445,315t-CO ₂ 550,280GWPt		
644	1,673	Income resulting from the sale of valuable recycled waste 667	667	Waste recycled Waste 151,955t Recycling rate 88.8% Recycled and reused water 9,327,000m ³	Waste generated 157,311t Final landfill disposal rate 91t Water consumption 11,474,000m ³ Total drainage 9,532,000m ³	171,175t 86t 9,749,000m ³ 7,396,000m ³		44
1,583	2,933	—	—	Environmental laws and regulations observed Air/water pollution and noise/vibration prevented	SOx emissions 4.1t NOx emissions 26.5t COD emissions 22.7t	1.7t 61.2t 26t		
16	437	—	—	Environmental pollution from chemical substances	PRTR-designated chemical substances handled 3,198t PRTR-designated chemical substances emitted/transported 230t	3,907t 136t		
—	289	—	—	Risk of soil pollution reduced		—		
—	29	—	—	Environmental burden during distribution reduced CO ₂ emissions controlled 2,640t-CO ₂	Total transportation 129,400,000t×km CO ₂ emissions 24,652t-CO ₂ Total product shipment 482,731t	150,680,000t×km 23,584t-CO ₂ 512,239t		52
—	183	—	—	Used products recycled into new products Used business- and home-use PCs 7.1t Used copiers 1,066t Used home appliances (4 categories) 30,937t	Shipment of products in the 11 main categories (estimate) - Container/packaging materials used 20,837t	418,180t 18,381t		54
46	68	—	—	Environmental social contributions		—		69-70
7,434	14,100	1,491						

* The 2002 Environmental Accounting Guidelines by the Ministry of the Environment

How Business Activities Relate to the Environment

The Sharp Group determines numerical values that represent the relationship between our business activities and the environment and uses them to improve environmental sustainability management. By taking these numerical values at all stages of our business activities and using them to create proposals for measures, as well as to analyze and assess results, we are aiming to effectively reduce the burden we place on the environment.





^{*5} Estimate of annual energy used and amount of CO₂ emitted by products in the 11 main categories shipped in fiscal 2003. Calculated based on each product's energy consumption rate.

Creating Super Green Products

In addition to a certification system for Green Products and Green Seal Products based on in-house guidelines, starting fiscal 2004 we are developing Super Green Products, which must meet even stricter in-house standards. We are also boosting development of environmentally conscious devices based on our Green Device Guidelines and aiming to eliminate the use of the six harmful substances covered by the European Union's RoHS (Restrictions on the use of certain Hazardous Substances) directive.

Objectives for Fiscal 2003	Achievements	Objectives for Fiscal 2004	Objectives for Fiscal 2006
<ul style="list-style-type: none"> Release 100 models of Green Seal Products and make them account for 50% of total net sales Establish the New Sharp Green Seal Certification System 	<ul style="list-style-type: none"> Released 145 models of Green Seal Products; accounted for 54% of total net sales Introduced a new certification system for products sold in fiscal 2004 	<ul style="list-style-type: none"> Make Green Seal Products account for 55% of total net sales Make Super Green Products account for 10% of total net sales 	<ul style="list-style-type: none"> Make Super Green Products account for 30% of total net sales

From Green Products to Super Green Products

The Sharp Group develops Green Products based on concepts such as energy savings, safety and resource savings. In order to create environmentally conscious Green Products in all product categories, we established the Green Product Guidelines. In fiscal 1999, design and production sites in Japan and overseas began introducing these guidelines into their new product development.

We have also been steadily introducing Green Products that offer particularly high levels of environmental performance and that we certify as Green Seal Products. Green Seal Product certification standards are revised and upgraded every year. Furthermore, from fiscal 2004 we are introducing what we call Super Green Products: products that surpass stricter-than-ever in-house standards and that are extremely environmentally conscious.

Development and Assessment of Green Products

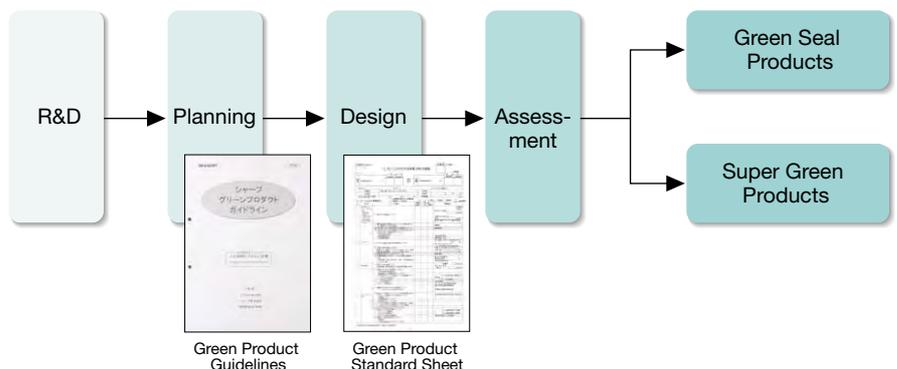
The first step in developing Green Products is the planning stage, where we use the Green Product Guidelines to design a product that is environmentally conscious in every aspect. Next, in the design stage, we design a product with specific objectives following the assessment items in the Green Product Standard Sheet. Finally, in the prototype building and mass production stages, we

determine how well the actual product has met the objectives we set for it.

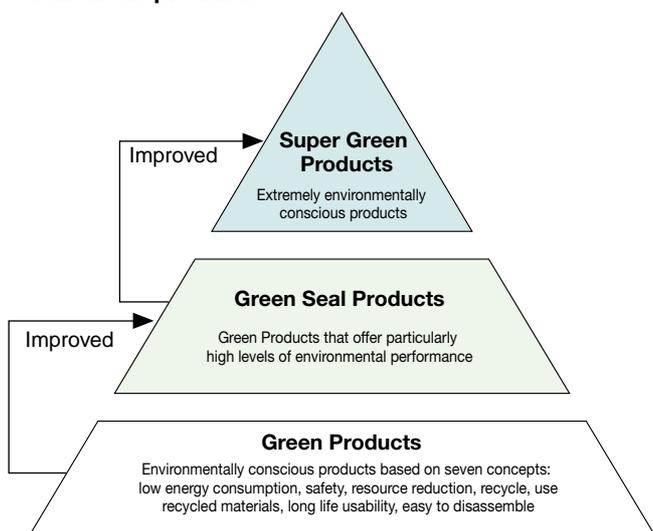
In fiscal 2003, Green Products had to satisfy at least 85% of 47 assessment items, a standard that was met by all of our new products.

For fiscal 2004, we have raised this standard to 90% in efforts to make products that are even more environmentally conscious.

Green Product development process



The Sharp concept of environmentally conscious products



Seven Green product concepts

- Low energy consumption**
Products that are energy-efficient and use little energy
Design products that consume less power both in running and standby mode, and air conditioners/heaters that give more efficient cooling and heating.
- Safety**
Products that are safe to use
Carry out tests on products for chemicals and work to abolish or reduce use of chemicals that have negative effects on people's health or the environment.
- Resource reduction**
Products that use minimum resources
Make products that use less water and detergent, and reduce the amount of materials used in products and packaging.
- Recycle**
Recyclable products
Choose materials that can be easily recycled or reused in products, and label the type of material used.
- Use recycled materials**
Products made from recycled materials
Use recycled plastic and reuse parts in making products.
- Long life usability**
Products with a long life cycle
Design products that are upgradeable and easy to repair.
- Easy to disassemble**
Products that are easy to disassemble
Design products so that they will be easy to take apart for recycling.

Raising Assessment and Certification Standards

In fiscal 2003, Green Products that satisfied the four required items of the Environmental Performance Criteria and at least one in the External Environmental Claim Standards were certified as Green Seal Products. We certified 145 new product models as Green Seal Products.

Starting in fiscal 2004, products will be designated as Super Green Products if they pass the assessment and certification process based on newly established standards. According to the new standards, products must meet the RoHS directive and have the Japanese Eco Mark status. The new standards also have a new Environmental Performance Criteria section that covers a combination of factors including global warming, effective use of resources, and use of substitutes for toxic chemicals. Products that satisfy 90% of the assessment conditions in the new standards will be certified as Super Green Products.

We have also raised the bar for assessment and certification of Green Seal Products, which must now satisfy 70% of the assessment conditions in the Environmental Performance Criteria.

These new, strict standards will hereafter be the basis for new product development. Our goal is to have Super Green Products account for 10% of total net sales for products in Japan in fiscal 2004 and 30% in fiscal 2006.

Fiscal 2004 assessment and certification standards for Green Seal Products and Super Green Products

	Green Seal Products	Super Green Products
I Required items	<ul style="list-style-type: none"> Satisfy four required items of the Environmental Performance Criteria 	<ul style="list-style-type: none"> Satisfy four required items of the Environmental Performance Criteria Meet the RoHS directive Have Eco Mark status
II Level of environmental consciousness	<ul style="list-style-type: none"> Satisfy at least one item of the External Environmental Claim Standards 	<ul style="list-style-type: none"> Be significantly more environmentally conscious than the products of other companies
III Environmental Performance Criteria (Total score: 100)	Prevents global warming Low power consumption, high energy efficiency, etc. 20 points	Makes effective use of resources Designed for recyclability, resource saving, etc. 20 points
	Uses substitutes for toxic chemicals Uses no heavy metals, uses lead-free solder, etc. 35 points	Other Has Eco Label status, uses minimum packaging materials, etc. 25 points
	At least 70 points	
	At least 90 points	

All conditions under sections I, II, and III must be satisfied.

Four required items of the Environmental Performance Criteria

Items	Detail
Energy saving	Less power consumption and standby power consumption when compared to previous model
3R	Easy separation and disassembly or upgradeable
Safety	Uses lead-free solder in more than one circuit board
Packaging	<ul style="list-style-type: none"> Abolishing the use of polystyrene foam (for products weighing less than 10 kg) Reduced use of plastics or amount of wrapping material when compared to previous model



Green Seal

External Environmental Claim Standards

Items	Detail
Energy saving Energy creating	Power consumption <ul style="list-style-type: none"> Industry-leading model of each product category Standby power consumption <ul style="list-style-type: none"> Industry-leading model of each product category 0.1W or less (remote controlled products) 1.0W or less (telephones, facsimiles, PCs) Energy creating <ul style="list-style-type: none"> Industry-leading conversion efficiency
3R	Resource savings during use <ul style="list-style-type: none"> Industry-leading model of each product category (saving water and detergent, etc.) Compact/lightweight <ul style="list-style-type: none"> Industry-leading model of each product category Reduced by 30% or more when compared to previous model Recycled materials <ul style="list-style-type: none"> Use of recycled materials (material recycling)
Safety	Green materials <ul style="list-style-type: none"> Abolishing use of halogen-based flame retardants, substituting polyvinyl chloride Use of refrigerant with low global warming coefficient Use of lead-free solder in all circuit boards Abolishing the use of heavy metals (lead, mercury, hexavalent chromium, cadmium)
Eco Mark	Acquired Eco Mark <ul style="list-style-type: none"> Acquired Eco Mark authorized by the Japan Environment Association
Others	Original technology <ul style="list-style-type: none"> Sharp technology, the environmental consciousness of which can be evaluated objectively

Planning and Design: The Environmental Accounting View

Environmental conservation activities	Environmental conservation costs (Units: ¥million)	
	Investment	Cost
R&D, planning and design of products contributing to environmental conservation	—	3,908
R&D, planning and design to reduce environmental burden during manufacturing processes	—	609
Total	—	4,518

Our research and development is aimed at reducing the environmental burden of the products themselves and of manufacturing processes. In fiscal 2003, we invested approximately 4.5 billion yen in research, development, planning and design. The aim was to create products that contribute to environmental conservation and develop manufacturing processes that

Environmental conservation effects	
Green Seal Products as % of total net sales	54%
CO ₂ emission control effect through energy-saving design/development	62,603t-CO ₂
Waste reduced through easy-to-recycle design	38,117t
Recycled plastic used in new products	270t
% of new products using lead-free solder*	82%

* New products in Japan

minimize environmental burden. As a result, Green Seal Products accounted for 54% of total net sales, 270 tons of recycled plastic was used in new products, and 82% of new products in Japan used lead-free solder. In fiscal 2004, we will continue research and development aimed at reducing the environmental burden of our business activities.

Creating Super Green Products

Developing Green Devices

As in the example of the LCD TV, the Sharp Group's spiral strategy leads the development of proprietary devices that form the foundation for a range of unique, one-of-a-kind products.

To create highly environmentally conscious Super Green Products, we will need to develop "green devices." This will require us to accelerate the pace and raise the technological level of development. That's why we established the Green Device Guidelines, which detail standards and assessment methods for developing environmentally conscious devices. In April 2004, we began introducing these guidelines into all device groups in Japan.

These guidelines will allow us to achieve specific target values in device development and thus create Super Green Devices that offer the highest level of environmental consciousness.

Green Purchasing and Eliminating the Six Harmful Substances

In fiscal 2000, the Sharp Group established company-wide Green Purchasing Guidelines, thereby cooperating with our suppliers of parts and materials to make environmentally conscious products. There are two categories of assessment under these guidelines: Assessment of Environmental Management for determining whether the supplier's entire organization is working to protect the environment based on standards like ISO 14001; and Assessment of Delivered Goods for determining the environmental burden of parts and materials purchased from the supplier (in particular, whether the parts or materials contain environmentally harmful substances). This comprehensive assessment allows us to determine how environmentally conscious the supplier is.

In fiscal 2003, we carried out surveys on the chemical substances contained in parts and materials using survey tools and measuring relevant survey substances as determined by the Japan Green Procurement Survey Standardization Initiative*. We have begun work on eliminating use of the six harmful substances covered by the EU RoHS directive, which is set to go into effect in July 2006 in Europe.

We will step up these efforts in fiscal 2004 with the goal of replacing harmful substances in products with safer substitutes.

* A council consisting of 3 organizations and 70 companies, mainly electronic manufacturers, including Sharp Corporation, which works to standardize research on chemical substances contained in parts and materials.

The Green Device concept

Energy saving

Reduce total power consumption and reduce power consumed in standby mode compared to previous models

Recyclability

Use standard plastic, or use materials that are easy to separate and disassemble (LCD devices)

Resource saving

Reduce device weight or volume compared to previous models

Green materials

Use no RoHS-designated substances or substances designated as banned under Sharp standards

Long life

Extend the life of the product with exchangeable parts and consumables (LCD devices)

Packaging

Reduce packaging materials

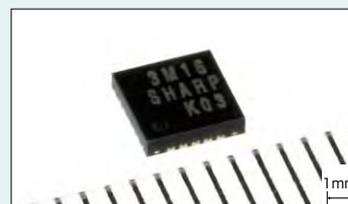
Information disclosure

Provide information on chemical substances contained in devices

Device Example

Compact, Low-Power-Consumption System Power Supply IC

In June 2003, we developed a system power supply IC for LCD drivers used in mobile electronic equipment. The power for TFT LCD drivers, which used to be supplied by multiple chips, can now be supplied with this small, single-chip device. This system power supply IC reduces power consumed by mobile phones while talking and in standby mode and increases the phone's battery time in standby mode by approximately 15% (compared to Sharp's previous models).



System power supply IC for LCD drivers used in mobile electronic equipment

Green purchasing assessment items

Main criteria for Assessment of Environmental Management

- (1) Comply with ISO 14001 or EMAS*
- (2) Carry out activities related to environmental conservation: corporate creed, policy, objectives, organization, education and training
- (3) Organize a system for green purchasing to procure parts and materials
- (4) Publicly disclose details and results of environmental conservation activities
- (5) Provide an MSDS (material safety data sheet) upon delivery of chemicals

Main criteria for Assessment of Delivered Goods

In order to ensure the elimination of harmful substances, goods must not contain the following substances, which Sharp has banned in products.

- (1) Substances prohibited under the laws and regulations of Japan and other countries, as well as substances expected to be prohibited in future
- (2) Substances restricted under voluntary standards, such as environmental labeling standards, in Japan and other countries, as well as substances expected to be restricted in future
- (3) Substances banned under Sharp voluntary standards
- (4) Substances whose use is restricted in the manufacturing process under laws and regulations and voluntary standards in Japan and other countries, as well as substances expected to be restricted in future



Meeting to explain Green Purchasing in Indonesia



Meeting to explain Green Purchasing in Spain



Survey Manual for Chemical Substances in Parts and Materials (Japanese and English editions)

* Eco-Management and Audit Scheme: the environmental management system and auditing rules in the EU.

Product Examples

AR-266 Series Digital Multifunction Systems

The AR-266 Series Digital Multifunction Systems have two levels of power: Main and Sub. By using Sub power when the product is not in use, you can reduce power consumed in standby mode*1 to less than one watt*2. The energy consumption efficiency*3 is approximately 27%—less than 21.44 Wh/h—that of our previous models, making the AR-266 Series the most energy efficient products in their class*4. It's these qualities that earned the AR-266 the Energy Conservation Center Chairman's Prize in the 2003 14th Energy Conservation Awards (Energy Conservation Equipment and Systems Commendations) sponsored by the Energy Conservation Center.

- *1 In Auto Power Shut Off mode, which automatically lowers power to the machine after it sits idle for a set period of time.
- *2 Three models: AR-266G, AR-266FG and AR-266S.
- *3 Under provisions of the Energy Conservation Law. A measurement of the power consumed during a certain idle period after the machine has made a certain number of copies. The lower this figure, the greater the energy consumption efficiency.
- *4 According to a survey by the Green Purchasing Network (GPN) Web site (current as of August 28, 2003, for 26-ppm and faster machines).



AQUOS LCD TV

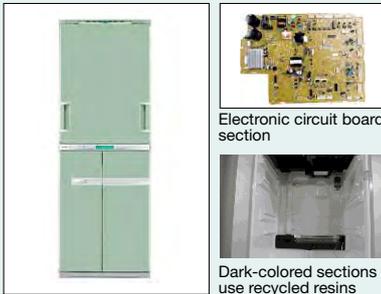
The 32V-inch model of the AQUOS LCD TV consumes approximately 24% less power than an equivalent-sized CRT TV. The backlight has a life of approximately 60,000 hours and can be replaced for even longer years of AQUOS use.

The cabinet is made with non-halogen resin, which releases almost no dioxins when incinerated, while the speaker enclosures use easy-to-recycle aluminum. But that's not all. The AQUOS is environmentally conscious through and through: the stand and speakers are made of recycled plastic, the main printed circuit boards use lead-free solder and the power cord uses no vinyl chloride.

The SJ-PV43H Energy-Saving Refrigerator

The SJ-PV43H employs a variety of energy-saving technologies to achieve power consumption of just 190 kWh/year (221% achievement rate of 2004 energy conservation standards). This is approximately 30% less than the 270 kWh/year consumed by our previous model, the SJ-PV43G. There are also power-saving functions that adapt to how the refrigerator is used: a function that saves 10% on electricity when the user is out of the home for extended periods of time, and a function that saves 3% during the night.

The SJ-PV43H uses the non-CFC refrigerant R-600a, meaning an ozone depletion coefficient of zero and a global warming coefficient just 1/400th of conventional CFC substitutes. The refrigerator is made without specified bromine-based flame retardants, using only environmentally conscious materials like non-vinyl chloride materials, lead-free solder circuit boards, lead-free wiring and recycled plastic.



Electronic circuit board section

Dark-colored sections use recycled resins

NT-167AK Single-Crystalline Photovoltaic Module

In April 2003, Sharp released a photovoltaic module*1 that achieves 3 kW*2 of power generation with the industry's smallest surface area*3. While Sharp's previous model required 23.1 m² of installation space, this new system requires just 17.3 m², allowing smaller houses to install and enjoy the benefits of a photovoltaic power generation system.

High-efficiency technology allows the NT-167AK to achieve a 17.4% module conversion efficiency, the world's highest*4.

- *1 A module is a packaged array of the necessary number of solar batteries and cells covered in reinforced glass to withstand use outdoors.
- *2 3 kW is equivalent to 72% of the power consumption of an average household.
- *3 Current as of April 21, 2003, for terrestrial, mass-produced photovoltaic modules.
- *4 According to a Sharp comparison of information on the Web sites of 31 companies, including the top 11 in terms of production volume, accounting for 91.8% of the world market share (as listed in PV News) (November 2003 survey).



The Environmentally Conscious AQUOS

- ① Lead-free solder circuit board
- ② Chassis frame using 50% recycled material
- ③ No lead or vinyl chloride in power cord
- ④ No hexavalent chromium in fasteners (bolts, nuts)
- ⑤ No lead or vinyl chloride in inner cables
- ⑥ Chrome-free sheet steel (backlight frame)
- ⑦ Non-halogen cabinet
- ⑧ Speaker grill using 20% recycled material



Mobile Phone Stands Adopt Material Recycling Technology

Using material recycling technology, Sharp began in September 2003 to ship mobile phone stands (for the SH252i model) that use recycled ABS resin. By collecting used mobile phone stands and recycling the materials in them—for use in new mobile phone stands—we can reduce CO₂ emissions from our business activities by 112 t/year (equivalent to the amount of CO₂ absorbed by 160 trees in one year)*.

* A trial calculation based on collecting and recycling 5% (500 t/year) of the mobile phone stands shipped in one year.



Developing Super Green Technologies

Sharp is constantly developing a wide range of technologies: from basic technologies that form the core of products to recycling technologies used at the end of a product's life. Those concerning the environment and of the highest priority are what we call Super Green Technologies, and we are currently going full out to apply these to new products in the market.

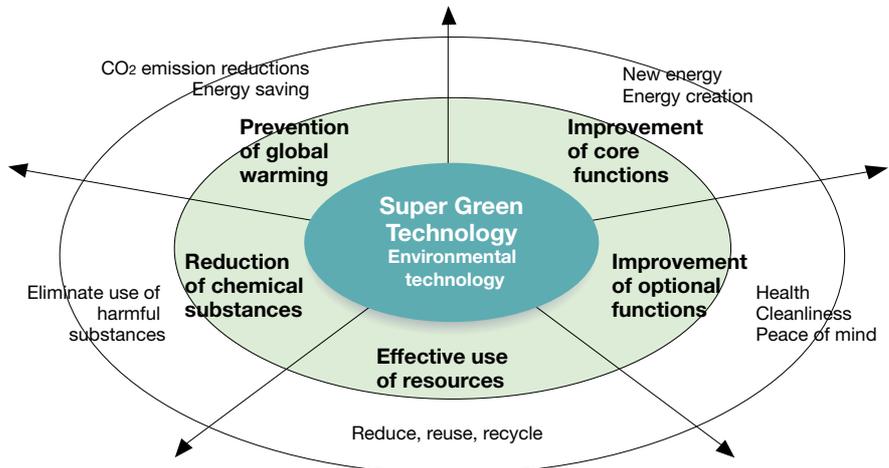
Fiscal 2003 objectives	Achievements	Fiscal 2004 objectives	Fiscal 2006 objectives
<ul style="list-style-type: none"> Develop closed-loop plastic material recycling technology and put to practical use Develop mass-production technology for easy-release fasteners Completely abolish lead solder in in-house designed circuit boards used in products made after April 2004 Study recycling technology for major LCD TV parts 	<ul style="list-style-type: none"> 270 tons of recycled plastic used in new products Developed shape-memory washer parts Achieved in all products except some mobile phones and copiers Formulated guidelines for the manual disassembly of LCD TV fluorescent tubes to raise recycling efficiency 	<ul style="list-style-type: none"> Use 420 tons of recycled plastic in new products Use in communications equipment Abolish all lead solder in purchased circuit boards and parts (in new products for main markets) Develop LCD panel recycling technology 	<ul style="list-style-type: none"> Use 500 tons of recycled plastic in new products Use in audio-visual equipment Continue abolishment Develop closed-loop recycling technology for resin used in LCD TV cabinets

Developing Super Green Technologies in Five Fields

The Sharp Group divides environmental technology into two categories: 1) technologies that contribute to global environmental conservation and improvement of living environments, and 2) technologies that reduce the burden on the environment. We have also established five themes for our research into environmental technology: prevention of global warming, reduction of chemical substances, effective use of resources, improvement of optional functions and improvement of core functions.

In each of these themes, we have set specific development objectives to be achieved through our high-priority environmental R&D efforts.

Five fields of Super Green Technology (environmental technology)

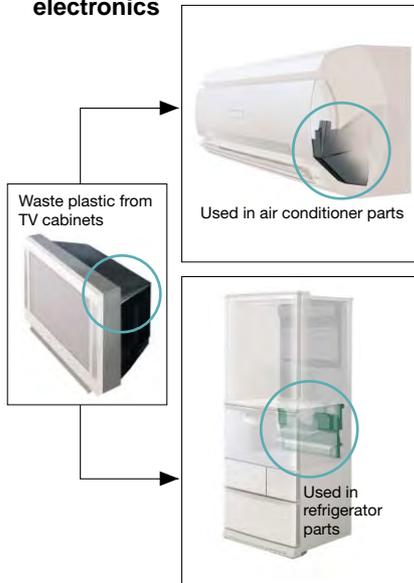


Stepping Up Development of Closed-Loop Plastic Material Recycling Technology

In May 2003, we successfully developed technology for easily assessing how much recovered plastic has degraded as well as a method for arresting this degradation. This achievement made us the first in the industry to develop technology for repeatedly reusing the polypropylene (PP) and polystyrene (PS) from used air conditioners, TVs, refrigerators and washing machines in mass-producing new product parts, without deterioration of the quality of the recycled materials. In fiscal 2003, we used a total of 270 tons of recycled plastic in new products.

