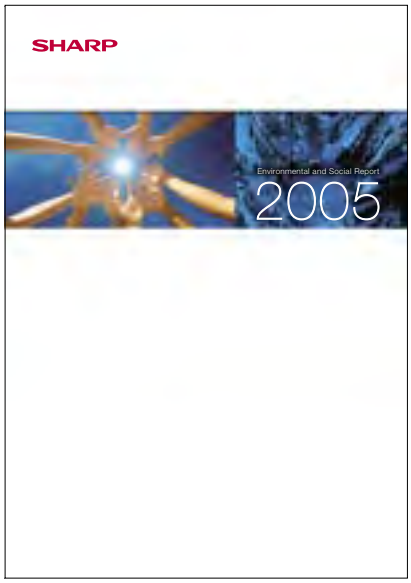
SHARP

Environmental and Social Report 2005



About the Cover

Reach for the Sun!
All life on earth is born and lives thanks to the gift of light from the sun. Today, however, human beings are destroying the earth's environment and putting the very existence of countless irreplaceable life forms in danger. The human race must pool its wisdom to solve this problem. Sharp must protect our beautiful earth by making use of the clean energy that radiates from the sun. It was with feelings such as these that we designed the cover of this report.

On the right is an enlarged, retouched photo of a Sharp polycrystalline silicon solar cell.

Compiling This Report

From "Environmental Report" to "Environmental and Social Report"
Sharp has published an Environmental Report every year since 1999. This year's edition contains expanded coverage of the social aspects of Sharp's business activities. The title has therefore been changed to "Environmental and Social Report."

This Environmental and Social Report consists of three sections: Special Feature, Sharp and the Environment, and Sharp and Society.

The first section is a special feature that examines three topics that are priority business areas for Sharp: photovoltaic power generation, LCDs, and environment- and health-conscious home appliances. The report describes how Sharp strives for technological development, and the past, present and future of their manufacturing and social aspects. The "Sharp and the Environment" section covers Sharp's environmental efforts focusing on policies, objectives and achievements. "Sharp and Society" is divided into chapters for each stakeholder, that is, customers, shareholders, investors, business partners, employees and the community, and it outlines Sharp's efforts in each of these areas.

Note: This report provides only a summary of the economic aspects of Sharp's business activities. For details, please see Sharp's Annual Report 2005.

A Commitment to Following the PDCA Cycle
Sharp's environmental reports are committed to following the PDCA cycle (plan, do, check, act). In future editions, Sharp will further improve on this point.

Links between This Report and Sharp's Web Site
This report has been edited with focus on the main points to facilitate an understanding of the full picture of the Sharp Group's environmental and social activities. Actual examples and detailed data can be found on Sharp's Web site (http://sharp-world.com/corporate/eco/report). Items that are covered on the Web site display this icon WEB after the text of the report. The last page of this report lists the items covered on the Web site.

Period Covered: Fiscal 2004 (April 2004 to March 2005)
However, some actual results prior to this period, as well as subsequent plans, goals and policies will also be included.

Coverage: Environmental, social and economic aspects of Sharp Corporation along with its domestic and overseas subsidiaries and affiliates.

Organizations Covered: Sharp Corporation along with its domestic and overseas subsidiaries and affiliates.
Note that the scope of environmental performance data contained in this report is as follows:

Sites (companies) covered by Environmental Performance Data
Sharp Corporation and consolidated subsidiaries. Note that the category "production sites (companies)" includes non-consolidated subsidiaries and affiliated companies, while "non-production sites (companies)" exclude those with less than 30 employees.

Production sites (companies)	38 (16 domestic, 22 overseas)
Non-production sites (companies)	31 (10 domestic, 21 overseas)

Referenced Guidelines:
- *Environmental Reporting Guidelines (Fiscal Year 2003 Version),* Ministry of the Environment, Japan
- *Sustainability Reporting Guidelines 2002 (Japanese),* Global Reporting Initiative (GRI)
- *Environmental Accounting Guidelines 2005,* Ministry of the Environment, Japan
- *Environmental Performance Indicators for Business (Fiscal Year 2002 Version),* Ministry of the Environment, Japan

Scheduled publication date for next report: July 2006 (published annually since 1999)

Future Forecasts, Plans and Goals
This report describes the past and present situation of the Sharp Group, as well as future forecasts, plans and goals. Sharp will make its best effort to ensure that these forecasts, plans and goals are reached. However, please note that they are assumptions and judgments based on information available at the time this report was written, and incorporate a degree of uncertainty. Consequently, there is a risk that events occurring in the future, such as the results of business activities, may turn out differently from the forecasts, plans and goals noted in this report. Sharp asks the kind understanding of the reader in this matter.

For inquiries on this report please contact the following groups of Sharp Corporation
Environmental Protection Group Tel: +81-6-6625-0438 Fax: +81-6-6625-0153
CSR Promotion Department Tel: +81-6-6625-1167 Fax: +81-6-6625-1274
22-22 Nagaike-cho, Abeno-ku, Osaka 545-8522, Japan
E-mail: eco-info@sharp.co.jp

WEB Information posted on the Web site
http://sharp-world.com/corporate/eco/report
- Sites (companies) covered by the environmental performance data
- GRI content index

Sharp Contributes to Society Through "Sincerity and Creativity"

Sharp Corporation began in 1912 when founder Tokuji Hayakawa started a metalworking shop in downtown Tokyo. Hayakawa's company came out with a number of original products, including the Ever-Sharp Pencil, the origin of the company name, and Japan's first radio and TV. Hayakawa's favorite saying was "Make products that others want to imitate." This meant a company should be the first to come out with never-before-seen products that meet the needs of the next generation. His wish was to contribute to society by building on originality to create products that bring people happiness.

In 1973, we put Hayakawa's spirit into our business philosophy and business creed. Our business philosophy states the kind of company we aim to be, while the business creed states that we must always follow a belief of "Sincerity and Creativity" in order to achieve the goals of our business philosophy. The spirit embodied in our business philosophy and business creed has been carried on by generations of Sharp leaders to this very day, as we seek to be original in all that we do, carrying out a corporate strategy that brings prosperity for both Sharp and all its stakeholders.

Recent years have seen a focus on the concept of CSR* as companies make social responsibility a key part of their management. Sharp's business philosophy and business creed are the roots of the company's CSR and represent guiding principles passed on over the years.

* CSR : Corporate Social Responsibility

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.

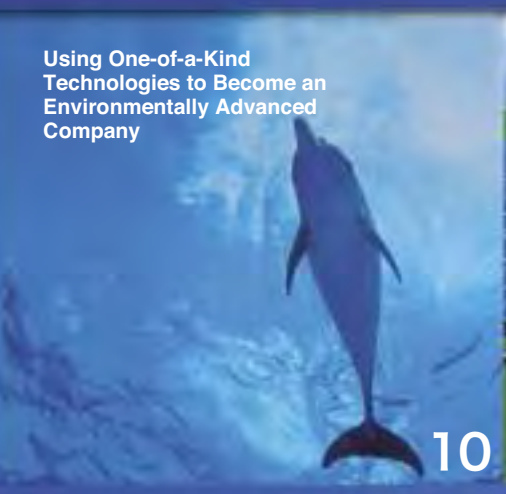
Politeness is a merit...
always be courteous and respectful.

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.

Sharp's decentralized photovoltaic power system in Noyon, Mongolia

Contents



Pursuing Sustainable Growth by Becoming a "Zero Global Warming Impact Company"

Katsuhiko Machida
President, Sharp Corporation

Sharp will achieve "zero global warming impact" by 2010.

As we entered 2005, the Kyoto Protocol went into effect in February, and Expo 2005 Aichi Japan began in March under the theme of "Nature's Wisdom." These events, which represent the full-fledged start of the "Era of the Environment," emanated from Japan to the world.

Global environmental problems, particularly global warming, is a critically important issue that can only be tackled by marshaling the collective wisdom of all humankind. I feel that Japanese companies, with their superior technological development, should play a major role in this effort.

In 2004, Sharp defined its corporate vision to be a company that has "zero global warming impact by 2010". This is a concept to limit to the greatest extent possible the amount of the greenhouse gas emissions resulting from Sharp's business activities around the world, while at the same time, significantly increasing reductions in greenhouse gas emissions based on the energy-creating effects of solar cells and the energy-saving effects of new products manufactured by Sharp. The idea is for the amount of greenhouse gas emissions reduced to exceed the amount emitted by fiscal 2010*1.

Sharp will pursue sustainable growth by further strengthening efforts toward the environment.

In addition to this corporate vision, Sharp is giving the highest priority to protecting the environment by setting a medium-term goal of becoming an "environmentally advanced company".

Specifically, Sharp will first accelerate its efforts to develop environmentally friendly technologies that contribute to protecting the global environment, and by applying the results of that development, create environmentally conscious products.

In fiscal 2004, production of energy-creating solar cells expanded significantly by 64% over the previous year, and Sharp remained the world leader in this field*2 for five years in a row. The number of "Green Seal" products*3 offering superior environmental performance also increased dramatically to 188 models, accounting for 74% of sales (compared to 145 models and approximately 54% of sales in the previous fiscal year). Among these, new AQUOS LCD TV models and new air purifiers cleared the strict new standards for Sharp's unique "Super Green Products"*3. Also, sales of "Green Devices"*3, for which the company began full-scale efforts in fiscal 2004, significantly exceeded our goal of 24% of total sales.

In the future, by further strengthening R&D on solar cells, improving their energy conversion efficiency, reducing their cost, and developing new products that will lead to new applications, Sharp will dramatically increase and broaden the use of photovoltaic power generation. In addition, for new products in all categories, particularly LCD TVs, refrigerators and air conditioners, Sharp will work for further improvement of environmental performance, in particular, delivering still higher levels of energy efficiency.

At the same time, Sharp is advancing efforts to minimize environmental impacts at its production

facilities by setting certification standards for Sharp's unique "Green Factories"*4 and "Super Green Factories"*4 based on 21 environmental performance evaluation parameters and strict evaluation standards.

In fiscal 2004, all of Sharp's production sites in Japan exceeded standards for Green Factories. And the Mie Plant was certified as a Super Green Factory as the first existing plant following the Kameyama site last year.

In the future, too, Sharp plans to expand production, focusing on energy-creating and energy-saving products, while continuing its efforts to reduce the environmental impact of its plants. The company plans to make all its production sites (companies) Green Factories by fiscal 2007, including those overseas.

Centered on these efforts, Sharp is pursuing to become an environmentally advanced company that achieves sustainable growth, allowing the company to expand its business while protecting the global environment.

Sharp will engage in management practices that aim for mutual prosperity with all stakeholders in every process of its business activities.

In 1973, Sharp clearly stated its attitude as a company, practiced and fostered since its founding, in the form of its business philosophy and business creed. The concept of contributing to society through making products, and by dedicating ourselves to the two principles of "Sincerity and Creativity" is what lies at the root of Sharp, and as a manufacturer, it forms the foundation of the corporate social responsibilities (CSR) Sharp is expected to fulfill.

When I assumed the presidency of Sharp in 1998, I set forth the concept of "one-of-a-kind management," embodying the idea of contributing to society by making products the world has never before seen, that no one else has made.

Since then, by manufacturing built on our proprietary technologies, Sharp has offered innovative new products and lifestyles, and has put into effect management practices that aim for the prosperity of everyone the company works with (stakeholders) in every process of its business activities.

This year's report contains expanded content on social issues. The title has accordingly been changed from "Environmental Report" to "Environmental and Social Report." By reading it together with our Annual Report, it is my hope that readers will gain an overall understanding of our business activities, covering the environmental, societal and economic aspects of the Sharp Group.

We look forward to hearing your candid opinions.

June 2005

For details, please see the following pages:

*1: p. 32 *2: p. 12 *3: p. 43, 44 *4: p. 45, 46

*3 *4: Sharp certifies its products, devices and factories as "Green Seal," "Green" or "Super Green" based on proprietary assessment criteria and certification standards.

A Fusion of Products and Electronic Components

Sharp's business activities comprise "Consumer/Information Products" that supply consumer electronics and information products, and "Electronic Components" that provide the key components of electronic products.

By undertaking the development of both key devices based on proprietary technologies and their application products, Sharp aims to inspire and impress customers by bringing forth never-before-seen one-of-a-kind products and devices, and by pioneering new markets.

Corporate Profile

Name	Sharp Corporation
Head Office	22-22, Nagaike-cho, Abeno-ku, Osaka 545-8522, Japan
Representative	Katsuhiko Machida, President
Founded	1912
Operations	Manufacture and sales of audio/video, communication and information equipment, home appliances, LCDs, solar cells, ICs, etc.
Capital Stock	204,675 million yen (any fractional sum of less than a million yen is discarded)
Number of Employees*	46,751 (29,437 in Japan; 17,314 overseas)

As of March 31, 2005.
* Sharp Corporation and its consolidated subsidiaries

Main Products

Audio/video and communication equipment

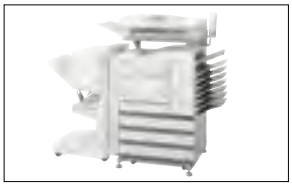

LCD* color TVs, color TVs, TV/VCR combos, LCD projectors, digital broadcast receivers, DVD recorders, DVD players, VCRs, 1-Bit digital audio products, MD players, portable CD stereo systems, CD component systems, fax machines, phones, mobile phones

* LCD: liquid crystal display

Home appliances

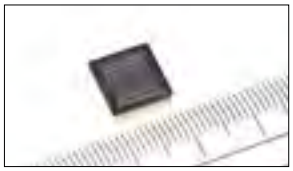

Refrigerators, Water Ovens (superheated steam ovens), microwave ovens, air conditioners, washing machines, drum-type washer/dryers, vacuum cleaners, kerosene heaters, electric heaters, home network control units, air purifiers, dehumidifiers, small cooking appliances, dishwashers, kitchen waste composters

Information equipment

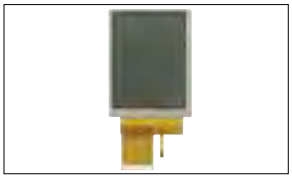
PCs, PDAs, electronic dictionaries, calculators, POS systems, handy data terminals, electronic cash registers, workstations, LCD color monitors, PC software, digital copier/printers, electrostatic copiers, PC peripherals including color scanners, supplies for copiers and printers, FA equipment, CAD systems,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

ICs

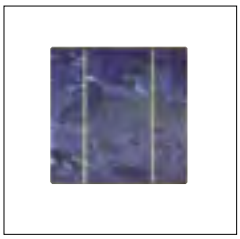
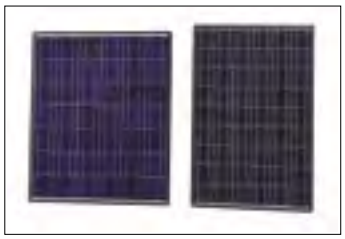
Flash memory, combination memory, CCD/CMOS imagers, LSIs for LCD, analog ICs, microcomputers

LCDs




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

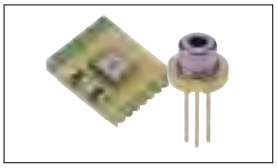
Solar cells

Solar cells, photovoltaic modules

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



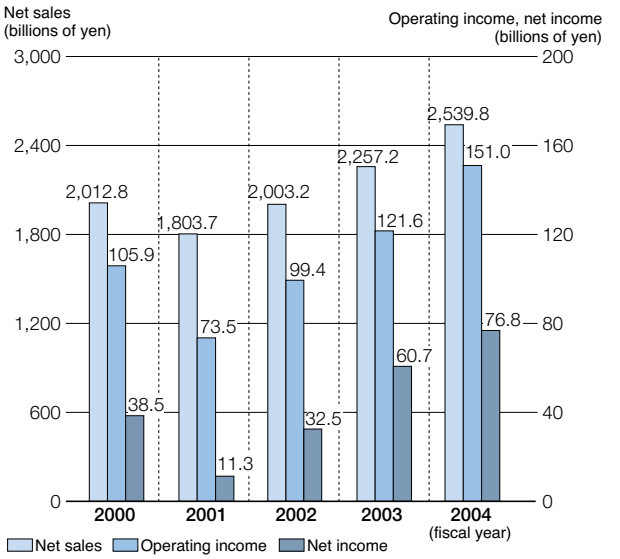
Fiscal 2004 Financial Results

In Japan, fiscal 2004 started with positive economic factors. However, towards the end of the period, the economy slowed down. Overseas, the US and Asian economies continued a steady expansion. Recovery has been seen in European economies.

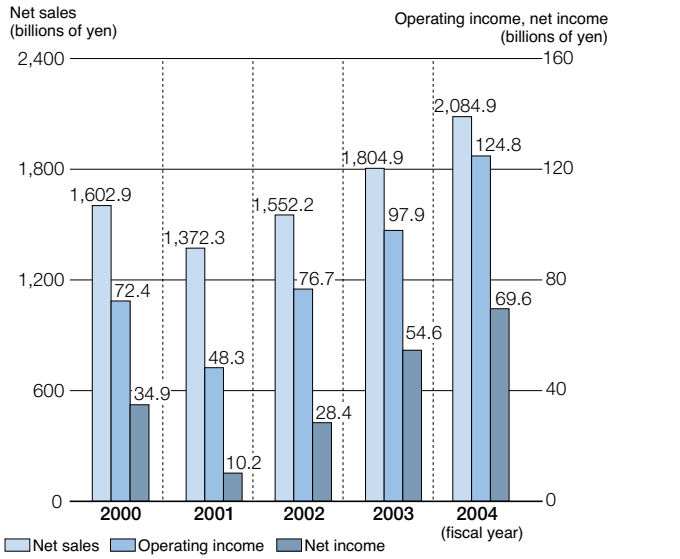
During fiscal 2004, in the Consumer/Information Products business, the Sharp Group worked to further expand sales of LCD TVs by enhancing the product line-up of large-size models. Other efforts included an enhancement of unique products, such as 3G mobile phones equipped with Sharp's original high-value-added LCDs, and a Superheated Steam Oven, which roasts food using water in the form of superheated steam. In the Electronic Components business, Sharp strived to expand LCD business such as by increasing production capacity at the Kameyama Plant. As for photovoltaic power systems, Sharp expanded production capacity of solar cells in response to growing worldwide demand.

As a result, fiscal 2004 recorded consolidated net sales of 2,539.8 billion yen, an increase of 12.5% over the previous fiscal year. Operating income was 151.0 billion yen, up 24.1% and net income was 76.8 billion yen, up 26.6%, both over the previous fiscal year. These figures represent record highs for Sharp.