We are also developing material recycling technologies for ABS resin and other materials, as well as technologies that will allow us to isolate and separate the individual materials in composite plastics.

Example of material recycling of plastic from used consumer electronics



Material recycling development

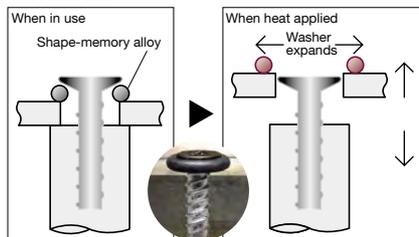
Used parts	Material type	Technologies	Recycled as	Quantity of recycled material used (t/yr)			
				Fiscal 2001	Fiscal 2002	Fiscal 2003	Fiscal 2004 (target)
Washing machine washtub	Polypropylene	<ul style="list-style-type: none"> Adjust properties Improve service life 	Washing machine wash tub	40	80	190	300
Washing machine spin tub	Polypropylene	<ul style="list-style-type: none"> Adjust moldability Improve service life 	Refrigerator parts	—	—	50	50
TV rear cabinet	Polypropylene	<ul style="list-style-type: none"> Sort non-incombustible PP Improve service life Improve heat resistance 	Air conditioner parts	—	—	10	20
			Refrigerator parts	—	—	15	30
Refrigerator shelves	Polystyrene	<ul style="list-style-type: none"> Sort materials Adjust physical properties Improve service life 	Refrigerator parts	—	—	5	20
Totals				40	80	270	420

Developing Easy-Release Fasteners

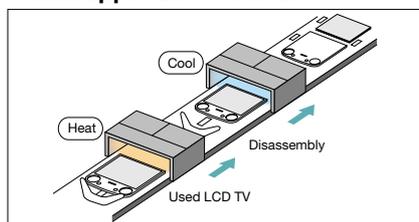
Since fiscal 2000, we have been developing fasteners that make it easy to disassemble used products for recycling. In fiscal 2003, we developed a new type of fastener that comes loose simply with the application of heat. This fastener consists of a screw and shape-memory alloy washer.

We plan to introduce these fasteners into a wide range of home appliances so that used products collected for recycling will literally come apart by themselves with the application of heat.

Fastener with shape-memory washer



Principle of automatic disassembly with application of heat



Developing Recycling Technology for LCD Application Products

In August 2003, Sharp launched a company-wide project aimed at developing recycling technology for LCD TVs and other LCD application products. Objectives for this project include the development of material recycling technology for reusing various materials recovered from used products, easier disassembly of products during the recycling process, and the use of materials that do not contain RoHS-designated substances.

In fiscal 2003, we established guidelines for the safe removal of LCD TV backlights during the recycling process. We plan to complete development of these basic technologies sometime in fiscal 2004 and begin testing to confirm their effectiveness in fiscal 2005.

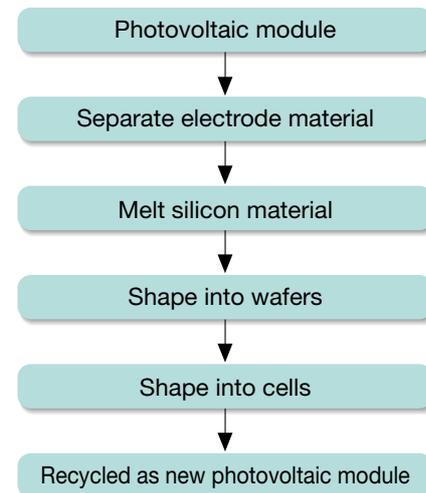
Reuse and Recycling Technology for Photovoltaic Modules

The rapid growth of the market for photovoltaic power generation systems means that in the near future we will face the problem of what to do with all the products that have reached the end of their service life. That's why the Sharp Group is working to develop reuse and recycling technology for used photovoltaic modules*.

In fiscal 2002, we developed technology in which a newly developed resin forms a new back-surface film, enabling the solar cells, front-surface glass and module-encapsulating resin to be used as is. In fiscal 2003, we developed recycling technology in which we take the silicon cell material from used photovoltaic modules, and then melt and process it into new cells for new modules.

We plan to continue this research and development with the goal of putting this reuse and recycling technology into practice.

Solar cell recycling technology



* Conducted as part of the R&D Initiative for Recycle/Reuse Processing Technologies for Photovoltaic Power Generation Systems, an initiative of the New Energy and Industrial Technology Development Organization (NEDO).

Our Approach to the Abolition of Lead Solder

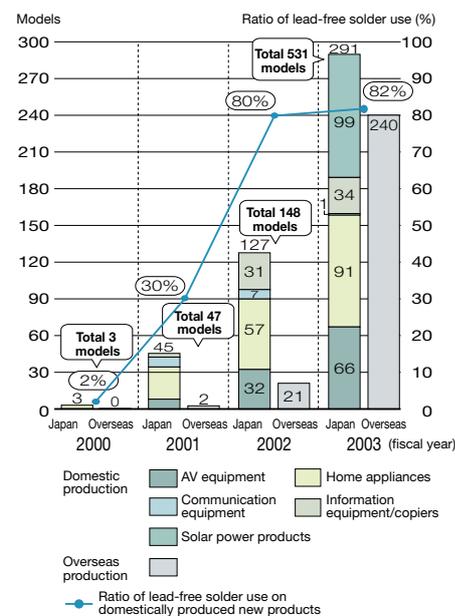
In 2001, we introduced our Lead-Free Solder Introduction Guidelines. In fiscal 2003, we established the Lead-Free Solder Mounting Guidelines, which include explanations of soldering technology, and the Management Guidelines for Sn-3Ag-0.5Cu Flow Solder Tank, which explain how to prevent corrosion of solder tanks when using lead-free solder. Both these guidelines were introduced to production sites in Japan and overseas. We also hold regular training for technicians on lead-free solder mounting technology.

In fiscal 2003, 291 of the 354 new product models in Japan and 240 of 471 overseas used lead-free solder. We plan to eliminate lead solder on all in-house designed circuit boards by October 2004.



Briefing meeting on the introduction of lead-free solder at SEES (Spain)

Comparison in number of models using lead-free solder



Lead-Free Solder Introduction Guidelines (Japanese, English and Chinese editions)

Achievement of a Super Green Factory

We are conducting an assessment of all company factories based on 21 environmental performance criteria and are taking the necessary action to make all company factories "Super Green Factories." In January 2004, our first Super Green Factory went on-line. The Kameyama Plant in Mie Prefecture aims for complete harmony with nature and the local community by being as environmentally conscious as possible.

Fiscal 2003 objectives	Achievements	Fiscal 2004 objectives	Fiscal 2006 objectives
<ul style="list-style-type: none"> Strengthen efforts to fulfill Super Green Factory concept 	Assessment of domestic production sites (achievement) <ul style="list-style-type: none"> Super Green Factory 1 Green Factory 8 Factory 1 	Assessment of domestic production sites (objective) <ul style="list-style-type: none"> Super Green Factory 2 Green Factory 8 Factory 0 Assessment of overseas production sites	<ul style="list-style-type: none"> Turn all 10 domestic production sites into Super Green Factories (fiscal 2007) Turn all 22 overseas production sites into Green Factories (fiscal 2007)

Better than a Green Factory, Moving toward Super Green Factories

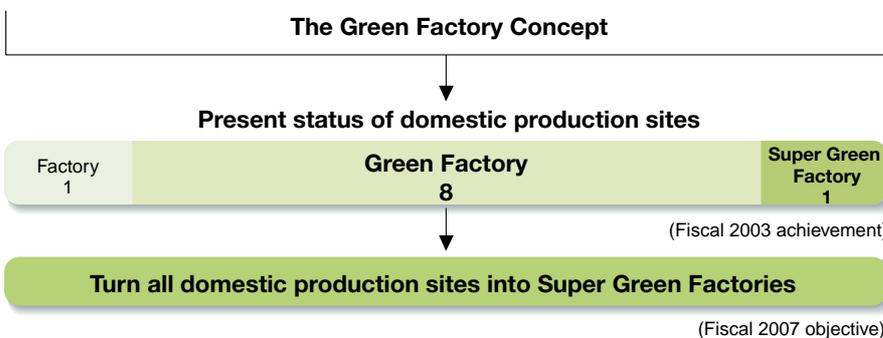
The Sharp Group strives to go beyond the basic goal of reducing the burden on the environment. In order to attain a high level of production while ensuring complete harmony with nature and the local community, we have drawn up the "Green Factory Guidelines."

In addition to an environment management system based on ISO14001 standards, the Green Factory Guidelines supply our own unique environmental performance target values, including the basic policies and operational themes necessary for their achievement. The guidelines have been introduced at both our domestic and overseas production sites.

Furthermore, in fiscal 2003, we began strengthening our organizational efforts toward the achievement of "Super Green Factories," which have environmental performance that goes beyond those of a normal Green Factory. In January 2004, we put the Kameyama Plant into service as our first Super Green Factory. Company plans call for the conversion of all domestic plants into Super Green Factory by fiscal 2007.

Moving from a Green Factory to Super Green Factory

Greenhouse gases	Minimize emission of greenhouse gases	Energy	Minimize energy consumption
Waste	Minimize discharge of waste	Resources	Minimize resource consumption
Chemical substances	Minimize risk of environmental pollution and accidents caused by chemical substances	Atmosphere, water, soil	Minimize environmental burden on the atmosphere, water and soil
Harmony with nature	Endeavor to preserve nature both on and off site	Harmony with the community	Encourage harmony with the local community
Environmental consciousness	High environmental awareness among employees	Information disclosure	Disclose information on the environment

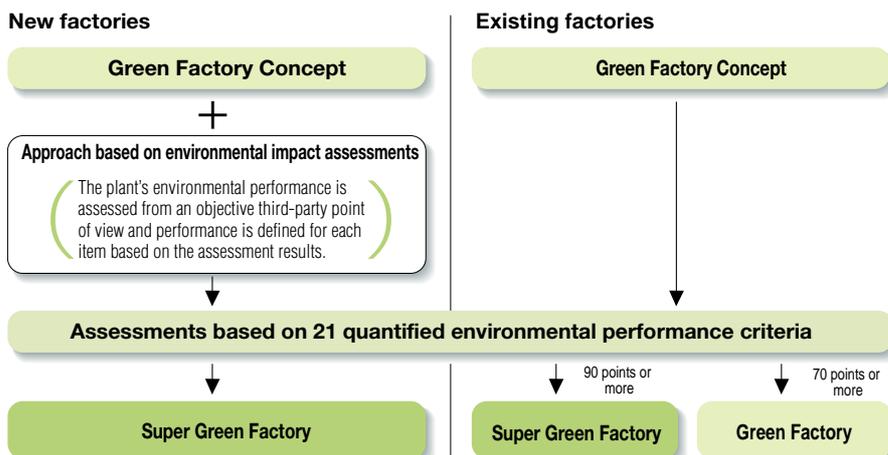


Efforts toward the Achievement of Super Green Factories

With regard to the construction of new factories, environmental impact assessments are incorporated from the early planning stages. This includes the establishment of environmental conservation measures that the plant must conduct, as well as the standards that must be maintained. By carrying out preliminary assessments from a third-party point of view, we can build Super Green Factories whose environmental performance is superior to that of our Green Factories.

Moreover, to ensure our plants have a minimal impact on the environment and to inspire the trust of local residents and the community, we are promoting the step-by-step upgrade of our present Green Factories to Super Green Factories.

Process required to achieve Super Green Factories



Establishing Strict Assessment Criteria for a Unique Environmental Performance Evaluation

The assessment and approval of Super Green Factories are based on 21 quantified environmental performance criteria, which are grouped into five major categories: "reductions in greenhouse gas emissions," "reductions in the emission of chemical substances," "appropriate disposal of industrial waste," "reductions in the amount of industrial water used," and "surveillance, safety and information disclosure." If the number of points obtained in the assessment is 70 or more, the factory is approved as a Green Factory and if it is 90 points or more, the factory is approved as a Super Green Factory.

● Twenty-one quantified environmental performance criteria and assessment weighting

	Reductions in greenhouse gas emissions	Reductions in the emission of chemical substances	Appropriate disposal of industrial waste	Reductions in the amount of industrial water used	Surveillance, safety and information disclosure
Environmental performance criteria	<ul style="list-style-type: none"> • Reductions in PFC gases, etc. • Promotion of variable supply control systems • Recovery and recycling of waste heat • Introduction of a cogeneration system • Introduction of highly efficient equipment • Introduction of new energy sources • Continued improvement in production unit • Implementation of managerial decision-making standards 	<ul style="list-style-type: none"> • PRTR atmospheric emissions • PRTR water emissions • Sulfoxide produced by combustion • Measures against various bad odors 	<ul style="list-style-type: none"> • Zero discharge to landfill • Confirmation of appropriate disposal • Convert waste to valuable recycled materials 	<ul style="list-style-type: none"> • Use of rain condensation water • Recovery of production rinse water 	<ul style="list-style-type: none"> • Disaster and fire prevention measures for hazardous materials • Special safety measures • Adoption of central surveillance measures • Disclosure of environment-related information
Assessment weighting	30%	26%	14%	9%	21%

Manufacturing: The Environmental Accounting View

Environmental conservation activities	Environmental conservation costs (Units: ¥million)		Economic effect (Units: ¥million)
	Investment	Cost	
Controlling greenhouse gas emissions			
Efficient use of energy, introducing new energy	4,955	1,501	824
Installing devices to eliminate greenhouse gases, etc.	135	24	—
Controlling waste, recycling waste			
Amount of waste recycled	606	1,011	667*
Waste processed	39	662	—
Pollution prevention			
Control and reduction of air and water pollutants	1,174	2,665	—
Others	409	268	—
Reducing risk of toxic chemicals			
Reducing and replacing ozone-depleting substances	16	437	—
Preventing environmental destruction			
Reducing risk of soil pollution	—	289	—
Total	7,334	6,857	1,491

Regarding "Reductions in greenhouse gas emissions," an assessment and certification item for Super Green Factories, we are making effective use of energy, introducing new energy, and installing devices that eliminate greenhouse gases.

In fiscal 2003, we invested a total of 5.1 billion yen, mainly to install a cogeneration system (Tenri site), solar power generation equipment (Tenri, Nara and Kameyama sites), PFC scrubbers (Taki site), and special material gas scrubbers (Kameyama site). As a result, we reduced CO₂ emissions by 37,000 tons and PFC emissions by 183,000 GWPt.

Regarding "Appropriate disposal of industrial waste", we are recycling waste emitted from plants and converting waste into valuable recycled materials. In fiscal 2003, we invested approximately 600 million yen mainly in installing recycling equipment for fluidized waste (Taki site). As a result of these activities, although waste emissions increased along with manufacturing output increase, we increased the amount recycled compared to the previous year by 7,422 tons and reduced final landfill disposal by 5 tons. We also reused 9,327 thousand m³ of water.

Effect of Controlling Greenhouse Gas Emissions

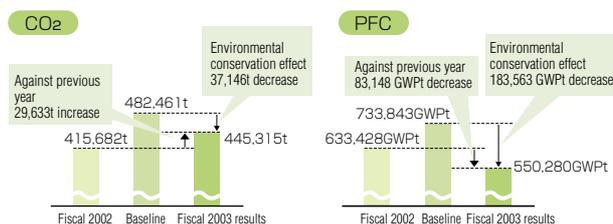
To better help readers understand our environmental conservation activities, we calculated environmental conservation effect as the amount of greenhouse gas emission reductions compared to a baseline*.

Environmental conservation effects		
Greenhouse gases	CO ₂ emission reduction	37,146t-CO ₂
	PFC emission reduction	183,563GWPt
Waste	Amount recycled	151,955t
	Recycling rate	88.8%
Water reused		9,327,000m ³
Compliance with laws and regulations		
Prevention of air, water and soil pollution; prevention of noise, vibration and odor; prevention of ground subsidence		

* Income from sale of valuable recycled materials

By comparing the amount of environmental burden in fiscal 2003 with this baseline, we can calculate the reduction in environmental burden (prevention of emissions) resulting from our continuous environmental conservation activities, something that cannot be calculated by simply comparing with the previous year.

* Baseline: The environmental burden that likely would have occurred if we had not carried out environmental conservation activities.



Reducing Greenhouse Gas Emissions

The Sharp Group takes various measures to reduce the greenhouse gases resulting from our business activities. These include the use of energy-saving equipment, cogeneration systems, and renewable energy sources to reduce the amount of CO₂ emissions. And for PFCs, we are installing scrubbers and switching to gases with less greenhouse effect.

Objectives for Fiscal 2003	Achievements	Objectives for Fiscal 2004	Objectives for Fiscal 2006
Reduce CO ₂ emissions per production unit* <ul style="list-style-type: none"> Japan: <ul style="list-style-type: none"> Product production sites: Reduce by 2% from previous fiscal year Device production sites: Reduce by 5% from previous fiscal year Overseas: Reduce by 2% from previous fiscal year 	<ul style="list-style-type: none"> 29% reduction from previous fiscal year 14% reduction from previous fiscal year 2% increase from previous fiscal year 	Reduce CO ₂ emissions per production unit <ul style="list-style-type: none"> Japan: <ul style="list-style-type: none"> Product production sites: Reduce by 2% from previous fiscal year Device production sites: Reduce by 5% from previous fiscal year Overseas: Reduce by 2% from previous fiscal year 	Reduce CO ₂ emissions per production unit <ul style="list-style-type: none"> Japan: <ul style="list-style-type: none"> Product production sites: Reduce by 2% from previous fiscal year Device production sites: Reduce by 5% from previous fiscal year Overseas: Reduce by 2% from previous fiscal year

* An indicator of the amount of CO₂ emitted to manufacture a specific quantity of products (= CO₂ emissions / production output).

Controlling CO₂ Emissions

We use an indicator called “per production unit” to evaluate the reduction of emissions.

In fiscal 2003, the Sharp Group reduced greenhouse gas emissions per production unit by 21% from the previous year. This is because, thanks to the installation of cogeneration systems and scrubbers and other energy-saving measures, we had a 4% reduction in emissions while achieving a 21% increase in production output (calculated based on production-related emissions).

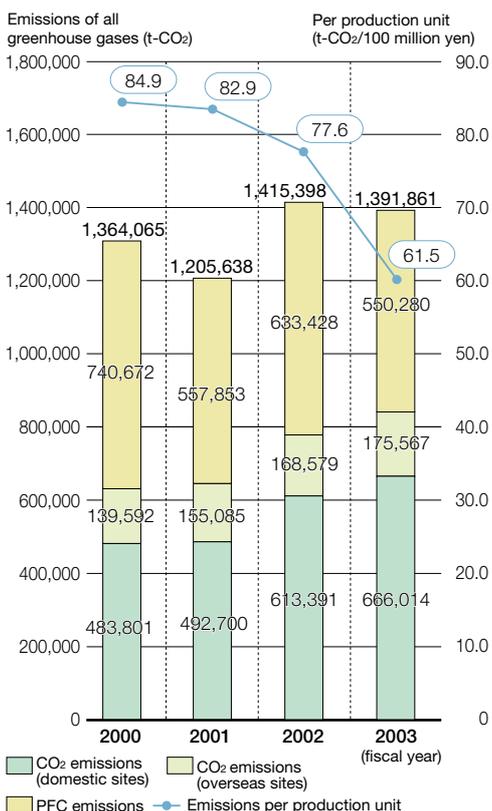
For production in Japan, we reduced CO₂ emissions per production unit by a large 17% from the previous year. With the expanded production of LCD TVs and camera-equipped mobile phones and the implementation of energy-saving measures at our product production sites, where product assembly is the chief business activity, we were able to cut back on CO₂ emissions per production unit by 29% from the previous year. Our device production sites have also achieved a drop—down 14% from the previous year—with increased

production of LCDs and solar cells.

For PFCs, we reduced emissions by 13% from the previous year through measures such as installing scrubbers and switching to gases that have less global warming potential.

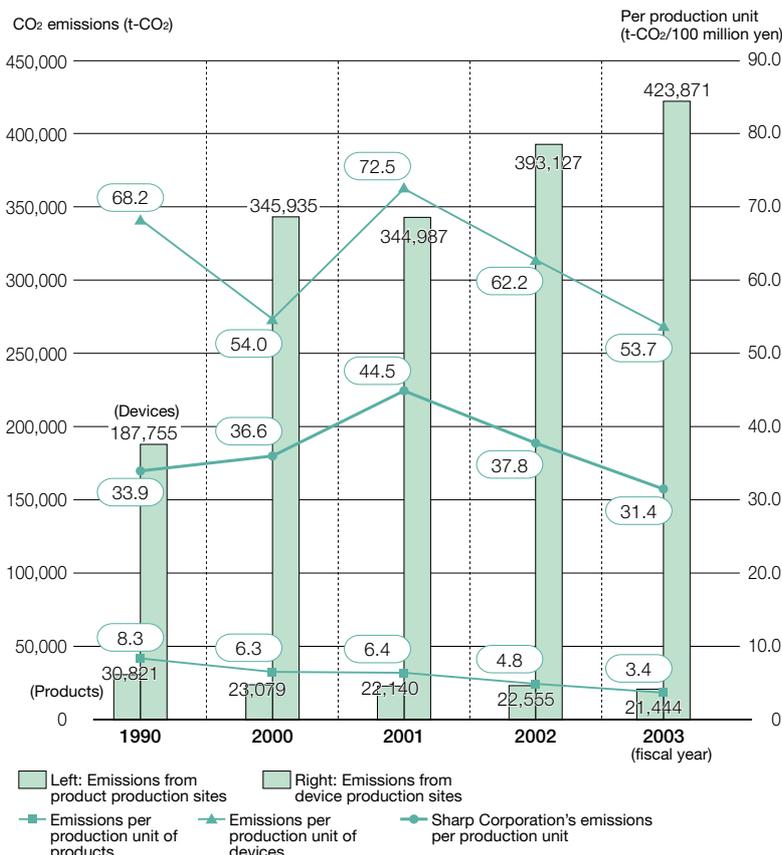
We will actively strive to reduce greenhouse gas emissions at new plants with the introduction of renewable energy, cogeneration systems, scrubbers and PFC replacements, while stepping up efforts at existing plants.

● Sharp Group's emissions of all greenhouse gases per production unit



• Per production unit is calculated from production-related emissions.

● CO₂ emissions per production unit by business category for Sharp Corporation production sites in Japan



Examples of Greenhouse Gas Emission Reduction

Implementation of a Cogeneration System*

At the Tenri Site, use of a cogeneration system has allowed for self-generated power supply that accounts for around 24% of the site's total electric power consumption. The heat generated during the production of this electric power is then used for purposes such as air conditioning and steam-driven electric power generation.

The introduction of this cogeneration system has allowed for a 13% reduction in CO₂ emissions from the site.

* An energy production system that increases energy efficiency by using city gas to produce electric power, and employing the resulting waste heat in other applications such as air conditioning, hot water supply and steam-driven power production.



Cogeneration system

Installation of Photovoltaic Power Generation Systems

We are promoting the use of photovoltaic power generation systems in all domestic production sites. At the Nara Site, we have installed solar panels on the southeast exterior wall of Plant No. 1, producing a total power supply of 20kW, which is used as part of the production power. Furthermore, there is a 90kW solar panel array on the roof of the Technical Center at the Hiroshima Site. This system can produce about 500kWh on a clear day, which is equivalent to the power required by an ordinary household for a two-month period.



Nara Site



Hiroshima Site

Reducing Power Consumption

At SUKM, a production site in the UK, the electrical machinery is divided into three groups: green, yellow and red. This is part of an effort to simplify energy-saving measures so that all employees can tell at a glance which rules apply to which machines. For example, machinery in the green group should always be turned off when not in use. It is expected that this measure will reduce energy consumption amounting to 700,000 kW per year.