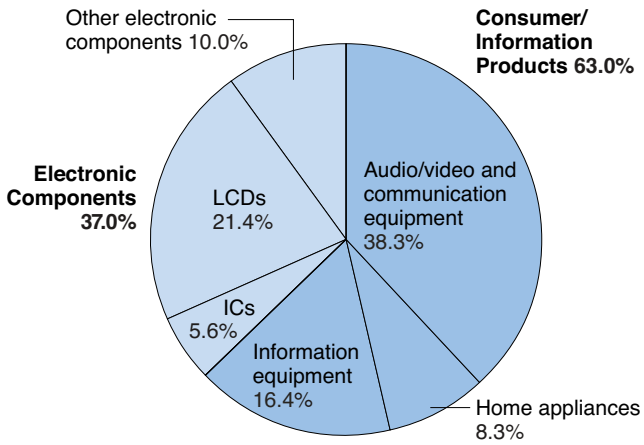
Net sales, operating income and net income (consolidated)



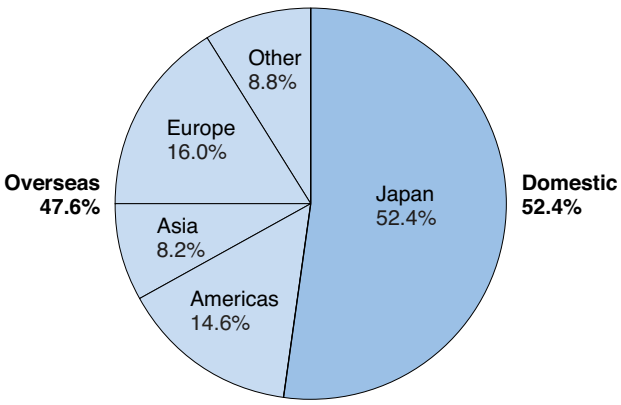
Net sales, operating income and net income (non-consolidated)



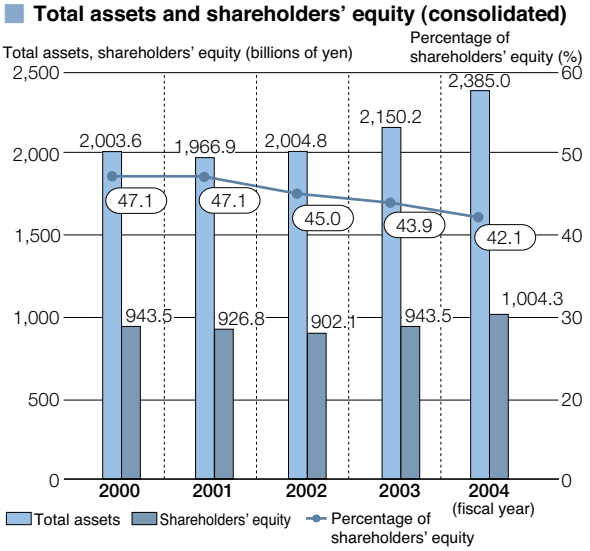
Net sales by product group (consolidated)



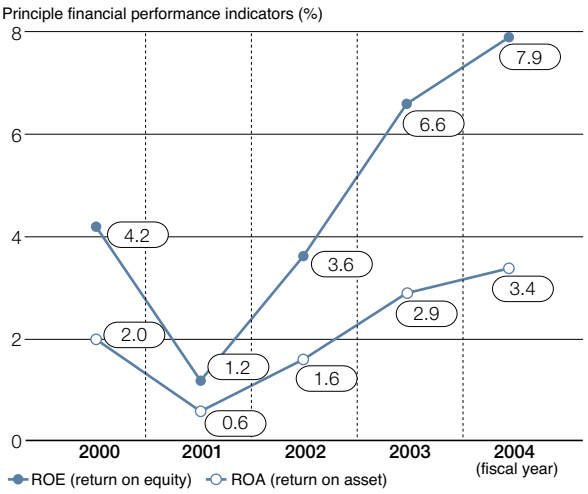
Net sales by region (consolidated)



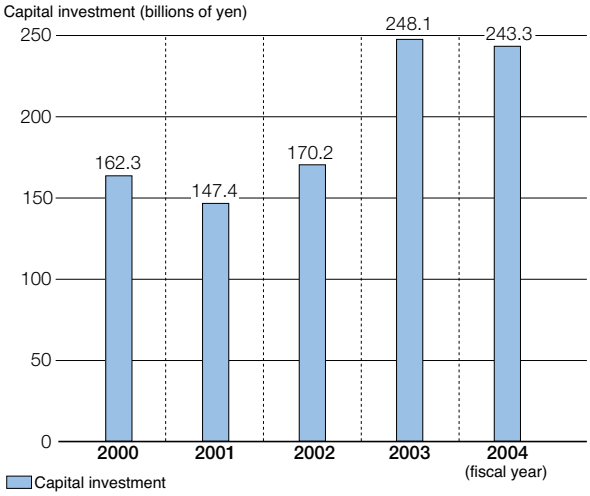
Total assets and shareholders' equity (consolidated)



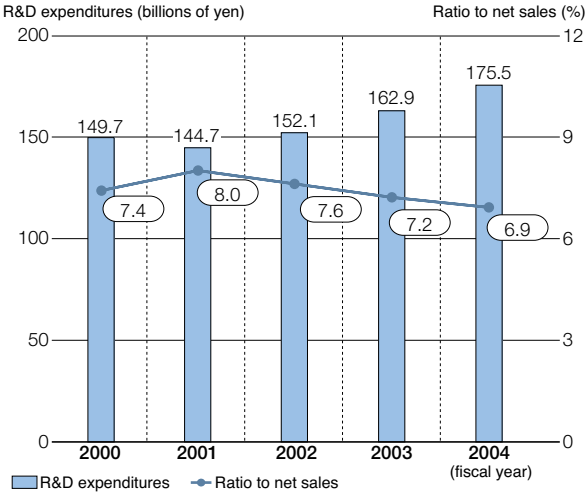
Principle financial performance indicators (consolidated)



Capital investment (consolidated)



R&D expenditures (consolidated)



Increasing Corporate Value by Strengthening Sharp's One-of-a-Kind Strategy

As for the outlook for fiscal 2005, while the Japanese economy is expected to maintain moderate recovery, some uncertainties are to be seen, such as increasing raw material prices, including crude oil prices, which will depress corporate profits, and decreasing exports due to a deceleration of the global economy.

In an effort to achieve further growth, the Sharp Group is strengthening its "one-of-a-kind" strategy, as it works to improve profitability and get the maximum value out of the company.

In the Consumer/Information Products business, Sharp will work to further improve the competitiveness of LCD color TVs in anticipation of the full-scale arrival of the digital high-definition TV era. This is to be accomplished through realizing higher-resolution pictures and more advanced features of LCD color TVs. Innovation in manufacturing technologies as well as thorough cost reduction will also be implemented for this purpose. "One-of-a-kind" products in other business areas will also be upgraded, including Sharp's unique environment- and health-conscious home appliances. In the Electronic Components business, Sharp will further expand its LCD business by making the fullest use of high-efficient production systems and increased production capacity at the Kameyama Plant. In photovoltaic power systems, Sharp will work to improve competitiveness through increasing production capacity, improving the conversion efficiency and slashing costs.

In addition to these efforts, Sharp will work to achieve further growth by aggressively deploying measures such as constructing a global business framework tailored to the characteristics of each region of the world, implementing technological and production innovation to support the engineering of new products, and promoting lower costs of operation.

Information posted on the Web site

http://sharp-world.com/corporate/eco/report

Financial results

SPECIAL FEATURE

Using One-of-a-Kind Technologies to Become an Environmentally Advanced Company

Offering Health- and Environment-Conscious Lifestyles

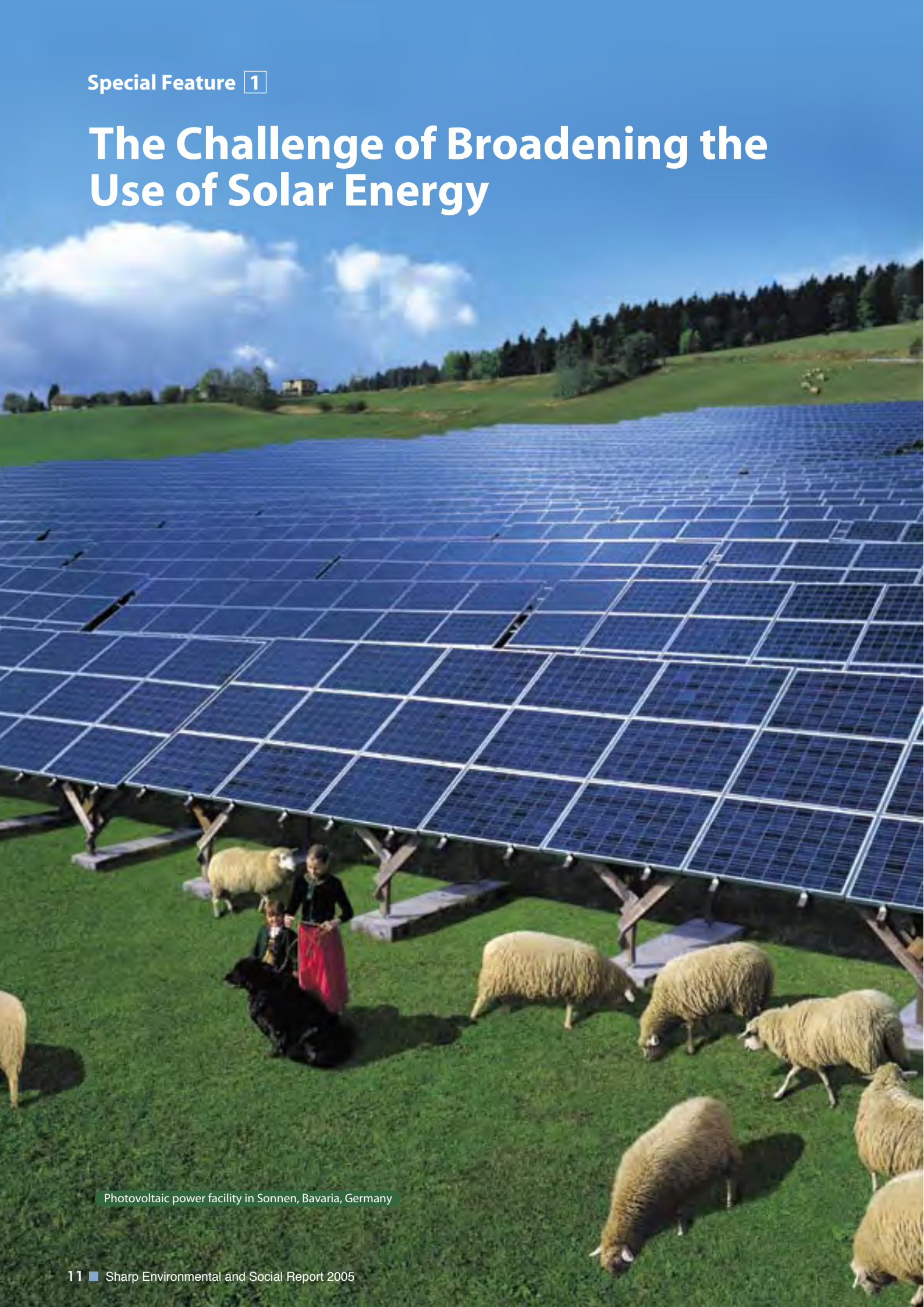
In line with its motto “Sincerity and Creativity,” Sharp has, since its founding, contributed to society by swiftly creating “goods the world has never before seen” and “products that will be in demand in the next era.”