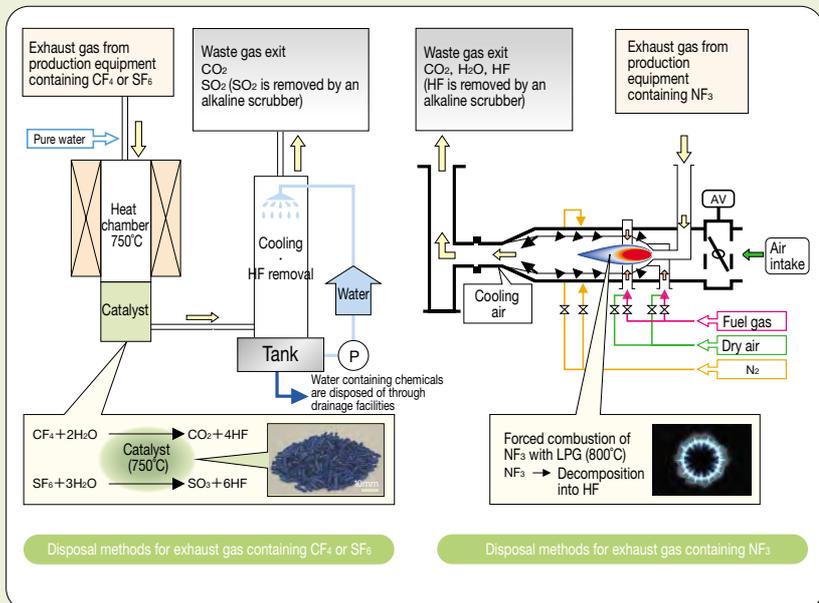
In order to reduce the amount of power used, SEEG, a sales company in Germany, has installed equipment for measuring the energy consumption of electrical equipment such as copiers, computers and air conditioners. This provides management with an accurate picture of energy usage. Not stopping there, we plan to continue our efforts to reduce the use of electric power in the future.



Reducing Greenhouse Gases (PFC Gas)

At the Kameyama Site, we employ CF₄ (carbon tetrafluoride), SF₆ (sulfur hexafluoride) and NF₃ (nitrogen trifluoride) in the etching of LCD panels and the cleaning of reactive containers. In order to reduce the amount of these greenhouse gas emissions, we have introduced a number of highly efficient gas disposal facilities capable of processing more than 2,000 liters of gas per minute. The disposal methods employed vary according to the type and characteristics of the gas. More than 95% of the PFC gas emissions are decomposed and disposed of by optimum disposal methods.

Furthermore, if a problem in the PFC disposal equipment should ever occur, we have safety measures in place, such as automatically shutting down the production equipment to ensure that greenhouse gases are not released into the atmosphere.



Minimizing and Recycling Waste

By recycling waste, Sharp's domestic sites have achieved zero discharge to landfill for three consecutive years. In the future, we plan to strengthen efforts for recycling waste into valuable resources. We are also recovering water used at our sites and recycling it with wastewater purification techniques.

Objectives for Fiscal 2003	Achievements	Objectives for Fiscal 2004	Objectives for Fiscal 2006
<ul style="list-style-type: none"> Japan: Continue zero discharge to landfill*1. Recycle waste into valuable materials Overseas: Reduce by 2% per production unit*2 from previous fiscal year 	<ul style="list-style-type: none"> Final landfill disposal rate 0.05% (0.06% for previous fiscal year) Reduced by 7% from previous fiscal year 	<ul style="list-style-type: none"> Japan: Recycle 12% of waste into valuable materials Overseas: Reduce by 2% per production unit from previous fiscal year 	<ul style="list-style-type: none"> Japan: Recycle 18% of waste into valuable materials Overseas: Reduce by 2% per production unit from previous fiscal year

*1 Zero discharge to landfill is defined as reducing final landfill to a disposal rate (amount of landfill disposal ÷ amount of total waste generated × 100) of less than 0.5%.
 *2 An indicator of the amount of waste generated to manufacture a specific quantity of products.

Reducing the Amount of Waste

The total amount of waste generated by the Sharp Group in fiscal 2003 was up 6% from the previous year. This increase was due to spent developer and scrap glass generated as a result of increased domestic production of products such as LCDs and mobile phones.

We will recycle as much waste material as possible to get the final landfill disposal rate as close to zero as we can. We will also strive to minimize the generation of waste at all sites based on Sharp's "Waste Emission Control Manual."



Waste Emission Control Manual (Japanese and English editions)

Zero Discharge to Landfill in Japan for Three Years in a Row

The landfill disposal rate in fiscal 2003 was 0.05%, a 0.01% improvement over the previous year, making it three years in a row from fiscal 2001 that Sharp has achieved zero discharge to landfill at its domestic production sites.

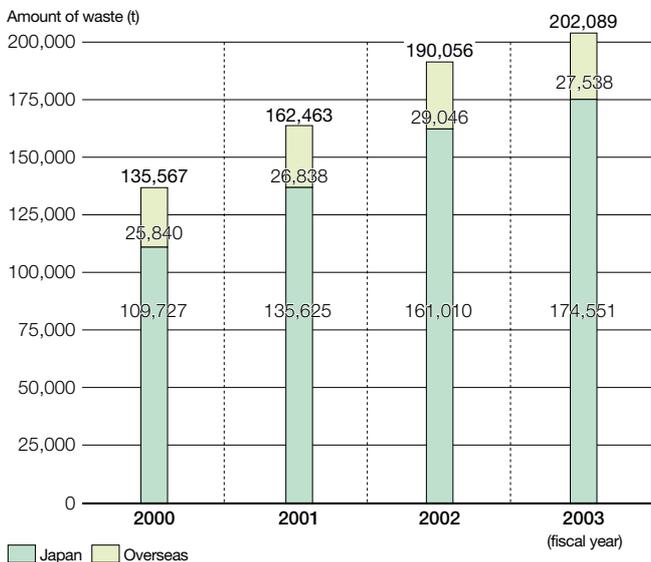
The main factor for this accomplishment is that we were able to increase the amount of recycled plastic by keeping up efforts to thoroughly separate and recover waste plastic for thermal and material recycling.

Our future objectives will shift from zero landfill discharge to recycling waste into valuable material. We will also pursue further improvements in waste reduction and recycling through our proprietary intermediate treatment techniques such as treating wastewater with micro-organisms and by thoroughly separating materials to be processed.

Furthermore, to ensure that all our domestic production sites dispose of industrial waste appropriately (prevention of illegal disposal), which is one of the policies we have established in efforts of building Super Green Factories, we will introduce electronic manifesto management to all domestic production sites by fiscal 2006.

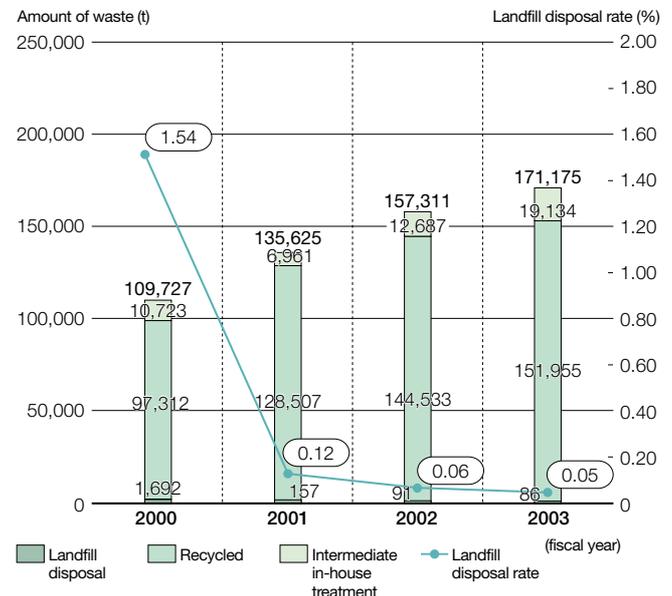
Overseas production sites will keep up their efforts in reducing the amount of waste generated as well as expand recycling volume by thoroughly separating materials.

Amount of waste generated from Sharp Group



• Japanese sites include subsidiaries and affiliated companies as of fiscal 2002. Overseas sites include non-production sites as of fiscal 2002.

Amount of waste and landfill disposal rates from Sharp Corporation production sites in Japan

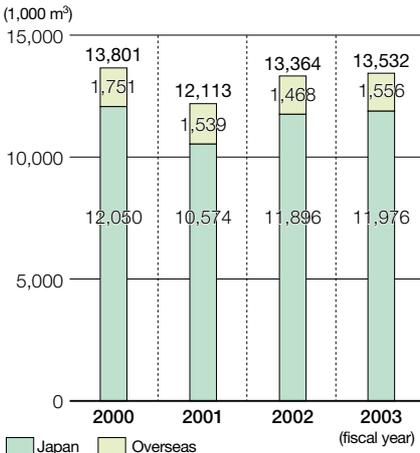


Recycling Water

Sharp collects wastewater from the production process and recycles it with wastewater purification techniques. Since an especially large amount of water is used in the cleansing process of LCD and IC manufacture, wastewater treatment is very important in not only using water resources effectively, but also in conserving the local environment.

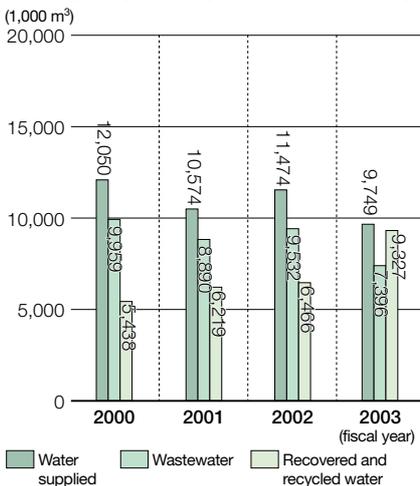
In fiscal 2003, the total amount of water recovered and recycled at all domestic production sites increased by 144% from the previous year. This increase was due to larger amounts of water being recovered and recycled at sites such as the Taki and Kameyama Plants. We will work towards even more effective use of water with the use of highly advanced wastewater treatment systems.

Amount of water used by Sharp Group (amount of water supplied)



Japanese sites include subsidiaries and affiliated companies as of fiscal 2002. Overseas sites include non-production sites as of fiscal 2002.

Amount of water supplied, wastewater, and recovered and recycled water at all Sharp Corporation production sites in Japan



Recovered and recycled water does not include water used in cooling towers.

Examples in Reducing Waste and Using Water Effectively

100% Recycling of Water

The Kameyama Plant uses up to 9,000 tons of water a day in manufacturing. 100% of the water used is collected and recycled, using a micro-organism treatment and wastewater purification process.

We have also adopted a new system called the organic sludge reduction system, which uses the strong oxidation properties of ozone to reduce excess sludge. The system dramatically reduces sludge discharge from wastewater treatment facilities and can contribute to the achievement of zero discharge.



Organic sludge reduction system

Recycling Cardboard

The Hiroshima Site recycles corrugated cardboard to reduce waste and make effective use of resources.

In fiscal 2002, we disposed of 350 tons of waste cardboard. In fiscal 2003, we were able to recycle all 210 tons of waste cardboard. We also make file boxes that use recycled cardboard material and hand them out to factory tour visitors. Plus, we encourage Sharp employees to use these recycled file boxes in order to raise their recycling awareness.

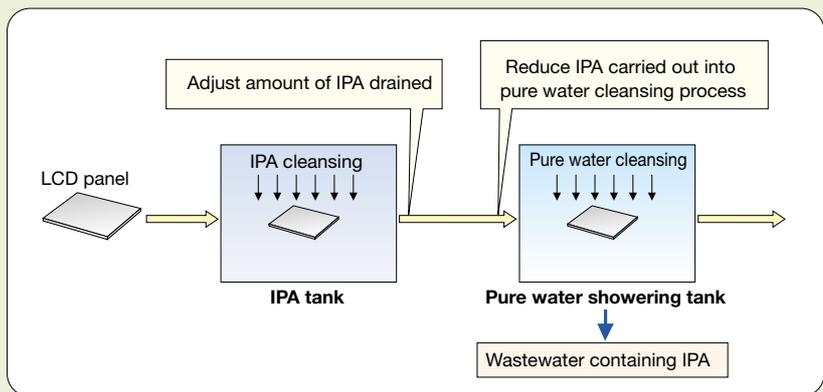


Reducing IPA

The manufacturing of System LCDs involves the use of IPA (isopropyl alcohol) to cleanse the LCD panel, followed by pure water to wash it off. The IPA that remains on the LCD panel is discharged along with the pure water during this process. To reduce this IPA drainage, we've minimized the IPA residue on

LCD panels by adjusting the amount of IPA so that less will be carried out into the pure water cleansing process.

As a result, the amount of IPA that goes into the pure water cleansing process has been reduced by approximately 60%, from 400 liters a day to 150 liters.



Appropriate Management and Reductions in the Discharge of Chemical Substances

In order to achieve unified control and management of all chemical substances used, we have developed and introduced a unique chemical management system, "S-CMS*1." Going beyond those substances specified in the PRTR Law and aiming for effective management of all chemical substances, this system also takes into consideration the extent of risk involved with each individual substance, covering a total of 460 chemicals, including 106 not specified by the PRTR Law.

Objectives for Fiscal 2003 → Achievements	Objectives for Fiscal 2004	Objectives for Fiscal 2006
<ul style="list-style-type: none"> Reduce discharge of chemicals under high-priority control*2 by 67% from fiscal 2000 at all domestic production sites Set original risk assessment criteria 	<ul style="list-style-type: none"> Reduce risk of chemical discharges beyond site boundaries by 15% from fiscal 2003 at domestic production sites 	<ul style="list-style-type: none"> Reduce risk of chemical discharges beyond site boundaries by 40% from fiscal 2003 at domestic production sites
<ul style="list-style-type: none"> Reduced by 79% from fiscal 2000 Formulated risk assessment criteria for chemical discharges beyond site boundaries 		

*1 Sharp Chemical Management System

*2 Substances specified by the Japan PRTR Law and those regulated under environmental laws, which are released and transferred in large amounts.

Introduction of a Chemical Management System at Our Domestic and Overseas Production Sites

The Sharp Group has developed a unique tool for ensuring centralized management of chemical substances at all of our sites, the "Sharp Chemical Management System" (S-CMS). Introduction of this system began at all of our domestic sites in fiscal 2002. In fiscal 2003, it was incorporated at the new Kameyama Site and installed at 15 out of 22 overseas production sites. We intend to bring S-CMS, along with a purchasing system, into the remaining sites.

In fiscal 2004, we plan to make good use of the S-CMS on a global scale to properly control the amount of chemicals used and discharged, and decrease potential risks.

* The sum total risk of chemical discharges beyond site boundaries. It is calculated by multiplying the human health risk coefficient by the chemical discharge quantity. The risk coefficient we employ is a unique value we developed based on the TLV (Threshold Limit Value: The allowable concentration of chemical substances in the atmosphere in an industrial environment as determined by the American Conference of Governmental Industrial Hygienists).

Moving from Discharge Quantity Control to Risk Management at Site Boundaries

In fiscal 2001, we initiated a 3-year plan to reduce the discharge of toxic chemical substances. In the last fiscal year of that period, 2003, we had achieved a reduction of 79%, far better than the 50% reduction target that had been set at the start of the program.

Beginning in fiscal 2004, several new measures were implemented to achieve even better management of chemical substances, including adding 106 chemicals, such as toxic air pollutants to the 354 specified under the PRTR Law, for a newly expanded total of 460 chemicals under high-priority control.

We initiated assessments of the impact that these chemicals have on human health and set new priorities for measures related to them. In addition, we have organized a five-year plan, starting in fiscal 2004, aimed at a 70% reduction in the risk of chemical discharges beyond site boundaries* compared with fiscal 2003.

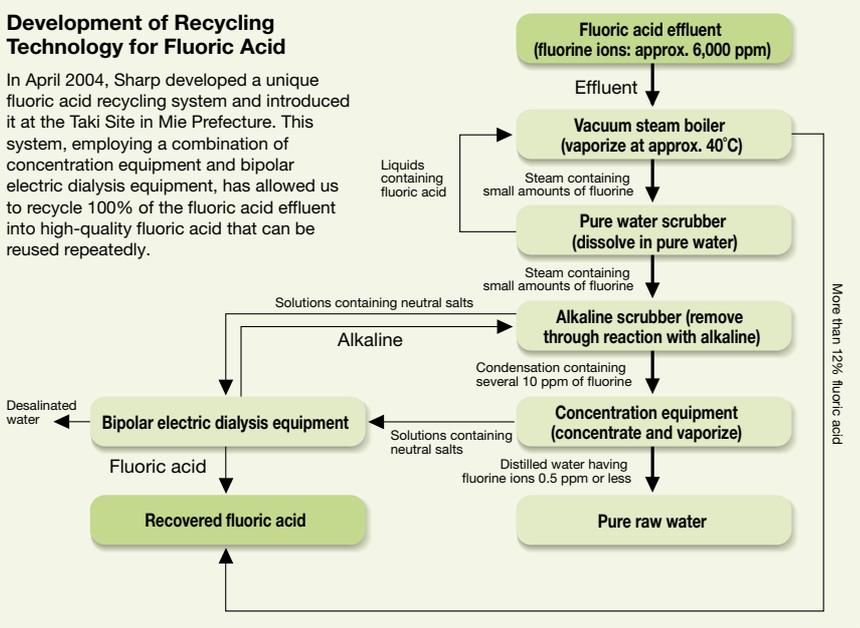
Recycling and Eliminating PRTR Substances

Investigations conducted in fiscal 2003 at all domestic production sites showed that, of the 354 chemicals covered under the PRTR Law, the number of chemicals handled in quantities greater than 500 kg annually was 17 (one fewer compared with the previous fiscal year). These 17 substances accounted for a total of 3,907 tons (up 22% from the previous fiscal year). With increases in the production of LCD panels and other devices, the use of PRTR chemicals has increased, but the total environment discharge volume is still under 4.0% (as shown in the graph below), including the atmospheric discharge volume (0.2% of the total), the water area discharge volume (0.3% of the total), and the waste transfer discharge volume (2.9% of the total). The remaining 96% is mostly recycled (79.0% of the total) or eliminated (16.9% of the total). We intend to continue efforts to improve the ratio of chemicals recycled or eliminated even further.

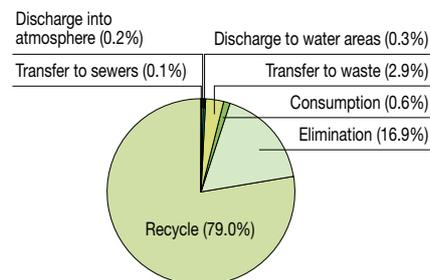
Example of Reducing Chemical Substance Discharge

Development of Recycling Technology for Fluoric Acid

In April 2004, Sharp developed a unique fluoric acid recycling system and introduced it at the Taki Site in Mie Prefecture. This system, employing a combination of concentration equipment and bipolar electric dialysis equipment, has allowed us to recycle 100% of the fluoric acid effluent into high-quality fluoric acid that can be reused repeatedly.



Destinations of PRTR-covered chemical substances



Chemical substances discharged into the atmosphere and water areas in large amounts

Main chemical substances	Amount of release (t) in fiscal 2003	Proportion (%)	Destination	Amount of release (t) in fiscal 2002
Hydrogen fluoride & water-soluble salts	12.1	58.8	Water areas	22.7
2-ethoxyethyl acetate	2.7	13.2	The atmosphere	6.0
Phenol	2.3	11.1		3.4
2-Aminoethanol	2.1	10.4		2.1
1, 3, 5-Trimethylbenzene	0.6	2.8		0.6
Xylene	0.6	2.7		0.9

Practicing Risk Management

In an effort to develop even better relationships of mutual trust with the local community, we have initiated risk communication activities. We have appointed "Risk Communicators" at each site in order to inform local residents of the impacts that our business activities may have.

Strengthening Special Safety Measures for Hazardous Articles and Harmful Chemical Substances

Over a wide range of activities, from R&D to production, we conduct safety management of hazardous articles and harmful chemical substances (special safety management).

In special safety management, especially with regard to the handling of high-risk hazardous articles and harmful chemical substances, we conduct mandatory risk assessment tests. This system is used to investigate and confirm the toxic or explosive qualities of the substances before they are used, as well as their impact on humans and the environment.

In addition to the ordinary daily maintenance and inspection duties that ensure facility safety, we have installed multiplex safety measures to prevent possible accidents and disaster expansion.

The Special Safety Management Committee functions to improve the level of safety in operations at all sites. In preparation for the possibility of an emergency situation, the committee conducts training, safety education programs, and inspections on the use of hazardous articles and harmful chemical substances.

Management of hazardous articles and harmful chemical substances

Risk assessment tests conducted prior to usage of chemical substances

Risk assessments for chemical substances

- Assessments related to "safety and hygiene," such as acute toxicity, corrosive qualities and skin irritant qualities
- Assessments related to "danger and explosions," such as explosive qualities, combustibility and spontaneous combustion
- Assessments related to "environmental conservation," such as resistance to decomposition, accumulation and chronic toxicity.

Safe design for facilities

- Prevention of accidents and disaster expansion through multiple safety measures
- Prevention of the spread of abnormal events and progression to accidents through a 24-hour automatic surveillance system
- Prevention of the spread of effects to surrounding areas through the employment of containment procedures and detoxification processing for chemical substances

Improvement of operation and employee qualifications

- Safety education and emergency training

Management after introduction of chemical substances

- Inspection, investigation and maintenance
- Inspections conducted by the Special Safety Management Committee

Ensuring safe management of hazardous articles and harmful chemical substances

Risk Communicators Appointed at Eight Domestic Sites

We are promoting "risk communication" at each domestic site to enhance mutual understanding with residents living near our sites. Efforts include exchanging opinions and providing information on topics. This includes voluntary environmental activities and the impact our business activities may have on the local environment, such as effluents, exhaust gases, noise and vibration and their effects on health.

In fiscal 2003, 22 employees were assigned to "risk communicator" posts at each domestic site. All Risk Communicators make an effort to share and upgrade their information, such as receiving special training based on our unique "Risk Communication Manual."

In addition, we disclosed information using environment information panels at promotional events such as the Sharp Festival.

Furthermore, as means to enhance understanding of the company's progress and efforts related to purification measures for soil and groundwater pollution, the Nara and Yao Sites hold information meetings every April with local government and resident associations.



Information meeting on cleaning up polluted groundwater (Nara site)

Progress in the Purification of Soil and Groundwater

Based on a survey conducted in 1998 on soil and groundwater, chlorine solvent pollution was identified in four areas, near the Nara, Yao, Tenri and Shinjo Sites, and we have been conducting purification and monitoring operations at these sites under the directions of the local authorities. In fiscal 2003, we began additional purification measures with the use of biotechnology as a way to expedite the purification process. We hope to complete the cleanup process during fiscal 2004.

As of September 1999, the use of the chlorine solvents that were the cause of this type of pollution was completely discontinued.

Progress in cleaning up soil and groundwater

Site	Cleanup status for fiscal 2003
Nara Site	<ul style="list-style-type: none"> • Since October 1999, we have conducted operations to prevent off-site pollution and purify polluted soil. We are also studying ways to speed up the process to complete cleanup at the earliest possible date. • We inform and confirm our progress with local resident associations and government authorities every year.
Yao Site	<ul style="list-style-type: none"> • As of September 1999, cleanup was completed in two of the three areas involved, and we continue to periodically monitor the areas. Steady progress is being made in the remaining area, where we are studying additional purification methods in order to speed up the process. • Periodic on-site inspections of the cleanup process are held for local authorities.
Tenri and Shinjo Sites	<ul style="list-style-type: none"> • Pollution was minor at both sites, but we still perform periodic monitoring of groundwater and provide reports to local resident associations. • We use biotechnology, which employs micro-organisms to achieve results better than those set by the ordinary environment standards.

Environmentally Conscious Logistics and Packaging

Through changing transportation modes from trucks to railroads and the introduction of electric motor and low-emission vehicles, we are striving to reduce the burden on the environment. During fiscal 2003, all forklifts utilized at distribution sites were changed from gasoline vehicles to electric motor units.

Objectives for Fiscal 2003	Achievements	Objectives for Fiscal 2004	Objectives for Fiscal 2006
<ul style="list-style-type: none"> Railway cargo transport (container transport) 450 containers/month Reduce 172 tons/month of CO₂ emissions 	<ul style="list-style-type: none"> Railway cargo transport (container transport) 577 containers/month Reduced 220 tons/month of CO₂ emissions 	<ul style="list-style-type: none"> Railway cargo transport (container transport) 625 containers/month Reduce 250 tons/month of CO₂ emissions 	<ul style="list-style-type: none"> Railway cargo transport (container transport) 800 containers/month Reduce 320 tons/month of CO₂ emissions

Changing Modes of Transport

To reduce the burden on the environment, we are promoting a change from using trucks as the main form of shipping, primarily on long-distance routes, to the use of railroad freight shipping.

In fiscal 2003, we employed an average of 577 containers a month, which meant a 220 t reduction (167.9% compared with the previous year) in CO₂ emissions. (It would take a forest with an area 31 times the size of the Tokyo Dome to absorb that much CO₂.)

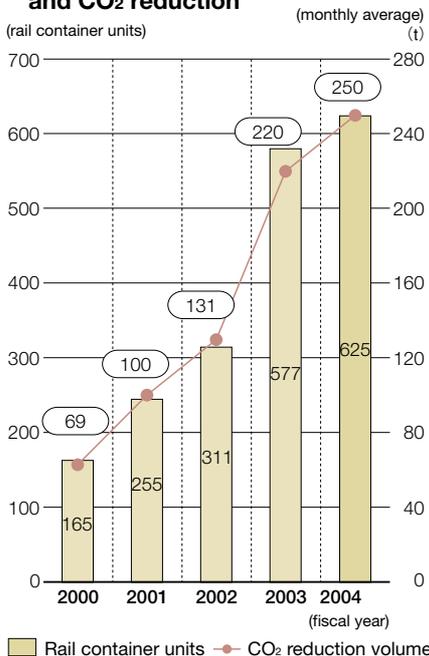
In fiscal 2004, in addition to the normal 5-ton type of container, we will increase the efficiency of our shipping operations by using more 10-ton Ecoliner containers. We are also shifting the use of trucks to railroads for the transport of overseas products arriving in maritime containers (20- and 40-foot containers) after the containers are brought into Japan, forming an integrated ship-to-railroad shipping system. These efforts will further accelerate the shift to the use of railroads for transportation of freight. Our plans call for an increase in the ratio of railroad shipping from 12% in fiscal 2003 to 15% in 2004.

Improvements in Load Efficiency and Expansion of Direct-from-Factory Shipments

In fiscal 2003, our total shipping volume was 150.68 ton-kilometers (t x km). In the future, aiming for shipping with a reduced burden on the environment, we will continue our efforts to 1) increase load efficiency and 2) expand the use of direct-from-factory shipments, thus increasing the overall efficiency of our distribution system.

In addition, we are engaged in developing a system that identifies the total amount of transport for measuring the effect of CO₂ reduction, and to publicly disclose this information.

Railway container shipments and CO₂ reduction



Ecoliner



Electric forklifts



Maritime containers are transported by rail



Low-pollution vehicles

Introducing Low-Pollution Company Vehicles

New company policies were implemented related to company vehicles for sales activities: 1) When new vehicles are purchased, low-emission vehicles must be chosen, 2) Promote the choice of vehicles using gasoline rather than diesel engines, and 3) Older vehicles and those that have excessive mileage run up should be replaced. Based on this policy guideline, during fiscal 2003, we purchased 734 low-emission vehicles and reduced the number of diesel vehicles by 67.

As a result, of the approximately 4,000 company vehicles employed by the whole Sharp Group in Japan, the ratio of low-emission vehicles has reached 47.3%.

In addition to the purchase of environmentally conscious vehicles, we will expand our "Eco-Driving*" activities (environmentally conscious driving) in fiscal 2004, in an effort to promote environmental awareness among our employees.

* Effects of Eco-Driving: 1) Prevention of global warming and air pollution and resource conservation, 2) Improvement in driving manners and accident prevention.



Low-pollution company vehicle

Recycling Secondary Distribution Materials Such as Packaging and Buffer

We try to minimize waste as much as possible by adopting a system for recycling the materials used in distribution. The stretch film material (polyethylene), used at our distribution centers for protecting products and preventing cargo from collapsing, is recycled by a subcontractor. We are also carrying out thermal recycling of waste plastics such as the polystyrene foam used as a buffer in import containers. Results of these efforts amounted to the reduction of approximately 26 tons of landfill waste.



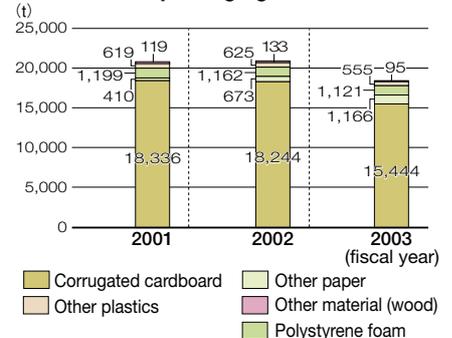
Reusable buffer material

Designing Easy-to-Recycle Containers and Packaging Materials

Along with our policy for using recycled paper in packaging materials, we are also making efforts to reduce the total volume used. In the packaging materials for small products*, customers typically take the product home and, in most cases, dispose of the packaging in household garbage. With this in mind, we employ a paper-based packaging material such as corrugated cardboard, which is easy to dispose of and has a high recycling rate.

* Products with a weight less than 10kg. However, this does not apply to products such as seasonal products that require storage.

Amount of packaging materials used



Sharp Wins in the Electrical Appliance Packaging Category at the "Japan Packaging Contest"

The company's "New Packaging Design for Small Personal Computers (All-in-One Package)" won the Electrical Appliance Packaging category in the Japan Packaging Contest (sponsored by the Japan Packaging Institute). Through the integration of the packing case, the buffer material, and the support material for accessories used in small computer packaging, we reduced the volume of packaging material by 20%, the storage space required by 50%, and the time required for packaging setup by a very large amount.



Packaging for notebook computers

Logistics and Packaging: The Environmental Accounting View

Environmental conservation activities	Environmental conservation costs (Units: ¥million)	
	Investment	Cost
Efforts to reduce environmental burden in the distribution and sales stages	—	29
Total	—	29

To reduce environmental burden during distribution and sales, we increased direct deliveries between plants and reduced distribution points to several strategic locations. We also shifted our modes of transportation to railway and ocean routes. As a result, we reduced CO₂ emissions from distribution activities in fiscal 2003 by 2,640 t-CO₂. In future, we will

Environmental conservation effects	
CO ₂ emission reductions during distribution	2,640t-CO ₂
Final landfill disposal of packaging and buffer	26t

introduce electric forklifts and low-pollution vehicles in order to further reduce environmental burden. As well, we reduced final landfill disposal of packaging and buffer by 26 tons through activities such as thermal recycling of the polystyrene foam used as buffer during the distribution stage.

Recycling Used Products

We are actively applying the knowledge gained through the operation of a recycling plant under our jurisdiction in the development of easily reusable and recyclable products, and also to set up the recycling technology required to process plastic waste. In addition to the present product field, we started a program in October 2003 for the collection and recycling of home computers, expanding our resource recycling system.

Objectives for Fiscal 2003 → Achievements	Objectives for Fiscal 2004	Objectives for Fiscal 2006
<ul style="list-style-type: none"> Carry out survey for building recycling system in Europe for electrical/electronic equipment → Investigated recycling status in 10 EU countries (out of the current 15, as of March 2004) 	Build collection/recycling system in EU countries	Observe each country's recycling laws and operate collection/recycling system efficiently

Placing Importance on the Assured Recycling of Legally Required Items

The Home Appliances Recycling Law was enacted in April 2001, making it mandatory for manufacturers to recycle four types of home appliances (air conditioners, televisions, refrigerators and washing machines). At the same time, the Law for Promotion of Effective Utilization of Resources made the collection and recycling of business-use PCs mandatory. In October 2003, this law was amended to extend the items covered, making it mandatory to collect and recycle home-use PCs, and again in April 2004, adding freezers to the list.

The Sharp Group is not only committed to the reliable recycling of these legally required items, but also to enhancing the use of resources and reducing waste in products other than those covered by the laws. To that end, we are engaged in a variety of reuse and recycling efforts for copiers.

When we create and improve upon our recycling system, we implement three main recycling concepts: "Improve the recycling rate, aiming for zero landfill disposal," "Improve the efficiency of the recycling system to reduce recycling costs," and "Incorporate recycling technologies in the development and design of products." Through these policies, we are aiming to achieve a recycle-oriented society.

Advances and Improvements in Recycling Plants

In cooperation with Sanyo Electric Co., Ltd., Sony Corporation, Hitachi Living Systems, Ltd., Fujitsu General Limited, and Mitsubishi Electric Corporation, Sharp has established and operates 190 designated collection points located strategically nationwide, in addition to 16 recycling plants, forming a highly effective recycling system. Furthermore, we are also working to improve the system so that it will be able to accommodate an increase in volume of products sent out for recycling or situational changes.

We are the main company active in the management of Kansai Recycle Systems Corporation, which is one of the largest recycling plants in the country, serving the four prefectures in the Kinki region. We recycled 340,000 units in fiscal 2003.

Furthermore, we have developed closed-loop recycling technology for plastics.

- Refer to pages 19, 20 and 41 for details on recycling plastics.
- Refer to page 77 for information on recycling results.

Collection of Used Home-Use PCs at Post Offices

Ministerial ordinance revisions to the Law for Promotion of Effective Utilization of Resources in October 2003 made it mandatory to collect and recycle home-use PCs. Accordingly, Sharp takes part in the "Personal Computer 3R Program,"* organized by the Japan Electronics and Information Technology Industries Association (JEITA). Sharp uses a collection system established by the JEITA for smooth collection and recycling.

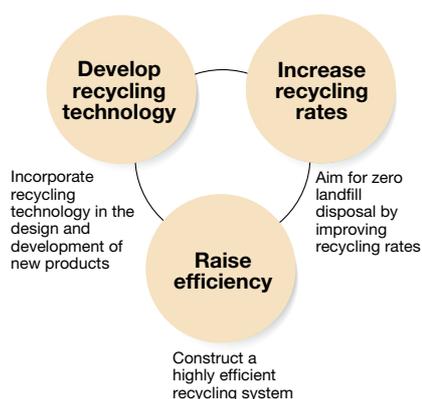
Taking the users' convenience into consideration when they must dispose of a PC, this collection system designates more than 20,000 post offices throughout the nation (with the exception of auxiliary post offices) as collection sites.

* PCs carrying the JEITA recycle sticker may be collected free of charge. PCs that don't bear the JEITA sticker, such as those marketed before September 30, 2003, will be collected for a fee when they are disposed of.

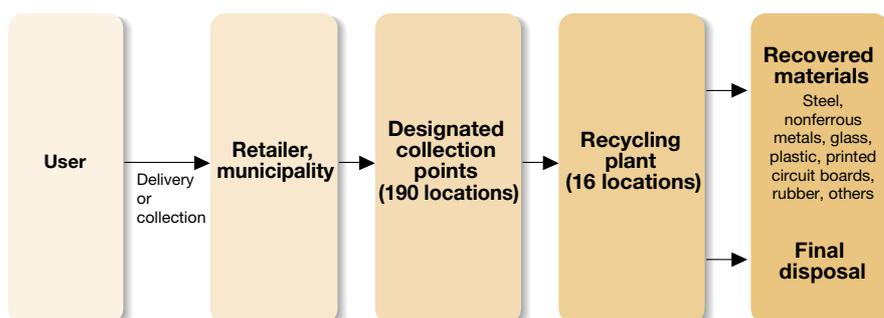


PC recycle mark

Recycling concept



Recycle flow for home appliances



Collection and Processing of Used Business-Use PCs at Approx. 250 Nationwide Collection Stations

In order to promote effective recycling of business-use PCs based on specifications set out by the Law for Promotion of Effective Utilization of Resources, Sharp has been recognized by the Minister of the Environment as a “wide-area recycled industrial waste processor*.” Thus, we are promoting collection and recycling through the construction of a unique recycling system, with approximately 250 collection stations in four blocks nationwide.

* The disposal/cleaning laws (laws governing waste disposal methods and cleaning) specify that the manufacturer must take responsibility for the appropriate disposal of industrial waste produced in their business activities. In principal, based on the specifications of the disposal/cleaning laws, this disposal process must be conducted by collection, transportation and disposal experts approved by the governor of the prefecture concerned. However, a system for special exceptions to this rule has been established in which operators that have obtained the qualification of a “wide-area recycled industrial waste processor” from the Minister of the Environment can conduct wide-area processing of industrial waste for the purpose of recycling waste from their manufactured and processed products on a nationwide basis.

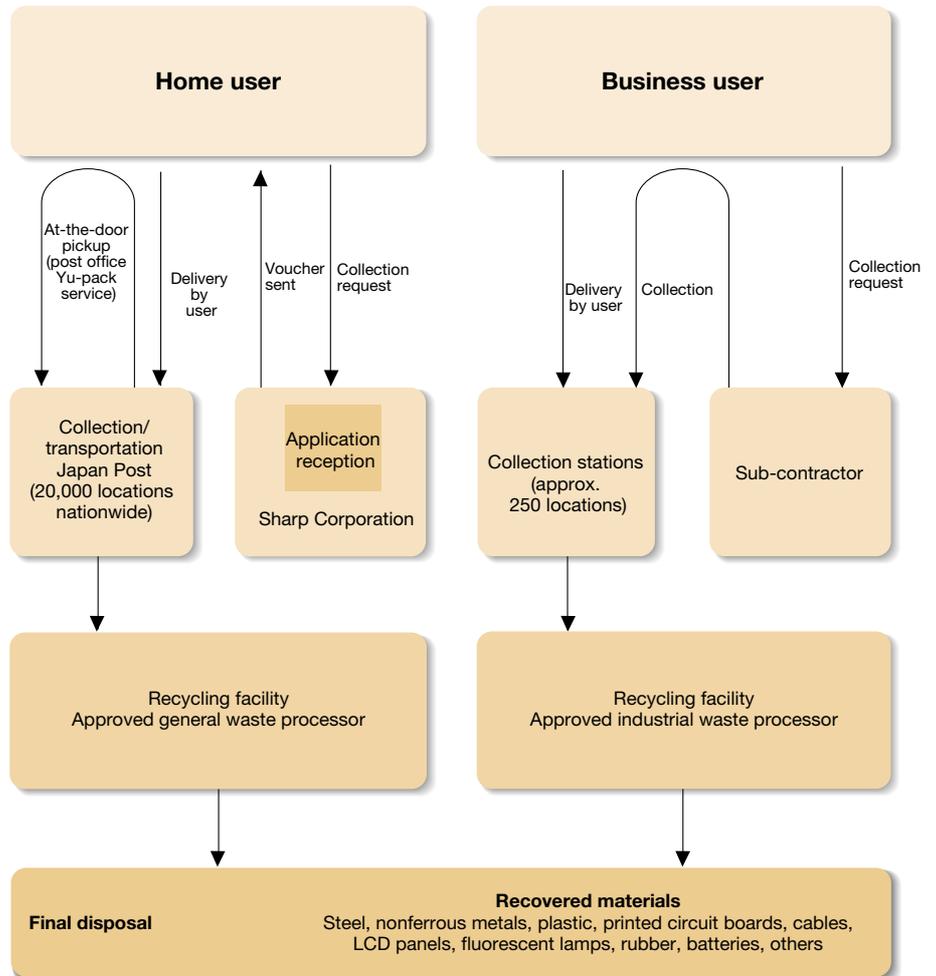


Disassembly of collected PCs



Hard disks are physically destroyed

● Voluntary collection and recycling system for used PCs



Recycling: The Environmental Accounting View

Environmental conservation activities	Environmental conservation costs (Units: ¥million)	
	Investment	Cost
Collection, recycling and proper disposal of used product	—	66
Collection, recycling and proper disposal of container packaging	—	47
Change to environmentally conscious design of existing products and container packaging*	—	49
Other efforts to recycle products and container packaging	—	21
Total	—	183

* These figures do not include those under “planning and design”

Among environmental conservation costs related to recycling in fiscal 2003, we spent approximately 70 million yen for the collection, recycling and proper disposal of used products. These expenditures allowed us to gain the effects shown in the table above, in the

Environmental conservation effects	
Recycled tonnage of business and home-use PCs	7t
Recycled tonnage of copiers	1,066t
Recycled tonnage of air conditioners	5,651t
Recycled tonnage of TVs	8,278t
Recycled tonnage of refrigerators	10,080t
Recycled tonnage of washing machines	6,928t

form of recycled tonnage of business and home-use PCs, copiers, air conditioners, TVs, refrigerators and washing machines. We will continue these efforts in fiscal 2004.

Recycling Used Products

Construction of a Unique Recycling System for Copiers

In the copier industry, several manufacturers jointly operate the “Copier Collection and Exchange System*1.” In addition to this joint system, Sharp has constructed its own “Nationwide Collection System*2,” and in fiscal 2003, we recovered approximately 13,600 used copiers, amounting to a 6% increase compared with the previous fiscal year.

In our system, the condition of the collected copiers is checked, and then the machine is disassembled into various components, cleaned, and tested before being put back into the production line. In this remanufacturing process, new parts are added in order to guarantee that the machine has the same performance characteristics and quality as a regular newly produced product. In fiscal 2003, we expanded the copier models that could be processed in the system from 4 to 6 models. We subsequently shipped 1,507 recycled units, mainly to Southeast Asia, the Mid East and Africa, representing a 187% increase compared with the previous year.

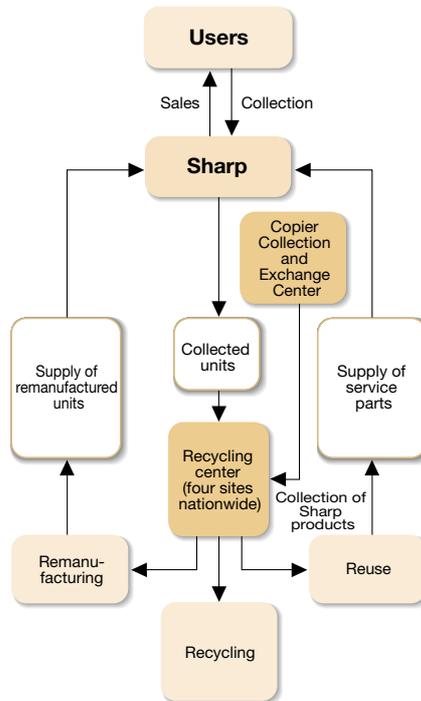
Furthermore, we have constructed a “Closed-Loop Recycling System” in which the cabinet material from the collected copiers is recycled for in-house copier parts. No new material is employed in this system, but rather, it uses only the material from the exterior cabinets of collected copiers. In a series of processes, the material is crushed, cleaned, melted down and turned into pellets until it is once again reusable as raw plastic material. The material is then employed in the production line to construct parts for the interior of new copiers. These interior parts have a flame retardant quality one grade less than that of the exterior cabinets (American UL approved). At present, this material is being used to produce digital copiers at our production site in China, and in the future, we plan to increase both the type of parts and material volume it is used in.

As another example of our effort to expand the volume and type of parts in our recycling program, we have been operating a system since fiscal 2001 that reuses printed circuit boards and fuser units from collected copiers as repair parts.

*1 This organization was established in May 1999, primarily by the Japan Business Machine and Information System Industries Association. Copier manufacturing companies can send their business customer's traded-in copier to the exchange center, regardless of its manufacturer. The copiers are grouped by manufacturer at the center and then returned to their respective manufacturers.

*2 Sharp's system for the trade-in and return of its own copiers.

● Nationwide collection system for copiers



Collection and Recycling Portable Rechargeable Batteries

As a manufacturer of equipment that uses portable rechargeable batteries, Sharp promotes the collection and recycling of used batteries by taking part in the “Collection System for Used Small Portable Batteries” run by the Battery Association of Japan’s Portable Rechargeable Battery Recycling Promotion Center.

Collection stations have been established at the company’s sites and repair centers nationwide to promote the recycling of nickel-cadmium, nickel metal hydride (NiMH) and lithium-ion batteries, as well as some types of small sealed lead batteries.



Collection box for portable rechargeable batteries

Recycling Activities Overseas

United States

As a partner in the “Plug-In To eCycling” recycling program promoted across the country by the Environmental Protection Agency, Sharp’s US sales base (SEC) supported more than 120 events in 2003. We plan to continue our participation in this program in 2004.

In recognition of their support, all program sponsors, including Sharp, received commendation from the Environmental Protection Agency at the Consumer Electronics Show, the largest show of its kind in the United States, on January 2004.



SEC employee being awarded a prize from the Environmental Protection Agency

Europe

A recycling law came into effect in the European Union in February 2003, covering waste electrical and electronic equipment (WEEE). As a result, manufacturers will be responsible for the collection and recycling of used products starting in August 2005.

The Sharp Group is involved in the construction of a collection and recycling system for all of the various countries of the EU. In fiscal 2003, we were actively involved in a variety of activities in France, Spain, the United Kingdom and Germany.

France

We participated in a pilot program (Initiative recyclage) jointly sponsored by the government and several manufacturers, in which close to 4,000 tons^{*1} of used electrical and electronic equipment was collected and recycled.

Spain

Inaugurated as Chair of ECOTIC, and with the cooperation of the state governments from three states (Catalonia, Navarra and Madrid), various manufacturers, retailers and other municipalities, we conducted a pilot program for the collection of used electrical and electronic equipment.

United Kingdom, Germany

As a main member of REPIC^{*2}, we are not only conducting studies on the formation of a collection system in the UK, but we are also a member of EAR² in Germany, where we have participated in conferences that designate concrete rules and methods for collection.

*1 Results for June 2002 to November 2003

*2 REPIC (Recycling Electrical Producers Industry Consortium) and EAR (Electro-Altgeraete Register) are organizations established by manufacturers to create collection systems in each country.

Social Report

Gaining an Even Higher Level of Trust from Society

Delivering “Safety” to Customers

Strengthening Information Security and Ethics

Creating a Fair and Rewarding Workplace

Creating a “Safety-First” Work Environment

Environmental Communication

Global Social Contribution Activities



Gaining an Even Higher Level of Trust from Society

With the establishment of the CSR Promotion Department, the entire Sharp Group is united in its goal to fulfill corporate social responsibility (CSR) and is aimed toward achieving the basic objectives as stated in the Sharp Charter of Conduct. We also encourage the reinforcement of business risk management (BRM), while adhering to laws and regulations and respecting ethics.

Institution of the Sharp Charter of Conduct

We instituted the Sharp Business Standards and Action Guidelines in August 1998 to serve as a model for all employees aiming to fulfill Sharp "Business Philosophy", "Business Creed" and "Fundamental Policy."

In April 2003, the Sharp Business Standards and Action Guidelines were revised into the Sharp Charter of Conduct. This Charter clarifies the social responsibility of every Sharp executive and employee as a corporate citizen, including behavioral expectations in accordance with business ethics as well as the adherence to domestic and overseas laws and regulations.



Sharp Charter of Conduct

Reinforcing Corporate Governance

Sharp has always been a manufacturing and technology oriented company. In today's harsh competitive environment, making speedy decisions is indispensable for such a company. We strongly believe that the current Board of Directors/ Statutory Auditors System meets this purpose, and we plan to further strengthen this system to expand our business and enhance corporate governance.

To improve management maneuverability and flexibility, and to clearly articulate the responsibilities of company management during each accounting period, we amended the Articles of Incorporation at the annual meeting of shareholders in June 2003 to shorten the term of office for members of the Board of Directors from two years to one.

The company has appointed no outside corporate directors to our Board of Directors. However, we continue to work to improve and strengthen our Statutory Auditors System, and three of our four statutory auditors are outside auditors.

We are increasing management transparency by broadening the scope of the information disclosed so that all shareholders and investors are able to have access to corporate information promptly.

Promoting CSR and Reinforcing BRM

The Sharp Group has long since contributed to people around the world with one-of-a-kind products that offer newer, more convenient and comfortable lifestyles. We have also promoted environmentally conscious business development and regional social contribution activities.

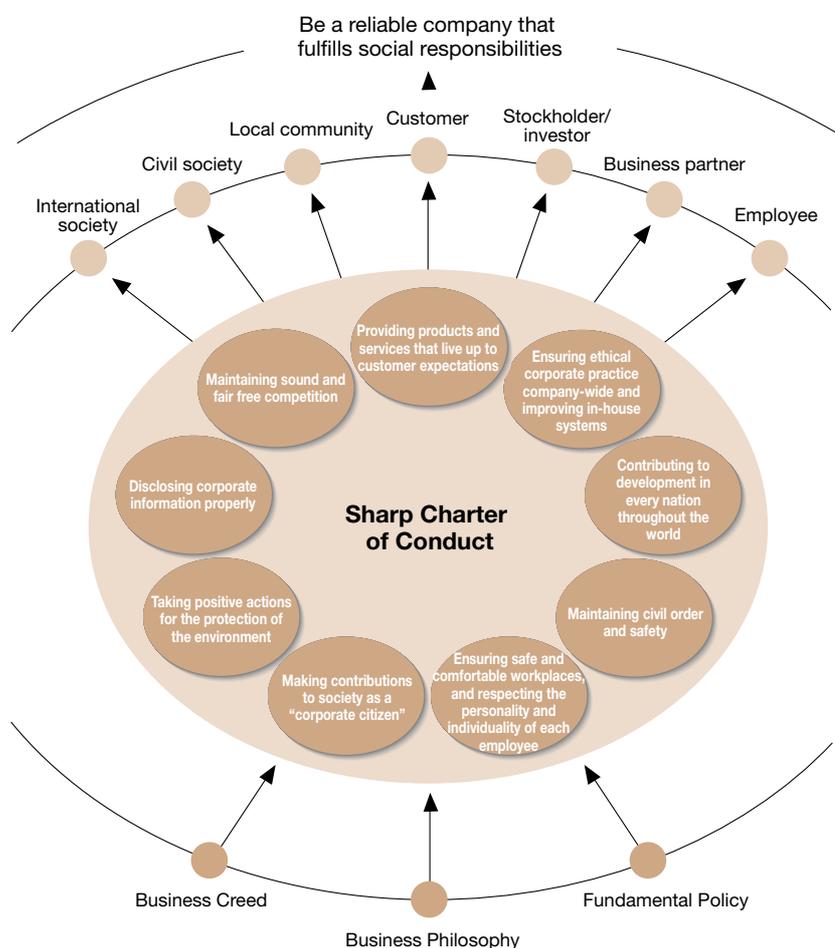
By guiding all executives and employees to practice CSR (corporate social responsibility) in all business activities, we will continue to pursue increased trust from stakeholders worldwide, striving to meet the social demands of today.