Today, protecting the global environment has become an important issue shared by all humankind, and awareness with respect to the environment and to health continues to increase. In this light, Sharp has set a medium-term goal of becoming an environmentally advanced company, focused on making products that contribute to environmental protection and to healthy living.

The section that follows highlights three examples of Sharp’s efforts in these areas, and also feature dialogs between some of its stakeholders.

Special Feature 1

The Challenge of Broadening the Use of Solar Energy



Photovoltaic power facility in Sonnen, Bavaria, Germany

Vision

Sharp Aims to Become a "Zero Global Warming Impact Company" by 2010

Among global environmental issues, global warming is a particularly serious problem. The Kyoto Protocol went into effect on February 16, 2005, and it mandates that the advanced nations as a group reduce the average amount of greenhouse gas emissions by 5.2% over the first five-year period from 2008 to 2012 (compared to the base year of 1990). Japan has promised a reduction of 6%.

What can we do to prevent global warming? As one response, Sharp set forth a corporate vision of becoming a "Zero Global Warming Impact Company by 2010." Accordingly, Sharp will limit to the greatest extent possible the amount of the greenhouse gas emissions from its business activities around the world, while at the same time, significantly reducing those emissions with the energy-creating effects of solar cells and the energy-saving effects of new products. The idea is to tip the balance so that the amount of greenhouse gas emissions cut will exceed the amount emitted by fiscal 2010.

Greenhouse gas emissions resulting from Sharp business activities in fiscal 2004 were the equivalent of approximately 1.51 million t-CO_2. Plans call for production to expand each year, centered on energy-creating and energy-saving products, and thus, in the future, emissions are expected to increase. Accordingly, Sharp will continue to control the increase of greenhouse gas emissions resulting from expanded production by taking measures to reduce greenhouse gases company wide.

At the same time, the amount of electrical power generated by the total amount of solar cells produced by Sharp over the 20 years up to 2003 is projected to be approximately 542 GWh*1 in fiscal 2004. This is equivalent to a reduction in greenhouse gas emissions of approximately 240,000 t-CO_2*2.

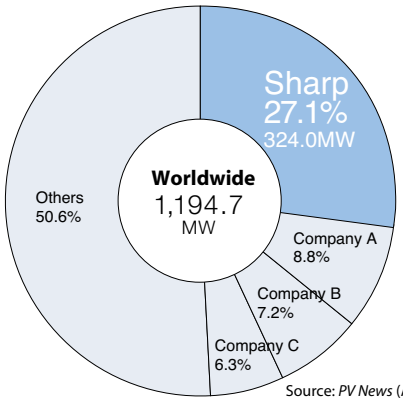
Sharp has been expanding production of solar cells over the years and has been the world's largest producer in terms of volume for the past five years since 2000. In the future, production will have to increase significantly to achieve Sharp's corporate vision of becoming a zero global warming impact company by 2010. By developing proprietary technologies, Sharp will push for even higher performance and lower prices, as well as focusing on developing new products that will lead to new applications. Sharp will take up the challenge of expanding the use of photovoltaic power generation with an eye toward achieving its vision.

(See page 32 for details on Sharp's corporate vision.)

*1 Sharp's total production over the 20 years from 1984 to 2003. This figure was calculated by Sharp based on data from the Optoelectronic Industry and Technology Development Association for 1984 to 1988 and from *PV News* from 1989.

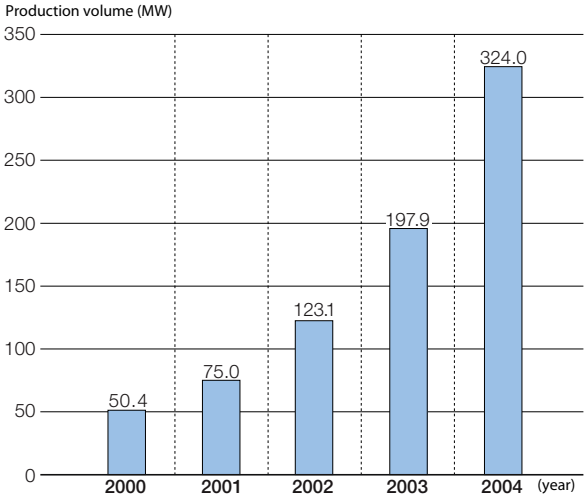
*2 Calculated using a CO_2 emission unit of 0.436 kg/kWh at the receiving end (fiscal 2003), announced by the Federation of Electric Power Companies of Japan.

Sharp's solar cell production volume and world market share (2004)



Source: *PV News* (April 2005 issue)

Sharp's solar cell production volume (2000 to 2004)



Source: *PV News* (April 2005 issue)

Sharp Honored at Global Environment Awards in Japan

Sharp won the Economy, Trade and Industry Minister's Prize at the 14th Global Environment Awards*, making this the second time for Sharp to be honored, following last year's Education, Culture, Sports, Science and Technology Minister's Prize.

The company was recognized for being the world's top volume manufacturer of solar cells for five consecutive years and contributing to the spread of solar power, which is attracting attention around the world as a new source of energy. The prize also highly rates the fact Sharp is making steady progress in environmental sustainability management.

* A commendation system established in 1992 by the Japan Industrial Journal with special cooperation from the WWF (Worldwide Fund for Nature) Japan toward the harmonious coexistence of industry growth and the global environment. The awards are for businesses, municipalities and other organizations that have enthusiastically promoted environmental activities. The awards also recognize technological developments that reduce the burden on the environment.

Yesterday & Today

A Broad Range of Applications—from Outer Space to Residential and Industrial

Sharp launched development of solar cells in 1959, and swiftly achieved success in mass production in 1963. In the beginning, the majority of applications were ones in which solar cells were used under extreme climatic conditions, such as on space satellites or in lighthouses with no possibility of supplying electricity from power generating plants. Sharp built up a store of technologies gained through such experiences, and today, has arrived at the point where it has a wide range of technologies to make solar cells tailored to specific applications from diverse materials, such as silicon (single-crystal, polycrystalline and thin-film) and compounds. Sharp also has the technologies necessary to build photovoltaic power systems, including modularization, plus the development and production of power conditioners*.

Also, to maximize the capabilities of photovoltaic power systems, full consideration must be given to the amount of insolation and the angle of installation. Sharp has focused on providing the most effective systems tailored to the service conditions of users.

In Japan, approximately 90% of photovoltaic power systems are destined for residential use, and Sharp has made a major contribution to their popularization. This is thanks to Sharp exercising its ingenuity and developing a diverse range of products to enable an efficient and aesthetic fit with the roofs of Japanese homes, which use a wide variety of materials and have a diverse range of styles and configurations.

Outside of Japan, the range of applications and service conditions is broad. For example, in Europe, industrial uses such as photovoltaic power plants account for approximately 70% of all applications. And developing countries are burdened with areas that have no access to grid power and need self-sustaining power generating systems. Sharp has accumulated the technologies and know-how to tailor systems matching these applications as much as possible.

In this way, Sharp solar cells have come to be used in diverse applications throughout the world and beyond—from outer space to public facilities, homes and industrial applications.

* Power conditioner: A device to control operation of the entire photovoltaic power system by converting the DC power generated by the photovoltaic modules to AC power that can be used in the house.

❶ World's first docking satellites, Orihime and Hikoboshi. Sharp is Japan's only solar cell manufacturer certified by the Japan Aerospace Exploration Agency (JAXA). Approximately 150 space satellites have been installed with Sharp solar cells as of February 2005. Photo courtesy of JAXA
❷ Even in lighthouses exposed to severe conditions, Sharp solar cells deliver stellar performance. They are in use in approximately 1,750 locations as of April 2005.
❸ Decentralized photovoltaic power system, Noyon Village, Mongolia ❹ De Nederlandsche Bank (Central Bank of the Netherlands), Amsterdam, The Netherlands

Tomorrow

Promoting Widespread Use Through Further Reductions in Production Costs, Application Development, and by Proposing Energy Solutions

To accelerate the use of solar power in the future, Sharp will focus its efforts in the following three areas.

The first is to lower prices even further. To achieve this, it is essential to push more effective use of materials as well as innovations in production processes in order to reduce fabrication costs. Technological development that increases power generating efficiency will also lead to cost reductions. At present, Sharp's single-crystal modules have achieved the world's highest module conversion efficiency*1 of 17.4%, and the company is working to raise that percentage still more.

The second is to increase applications. In fiscal 2004, Sharp introduced "Lumiwall" illuminating solar panels that integrate LEDs (light-emitting diodes) with the solar cells on the surface of the module. Sharp also commercialized solar-powered streetlights that can be installed as stand-alone units without a connection to the power grid. Sharp continues to work on application development based on flexible, innovative new concepts.

The third is to conduct R&D on next-generation solar cells. One example is thin-film silicon solar cells that are a scant two micrometers (microns)*2 thick. The amount of silicon used is significantly less than conventional crystalline silicon solar cells, and thus, resource utilization is lower and costs can be reduced. There is also the advantage that the modularization process can be simplified because the cells can be fabricated over large surface areas. Sharp is also moving ahead with R&D on compound flexible solar cells that can bend and have a conversion efficiency above 28%. While moving ahead with these developments, Sharp is also proceeding with research on solar cells intended to be integrated and used with new energy sources such as fuel cells. In the future, Sharp remains committed to being able to offer total energy solutions.

*1 World's highest module conversion for mass-produced terrestrial-use modules, as of March 18, 2005. Refers to Sharp's NT-167AK. Conversion efficiency is the percentage of energy from the light of the sun that is converted into electrical energy, and is calculated using the formula:

$$\frac{\text{Module nominal maximum power x 100 (W)}}{\text{Module surface area (m}^2\text{) x 1,000 W/m}^2}$$

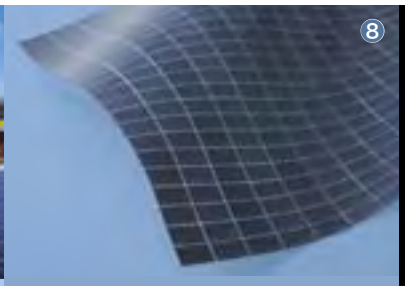
*2 1 micrometer (micron) (μm) = 0.001 mm

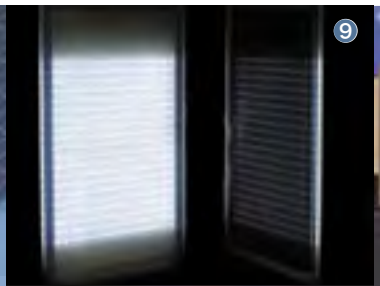
⑤ Bruchwegstadion football stadium, Mainz, Germany ⑥ "Advance 21 Kifune" condominium complex, Yamaguchi Prefecture, Japan ⑦ Gose water purification plant, Nara Prefecture, Japan. Installed with a photovoltaic power system with a max. nominal power output of 790kW.
⑧ Compound flexible solar cells. Because they can bend, they will open the door to applications never before imagined, such as a transportable power source mounted on vehicles or clothing.

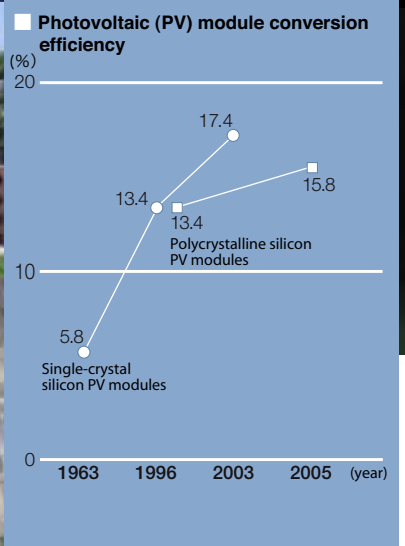
Information posted on the Web site

http://sharp-world.com/corporate/eco/report

- Solar power generation systems
- Decentralized solar power project in the village of Noyon in Mongolia







⑨ Illuminating solar panels (product name: Lumiwall) and conceptual sketch of usage. During the day, these thin-film see-through solar panels generate electricity from sunlight while allowing in natural daylight, and at night, the embedded LEDs serve as a source of illumination.

Tomorrow

In Schools, Local Communities and Internationally— Sharp Conveys the Importance of Energy

In February 2004, an inquiry came from a teacher in a Japanese primary school to which Sharp had delivered a photovoltaic power system: "The children have started to fritter away electricity, saying it's OK to do so because the electricity is being generated on the roof. How would you advise that I teach them?" Taking this as an opportunity, Sharp developed the Solar Academy in Japan.

Sharp believes that it bears a responsibility on the one hand to promote the widespread use of clean-energy photovoltaic power systems, and on the other, to communicate the importance of not squandering energy, even though solar power is considered energy with little environmental impact. In this case, introducing photovoltaic power generation unfortunately led to the habit of wasting energy.

"We adults have polluted the Earth's environment to enjoy a lifestyle of convenience. To clean up our Earth one step at a time, we need everyone to work together to protect the Earth." The instructors of the Solar Academy use this kind of language in making presentations in schools around the country on environmental problems and photovoltaic power generation. Since starting in October 2004, through March 2005, they have given presentations in primary, junior high and senior high schools 13 times, with the participation of approximately 800 children and students. In the future, Sharp also has plans to sponsor extension courses and seminars on photovoltaic power generation targeting the general public.

In 2003, Sharp installed a photovoltaic power system under contract from Japan's NEDO (New Energy and Industrial Technology Development Organization) in Noyon, a village in Mongolia where electricity had been available for only a few hours a day. Sharp conveyed to the villagers the company's wish that those who have suffered from a lack of electrical power tell the world about the importance of using energy wisely. Incidentally, Sharp personnel pay periodic visits to the village to teach people about the operation of the system and to perform system checks. Plus, Sharp also invites technicians from the village to come to Japan for further education.

Sharp would especially like the people who are enjoying the benefits of clean energy brought by photovoltaic power systems to understand the importance of energy and the global environment. And Sharp would like to expand this concept to the whole world and continue to achieve more.

Presentation on the environment and photovoltaic power generation

1. Nara Municipal Tsubai Primary School, Japan
2. Tsubai Primary School's photovoltaic power system
3. Environmental education classes were also held at primary schools in Mongolia
4. Tateyama Renewable Energy School, Japan

Comments from children at Nara Municipal Tsubai Primary School

"We think saving electricity is important for both the home and our planet Earth."

"Solar power should keep on spreading. We must use electricity wisely."

Dialogs with Stakeholders

"Even higher efficiency at lower cost. Everyone wants the same thing in photovoltaic power equipment."

Mr. Yoshihiro Kitagawa, Associate Director
Service Division, Nara Prefectural Waterworks Bureau, Japan
Introduced a photovoltaic power system at the Gose water purification plant

In Nara Prefecture, we work in line with the motto "Stop Global Warming." As one part of this effort, we installed a photovoltaic power system for the Gose water purification plant, and it's been in operation since April of this year. The installation area is 6,272 m^2, about the same size as a soccer field. Using a total of 4,740 photovoltaic modules, this is the largest such installation in Japan. Even though the construction schedule was tight, deliveries came in right on time. In the future, I wish Sharp would develop photovoltaic power equipment that offers even greater efficiency at even lower cost. But isn't this what everyone asks for?

"Through the construction of photovoltaic power systems, we want the whole world to feel the immense power of the sun."

Mr. Hidetaka Muneyoshi, General Manager
PV Systems Design Center
Solar Systems Group, Sharp Corporation
Served as liaison with Nara Prefecture at the time of installation

It was an extremely tight construction schedule, but we were able to complete the project on time. The power generating display shows that approximately 200 kW of power is being generated, even on cloudy days. We would like not only the people working in the water purification plant, but also people coming through on tours, to be impressed by the immense power of the sun. We think that this feeling is extremely important in protecting the environment. To spread this impression to the whole world, we would like to keep on building photovoltaic power systems one by one while meeting the needs of all our clients.

"We'd like to see more models in Sharp's line-up such as 'roof-integrated' products."

Mr. Kazuyuki Sakaue, President
Engineer Sakaue Co., Takatsuki, Osaka Prefecture, Japan
Sharp Amenity Systems Corporation dealer

For photovoltaic power systems to yield sufficient electricity, the installation setting is important. Sharp products do a good job of balancing conversion efficiency and price, and since they can be installed on any roof configuration, we can present our customers with a wide range of solutions. So far, we've designed and installed systems on over 200 homes, and all our customers have been satisfied. Recently, an increasing number of customers want systems in which the photovoltaic panels are integrated with the roof, and we would like it if Sharp had more "roof-integrated" products in its line-up.

"Our mission is to provide 'satisfaction' and 'peace of mind' to customers with the dealers based in our region."

Mr. Akira Yabuki
Assistant Manager, Kinki Sales Division
Sharp Amenity Systems Corporation
Responsible for dealer support

We make sales by signing dealer agreements with companies based in the region and are also adopting a certification system for installation workmanship so that customers can feel confident in installing Sharp systems.

When Mr. Sakaue became a Sharp dealer, he first installed a photovoltaic power system on his own house. He was able to experience "creating energy" for himself. Working together with such dealers, we are creating an environment in which customers can have systems installed with peace of mind, and we are also continuing to put energy into developing products that satisfy customers.

"Don't just sell products. Please convey the importance of protecting the environment."

Mr. Yoshiharu Miyaji
Teacher at Nara Municipal Tsubai Primary School, Japan
Gave Sharp the idea of starting the Solar Academy

Our school was the first elementary school in the city of Nara to have a photovoltaic power system installed. However, not only did the children not understand the significance, but our teachers weren't able to explain it. So I phoned the people at Sharp. "We don't want you to only beat the drum for products using ads. We also want you to properly inform the children about environmental problems and the significance of solar cells."