In practicing CSR, we aim to fulfill the nine basic objectives as stated in the Sharp Charter of Conduct, which are based on our corporate business philosophy. (See diagram below.)

It is also important to recognize that practicing CSR is essential with respect to BRM (business risk management), which is designed to eliminate the possibility of unethical behavior or potential law violations while responding to fast-changing business environments.

In addition, we encourage our business partners to take vigorous measures for compliance with laws and regulations and with green procurement and other environmental considerations. To help our business partners deepen their appreciation of our stance, we will review transaction policies and host seminars according to our own CSR and BRM guidelines.

● Nine basic objectives for achieving Sharp CSR



Establishing a CSR Promotion Department and Initiating Small-Group CSR Activities Company-Wide

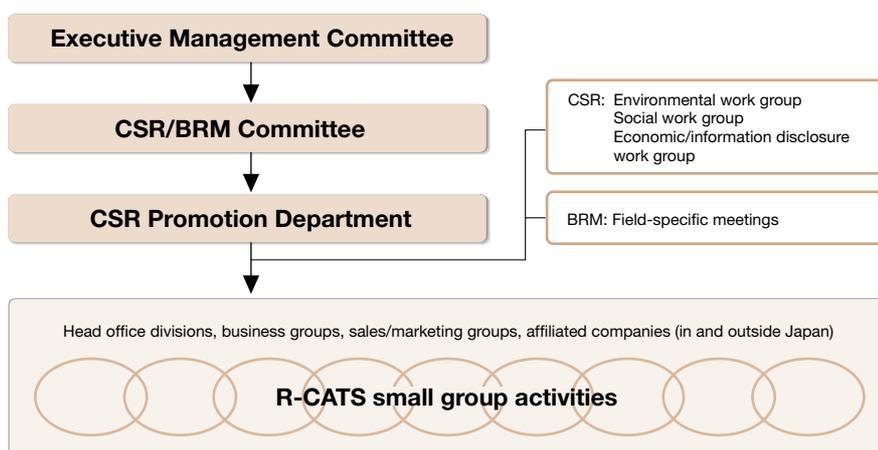
To actively promote CSR and its combined effect with BRM, Sharp established a dedicated CSR Promotion Department in October 2003. It was placed within the Management Planning Board, which controls the business management of Sharp Corporation as well as its domestic and overseas affiliates.

The CSR Promotion Department is responsible for the Group-wide planning and coordination of CSR guidelines and measures, as well as company-wide control of all promotions for environmental conservation, compliance and social contribution, which were previously carried out by individual divisions.

The existing BRM committee was reorganized into a CSR/BRM committee headed by the Corporate Senior Executive Vice President (Chief General Administration Officer). The committee meets to discuss CSR/BRM activity plans for the entire Sharp Group and confirm their promotion status.

In every business group and affiliated company, a person has been appointed to head up their division's activities. Also, in October 2003, the R-CATS* small-group activities were developed to fulfill CSR/BRM challenges in all business divisions. The activity aims at urging all Sharp Group employees, including those in the R&D and sales divisions, to take up a theme from a viewpoint of CSR and act accordingly, thus anchoring a corporate climate of CSR company-wide.

● CSR/BRM promotion organization



* R-CATS stands for Revolution Creative Action Teams

Implanting Business Ethics and Compliance

Taking into account past legal violations, Sharp is encouraging the following activities to make thorough business ethics and compliance.

1. Reinforcing organization:
A person is appointed as chief of legal affairs in every business group and affiliated company to immediately assess the institutions and revisions being made in laws and regulations, to subsequently update intracompany regulations, and to promote measures for employees to understand the contents.
2. Education on relevant laws, rules and regulations:
Compliance seminars have been held for managers, including division heads and department managers, since fiscal 2002. Sharp's head office divisions also hold periodic training and seminars on legal affairs in specific fields for the persons concerned.
3. Enhancing motivation for ethics:
In time for the institution of the Sharp Charter of Conduct, sectional study meetings were held for all employees in all domestic divisions and departments, conveying business ethics through the Sharp Charter of Conduct handbook.

Installing Hotline for Intracompany Consultations

Sharp established a Business Standards Labor-Management Committee consisting of top executives from labor and management. Dedicated to catching violations of laws and regulations in the workplace, the committee can take immediate action for solutions. For direct access to the committee, an intracompany hotline was also installed to receive claims and consultations from employees via intranet e-mail and documents.

Through this system, general claims and consultations are handled quickly and confidentially and are investigated by an examination committee, while any claims about sexual harassment are dealt with by the Sexual Harassment Claim Solution Committee. These committees inform the results of their investigations directly to the claimant involved and take proper measures as needed. The Sharp Charter of Conduct also stipulates that those making inquiries are to be treated in a fair and non-discriminatory manner.

Enforcing Fair Play in Business Management

Making it a principle to practice fair play in business management, the Sharp Charter of Conduct clearly prohibits the giving and receiving of money or goods, and the entertainment of persons in any context that is illegal or against social norms.

We uphold our stance of striving to maintain social order. We take a strong, just stance against antisocial forces and organizations. We only make political donations of the minimum amount and in a lawful manner, and we only make such donations when they are needed with respect to local community concerns.

We provide rules for these cases in working regulations and authority standards and have constructed a system that requires examination by the Donation Examination Committee for monetary donations and other cases of expenditure, thus preventing profit grants and unlawful expenditure.

Delivering “Safety” to Customers

In order to deliver our customers easier-to-use, long-lasting and reliable products, we reflect the comments from customer-support inquiries and the results of usability tests in product development. We also try to improve customer satisfaction through our unique programs such as remote PC support, after-repair calls and female service engineers for female customers.

Pursuing CS (Customer Satisfaction) in All Divisions

Basing managerial principles on customer satisfaction, the Sharp Group regards “viewing things from the customer’s standpoint and providing them with more than they expect,” as the biggest mission of business for delivering maximum satisfaction. Every Sharp employee, from R&D and production to sales and service divisions, is always prepared to provide customers with the best in product and service quality.

In supplying customers with products, we are always prepared to pursue safety and user-friendliness, speedy support for inquiries and the most appropriate troubleshooting, thus endeavoring to deliver “safety” to customers all over the world.

Creating More User-Friendly Products

As a method for incorporating user feedback directly into product development, we have introduced usability tests. In these tests, the person responsible for product planning and development observes customers while they use products, verifying ease of use. By picking up factors that hinder the ease of use and actually watching the user handle the product, we pursue higher quality in use as well as performance, thus ensuring enhanced usability.

With the rapid penetration of digital consumer electronics, demand is growing for ease of connection among various kinds of equipment. We pursue assured connectivity with other makers’ as well as our own products, striving to provide customers with easier-to-use products.

Streamlining Customer Communication

In pursuit of greater customer satisfaction, we have been strengthening and expanding our customer communication programs.

In fiscal 2003, in addition to the Integrated Call Center for answering all kinds of product inquiries, FAQs (frequently asked questions) were posted on the customer support website for users to access.

As a new customer communication tool, we also introduced remote PC support, a broadband-based operating guidance service (fee-based service). This service allows support staff to access a user’s PC screen remotely and give the user exact operating guidance.

Cases of improvement through usability tests

Changing the name of a control button of the Viewcam



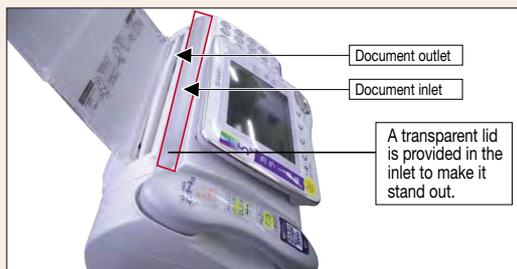
Before improvement
Users felt that the names of the switch settings – Camera and Video – were ambiguous.

Before changing
“Camera”
“Video”

After improvement
The names of the switch were changed to those that corresponded to the functions.

After changing
“Shoot”
“Playback”

Preventing insertion of documents into the wrong slit on a facsimile



Before improvement
There are three slits into which documents seem to be able to be inserted. It’s hard to know which one to insert documents into.

After improvement
A transparent lid with the instruction, “Open the lid to insert documents,” is provided to show the right inlet. It’s also included in the facsimile’s Help function.



Integrated call center

Reflecting User Feedback in Manufacture

We have been advancing a system for detecting quality challenges through close examination of user complaints and claims, and then immediately reflecting the findings in manufacture and response to the market.

If there are any quality concerns found with strategic products right after release, we immediately address the problem and provide a solution on site. If any product should malfunction, we lose no time investigating its cause and correcting the problem.

What's more, we provide simple, yet thorough product explanations to customers so that they can make full use of a product's functions. Then, in turn, if we hear a user saying, "it's not easy to use this function," or "I want it this way," we can relay that feedback to the product planning and development divisions to implement those demands in manufacturing.

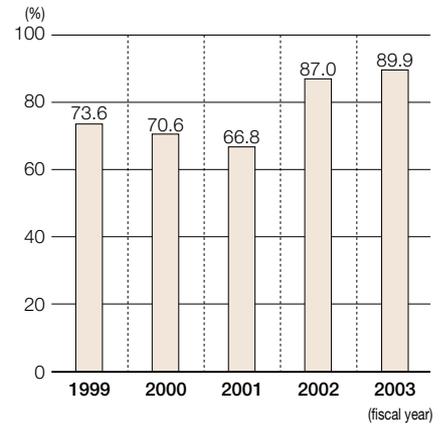
Responding to Customer Needs with Repair Service

The Sharp Group offers special services, such as "after-repair calls," which is an inquiry asking customers about the status of a product after completed repairs, and "pick-up repair service for consumer electronics" for specific products. On a trial basis, we also send out female service engineers to user locations where only women are present, striving to set up a repair/maintenance service system that meets customer needs and boosts customer satisfaction.

In fiscal 2003, the number of complaints on repair and maintenance service was reduced by 79% from the previous year, and in the results of repair questionnaires, a "satisfactory" rating comprised approximately 90% of the total evaluations, a 3% increase over the previous year. Considering these accomplishments, we are endeavoring to improve customer satisfaction even further.

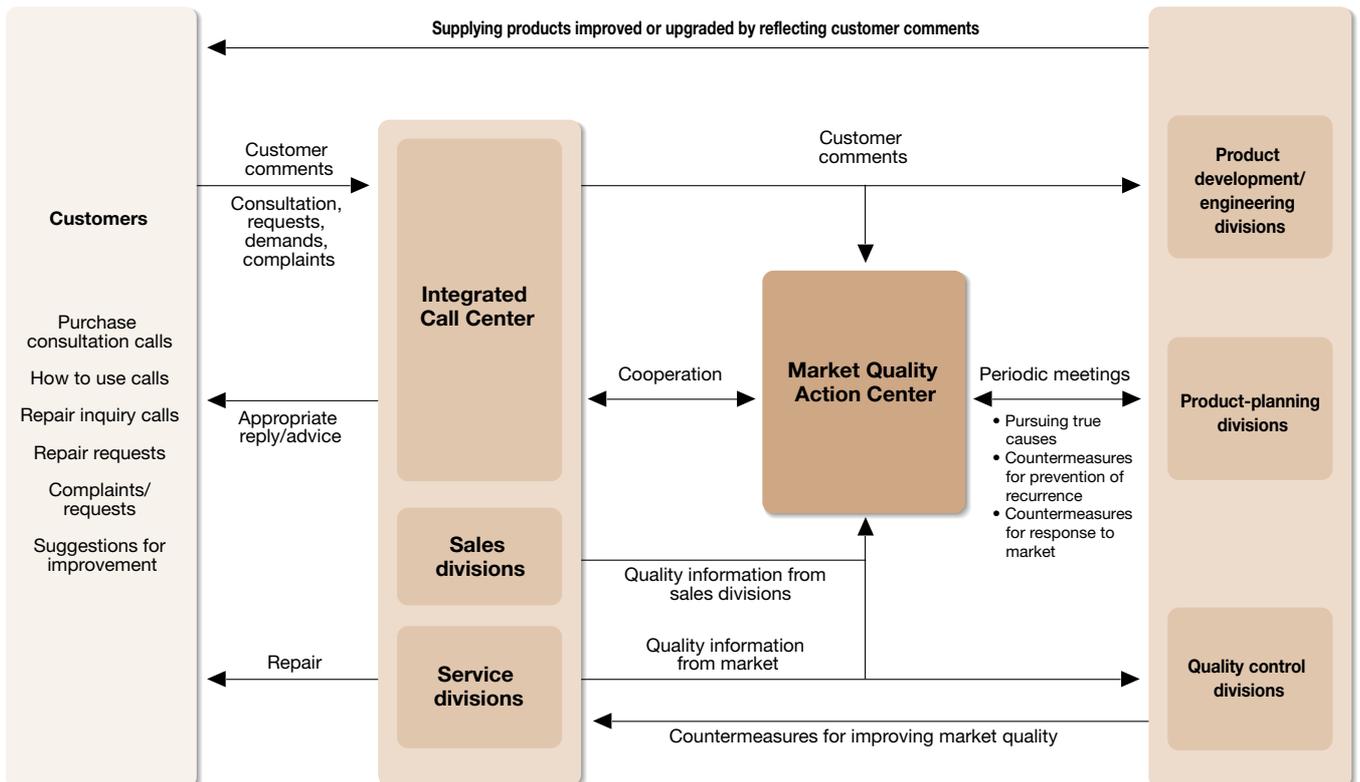
Our affiliated companies of 24 overseas bases worldwide have constructed a global network of service covering their surrounding countries to achieve quick and assured user service that provides exceptional customer satisfaction.

Transition in "satisfactory" ratings from questionnaire results



Female service engineer

How to reflect customer comments in product manufacture



Delivering “Safety” to Customers

Supplying Products that can be Used Safely and Longer

The Sharp Group capitalizes on a variety of technologies to secure and improve the long-term reliability of products.

Product development divisions are actively introducing a method of quality engineering (design on parameters) to design products with considerations for operation and deteriorating conditions.

The quality control divisions ensure the reliability of products for a long duration of use through accelerated life tests by using the HALT (Highly Accelerated Life Testing) device and multi-environment testing device.

The HALT device, in particular, performs durability tests under severe conditions, with simulated accelerated period usage as high as 10 times more than normal use. Dedicated to discovering potential malfunctions, this device out-performs most conventional testing devices.

If any malfunctions are found throughout the testing, we conduct an in-depth analysis at a molecular level to discover the root cause. This range of malfunction analysis techniques makes manufacturing trouble-free products possible. Recently, we have also added a confirmed list of environmentally restricted substances, reinforcing the system of technological analysis.

By setting its exclusive strict standards for safety technology, the Sharp Group is not only challenging the development of absolutely safe products at the stage of new product development, but also encouraging the development of various kinds of protocols for combustion and safety evaluation testing.

These activities allow us to produce and offer highly reliable products that can be used safely and for longer periods of time.

Immediate Disclosure of Quality Problems

If it should be ascertained that Sharp products could potentially cause damage to a user’s life, body or property, we will immediately disclose information via newspapers and our website. An inquiry desk for customers will also be provided for consultation, not only to ease users’ peace of mind, but also to minimize any inconvenience.

Meanwhile, we will continue to strengthen our scientific analysis system and share past malfunction information in product design, thus preventing the same malfunctions or any other problems in the future.

Practicing CSR through Small-Group Activities

In order to develop our personnel and organizational abilities to their full potential, we have been promoting “R-CATS* small-group activities.” These activities challenge their participants to work together to identify problems close at hand in daily work, address a theme from a CSR (corporate social responsibility) viewpoint, and find solutions together. In fiscal 2003, a total of 2,751 domestic teams and 735 overseas teams participated in these activities. Centered around the R-CATS small-group activities, we will practice CSR for all stakeholders worldwide, in addition to pursuing the acquisition of trust and satisfaction from customers.

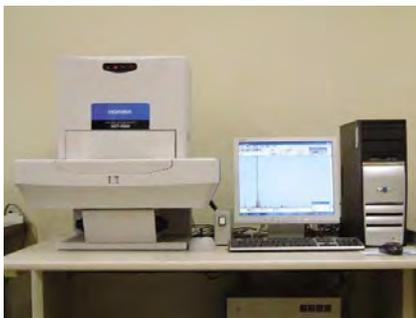
* Stands for Revolution Creative Action Teams



HALT device



Product Safety Technology Testing Center at which combustion and safety evaluation tests are conducted



X-ray analyzing microscope enabling nondestructive elementary analysis



Combustion test



Presentation of small-group activity accomplishments

Strengthening Information Security and Ethics

As communication among companies and customers becomes increasingly detailed, corporate responsibility for handling information is more important than ever. Dedicated to being a reliable organization in this aspect, the Sharp Group is reinforcing information security, while enhancing the awareness and skills of employees through education programs such as e-learning.

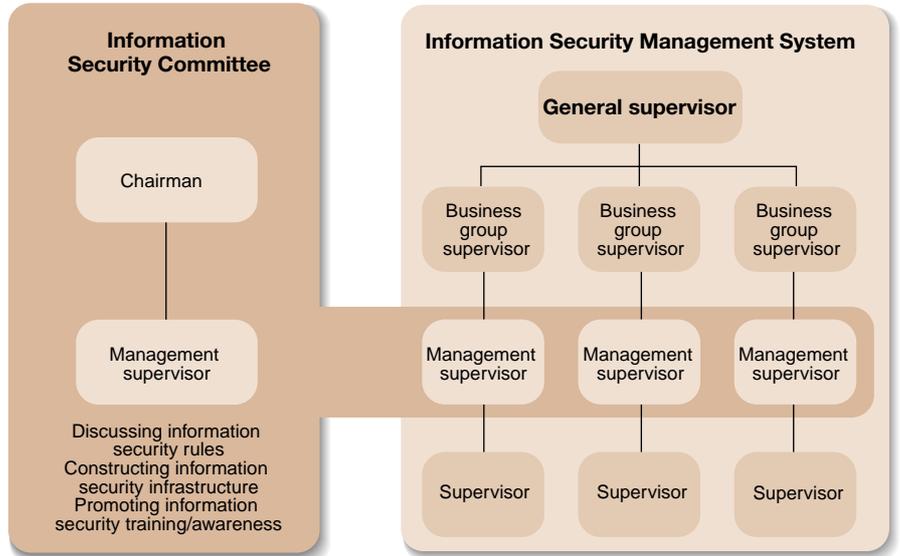
Promoting Proper Information Control

Conforming to ISO17799-2 international standards, Sharp is pursuing the construction of an information security management system that will strengthen information security — protecting customers' private information, preventing leakage of confidential information and monitoring/preventing unauthorized access from outside.

In January 2003, an information security policy statement was established and an information security committee was formed, thus organizing the security management system. The information security committee was instituted to discuss information security rules, construct an information security infrastructure and promote information security training/awareness.

In April 2003, Sharp incorporated information protection descriptions in the Sharp Charter of Conduct and has been encouraging information security company-wide.

Information security promotion system



Achieving ISMS Certification in More Business Groups

In addition to our own periodic safety diagnosis/verifications, we have an information security audit conducted by a third party, securing infrastructure reliability and user service.

In fiscal 2003, we acquired ISMS certification* based on the assessment and registration of the information security management system at three of our divisions (IT Strategic Planning, Sharp System Products and Sharp Document Systems). We will encourage further promotions toward the acquisition of ISMS certification for Sharp Engineering Corporation and other high-priority divisions.

* Information Security Management System certification: An information security audit by a third party who endorses the security status of a company, certifying that it is in compliance with information security management standards.



Certificate for registration

Preventing Information Leakage with Information Technology

We are promoting security enhancement by consolidating our infrastructure with state-of-the-art technology — distributing ID cards with a face photograph to all employees, providing fingerprint authentication entry systems, strengthening security with public key infrastructure and more.

Moreover, we have established intracompany rules for use of the Internet and e-mail, preventing accidental transmission or exchange of information within or outside the company.

Education of Information Security Through E-learning

All employees attend seminars using the information security handbook. This allows them to learn and practice identifying information risks and how to respond to them appropriately.

In September 2003, an e-learning system was introduced to promote awareness of information security. We will continue the e-learning system and hold seminars targeted at information security managers, thus pursuing the enhancement and increasing significance of information security.



E-learning screen

Creating a Fair and Rewarding Workplace

Sharp has introduced a personnel system that promotes the independence and diversity of individual employees. This includes the creation of a fair, rewarding workplace in the form of leadership-fostering educational programs and a recruitment entry system for employees to apply for new business start-ups. We also help employees develop personally with a variety of educational training programs.

Respecting Individuals

The Sharp Group stipulates in the Sharp Charter of Conduct instituted in April 2003 that all individual executives and employees shall perform as stated below to protect personal dignity. At each Sharp domestic site, human rights seminars are held regularly to promote these values.

The Sharp Group upholds all local laws and regulations regarding forced labor and child labor under the policies respecting human rights and will encourage its business partners to uphold the same standards.

● Sharp Charter of Conduct

1. Respect for and Development of the Personality and Individuality

- Foster a workplace atmosphere in which personalities and individual characteristics are respected and autonomy and creativity are emphasized, in order that every person may fully display their abilities and achieve their utmost.
- Endeavor to open new themes, while striving for efficient, streamlined business activities.

2. Prohibition of Discrimination Based on Nationality, Race, Gender, etc.

- Prohibition of discrimination based on nationality, race, gender, etc.: Never discriminate against others on grounds of nationality, race, ethnic group, gender, age, religion, beliefs, social status or disability, practicing respect for human rights, fairness and equality.
- Prohibition of sexual harassment: Never make any sexually related remarks that will offend another, insist on dating, allow sexual rumors to circulate, or touch another person inappropriately.

(Source: Sharp Charter of Conduct)

Personnel System that Makes the Most of Employee Initiative and Diversity

Leadership Program and Challenge Course

Sharp introduced the Sharp Leadership Program in 2001 as an educational system targeting all employees from younger staff members in semi-managerial positions to experienced experts in supervisory positions with the objective of systematically nurturing management personnel. In addition to knowledge-based education implemented in relation to an MBA (Masters of Business Administration) curriculum, this program provides a practical career development path that includes overseas assignments and participation in a key project, and is intended to nurture management potential and leadership that is in line with global standards. In fact, some new managerial executives and division/department managers have already finished this program.

The Challenge Course, which the company introduced in fiscal 2001 for younger staff members in semi-managerial positions, strips away seniority-based factors and sets up a compensation and promotion system based to the greatest extent possible on performance. It is intended to foster a mindset of working to improve one's skills, to encourage responsibility for one's performance, and to enable early promotion of younger personnel.

● Basic HR (human resources) Policy

- Implement a corporate-asset-oriented management strategy, which values the experience and technical skills of each of our employees
- Carry out flexible personnel placement with a focus on "putting the right employee in the right position," without favor or partiality
- Increase the abilities of our personnel and the competitiveness of the company through a new HR system founded on a "performance-based" policy

Corporate-asset-oriented management

Performance-based personnel system

Fair and impartial personnel placement

Labor-Management Relationship through Dialog

The Sharp Group respects workers' rights to unite and bargain collectively, while valuing dialogue with employee representatives including labor unions.

In Japan, we have monthly labor-management meetings such as the Central Labor-Management Council involving top executives from both sides, as well as Local Labor-Management Council meetings at each site for exchanging opinions about business environments and labor-management subjects. In Europe, we have held European Works Council meetings every year since 1997.



Central Labor-Management Council

Training/Self-Development Programs to Foster Diversely Talented Individuals

In addition to the Leadership Management Development Program and Level-Classified Management Training, Sharp holds intracompany seminars classified by function and job type for employees to deepen their knowledge and required expertise. This includes seminars such as software/network technology training for mastering the fundamental technology needed for today's networks, as well as value engineering (VE) seminars and patent seminars for engineers.

At the Human Resources Development Center, we offer a versatile selection of self-development support programs that help employees improve their skills and abilities spontaneously, such as e-learning, open lectures, correspondence courses or language seminars.

One of the examples is a voluntary Essential Course. Targeting managers and people who have completed the prescribed assignments of the Challenge Course, this course gives participants a chance to receive lectures by renowned specialists outside the company via a TV conference system. This Essential Course is so popular that many employees attend lectures even on holidays.



Software/network technology training essential for the IT age

Expanding Opportunities for Women

Sharp's human resources system adheres to a performance-based concept with no distinction based on career/clerical-track positions or gender. Many women in semi-managerial positions have signed up for the Challenge Course mentioned previously, and each year several of them move on to become managers in various fields of business. The company also pursues affirmative action aimed at increasing work opportunities for women and has set up an "Active Woman Course"* within the Recruitment Entry System designed for women. In April 2004, we established a joint labor-management committee for strengthening affirmative action.

Other benefits we offer working women

include maternity leave and parental leave, as well as limited working hours to allow for childcare, which provide more days off and for a longer period of time than stated in laws; time-difference commuting for pregnant workers; and reemployment for workers who left work for childbirth and childcare.