Drawing on this idea, Sharp was able to offer a special class. These children will be in charge of the global society of the future, and this class got the ball rolling for them to think about environmental problems.

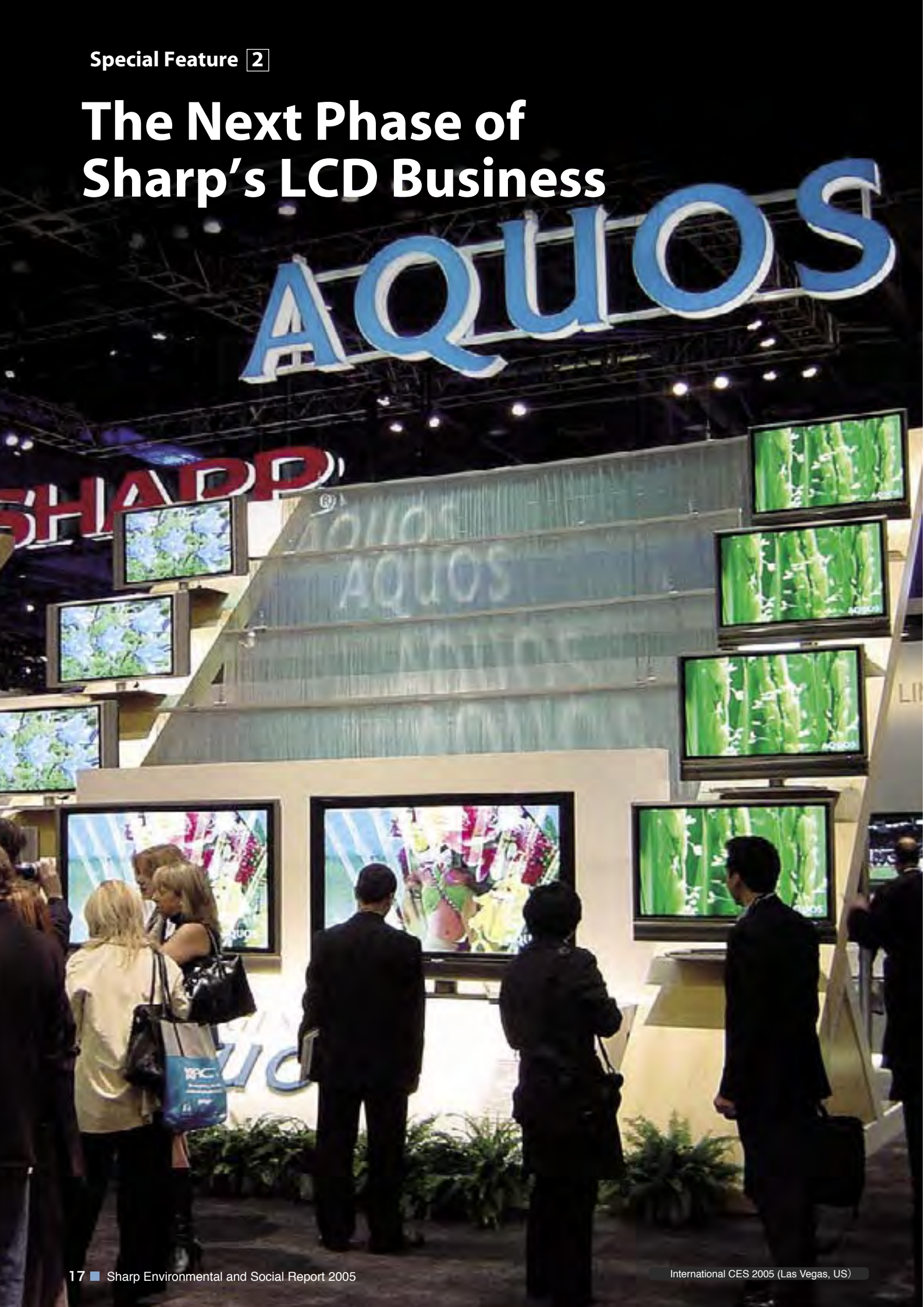
"We take our responsibility as a manufacturer seriously and decided to start new activities."

Mr. Fumihiko Hoshika
Manager
Solar Systems Group, Sharp Corporation
In charge of Solar Academy environmental classes at Tsubai Primary School

We took the remarks of Mr. Miyaji to heart: "Is the only thing you manufacturers do is make things?" We realized holding special classes was a role which only Sharp could play. We took it as an opportunity and the Solar Academy was born. Today, this program is not limited to educational support, but is expanding to include courses for municipalities and community-based organizations.

From now on, Sharp will not only be making solar cells, but is committed to communicating the significance of solar power and the importance of protecting the environment.

The Next Phase of Sharp's LCD Business



International CES 2005 (Las Vegas, US)

Vision

Increasing the Reliability and Enhancing the Performance of LCDs Now Increasingly Essential in Every Area as "Windows" for Information

Worldwide sales of TVs easily surpass the 100 million mark annually. This enormous market has recently been undergoing a rapid shift from CRT*1 TVs to flat-panel TVs. And in LCD*2 TVs which dominate the flat-panel TV market, the brand that has acquired over 30% of the worldwide market share*3 is Sharp's AQUOS.

AQUOS is an energy-efficient, space- and resource-saving product with lower power consumption, as well as being thinner and lighter than CRT TVs of the same screen size. Sharp has also boosted environmental performance in every way, with a design that enhances recyclability, as well as adopting environmentally conscious components and materials.

In the coming era, ensuring high product quality and high reliability is unquestionable; however, we must also broaden the use of products that have less environmental impact. Sharp feels that this is a responsibility a manufacturer has to society.

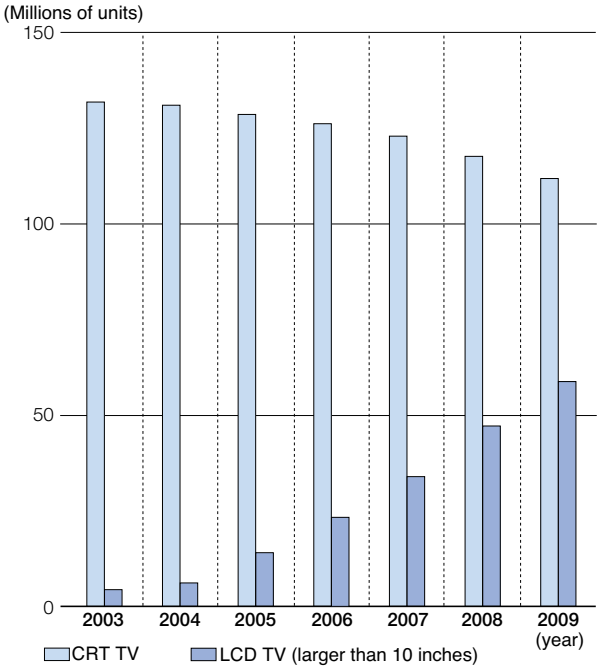
LCDs, which are thin, light and offer low power consumption, are widely used not only in TVs, but also in mobile products such as mobile phones. In addition to being used in LCD TVs, notebook PCs, monitors and mobile phones within the company, Sharp LCD panels are supplied to companies that manufacture a wide variety of electronic devices and equipment. By responding to demands from inside the company and also from its corporate customers, Sharp is expanding applications, boosting performance and increasing reliability, bringing about an evolution in LCDs and LCD application products.

In the future, amidst greater information infrastructure development and increasing computerization in society, Sharp LCDs will play an even more important role as "information windows" that can be opened anytime, anywhere.

*1 CRT: cathode ray tube
*2 LCD: liquid crystal display
*3 Sharp research (fiscal 2004, per-unit basis)

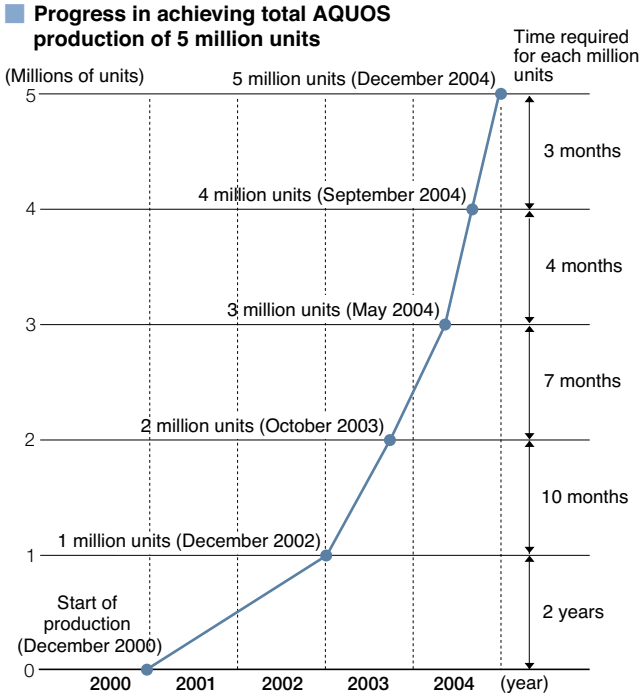
Sharp's LCD displays both character and video clearly. Fields in which LCDs are used as "information windows" will continue to expand in the future.

Worldwide CRT TV and LCD TV demand estimates



Source: JEITA "World Demand Estimate for Main Audio-Video Products" (February 2005)

Progress in achieving total AQUOS production of 5 million units



Yesterday & Today

LCDs Engender New Application Products, and in Turn, Application Products Bring About Evolution in LCDs

Sharp began research on liquid crystals in 1969. Researchers throughout the world recognized their superior qualities, but abandoned attempts to turn them into a commercially viable product because of the difficulty of selecting and mixing materials. Engineers at Sharp, who were engaged in building desktop electronic calculators that were more compact with lower power consumption, focused their attention on these liquid crystals and became intensely involved in research. Finally, in 1973, they succeeded in developing a practical application of liquid crystals as displays for electronic calculators. This was a world first. LCD electronic calculators*1 which rapidly became more compact and which could be used for long periods at low power, turned the concept of "electronic calculator" completely upside-down. In addition, LCDs, which offer features such as thin profile, light weight and low power consumption, became key devices that engendered a long line of new application products.

From numeric and alphanumeric read-out to image display. From monochrome to color. From still image to full-motion video. Toward bigger screen size. Toward thinner and lighter, with even lower power consumption. Sharp fostered the evolution of LCDs while working to expand applications. In such an environment, the one dream that Sharp engineers continued to pursue for many long years was the development of a wall-mounted TV. They thought that, by introducing thin-profile, lightweight, low-power-consumption LCD TVs into a market dominated by CRT-based TVs, Sharp would be able to offer an exciting new lifestyle to people.

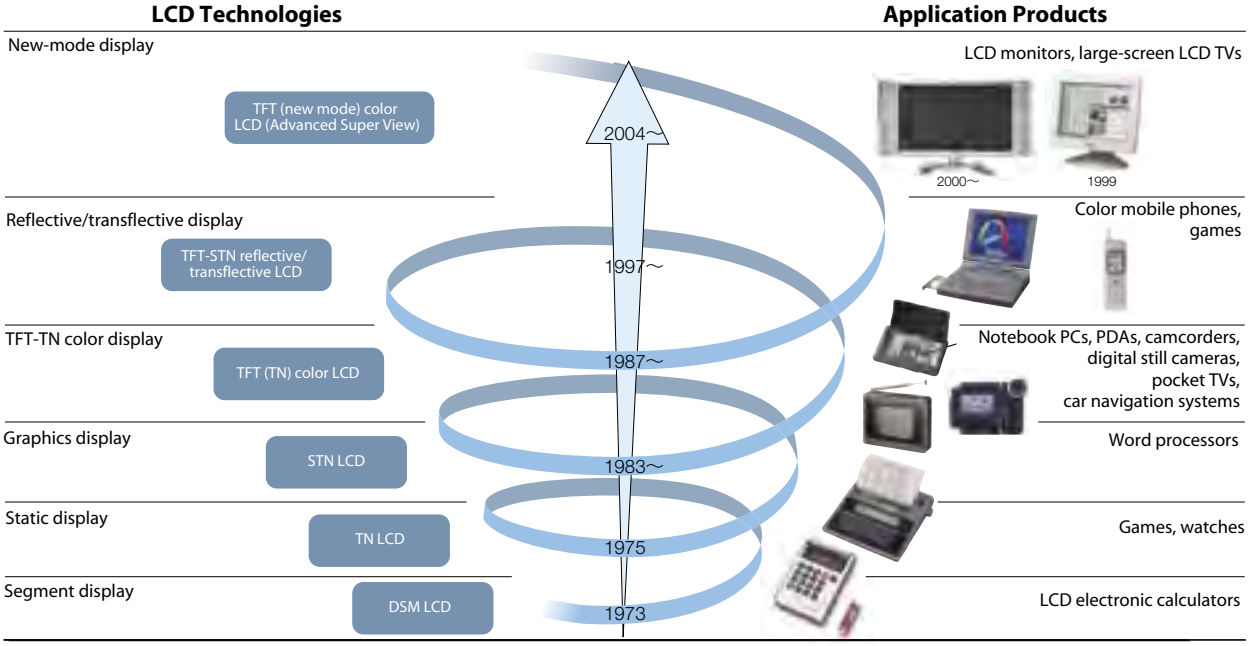
In 1991, Sharp developed the world's first wall-mounted TV. It was equipped with an 8.6-inch TFT color LCD panel, the industry's largest at the time, but the screen size was still small, and many problems needed solutions. As we entered a new century, in 2001, Sharp introduced the AQUOS series. Since then, Sharp has continued to produce ever larger screen sizes while improving display performance, including viewing angle, contrast and response speed.

In December 2004, the total number of AQUOS sets produced climbed to 5 million units. By offering a line-up ranging from 13V-inch to 45V-inch sizes*2, AQUOS models find use throughout the world. The dream of a "wall-mounted TV" has blossomed into a reality even more beautiful and grander than ever imagined. Well into the future, Sharp will continue to foster the evolution of LCDs, reaching for new dreams far beyond the wall-mounted TV.

*1 The world's first practical LCD electronic calculator: Compared to the first desktop electronic calculators which used fluorescent indicator tubes as their display element, Sharp's model was 1/12th thinner, 1/125th lighter, had 1/250th the parts, 1/20th the price and used 1/9000th the power. It could be used for 100 hours on one AA battery.

*2 "V-inch" (such as 13V-inch) is a measure of the true size of the flat TV screen. It is a standard derived from the actual length of the actual viewing area.

Sharp's "spiral strategy" of products and devices exploits the synergy engendered by the development of its key devices. The same synergy encourages the developing of still more devices, and that in turn stimulates the upward spiral of the development process. The basic concept is that strong key devices engender new products with outstanding features ("one-of-a-kind" products), and the need of devices for new products brings about the further evolution of strong devices.



Tomorrow

Pursuing Still Better Environmental Performance While Meeting the Demand for Larger Screens

In today's television market, as consumers switch to flat-panel TVs, demand is also growing for larger screen sizes. To respond to such market needs, in October of 2004, Sharp announced a prototype 65V-inch LCD TV, the world's largest*, and announced plans to develop large-screen LCD TVs in sizes exceeding 50V inches.

As screen sizes become larger, power consumption increases. To fulfill its social responsibility as a manufacturer to reduce environmental impact while satisfying market demand for larger TV screens, Sharp is working toward even greater reductions in power consumption in LCD TVs.

What accounts for most of the power consumed in LCD TVs is not the LCD panel itself, but the backlight mounted on the rear of the panel. Sharp engineers are working on the development of technologies to improve the luminous efficiency of the backlight and boost the transmissivity of the LCD panel.

While pursuing even greater energy efficiency, a characteristic feature of LCD TVs, Sharp's LCD TVs also give thorough consideration to the materials they use. The AQUOS minimizes harmful substances in its parts and materials, and uses recycled materials as much as possible. For example, the cabinet uses no halogen-based flame retardants. The sheet steel in the frame and fasteners (nuts and bolts) has no hexavalent chromium plating. The power cords and the covering material of the inner cables eliminate the use of halogens. And, the stand uses recycled plastic.

As the ideal TV for this century of the environment, Sharp will continue reducing the environmental impact of its LCD TVs even further.

* As of May 2005

One Example: the "Sheet" Computer—Advancing the Development of LCDs Useable Anywhere, Anytime, by Anyone

As the building of infrastructure and development of technologies related to communications and broadcasting continues to advance, the "ubiquitous*1 network society" that enables access to information from any place in the world is becoming a reality. New products and services are coming into widespread use, such as 3rd generation mobile phones and terrestrial digital broadcasting, and LCDs are increasingly needed in a wide variety of settings.

As a leader in the LCD field, Sharp is working to bring about the further evolution of LCD technologies to offer new application products and lifestyles in the future. One such technology which Sharp has been focusing on for the future is System LCDs*2. This technology provides a further boost in the resolution of LCDs, making it possible to display more information in greater detail no matter how small the screen.

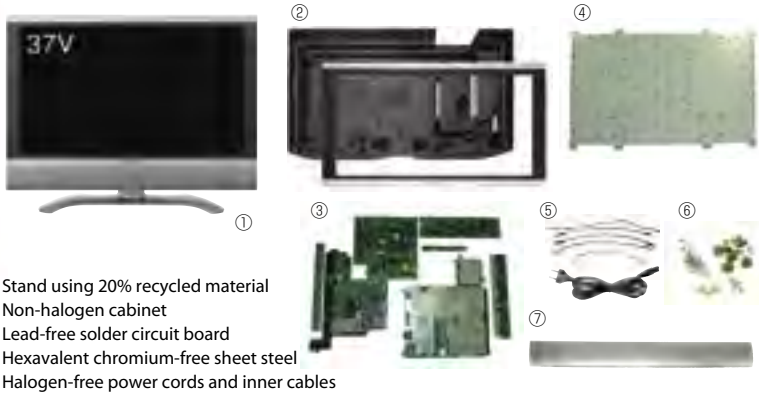
Sharp is also looking toward ultra-thin "sheet" computers that integrate all the components necessary for a computer on the same glass substrate, including not only the display, but also the CPU, sensors, audio circuitry and so on.

*1 "Ubiquitous" comes from the Latin word, *ubique*, meaning "being everywhere at the same time; omnipresent." The concept originated with Dr. Mark D. Weiser, a chief scientist of Xerox's Palo Alto Research Center (PARC). He proposed an environment in which users would be able to enjoy the power of computers having similar capabilities wherever they went.

*2 System LCD: A "system-on-panel" technology developed jointly with Semiconductor Energy Laboratory, Co., Ltd. The use of CG (continuous grain) silicon enables incredibly higher screen resolution compared to conventional LCDs. System LCDs, which integrate peripheral circuitry and other elements onto the glass substrate of the LCD panel, have the potential to bring about revolutionary changes in mobile devices.

65V-inch LCD TV announced in October 2004. This success greatly expanded potential screen sizes for LCD TVs, thought to have their upper limit in the 45V-inch class, thus proving that LCD technology is still evolving.