We have several new programs that went into effect in April 2004. These include programs that allow workers to take leave to help their children adjust to nurseries, and programs to shorten working hours up until their children graduate from elementary school. We have also increased subsidies to employees for pay for in-home nursing care.

* The Active Woman Course includes project themes such as product planning from a women's point of view, judging product usefulness from a homemaker's perspective, and training women sales engineers.

Commendation System

Sharp annually honors domestic and overseas employees and divisions/departments that have achieved outstanding performance.

In fiscal 2003, a total of 155 awards were presented, with the "Plasmacluster Ion business development" and "GSM terminal business start-up" groups winning the Sharp Grand Prize.

Outside consultants and business partners who have demonstrated commitment to social contributions were awarded the Sharp Appreciation Award.



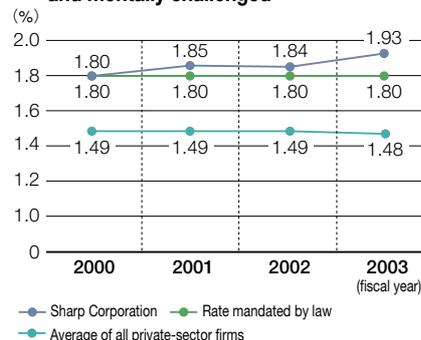
President Machida and representatives from the Sharp Grand Prize winning group

Encouraging Employment for the Physically and Mentally Challenged

Sharp's commitment to the physically and mentally challenged dates back to 1950, with the founding of Sharp Tokusen Industry Co., a special subsidiary specifically for the physically and mentally challenged. The company has also established a committee to promote employment of those who are physically or mentally challenged, and remains committed to achieving the physically and mentally challenged employment quotas required by Japanese law, as well as creating a worker-friendly environment for physically and mentally challenged employees.

In fiscal 2003, our physically and mentally challenged employment rate reached 1.93%, surpassing the quota mandated by Japanese law (1.80%). Currently, we are providing welfare organizations (Ikutokuen social welfare corporation and others) with financial assistance for corporate management and will continue to actively help the physically and mentally challenged support themselves.

● Employment rate for the physically and mentally challenged



Sharp Tokusen Industry Co.

In 1950, Sharp incorporated a separate factory and renamed it Hayakawa Special Metals Factory. The original factory had been founded in 1942 for blind war veterans trying to restart their life. Today, this factory is called Sharp Tokusen Industry Co.

In recent years, we have been responding to the IT era by getting involved in new businesses such as the manufacture of LCD backlights, laser chips and other devices, software development, and website production, thus expanding the ways in which the physically and mentally challenged may find fulfilling work.



Creating a “Safety-First” Work Environment

With a goal of achieving zero accidents, we have created Safety Control Standards tailored to the characteristics and requirements of individual sites and are working to prevent occupational accidents through periodic examination and training. Based on the Healthy Sharp 21 comprehensive health-promotion program, we help our employees and their families keep in good health.

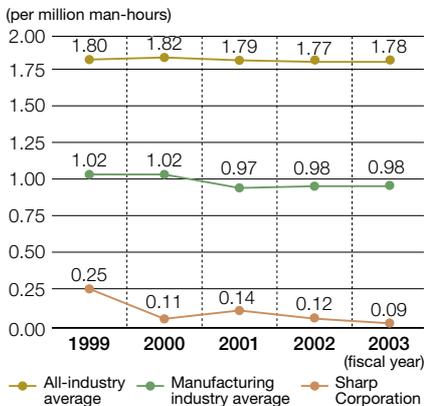
Safety and Health Efforts

We are working to prevent occupational accidents by holding meetings of the monthly Safety and Health Committee and the regular Safety and Health Communication Meeting together with local business partners at each site in Japan, and have created Safety Control Standards tailored to the characteristics and requirements of all individual sites.

Since fiscal 2003, the company and labor union in Japan have held Central Safety and Health Liaison Council meetings every two months, at which they confirm the status of safety and health efforts at all individual sites and exchange information on labor hygiene and accidents.

The number of occupational accidents that occurred at Sharp in 2003 was 0.09 cases per one million hours, far below the mean value of 1.78 for the whole industry and 0.98 for the manufacturing industry. We will continue to strengthen control and promote improvement of working environments.

Industrial accident rates



Note: Averages for all industries and the manufacturing industry are based on the industrial accident trend survey of the Ministry of Health, Labor and Welfare.

Various Promotions at Individual Sites

Beyond meeting the minimum legal requirements set forth in the Japan Labor Standard Law and the Industrial Safety and Health Law, each of our domestic sites sets specific goals to achieve a zero accident rate and carries out safety and health-related activities accordingly. Each site shares in safety management efforts whose goal is to heighten safety awareness among employees, eradicate unsafe behavior and make all of our facilities even safer than they already are.

In terms of specific actions, we carry out periodic workplace safety inspections, fire

evacuation drills and a variety of specialized advisory programs (mental health counseling, health study groups on lifestyle-related diseases, dental health education, VDT operation study groups, traffic safety workshops and health management for long-hour workers).

Events are held throughout the year designed to build employee health, including walking events, bowling tournaments and other sports tournaments.



Site Safety and Health Committee



Confirming locations of fire extinguishers and other stationary equipment and opening/closing of pipes



Fire extinguishing drill held at each site to enhance response to emergencies

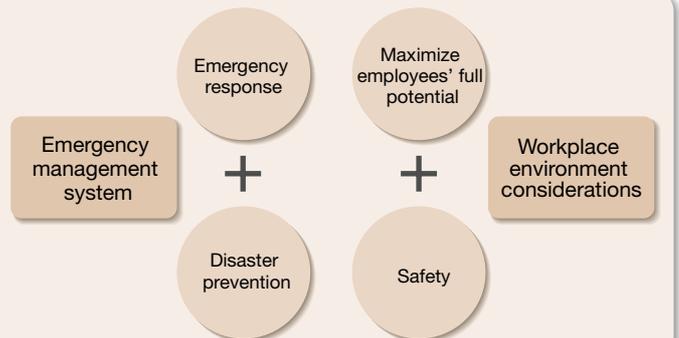


Ball game

Disaster prevention and safety and health in the home and workplace

- 1) Sharp places the highest value on human life. Therefore, we actively work to strengthen our emergency preparedness through extensive use of disaster and accident prevention measures as part of a comprehensive emergency management system.
- 2) In addition to full compliance with safety and health laws wherever we operate, at home or overseas, Sharp strives to create a “safety-first and worker-friendly” environment for all its employees so that they can maximize their full potential.

(Source: Sharp Charter of Conduct)



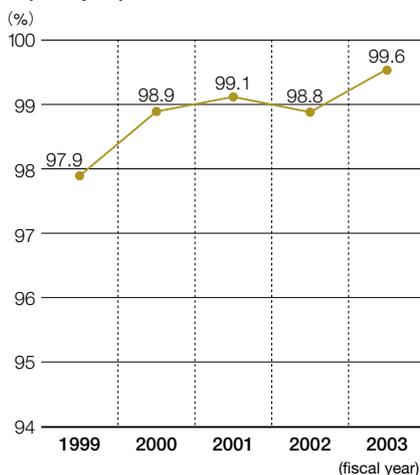
Health Promotion for Employees and Their Families

Diseases caused by lifestyles and habits, such as high cholesterol, high blood pressure, diabetes and heart disease, have become major social and economic problems. That's why Sharp created Healthy Sharp 21, a comprehensive health-promotion program to encourage employees to voluntarily change their lifestyles and daily habits to prevent these diseases so that they and their families can enjoy a healthier, happier life.

In fiscal 2003, as part of Healthy Sharp 21 efforts, we held Sharp Rexpo Challenge 2003, a recreational sports event that people of all ages could take part in and enjoy. A total of approximately 20,000 Sharp employees and their families at six event sites around Japan joined in fun and healthy games including Struck Out and Kick Target.

We also give employees periodic physical checkups to maintain their health, with 99.6% of all domestic employees undergoing these checkups. Besides aiming for a 100% rate for checkups by increasing opportunities to participate, we will give employees screened for further medical examinations in-depth health maintenance guidance and consult with them on changing their working conditions and requirements. We also provide employees and their families who need detailed examinations with financial assistance to cover medical expenses for in-patient checkups and postal medical examinations.

Physical checkup participation rates (in Japan)



A Wide Range of Mental Health Care Programs

Sharp has opened an information desk for medical counseling by medical specialists, and, since April 2003, has improved and expanded the scope of medical service with the Sharp Stress Care System, thus creating more awareness companywide of mentally related problems such as depression and autonomic dysfunction.

To help employees concerned about their own mental well-being, Sharp has introduced a counseling system in which employees can consult independent outside specialized medical institutes free-of-charge by phone or in-person.

Scope of the system

- Medical counseling with outside specialized medical institutes by phone or in-person
- Distribution of handbooks or manuals on mental health care
- Mental health seminars
- Assessment tests (examination of stress levels) and feedback on the results
- Stress examination through interviews, as well as the necessary support
- Educational seminars for managers
- Support programs to ensure that employees maintain their mental health

Encouraging Smoke-Free Working Environments

Based on the Health Promotion Law and the Guidelines for Smoking Measures in Workplaces (Ministry of Health, Labor and Welfare), Sharp prohibits smoking everywhere except in designated smoking rooms where smoke-isolation measures are taken. This helps keep employees healthier by giving them a pleasant working environment in which they are free from passive cigarette smoke in all indoor workplaces.



Smoking rooms, a measure taken to provide a separate smoking area

Structure of Healthy Sharp 21 promotions

1. Voluntary participation in programs to improve physical well-being (primary prevention efforts)



2. Individual guidance based on data (proactive secondary prevention efforts)



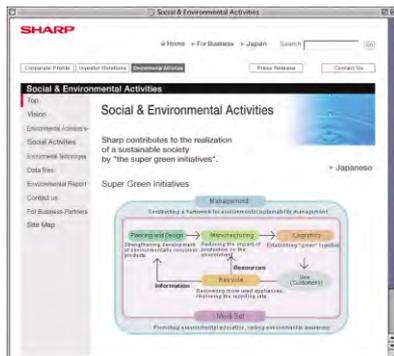
Environmental Communication

Sharp has been promoting environmental communication through the Environmental Report and other media. In addition to detailed, up-to-date data available on our web site, we publicize our stance on the environment and our efforts to protect the environment through advertising and at exhibitions.

Environmental Report and Web Site

Published every year since 1999, this report is an important tool for environmental communication. The report has extensive coverage of environmental issues and how they relate to the social and economic aspects of our business and society. In 2003, we published the first site reports for all domestic production sites. These site reports will be published every year.

Our “Social & Environmental Activities” web site has the entire content of our Environmental Report as well as environmental data from domestic production sites and timely information on a range of environmentally related topics.



Read about our social environmental activities at the following URL:
<http://sharp-world.com/corporate/eco/index.html>



Environmental Report 2003 edition (Japanese, English and Chinese editions)

Exhibitions

In December 2003, we took part in Eco Products 2003 with the theme “Presenting Sharp Ecology Life”. Here, we showed how Sharp’s technological development and manufacturing efforts in areas like photovoltaic power generation and LCDs are helping the world live a life that is environmentally conscious.

In addition to holding Sharp Festivals and other events at domestic sites, we exhibit in local environmental shows to expand and deepen communication with residents around our sites.



Environmental exhibit at Sharp Festival



Eco Products 2003

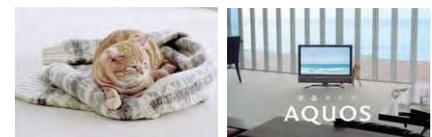
Advertising and Commercials

In order to get messages about our corporate stance, environmental activities and environmentally conscious products to a wider audience, we advertise in print media and on television.

In fiscal 2003, with the slogan “Let’s go Ecology Class with Sharp,” we created TV commercials with the theme of environmentally conscious lifestyles and newspaper ads that highlighted our environmentally conscious one-of-a-kind products, technologies and production plants.



Newspaper ad



“AQUOS and a cat” — a 30-second TV commercial

Example of environmental communication activities

Fresh Ideas from Tomorrow’s Leaders

E-CO-MMUNICATION 2003, an event where senior high school and college students make suggestions on how companies can protect the environment, was held at the Kyoto branch of Somo Japan Insurance Inc. in December 2003. In this event, an E-CO Youth Unit—a group of student environmentalists—had a meeting with Sharp and four other companies to hear about their environmental efforts. The students then gave the companies new ideas for ways to protect the environment through business activities. In free discussion sessions with three groups of students from Kyoto and Osaka Universities, Kobe University, and Ikeda Senior High School, we received valuable suggestions on creating a solar-powered town, widening the scope of PR concerned with photovoltaic power generation, improving our Environmental Report and other topics.



Free discussion with students of the E-CO Youth Unit



Hearing about activities at a home appliances recycling plant

Global Social Contribution Activities

Sharp launched the Sharp Green Club (SGC) jointly with its labor union with the aim of coordinating the expansion and diversification of environmental conservation activities that would help the Sharp Group contribute to society. The SGC acts as the core for developing and carrying out aggressive environmental action by Sharp sites in Japan and around the world.

Environmental Social Contribution Activities Centered around the SGC

Sharp and its labor union jointly established the Sharp Green Club (SGC) in June 2003. With an executive office in the Head Office in Osaka, the SGC supervises environmental activities through representatives at 29 major domestic sites and 21 major overseas sites. In fiscal 2003, the initial year of the SGC, we built up an organization that crosses all company divisions while at the same time

strengthening SGC activities through joint events that included the participation of two or more sites. A total of 8,209 employees, or 26% of the 30,900* employees of all Sharp Group's domestic workforce, participated in SGC activities. We are planning to broaden the range of activities so that all employees have a chance to join at least once a year in fiscal 2006.

* As of January 31, 2004

Basic framework of the SGC

Promoter	Level	Contents of activities
SGC Executive Office Environmental Protection Group Sharp Workers' Union Headquarters Human Resources Group	Whole company	<ul style="list-style-type: none"> Making framework for activity implementation Activities that involve the entire company
SGC at each site Chief promoter Deputy chief promoter	Site	<ul style="list-style-type: none"> Activities for furthering exchanges with local citizens through Sharp Festivals, tours of plants, etc. Participating in activities hosted by local groups <ul style="list-style-type: none"> Cleaning areas around sites Other unique activities carried out by individual sites
Head of all divisions/departments All employees	Division/department	<ul style="list-style-type: none"> Activities by the divisions/departments and individuals Encouraging environmentally conscious lifestyles at home

Cosponsoring the Asian Pacific Awards

Sharp cosponsors the Asian Pacific Awards (sponsored by Mainichi Newspapers Co. and Asian Affairs Research Council) to honor distinguished works on topics including politics, economics and culture in the Asia-Pacific region.

In the commendation ceremony of the 15th Asian Pacific Awards held in November 2003, Corporate Senior Executive Vice President Hiroshi Saji presented the winners with a certificate for an AQUOS LCD TV.



Award ceremony

Student Internships

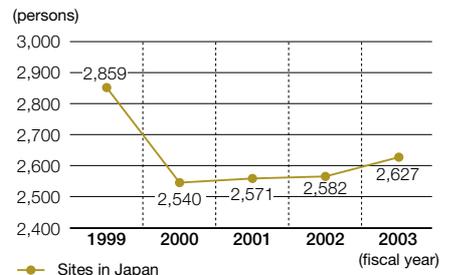
Sharp takes part in a business and technical internship program that gives college students on-the-job-training that allows them to experience what the working world is really like.

In fiscal 2003, about 70 students with majors in liberal arts, economics and law took part in the business internship programs, while about 40 students, mainly majoring in IT-related fields and electrical/electronic and mechanical engineering, took part in the technical internship programs.

Blood Donations

We hold blood donations every year at sites in Japan so that (1) employees can give blood to needy patients and thus contribute to society; (2) we can increase awareness of labor accident prevention and voluntary activities; and (3) we can be informed of blood test results to use for our own health control. In fiscal 2003, there were more than 2,500 blood donations by Sharp employees in the US, China, Malaysia and Japan.

Blood donations by Sharp employees



Leave Systems to Support Volunteer Activities

To make it easier for employees to give to the fullest in contributing to society and to enhance awareness of volunteer activities, Sharp introduced the Volunteer Leave System and the Multipurpose Leave System in April 2004.

With the Volunteer Leave System, employees can take up to one year off work to do volunteer activities that constitute a significant contribution to society. With the Multipurpose Leave System, employees can receive eight days of extra paid leave per year that they can use for helping out in the local community, taking care of ill or elderly family members or other socially valuable activities.

Global Social Contribution Activities

Examples of activities within Japan



Welcoming corporate facility tours

We heartily welcome tours of our corporate facilities, particularly at the Tokyo Branch and Advanced Development & Planning Center in Tenri, Nara. We also provide special programs for junior high school students and younger children to tour and experience workplaces. These programs are used in education and career guidance in the schools.



Opening wellness facilities to the public

Sharp's grounds, tennis courts and gymnasiums are available to local athletic groups and organizations, such as youth baseball and soccer teams, and women's volleyball, as well as to Sharp employees. In fiscal 2003, more than 25,000 people used the facilities.



Hosting Sharp festivals

For over 10 years, cultural and sports festivals have been held at various Sharp sites for our employees and their families, and have been welcoming local residents to join in. An increasing number of joint events are now held annually.



Support for local events

To enhance interchange with the local community, we cosponsor a variety of local events, including the "National Goldfish Scooping Championship" at the Nara site. The "Yaïta Takahara Marathon" at the Tochigi site is another major event that we support by providing runner's numbers and placing ads in pamphlets.



Joining "Clean Osaka 2003"

In autumn 2003, approximately 700 employees and their family members took part in the "Clean Osaka 2003" municipal cleanup campaign, cleaning parks and shopping streets in the city of Osaka.



Participating in "Kushida River Day" with the local community

In October 2003, some 400 employees and their family members at the Mie site participated in the "Kushida River Day" cleanup activity. This event integrates local residents, government agencies and business corporations to clean the Kushida River, a precious source of water for the local community.



Environmental education in elementary schools

In February 2004, we visited 67 fourth grade students at Ichinomoto Elementary School in Tenri. In a special "environmental lesson," we conveyed the significance of recycling by providing a quiz, experiments and video teaching materials with four themes, including "Why is recycling necessary?" and "Let's try to disassemble a refrigerator!"



Hosting summer vacation family events

In August 2003, we hosted a science event at the High Technology Hall of our Tokyo Branch. Scientific experiments were demonstrated, introducing the mechanism of solar cells and making fruit batteries. Attendants of all ages marveled at the generation of power from fruit, bean curd and even bean jelly, demonstrations that stimulated their interest in electricity.



Ongoing cleanup around sites

In November 2003, 220 employees and their family members gathered at the Fukuyama site, cleaning neighboring main roads and recovering 77 bags of garbage. In May 2003, we conducted an all-out cleanup of commuting roads around the Nara site. 110 employees took part in the event and recovered 70 bags of cigarette butts and other trash.

Examples of overseas activities



Hosting a Children's Day festival at our day nursery (SEMEX, Mexico)
SEMEX runs a public day nursery at its plant site jointly with the Mexican Social Security Institute. On Children's Day in April 2003, some 190 children were entertained with a clown performance and received a souvenir of sweets.



Cosponsoring the "Walk America" charity event (SMCA, US)
SMCA has cosponsored "Walk America," a 7-mile (11 km) charity walking event, since 1991. This event aims to raise monetary donations in support of preventing birth defects and infantile deaths and for the promotion of infant health. This year around 3,000 people, including 40 SMCA employees and their family members, took part in the event.



Extracurricular program for children (SLE, UK)
On March 12, 2004, SLE held an extracurricular program jointly with Open Industry to promote a greater understanding of industry. SLE invited school children from more than 50 schools to its facilities, conveying the fun of learning mathematics, science and engineering. The supervising teachers expressed their gratitude, saying that "the children have broadened their scope of thought and interest."
Photograph courtesy of Newsquest (Oxfordshire, UK)



Climbing and cleaning Mt. Gaeyang (SKC, Korea)
In June 2003, SKC held a unique event as part of their environmental and health promotional activities; a group climbed to the top of Mt. Gaeyang and then cleaned the mountain on their way back down. These activities will continue with even more participants in the future.



Planting trees for the public (SET, Taiwan)
SET initiated a tree-planting event in November 2003. 106 employees and their family members joined the event and planted 100 Taiwanese bladdernuts near the A Kung Diann Dam. We plan to ensure the future maintenance of the trees jointly with the A Kung Diann Dam Control Center.



Promoting recycling activities with local residents (SREC, Malaysia)
On September 30, 2003, in cooperation with nearby schools, SREC led a recycling promotional activity around their plant site. A total of 640 elementary school children attended the event, through which they were taught the significance of sorting and recycling garbage. Movable sorting garbage bins were donated to the three elementary schools that participated in the event.



Donating air purifiers to the Shanghai Red Cross (SSEC, China)
In May 2003, SSEC donated 100 Plasmacluster Ion air purifiers to the Shanghai Red Cross. The donation ceremony was honored with an expression of gratitude from the Shanghai Red Cross vice chairman. Our donated air purifiers are now used in hospitals and offices.



Planting trees and cleaning local areas (SATL, Thailand)
At SATL, 600 employees and business partners joined together for celebration and local beautification in Taekamu, Chachoengsao on December 5, 2003. The event day was also the King of Thailand's birthday and all participants took part in commemorative tree planting, trash collection, and cleaning the river.



Environmental education and garbage bin donation (SYI, Indonesia)
In November 2003, SYI hosted a lecture on environmental conservation at a local elementary school and donated new large garbage bins to the school. The company also occasionally provides neighboring families in need with items such as rice and milk. In fiscal 2003, SYI carried out four donation drives and distributed a total of 225 packages to underprivileged households.

Economic Report

Fiscal 2003 Business Results

In fiscal 2003, Japan's economy saw increasing investment in plant and equipment and exports, as well as a rebound of the stock market. All this helped put Japan back on the road to recovery. Overseas, the recovery in the US economy gathered steam while economies in Asia continued to expand.

Sharp worked to come out with one-of-a-kind products that offer new lifestyles, as well as develop the value-added devices behind these products. In our products business, we started operations at the Kameyama Plant, an integrated LCD TV facility that carries out everything from panel manufacture to assembly of final products. This enabled us to secure unmatched production capacity for high-quality large-screen LCD TVs. As well, we continued to expand the lineup of uniquely featured products such as mobile phones with System LCDs and high-resolution CCD camera

modules. In our device business, we enhanced our production capacity with the start of operations of a new line at the Mie No. 3 Plant, thus allowing us to meet vibrant demand for System LCDs. Furthermore, we expanded our proprietary device business through moves that included increased production capacity for CCD and CMOS imagers, and the addition of production lines for solar cells. We also formed partnerships and collaborated with leading global companies, allowing us to improve our competitiveness.

These efforts resulted in a healthy business performance: consolidated net sales for fiscal 2003 were up 12.7% to 2,257.2 billion yen, operating income was up 22.3% to 121.6 billion yen, and net income was up 86.3% to 60.7 billion yen (all figures over the previous year).

See the following URL for details of business results.
<http://sharp-world.com/corporate/ir/fr/index.html>

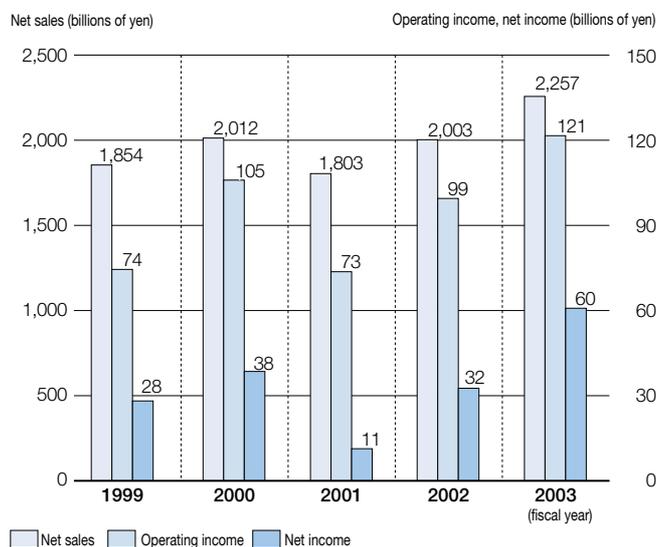
Fiscal 2004 Efforts

Looking at the Japanese economy in fiscal 2004, while there are concerns about currency exchange rates and the employment situation, the country seems to be on a certain path to self-recovery and overall the general consensus is that the conditions for recovery will continue. As well, the economies of the US, Europe, and Asia are expected to grow at a healthy pace.

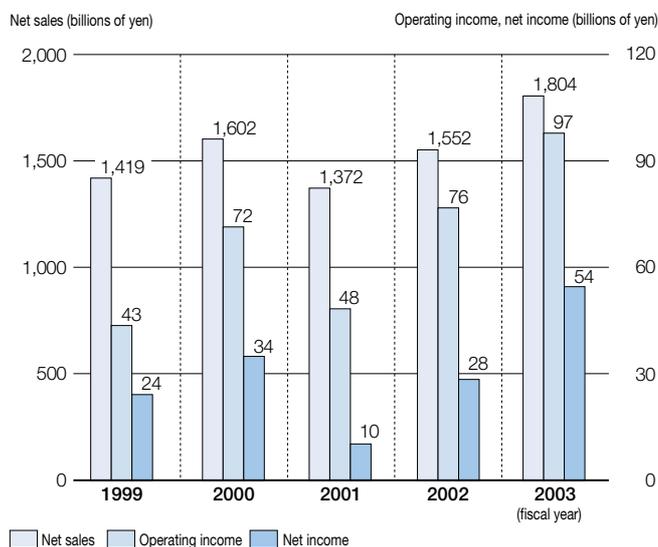
In an effort to achieve further growth, Sharp will strengthen its one-of-a-kind strategy as we work to boost profitability and raise corporate value. In our products business, we will increase our sales in world markets by expanding our lineup of one-of-a-kind products, including LCD TVs suitable for

a new era of digital high-definition TV and mobile phones compatible with next-generation services. Meanwhile, in devices, we will expand our LCD business by strengthening sales of System LCDs, which are key to creating advanced mobile equipment, and we will meet vibrant demand for LCD TV panels by starting the second production line at the Kameyama Plant. We will also boost our strength in proprietary devices by further increasing production capacity for CCD and CMOS imagers and solar cells. We will of course improve our overall business situation through aggressive efforts that include technological and manufacturing innovation and value engineering.

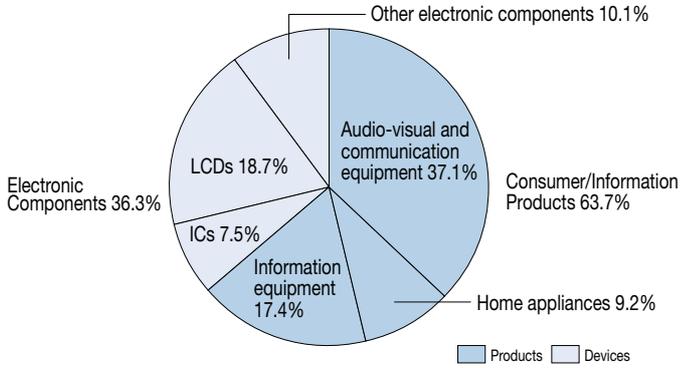
Net sales, operating income and net income (consolidated)



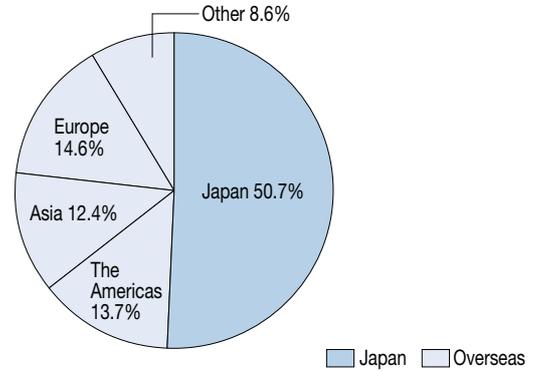
Net sales, operating income and net income (non-consolidated)



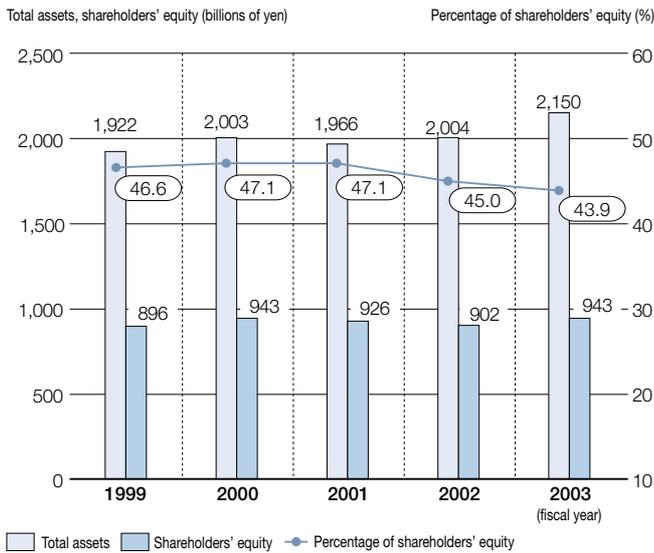
● Net sales by product group for the year ended March 2004 (consolidated)



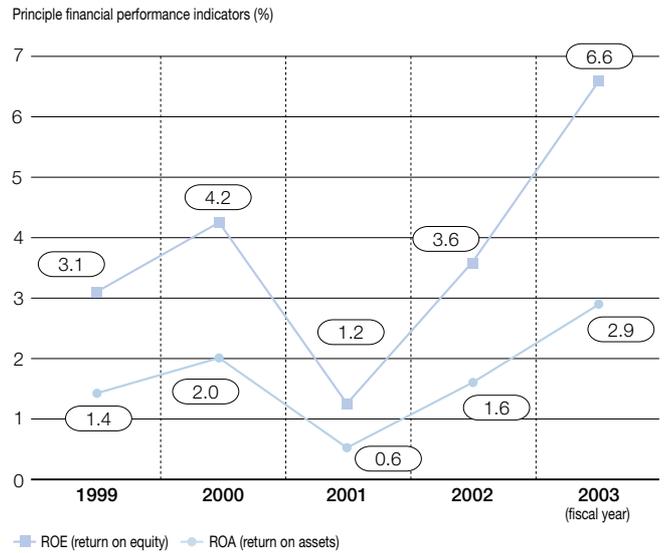
● Net sales by region for the year ended March 2004 (consolidated)



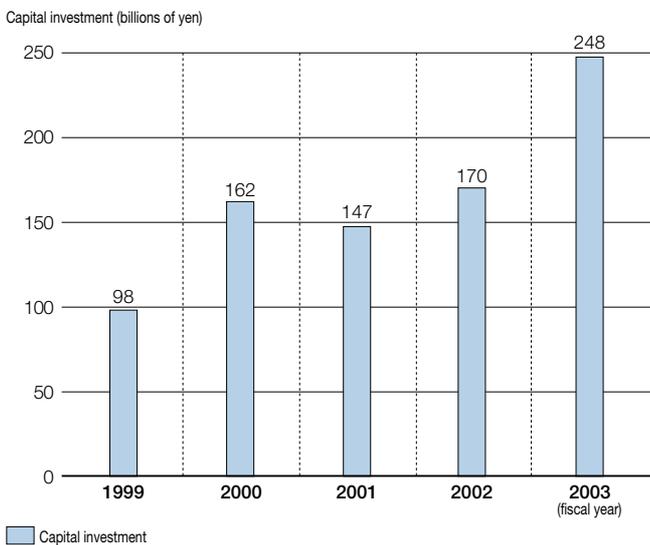
● Total assets and shareholders' equity (consolidated)



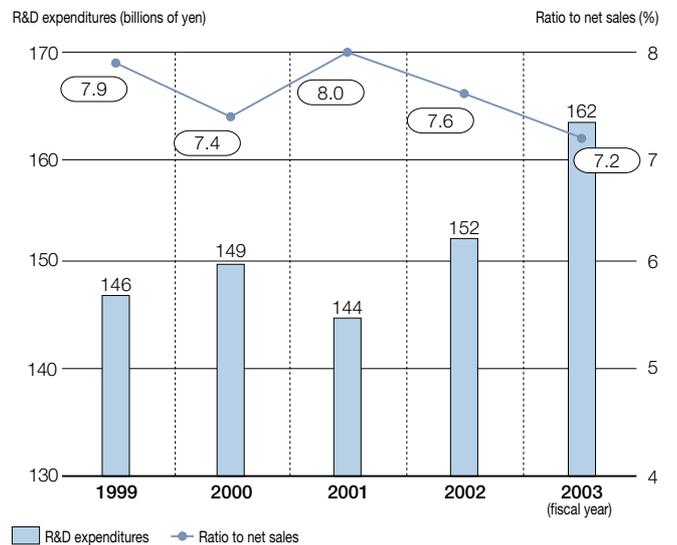
● Principle financial performance indicators (consolidated)



● Capital investment (consolidated)



● R&D expenditures (consolidated)



Performance Data

Major Sharp Group Business Sites	73
Sharp Employees Working at ISO-Certified Sites as a Percentage of All Sharp Employees	73
Preventing Global Warming	74
Amount of Waste by Category	74
Atmosphere/Water Quality Measurements	74
Chemical Substances Management	75
Water Resources	76

Number of Environmental Label Products	76
Number of Products Meeting Energy Saving Standards	76
Recycling Used Products	77
Total Sharp Group Employees	77
Employee Structure of Sharp Group in Japan (Sharp Corporation and Consolidated Subsidiaries)	77
Comparison Chart for GRI Guidelines	78
History & Awards	78

Major Sharp Group Business Sites

● Sites covered in environmental performance data ● ISO-certified sites

Japan

Production sites	Consolidated subsidiaries	Non-consolidated subsidiaries	Affiliated companies	Site Name	Status		
Production sites	Sharp Corporation	●	●	Tochigi site	●		
				Yao site	●		
				Hiroshima site	●		
				Nara site	●		
				Shinjo site	●		
				Fukuyama site	●		
				Mie site	●		
				Tenri site	●		
				Mihara site	●		
				Kameyama site	●		
Consolidated subsidiaries	●	●	Sharp Manufacturing Systems Corporation	Sharp Niigata Electronics Corporation	●		
					●		
Non-consolidated subsidiaries	●	●	Sharp Hiroshige Mie Corporation	Sharp Tokusen Industry Co.	●		
					●		
Affiliated companies	●	●	Kanto Tatsumi Electronics Co., Ltd.	Sharp Takaya Electronics Industry Co., Ltd.	●		
					●		
Non-production sites	Sharp Corporation	●	●	Head Office/Tanabe Building	●		
				Makuhari Building (Tokyo Branch)	●		
				Tokyo Ichigaya Building	●		
					●		
	Consolidated subsidiaries	●	●	Sharp Electronics Marketing Corporation	Sharp Finance Corporation	●	
						Sharp System Products, Co., Ltd.	●
						Sharp-Engineering Corporation	●
						Sharp Document Systems Corporation	●
						Sharp Amenity Systems Corporation	●
						Sharp Trading Corporation	●
							●
	Non-consolidated subsidiaries	●	●	Sharp Semiconductor Corporation	Sharp Business Computer Software Inc.	●	
						SI Solutions Corporation	●
						One Stop Support Corporation	●
	Affiliated companies	●	●	Sharp Electronics Sales Okinawa Corporation	Kansai Recycle Systems Corporation	●	
●							

Americas

Production sites	Consolidated subsidiaries	Non-consolidated subsidiaries	Affiliated companies	Site Name	Status
Production sites	●	●	●	Sharp Manufacturing Company of America (SMCA)*	United States
				Sharp Electronics Mexico S.A. de C.V. (SEMEX)	Mexico
Non-production sites	●	●	●	Sharp Electronics Corporation (SEC)	United States
				Sharp Laboratories of America, Inc. (SLA)	United States
				Sharp Electronics of Canada Ltd. (SECL)	Canada

*Production division of SEC

Europe

Production sites	Consolidated subsidiaries	Non-consolidated subsidiaries	Affiliated companies	Site Name	Status
Production sites	●	●	●	Sharp Manufacturing Company of U.K. (SUKM)*	UK
				Sharp Electronica España S.A. (SEES)	Spain
				Sharp Manufacturing France S.A. (SMF)	France
Non-production sites	●	●	●	Sharp Precision Manufacturing (U.K.) Ltd. (SPM)	UK
				Sharp Electronics (Europe) GmbH (SEEG)	Germany
				Sharp Electronics (U.K.) Ltd. (SUK)	UK
				Sharp Electronics France S.A. (SEF)	France
				Sharp Laboratories of Europe, Ltd. (SLE)	UK
				Sharp Electronics (Italia) S.p.A. (SEIS)	Italy
				Sharp Electronics (Schweiz) AG (SEZ)	Switzerland
				Sharp Electronics (Nordic) AB (SEN)	Sweden
				Sharp Electronics Benelux B.V. (SEB)	Netherlands
				Sharp International Finance (U.K.) Plc. (SIF)	UK
				Sharp Electronics Ges. M.B.H. (SEA)	Austria

*Production division of SUK

Asia, Middle East and Oceania

Production sites	Consolidated subsidiaries	Non-consolidated subsidiaries	Affiliated companies	Site Name	Status				
Production sites	●	●	●	Sharp Appliances (Thailand) Ltd. (SATL)	Thailand				
				Sharp (Phils.) Corporation (SPC)	Philippines				
				Sharp Electronics (Taiwan) Co., Ltd. (SET)	Taiwan				
				Sharp Manufacturing Corporation (M) Sdn. Bhd. (SMM)	Malaysia				
				Shanghai Sharp Electronics Co., Ltd. (SSEC)	China				
				Sharp Office Equipments (Changshu) Co., Ltd. (SOCC)	China				
				Wuxi Sharp Electronic Components Co., Ltd. (WSEC)	China				
				Nanjing Sharp Electronics Co., Ltd. (NSEC)	China				
				P.T. Sharp Semiconductor Indonesia (SSI)	Indonesia				
				P.T. Sharp Yasonta Indonesia (SYI)	Indonesia				
				Non-consolidated subsidiaries	●	●	●	Kalyani Sharp India Limited (KSIL)	India
								Shanghai Sharp Mold and Manufacturing Systems Co., Ltd. (SSMC)	China
				Affiliated companies	●	●	●	Sharp-Roxy Electronics Corporation (M) Sdn. Bhd. (SRCE)	Malaysia
Sharp Korea Corporation (SKC)	Korea								
Sharp-Roxy Corporation (M) Sdn. Bhd. (SRC)	Malaysia								
Sharp Thebnakorn Manufacturing (Thailand) (STTM)*	Thailand								
Non-production sites	●	●	●	Sharp Corporation of Australia Pty. Ltd. (SCA)	Australia				
				Sharp Electronics (Malaysia) Sdn. Bhd. (SEM)	Malaysia				
				Sharp Software Development India Pvt. Ltd. (SSDI)	India				
				Sharp Corporation of New Zealand Ltd. (SCNZ)	New Zealand				
				Sharp-Roxy Sales (Singapore) Pte., Ltd. (SRS)	Singapore				
				Sharp Electronics (Singapore) Pte., Ltd. (SESL)	Singapore				
				Sharp Electronic Components (Taiwan) Corporation (SECT)	Taiwan				
				Sharp Technology (Taiwan) Corporation (STT)	Taiwan				
				Sharp Middle East FZE (SMEF)	UAE				
				Non-consolidated subsidiaries	●	●	●	P.T. Sharp Yasonta Antarnusa (SYA)	Indonesia
Affiliated companies	●	●	●	Sharp-Roxy Sales & Service Company (M) Sdn. Bhd. (SRSSC)	Malaysia				
				Sharp Thebnakorn Co., Ltd. (STCL)	Thailand				

*Production division of STCL

Sharp Employees Working at ISO-Certified Sites as a Percentage of All Sharp Employees

	Production sites	Non-production sites	Total
Domestic	96%	79%	90%
Overseas	99%	60%	80%
Total	96%	74%	88%

Preventing Global Warming

	Japan			Americas			Europe		
	Fiscal 2001	Fiscal 2002	Fiscal 2003	Fiscal 2001	Fiscal 2002	Fiscal 2003	Fiscal 2001	Fiscal 2002	Fiscal 2003
Energy consumption (GJ*)	11,936,473	14,001,379	15,586,780	359,400	402,581	414,465	212,645	291,472	262,590
Electricity (MWh)	1,120,208	1,294,937	1,431,723	30,612	35,882	37,649	15,959	21,638	19,307
City gas (1,000 m ³)	10,026	18,064	22,986	952	831	700	1,329	1,878	1,739
LPG (t)	7,896	8,853	9,412	371	300	300	3	3	0
Heavy oil/kerosene (kL)	8,586	6,179	6,604	0	0	0	0	0	0
CO ₂ emission (t-CO ₂)	492,700	613,391	666,014	24,992	28,244	27,731	10,027	14,254	12,695

	Asia/Oceania			China			Total		
	Fiscal 2001	Fiscal 2002	Fiscal 2003	Fiscal 2001	Fiscal 2002	Fiscal 2003	Fiscal 2001	Fiscal 2002	Fiscal 2003
Energy consumption (GJ*)	1,137,508	1,119,659	1,144,104	457,529	518,891	616,307	14,103,555	16,333,982	18,024,246
Electricity (MWh)	99,499	99,652	100,795	45,904	52,099	59,179	1,312,182	1,504,208	1,648,653
City gas (1,000 m ³)	0	0	0	51	55	51	12,358	20,828	25,476
LPG (t)	2,172	2,030	2,333	0	0	474	10,442	11,186	12,519
Heavy oil/kerosene (kL)	1,363	1,026	970	114	123	239	10,063	7,328	7,813
CO ₂ emission (t-CO ₂)	74,554	74,452	73,372	45,512	51,629	61,769	647,785	781,970	841,581

*GJ=10⁹J

Amount of Waste by Category (production sites in Japan)

(unit: ton)

Category	Amount generated			Amount recycled			Amount to landfill		
	Fiscal 2001	Fiscal 2002	Fiscal 2003	Fiscal 2001	Fiscal 2002	Fiscal 2003	Fiscal 2001	Fiscal 2002	Fiscal 2003
Waste alkaline	104,013	123,564	135,162	99,116	112,536	117,154	4.0	0.5	1.0
Waste oil	13,319	15,175	14,797	12,849	14,672	14,379	0.5	0.7	0.5
Inorganic sludge	3,685	4,284	5,111	3,670	4,269	5,103	6.3	2.4	0.4
Waste fluid	3,203	2,462	3,304	3,165	2,426	3,263	9.3	0.3	0.1
Waste paper	3,110	3,475	3,428	2,669	3,087	3,006	18.3	7.3	7.2
Waste glass	1,628	1,794	2,185	1,598	1,787	2,172	27.9	7.4	8.5
Scrap metal	1,093	986	910	1,093	983	910	0.0	0.0	0.0
Waste plastic	1,380	1,441	1,561	1,043	1,204	1,385	82.0	34.4	24.7
Others	4,195	4,130	4,717	3,304	3,569	4,583	9.0	37.7	43.6
Total	135,626	157,311	171,175	128,507	144,533	151,955	157.3	90.7	86.0

Atmosphere / Water Quality Measurements

(production sites in Japan)

(unit: ton)

		Fiscal 2001	Fiscal 2002	Fiscal 2003
Amount of air pollutants emitted	SOx	9.2	4.1	1.7
	NOx	26.8	26.5	61.2
Water quality measurements	COD	19.8	22.7	26.3
	Nitrogen	117.5	163.8	174.8
	Phosphorus	2.6	1.9	2.4

Performance Data

Chemical Substances Management

PRTR Totalization of All Sharp Corporation Production Sites in Japan in Fiscal 2003

Figures are for substances of which at least 500 kg was handled.

(unit: kg)

PRTR No.	Chemical	Amount handled	Amount emitted			Amount transported		Amount consumed	Amount removed	Amount recycled
			Into atmosphere	Into public waterways	Into soil/landfill	Into sewage	To off-site			
16	2-Aminoethanol	3,316,354	2,141	0	0	0	44,890	0	297,965	2,971,358
40	Ethylbenzene	2,357	74	0	0	0	978	0	1,306	0
43	Ethylene glycol	756	3	0	0	0	702	0	51	0
63	Xylene	10,741	552	0	0	0	4,553	0	5,636	0
64	Silver and its water-soluble compounds	22,239	0	0	0	0	1,177	20,747	0	315
85	Chlorodifluoromethane: HCFC-22	794	111	0	0	0	0	683	0	0
101	2-Ethoxyethyl acetate	4,377	2,707	0	0	0	1,670	0	0	0
172	N, N-dimethylformamide:DMF	54,855	13	0	0	0	5,369	0	49,473	0
224	1, 3, 5-Trimethylbenzene	8,171	576	0	0	0	5,778	0	1,818	0
230	Lead and its compounds	4,752	0	0	0	0	230	4,522	0	0
252	Arsenic and its inorganic compounds	2,266	0	0	0	0	1,262	108	0	896
260	Pyrocatechol	6,941	0	0	0	0	6,878	0	63	0
266	Phenol	12,252	2,289	0	0	0	9,963	0	0	0
283	Hydrogen fluoride and its water-soluble salts	456,583	22	12,059	0	2,596	28,311	0	301,375	112,219
304	Boron and its compounds	607	0	0	0	0	551	43	9	2
311	Manganese and its compounds	892	0	0	0	0	16	863	13	0
346	Molybdenum and its compounds	1,940	0	0	0	0	912	70	666	290
	Total	3,906,877	8,488	12,059	0	2,596	113,240	27,036	658,375	3,085,080

Note: Because numbers are rounded off, some figures may not be consistent.

Amount of Chemicals Released and Transferred Based on a Sharp International Standard in Fiscal 2003

Sharp has created a list of 204 chemicals* whose handling and transfer is to be controlled. These chemicals include PRTR substances that are recognized in all countries, greenhouse gases, ozone layer depleting substances, and substances covered under our company's "Green Purchasing Guidelines." The tables below show the calculations for substances of which at least 250 kg was handled per Sharp Group business site in fiscal 2003.

* Chemicals (number of substances): Specified bromine-based flame retardants (2), CFCs (15), halons (37), HCFCs (37), HFCs (13), PFCs (7), PCBs (3), agrichemicals (3), chlorine-based organic solvents (20), chlorobenzenes (3), ester phthalates (4), aromatic organic solvents (14), other organic solvents (27), heavy metals (12), other non-organic compounds (7)

Americas

(unit: kg)

	Amount handled	Amount emitted			Amount transported		Amount consumed	Amount removed	Amount recycled
		Into atmosphere	Into public waterways	Into soil/landfill	Into sewage	To off-site			
Lead and its compounds	1,500	0	0	0	0	0	1,500	0	0

Europe

	Amount handled	Amount emitted			Amount transported		Amount consumed	Amount removed	Amount recycled
		Into atmosphere	Into public waterways	Into soil/landfill	Into sewage	To off-site			
Lead and its compounds	2,064	0	0	0	0	0	1,758	0	306

Asia

	Amount handled	Amount emitted			Amount transported		Amount consumed	Amount removed	Amount recycled
		Into atmosphere	Into public waterways	Into soil/landfill	Into sewage	To off-site			
Chlorodifluoromethane: HCFC-22	244,116	1,221	0	0	0	0	242,895	0	0
Pentafluoroethane (HFC-125)	16,999	510	0	0	0	0	16,489	0	0
1,1,1,2-Tetrafluoroethane (HFC-134a)	33,011	165	0	0	0	0	32,846	0	0
Difluoromethane (HFC-32)	16,999	510	0	0	0	0	16,489	0	0
Methyl ethyl ketone	1,666	498	0	0	0	0	1,168	0	0
Lead and its compounds	147,044	0	0	0	0	0	96,920	0	50,124

China

	Amount handled	Amount emitted			Amount transported		Amount consumed	Amount removed	Amount recycled
		Into atmosphere	Into public waterways	Into soil/ landfill	Into sewage	To off-site			
Chlorodifluoromethane: HCFC-22	108,200	649	0	0	0	0	107,551	0	0
Pentafluoroethane (HFC-125)	19,125	555	0	0	0	0	18,570	0	0
1,1,1,2-Tetrafluoroethane (HFC-134a)	24,000	96	0	0	0	0	23,904	0	0
Difluoromethane (HFC-32)	19,125	555	0	0	0	0	18,570	0	0
Methanol	462	462	0	0	0	0	0	0	0

Water Resources (water supplied)

(unit: m³)

	Japan			Americas			Europe		
	Fiscal 2001	Fiscal 2002	Fiscal 2003	Fiscal 2001	Fiscal 2002	Fiscal 2003	Fiscal 2001	Fiscal 2002	Fiscal 2003
Total amount consumed	10,573,715	11,895,735	11,976,319	203,828	190,072	123,284	22,020	19,580	28,867
Municipal water	3,371,337	4,085,519	4,284,929	171,778	190,072	123,284	21,399	18,971	28,867
Industrial water	5,659,422	6,348,668	6,672,640	0	0	0	621	609	0
Groundwater	1,542,956	1,461,548	1,018,750	32,050	0	0	0	0	0

	Asia/Oceania			China			Total		
	Fiscal 2001	Fiscal 2002	Fiscal 2003	Fiscal 2001	Fiscal 2002	Fiscal 2003	Fiscal 2001	Fiscal 2002	Fiscal 2003
Total amount consumed	465,420	638,181	706,070	848,246	620,395	697,376	12,113,229	13,363,963	13,531,916
Municipal water	287,997	460,306	602,896	719,051	498,663	697,376	4,571,562	5,253,531	5,737,352
Industrial water	99,127	98,965	62,350	129,195	121,732	0	5,888,365	6,569,974	6,734,990
Groundwater	78,296	78,910	40,824	0	0	0	1,653,302	1,540,458	1,059,574

Number of Environmental Label Products in Fiscal 2003

(unit: no. of model type)

International Energy Star Program*1								
PCs	Monitors	Facsimiles	Air conditioners	Copiers	Printers	TVs	LCD TVs	Audio
99	33	3	6	54	2	50	21	2

Canada Environmental Choice Program		Nordic Environmental Label*2		PC Green Label*3	Eco Mark*4		GEEA Label*5	Hong Kong Energy-Saving Label
Copiers	Printers	Copiers	Printers	PCs	Copiers	Calculators	LCD TVs	Refrigerators
16	1	10	1	99	15	7	8	1

Hong Kong*6	Thai Energy Label	Thai Green Label	Australia Energy Label		Turkey Energy Label	Venezuela Energy Label	Philippines Energy Label	
Copiers	Refrigerators	Refrigerators	Air conditioners	Refrigerators	Refrigerators	Refrigerators	Air conditioners	Refrigerators
9	2	2	2	3	4	5	6	2

Europe Energy Label		Israel Energy Label	Taiwan Green Mark	Energy-Saving Label*7
Air conditioners	Refrigerators	Refrigerators	Copiers	Refrigerators
8	5	3	9	4

- *1: Target countries: Japan, United States, EU nations, etc.
 *2: Target countries: Sweden, Finland, Norway, Iceland, Denmark
 *3: Target country: Japan
 *4: Target country: Japan
 *5: Target countries: EU nations
 *6: The Hong Kong Voluntary Energy Efficiency Labelling Scheme
 *7: Target country: China

Number of Products Meeting Energy Saving Standards in Fiscal 2003

(unit: no. of model type)

Products Meeting Energy Saving Standards						
TVs	VCRs/TVs	LCD TVs	Copiers	PCs	Air conditioners	Refrigerators
2	6	26	54	99	86	24

Performance Data

Recycling Used Products

Business-Use PCs Recycled in Fiscal 2003

	Amount collected (kg)	No. of collected units	Amount recycled (kg)	Recycling rate (%)
Notebook PCs	122	42	70.3	57.6
Desktop PCs	368	127	254.7	69.2
CRT monitors	1,475	121	1,203.8	81.6
LCD monitors	184	36	131.2	71.3
Total	2,149	326	1,660.0	77.2

Home-Use PCs Recycled in Fiscal 2003

	Amount collected (kg)	No. of collected units	Amount recycled (kg)	Recycling rate (%)
Notebook PCs	1,140	393	778.3	68.3
Desktop PCs	1,520	150	1,203.1	79.2
CRT monitors	3,511	288	3,151.8	89.8
LCD monitors	388	76	274.3	70.7
Total	6,559	907	5,407.5	82.4

Recycling of 4 Categories of Home Appliances in Fiscal 2003

1. Recycling Status of Specified Kinds of Home Appliances

	Unit	Air conditioners	TVs	Refrigerators	Washing machines	Total
Recycling rate	%	84	84	65	66	73
Legally required recycling rates	%	60	55	50	50	—
Collected units	unit	156,489	377,437	276,609	351,888	1,162,423
Processed units*	unit	156,225	376,299	275,225	351,888	1,159,637
Processed tonnage*	t	6,708	9,848	15,411	10,458	42,425
Recycled tonnage	t	5,651	8,278	10,080	6,928	30,937

* "Processed units" and "processed tonnage" refer to the total number of units and tonnage of appliances in categories specified by law which underwent processes necessary for recycling in fiscal 2003.

2. Tonnage of Recycled Materials

(Unit: ton)

	Air conditioners	TVs	Refrigerators	Washing machines	Total
Iron	1,737	713	6,560	4,009	13,019
Copper	370	396	109	100	975
Aluminum	36	10	46	35	127
Ferrous/nonferrous compounds	3,171	44	2,160	1,758	7,133
CRT glass	—	6,054	—	—	6,054
Other valuable material	311	994	1,162	775	3,242
Total tonnage	5,625	8,211	10,037	6,677	30,550

3. Total Amount of Collected Refrigerants

(Unit: kg)

	Air conditioners	TVs	Refrigerators	Washing machines	Total
Total amount of collected refrigerants	82,074	—	28,608	—	110,682

Total Sharp Group* Employees

(Unit: persons)

	Fiscal 2001		Fiscal 2002		Fiscal 2003	
		% by region		% by region		% by region
Japan	31,309	54.8%	31,001	55.6%	30,712	56.5%
Americas	3,519	6.2%	3,080	5.5%	2,773	5.1%
Europe	2,661	4.7%	2,596	4.7%	2,649	4.9%
Asia	19,350	33.9%	18,778	33.7%	17,934	33.0%
Others	321	0.6%	305	0.5%	325	0.6%
Overseas total	25,851	45.2%	24,759	44.4%	23,681	43.5%
Total	57,160		55,760		54,393	
Employees of Sharp Corporation and consolidated companies						
Japan	30,010	64.5%	29,662	63.6%	29,372	63.6%
Overseas total	16,508	35.5%	16,971	36.4%	16,792	36.4%
Total	46,518		46,633		46,164	

* Sharp Group: Sharp Corporation, consolidated subsidiaries and other affiliated companies
Consolidated: Sharp Corporation and consolidated subsidiaries. Each fiscal year ended March 31.

Personnel Structure of Sharp Group in Japan

(Sharp Corporation and Consolidated Subsidiaries) (Unit: persons)

	Male	Female	Total
Sharp Corporation directors and auditors	30	—	30
Employees	Managers	400	14,115
	Sub-managers	13,715	400
	General staff	13,345	1,912
Total	27,060	2,312	29,372
Total	27,090	2,312	29,402
Ratio (%)	92.1	7.9	100.0

As of March 31, 2004

Comparison Chart for GRI (Global Reporting Initiative) Guidelines

Item in GRI Sustainability Reporting Guidelines 2002	Page	Item in GRI Sustainability Reporting Guidelines 2002	Page	Item in GRI Sustainability Reporting Guidelines 2002	Page
1 Vision and Strategy		4 GRI Content Index		4 GRI Content Index	
1.1 1.2	3,4	4.1	78	Diversity and opportunity	LA10 64
2 Profile		5 Performance Indicators		Diversity and opportunity	LA11 77
2.1	1,80	Environmental Performance Indicators		Training and education	LA16 LA17 64
2.2 2.3 2.6	80	Materials		Human rights strategy & management	HR1 63
2.4 2.5	73	Materials	EN1 35,36	Human rights strategy & management	HR8 63
2.8	71,72,77,80	Materials	EN2 35,36,41	Non-discrimination	HR4 63
2.10 2.11 2.12 2.13	1	Energy	EN3 35,36,74	Freedom of association & collective bargaining	HR5 63
2.18	33,34,38,44,52,54	Energy	EN17 12,45,46	Child labor	HR6 63
2.20	29,30,31,79	Water	EN5 35,74	Forced & compulsory labor	HR7 63
2.21	79	Water	EN22 48	Disciplinary practices	HR9 HR10 58
2.22	67	Emissions, effluents and waste	EN8 35,36,45,74	Bribery and corruption	SO2 58
3 Governance Structure and Management Systems		Emissions, effluents and waste	EN10 35,74	Political contributions	SO3 58
3.1	29,31,57,58,62	Emissions, effluents and waste	EN11 47,74	Local community	SO4 78
3.4	29,58	Emissions, effluents and waste	EN12 35,48	Customer health and safety	PR1 59,61
3.6	29,31,58	Products and services	EN4 14,16,18,40	Customer health and safety	PR6 78
3.7	4,5,25,26,57	Products and services	EN15 36,41,77	Products and services	PR2 59,60,61
3.10	22,63,65,67	Compliance	EN16 31	Products and services	PR8 60
3.11	22,67	Transport	EN34 36,51	Respect for privacy	PR3 62
3.12	22,60	Overall	EN35 33,34,38,44,52,54	Economic Performance Indicators	
3.13	29,30,31,32,58	Social Performance Indicators		Customers	EC1 71
3.16	22,39,57,63	Employment	LA1 LA2 77	Customers	EC2 72
3.19	27,28,30,31,32,57,58	Employment	LA12 64,69	Public sector	EC10 69,70
3.20	73	Labor/management relations	LA4 63		
		Health and safety	LA5 LA6 65		

History

Environmental Activities Over the Years in Japan

Year	Activities
1971	● Establishes the Environmental Technology Center
1979	● Establishes the First Synthetic Energy Committee
1987	● Establishes the CFC Regulation Countermeasure Committee
1991	● Appoints the Corporate Director for Environmental Management ● Establishes the Environmental Activities Promotion Department
1992	● Enacts the Sharp Environmental Charter and Basic Environmental Conservation Guidelines
1993	● Establishes the First Environmental Strategy Conference ● Announces the Voluntary Plan on Environment ● Begins registration of persons in charge of environmental conservation for overseas operations
1994	● Phases out ozone-depleting chemicals in the cleansing process of all operations ● Phases out vinyl chloride in all packaging ● Establishes the C-PA (Chemical Product Assessment) system
1995	● Revises the Product Assessment Guidelines
1996	● Achieves the Waste Reduction Voluntary Plan goal ● Starts an all-company effort to create Green Products
1997	● Completes ISO 14001 certification acquisition at all Japanese production sites ● Conducts a Global Environmental Conference ● Establishes the Environmental Protection Group

Year	Activities
1998	● Begins the environmental 3G-1R strategy ● Green Products Guidelines published ● Sharp Green Seal system introduced ● Green Mind Campaign started
1999	● Environmental Report published ● Kansai Recycle Systems Corporation established ● Trial introduction of the environmental accounting system
2000	● All Japanese sites introduce the Green Purchasing System ● Introduces environmental accounting system ● Launches environmental solutions business ● Establishes company-wide chemical substance management committee ● Issues Green Factory Guidelines
2001	● Launches Green Engineering training ● Starts Super Green Initiatives ● Acquisition of ISO 14001 integrated certificate at major bases of all domestic sales and service companies
2002	● Achieves zero discharge to landfill at all Japanese production sites ● Establishes environmental compliance committee
2003	● Puts closed loop plastic material recycling technology to practical use ● Establishes Sharp Green Club ● Starts Super Green Strategy

Awards

Sites

Year / Month	Sites and Awards
2000. 2	All Sharp ■ Special Corporate Award, Energy Conservation Awards
2001. 4	TFT LCD Group, Mie, Japan ■ Promotion Prize, 3rd Japan Water Award
2001. 10	West Japan Logistics Center ■ 2nd Railway Freight Promotion Award
2002. 10	AVC Liquid Crystal Display Group/Mobile Liquid Crystal Display Group ■ Reduce, Reuse, Recycle Promotion Achievement Award; Chairman's Prize from Recycling Promotion Association
2002. 10	Appliance Systems Group ■ Reduce, Reuse, Recycle Promotion Achievement Award; Chairman's Prize from Recycling Promotion Association
2003. 5	SMCA, Tennessee, US ■ Industrial Water Quality Achievement Award
2003. 6	Sharp Corporation, Japan ■ Third Prize, 6th Green Reporting Award
2004. 2	Sharp Corporation, Japan ■ Education, Culture, Sports, Science and Technology Minister's Prize; 13th Global Environment Award
2004. 2	Mie Site ■ Chubu Bureau of Economy, Trade and Industry Director's Prize; Tokai Area Commendation; 2003 Energy Conservation Month
2004. 2	Fukuyama Site ■ Chugoku Bureau of Economy, Trade and Industry Director's Prize; Chugoku Area Commendation; 2003 Energy Conservation Month
2004. 4	Sharp Corporation, Japan ■ Third Prize, 7th Green Reporting Award

Products

Year / Month	Products and Awards
2000. 1	Refrigerator [made at Shanghai Sharp Electronics Co., Ltd. (SSEC)] ■ Ozone Protection Award from China's Environmental Protection Agency
2000. 2	20-Inch LCD TV ■ Energy Conservation Center Chairman's Prize, 1999 Energy Conservation Awards
2000. 2	Refrigerator ■ Energy Conservation Center Chairman's Prize, 1999 Energy Conservation Awards
2000. 2	Environment-Friendly Housing Complexes Equipped with Photovoltaic Power Generation System ■ International Trade and Industry Minister's Prize, 1999 New Energy Awards
2000. 11	Non-Volatile Memory Cell Read-Out Circuit Logic ■ 2000 Kinki Regional Invention Prize
2001. 2	Refrigerator ■ Energy Conservation Center Chairman's Prize, 2000 Energy Conservation Awards
2001. 2	Residential Photovoltaic Power Generation System ■ New Energy Foundation Chairman's Prize, 2000 New Energy Awards
2001. 2	Photovoltaic Power Generation System at Nippon Institute of Technology ■ New Energy Foundation Chairman's Prize, 2000 New Energy Awards
2002. 2	Apartment Equipped with High-Density Photovoltaic Power Generation System ■ Economy, Trade and Industry Minister's Prize, 2001 New Energy Awards
2002. 2	Residential Photovoltaic Power Generation System for Hipped Roof ■ New Energy Foundation Chairman's Prize, 2001 New Energy Awards
2002. 2	Microwave Oven (RE-VC1) ■ Energy Conservation Center Chairman's Prize, 2001 Energy Conservation Awards
2004. 1	Digital Multifunctional System (AR-266) ■ Energy Conservation Center Chairman's Prize, 2003 Energy Conservation Awards

Corporate Profile

Name Sharp Corporation
 Head Office 22-22, Nagaike-cho, Abeno-ku, Osaka 545-8522, Japan
 Representative Katsuhiko Machida, President
 Establishment 1912
 Operations Manufacture and sales of audio-visual and communication equipment, home appliances, information equipment, LCDs, solar cells, ICs, etc.
 Capital Stock 204,675 million yen (any fractional sum of less than a million yen is discarded; as of March 31, 2004)

Net Sales Consolidated base: 2,257.2 billion yen
 Non-consolidated base: 1,804.9 billion yen
 (as of March 31, 2004)
 Operating Income Consolidated base: 121.6 billion yen
 Non-consolidated base: 97.9 billion yen
 (as of March 31, 2004)
 Number of Employees 46,164 (29,372 in Japan and 16,792 overseas)
 (as of March 31, 2004, including Sharp Corporation and consolidated subsidiaries)

See the following URL for a detailed corporate profile.
<http://sharp-world.com/corporate/info/index.html>

Main Products

Audio-visual and communication equipment



LCD color TVs, color TVs, TV/VCR combos, LCD projectors, digital broadcast receivers, DVD recorders, DVD players, LCD camcorders, VCRs, 1-bit digital audio products, MD players, CD portable stereos, CD component systems, MD pickups, facsimiles, telephones, mobile phones, PHS (Personal Handy-phone system) terminals

Home appliances



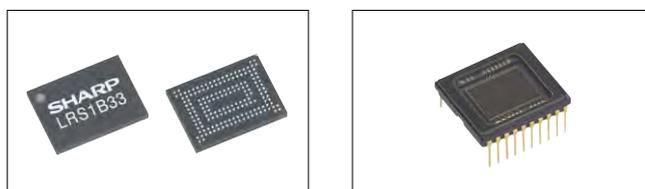
Refrigerators, microwave ovens, air conditioners, washing machines, drum-type washer/dryers, vacuum cleaners, kerosene heaters, electric heaters, home network control units, air purifiers, dehumidifiers, small cooking appliances

Information equipment



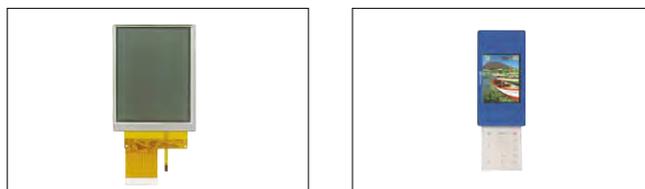
Personal computers, PDAs, electronic dictionaries, calculators, POS systems, handy data terminals, electronic cash registers, workstations, LCD color monitors, PC software, digital copier/printers, electrostatic copiers, PC peripherals including color scanners, supplies for copiers and printers, FA equipment, CAD systems, ultrasonic cleaners

ICs



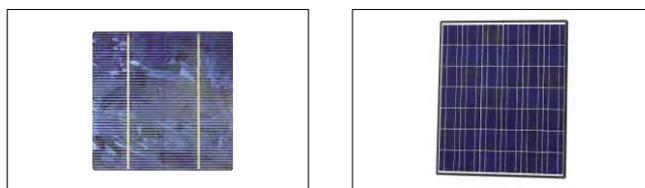
Flash memory, combination memory, CCD/CMOS imagers, LSIs for LCDs, analog ICs, microcomputers

LCDs



TFT LCD display modules, duty LCD display modules, system LCD display modules, EL display modules

Solar cells



Solar cells

Other electronic components



Electronic tuners, RF/infrared data communication units, network components, components for satellite broadcasting, laser diodes, hologram lasers, DVD pickups, optoelectronics, regulators, switching power supplies, LEDs

Next Environmental Report

Sharp has been publishing this Environmental Report every year since 1999. The next publication is scheduled for June 2005.

For inquiries on this report please contact: Environmental Protection Group, Sharp Corporation
1-9-2, Nakase, Mihama-ku, Chiba 261-8520, Japan
Phone: 81-43-299-8260 Fax: 81-43-299-8195 E-mail: eco@sharp.co.jp



Environmental Report 2004

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- Printed on 100% recycled paper
- Printed with VOC (volatile organic compound)-free ink.

We'd like to hear your comments about this Environmental Report.

We do our utmost to report our activities to as many people as possible, in the process improving the quality of these activities through dialog with our customers and society.

We would like to ask you to take a few minutes to fill in the questionnaire on the back of this sheet and fax it to us.

**Environmental Protection Group
Sharp Corporation**

1-9-2, Nakase, Mihama-ku, Chiba 261-8520, Japan Phone: 81-43-299-8260 Fax: 81-43-299-8195 E-mail: eco@sharp.co.jp

Replies to the Questionnaire in Our 2003 Environmental Report

We sincerely thank all of you who filled in last year's questionnaire. Your replies and valuable opinions are summarized below, along with our subsequent improvements in response to reader comments.

Overall Evaluation

1. Good Points

- (1) There were many diagrams and photographs, and the report divided business activities into seven stages, making it easy to understand and follow.
- (2) Many readers were impressed with how the report looked at products from a variety of standpoints, showing that they were very interested in the actual making of products.
- (3) The report had many clear and easy-to-understand examples of the connection between objectives and achievements.

2. Points for Improvement

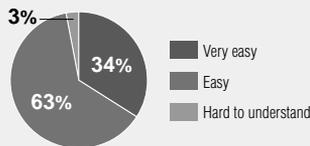
- (1) Some readers felt that there wasn't enough information on environmental conservation efforts at overseas sites.
 - (2) While some readers felt that performance figures made it easy to see how Sharp has improved environmental performance on a year-on-year basis, others said Sharp should compare its results with other companies, while others said that it's hard to determine whether these figures have a good or bad meaning.
 - (3) There were a lot of personal opinions expressing the desire to see a wider variety of information in future reports.
- Sharp will do its utmost to incorporate these suggestions into future reports.

3. Future Expectations for Sharp

- (1) There were many comments on the development and creation of environmentally conscious products, particularly LCD TVs and other LCD products, and solar power systems. This shows people's interest in and expectations for Sharp in these fields.
- (2) Many readers hope Sharp will continue to step up its environmental conservation efforts as a leader in the industry. Sharp will do its best to meet these high expectations with the utmost sincerity.

Reader Opinions and Improvements in the 2004 Environmental Report

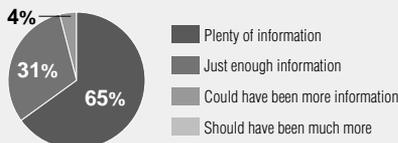
Q1 How easy to understand was this Environmental Report?



Reader Opinions and 2004 Improvements

- The many diagrams and photographs made it easy to understand.
 - Dividing objectives and achievements by theme made it easy to understand.
 - The report was organized so that the general public could understand.
 - The writing style was monotonous. The report should focus on certain points or on the essence so that readers can get an understanding without having to carefully read everything.
- To give some variety to the report, we included sections like Special Story and Highlights in order to focus on the unique aspects of Sharp's environmental conservation activities.
- Although there were a sufficient number of items and data, the first part of the report should include overall environmental data in an easy-to-understand way.
- We tried to give an easy-to-understand explanation with a flow chart on the relationship between business activities and the environment (mass balance).
- The report helped us understand Sharp's various activities and how much focus the company is placing on environmental problems.

Q2 How did you feel about the amount of information in this Environmental Report?



Satisfactory Points

- Explanation of environmentally conscious products
- Division of business activities into stages
- Many diagrams and photographs
- Objectives and achievements
- Plenty of performance data

Insufficiencies and 2004 Improvements

- Report focused on the good things Sharp is doing. In addition to auditing results, the report included the negative environmental effects of our business in the form of how we are progressing in efforts to purify soil and groundwater.
 - Need more on the Mind-Set Stage and Social Report sections.
- We increased the size of our Social Report section by four pages, adding information on CSR efforts and improved information security.
- There are no special reports.
- We added Special Story and Highlight sections.

Q3 What information about Sharp did you find most impressive in this Environmental Report?

(total number of respondents)		
A Message to People and the Earth	8	Manufacturing Stage 12 Recycle Stage 19
Business Summary	3	Logistics Stage 9
Sharp's Basic Environmental Policy	7	Mind-Set Stage 5 Social Report 12
Main Objectives and Achievements in Fiscal 2002	13	Environmental Data 5
Management Stage	12	Environmental History and Awards 0
Planning & Design Stage	25	Third-Party Opinion 3

Reasons

- Very interested about environmentally conscious products (Planning & Design).
- Very interested in energy-creating products (Planning & Design).
- Data figures were easy to understand (Main objectives and achievements in fiscal 2002).
- Sharp takes environmental conservation into consideration in all business activities.
- Sharp is deeply concerned about the environment right from the design stage (Planning & Design).

- Sharp is introducing advanced environmental management systems such as its S-EMS in order to continually improve its environmental performance (Management).
- Sharp activities contribute to society (Social Report).
- Sharp's board of directors is clearly committed to the environment (A Message to People and the Earth).

Q4 Please provide your comments on this Environmental Report or on Sharp's environmental activities.

- Sharp should publicize its environmental conservation efforts more.
 - There should be more sections like "A word from product developers". This would put a face on the products and create more trust and familiarity between Sharp and the general public.
- In the Highlight section, we included comments from Sharp employees and customers on a number of themes.
- Could see that all of Sharp is working together on environmental conservation.
 - Would like to see more themes in the Social Report section.
 - A variety of areas were covered. The image of Sharp as a technology leader leaves a positive impression.

Q5 What do you expect from Sharp's future activities?

Reader Opinions

- Development and spread of environmentally conscious products, LCD TVs and other LCD products, and solar power systems.
- Sharp should set an example as a global company that gets people thinking about the environment.
- I hope Sharp will keep up its efforts so that when people think of environmental conservation, they will think of Sharp.
- Sharp should continue to pursue the creation of new markets as a one-of-a-kind company.

Please fill in the following questionnaire and fax it to:

FAX

Environmental Protection Group, Sharp Corporation +81-43-299-8195

Q1 How easy to understand was this Environmental Report?

(1) Very easy (2) Easy (3) Hard to understand (4) Extremely hard to understand

Please explain

Q2 How did you feel about the amount of information in this Environmental Report?

(1) There was plenty of information (2) There was just enough information (3) There could have been more
(4) There should have been much more

There was sufficient information on the following topics

There should have been information on the following topics

Q3 What information about Sharp did you find most impressive in this Environmental Report?

(1) A Message to People and the Earth (2) Sincerity and Creativity—The Wellspring that Underlies Sharp
(3) Special Report (4) Highlights (5) Environmental Vision (6) Environmental Sustainability Management
(7) Efforts Related to Product Lifecycle: Planning & Design (8) Efforts Related to Product Lifecycle: Manufacturing
(9) Efforts Related to Product Lifecycle: Logistics & Packaging (10) Efforts Related to Product Lifecycle: Recycling
(11) Social Report (12) Economical Report (13) Performance Data

Please explain why

Q4 Please provide your comments on this Environmental Report or on Sharp's environmental activities.

Q5 What do you expect from Sharp's future activities?

Q6 Which of the following would best describe you?

(1) Shareholder, investor (2) Product user (3) Someone who does business with Sharp (4) Environmental expert
(5) Person in charge of environmental matters at your company (6) Environmental NGO member (7) Member of government,
civil servant (8) Media member (9) Student (10) Resident living near a Sharp site (11) Other ()

Q7 How did you hear about this Environmental Report?

(1) Sharp website (2) Other website () (3) Newspaper article () (4) Magazine article ()
(5) Seminar () (6) Exhibition () (7) Sharp employee (8) Others ()

Q8 Please write any other comments, suggestions or wishes here.

Thank you for your cooperation. Please fill in the following information.

Name	Name of company (department) or school	
Address (home or office)	Job title	
Phone and fax number, e-mail address	Sex <input type="checkbox"/> Male <input type="checkbox"/> Female	Age