The environmentally conscious AQUOS (LC-37AD5)



① Stand using 20% recycled material
② Non-halogen cabinet
③ Lead-free solder circuit board
④ Hexavalent chromium-free sheet steel
⑤ Halogen-free power cords and inner cables
⑥ Hexavalent chromium-free fasteners (nuts and bolts)
⑦ Speaker grill using easy-to-recycle metal

Note: The LC-37AD5 is for the Japanese market.

Tomorrow

Aiming for Reductions in Cost and Environmental Impacts through Further Innovations in Production Technology

Sharp considers that its mission and responsibility are to bring LCD TVs, which deliver superb environmental performance, into widespread use.

From the standpoint of boosting cost competitiveness, one choice as a manufacturer is to produce a product overseas. It depends on the product, of course, but for manufacturing on the leading edge of technology, Sharp regards Japan to be the optimal location for production. Japan is home to an extensive base of sophisticated and wide-ranging ancillary industries, such as manufacturers of LCD fabrication equipment and peripheral components. Accordingly, in January 2004 Sharp launched its Kameyama Plant, a Super Green Factory*1, that reduces environmental impacts associated with manufacturing to the absolute minimum and gives careful consideration to coexistence with nature and the local community. This is the world's first integrated LCD TV production facility—from manufacturing the LCD panels to final assembly of the finished TVs. Integrated production enables the fusion of technologies and reductions in waste and loss, thus holding down the cost of leading-edge products.

In the future, Sharp plans to push ahead with further innovations in production technology, and in October 2006 the company will start operations of the Kameyama Plant No. 2, which will adopt the world's first*2 8th-generation glass substrate and is ideal for manufacturing 40V- and 50V-inch class LCDs. This second plant will further reduce environmental impacts, as well as enable substantially reduced costs as a result of working with suppliers to develop novel materials, beginning at the design stage. In addition, wide-ranging, top-to-bottom production innovations here will double the productivity of investment (in 45V-inch panel equivalents) compared to Plant No. 1.

*1 Certification based on internal standards. For details, see pages 45 and 46.
*2 As of May 2005

Kameyama Plant Wins Top Honor at 1st Nikkei Monozukuri Awards* in Japan

Sharp's Kameyama Plant received the grand prize at the 2004 1st Nikkei Monozukuri Awards, sponsored by Nihon Keizai Shimbun, Inc. This plant was highly rated for its superior manufacturing processes, including the fact that it implemented the world's first production of LCD panels using 6th-generation glass substrates. It also established an integrated production system that handles everything from panel manufacture to final assembly and is known for its environmental conservation measures. The Kameyama Plant also won the top prize in the 2004 Japan Sustainable Management Awards (administered by Mie Prefecture). For details, please refer to page 46.

* Nikkei Monozukuri Awards serve to recognize factories, businesses and systems that adopt highly advanced technologies or unique methods of manufacturing.

Sharp's Kameyama Plant, a state-of-the-art LCD production facility, is a Super Green Factory that keeps environmental impacts to an absolute minimum with its cogeneration system, 100% recycling of industrial wastewater and zero industrial waste discharge. ❶ The front wall above Plant No. 1's main entrance has 600 photovoltaic modules, designed to resemble an AQUOS. ❷ This water purification system recycles 100% of the water used in production. ❸ Bird's-eye view of the Kameyama Plant site. In the foreground is Plant No. 2 slated to begin operations in October 2006.

Dialogs with Stakeholders

"From television to medical information terminals—to catch up with their evolution, it's crucial that images are in high precision."

Mr. Eiji Okiura
Sales Manager
Company Limited Lease Tokyo, Japan
Adopted AQUOS as lease televisions for hospitals

The space-efficient design of the AQUOS caught our eyes ever since it was first released. We contacted Sharp and asked them to develop a model specifically for hospital use. Compared with CRT TVs, using an AQUOS in a hospital room has enabled users to use a table more effectively and watch better images from any angle, and therefore patients have been greatly satisfied.

Today, more and more medical institutions are adding multimedia systems that convey medical information as part of their equipment. High precision is demanded for the monitors, as both TV and information terminals, and we have high expectations for Sharp's LCD color monitors.

"We offer LCD multimedia monitors that display beautiful images."

Mr. Koichi Yoshida, Manager
East Japan Sales Division II
Domestic Sales and Marketing Group
Sharp Corporation
In charge of sales of lease televisions for hospitals

Lease Tokyo advised us on making the functions of LCD TVs simpler to facilitate its operations and points for their safe installation, and the company cooperated with our product division in developing models for hospitals. We are very pleased to hear that our LCD TVs have been received favorably by patients for easy operation, wide viewing angles of 170 degrees, and excellent picture quality.

Sharp has also developed the "Crisia" line of LCD multimedia monitors, which are already being used as information terminals that convey information in hospitals. In the future, by fully making use of the features of LCD, we want to contribute to medical scenes in a wider variety of fields.

"The retail store is responsible for informing the manufacturer of conditions of products used by customers."

Mr. Toshio Kumita, President
Friend Shop Kumita Denki, Kitagata, Gifu Prefecture, Japan
Sold more than 200 AQUOS in an area of 6,000 households

Since autumn 2003 when we celebrated our 28th year in business, we have taken all CRT TVs off our store shelves and replaced them with AQUOS. Being a big fan of this product, when a customer informed us of being troubled by distorted images, we swiftly requested Sharp to look into the matter for an early solution.

We, as retail stores, are the front line for delivering products to customers. We think it is our responsibility to inform the manufacturer of how products are functioning after being sold.

"If there is a problem, thoroughly investigate it—he is an excellent teacher for Sharp."

Mr. Masanori Ito, Gifu Branch Manager
Sharp Electronics Marketing Corporation
In charge of sales and support to local stores

The cause of the trouble about which Mr. Kumita contacted us turned out to be electromagnetic waves emitted from a nearby electric appliance in the customer's house. Through earnest information exchanges with Sharp's head office and service center, Mr. Kumita cooperated in our investigation into the cause. We appreciate his cooperation.

Mr. Kumita, who also serves as a volunteer lecturer for a science classroom for elementary school students, is making his store the one that is loved by the local community. Mr. Kumita is a person who understands Sharp very well and at the same time, is a very strict teacher for Sharp.

"Creating a structure for providing maintenance and service for car navigation systems—we look forward to Sharp's cooperation in handling this new task."

Mr. Hachiro Yokota, Senior Manager
Command Display Product Development Dept.
Alpine Electronics, Inc., Japan
Jointly developed in-vehicle LCD modules

It was some 15 years ago when our company, which develops and manufactures car navigation systems, started business with Sharp. In-vehicle LCD modules require an operating temperature range of more than 85°C. We judged Sharp's products could handle such severe conditions, so we chose the company as our partner for joint development.

We must pursue not only quality, but also fulfill our responsibilities as a manufacturer such as by continuously supplying spare parts. We have great expectations for Sharp as a partner in tackling these tasks.

"Reinforcing cooperation to build a service system."

Mr. Mitsutoshi Sakamoto, Assistant Manager
Sales & Marketing Dept. II Iwaki
Sales & Marketing Division III
Sales and Marketing Group - Electronic Components and Devices
Sharp Corporation
In charge of technical sales of in-vehicle LCD modules

The time for replacing the parts of in-vehicle LCD modules that were sold at the initial marketing of the products will come soon. Because the car navigation system is a new product field, we must create a mechanism of parts replacement and repair that has not existed before.

Together with Alpine Electronics, we have improved product quality and achieved large results through holding technology exchange meetings. In building a new service system that includes supplying spare parts, we hope to fulfill our responsibilities based on our reinforced partnership.

Special Feature 3

The Environment, Health and Safety— "One-of-a-Kind" Products in the Years to Come

Vision

Contributing to Life and Business in the 21st Century by Developing Innovative New Products that Offer More than Convenience and Comfort

In the 20th century, a wide range of home appliances made their debut, enabling the world to pursue convenience, ease and speed. However, as we entered the 1990s, consumers became aware that convenience demands a lot of energy and disrupts the environment. They raised the question: "Convenience is important, but healthy living is another thing to consider, and isn't that more important?"

Today, problems such as global warming, environmental pollution, the increase in lifestyle-related diseases and the rapidly aging society in advanced countries are becoming more acute. With home appliances as well, consumers are demanding that such problems be taken into consideration. Minimizing energy consumption as much as possible, making it easy to recycle, helping to maintain health and safety of use by both the elderly and children—these factors are demanded in today's products.

Recognizing this transformation in awareness, Sharp early on incorporated "the environment," "health" and "safety" into its concept of home appliance product development. Above all, Sharp is working to develop "one-of-a-kind" technologies and products that create new values in the three areas of "air," "water" and "food," which form the basis of life. Sharp wants to contribute to the lifestyles and business of the 21st century by providing unique, original technologies and products both to consumers and to its corporate customers.

A One-of-a-Kind History (Home Appliances)

1961
R-10 Microwave Oven, Japan's First
Sharp developed Japan's first microwave oven, and the following year, took the lead in launching mass production. First introduced for commercial use, Sharp began to work hard toward wider consumer use.

1966
R-600 Turntable Microwave Oven
Sharp developed the world's first microwave oven to use a turntable, introducing it as Japan's first consumer model. It was a revolutionary product that built the foundation for taking the lead in the industry.

1973
SJ-3300X 3-Door Refrigerator with Vegetable Compartment
The first 3-door refrigerator for home use with a special vegetable compartment. Responded to requests from consumers to be able to keep vegetables fresh as long as possible using a special vegetable compartment.

1986
RE-102 Toaster/Microwave Oven
The first in the industry to feature a "microwave warming" function and a "toaster" function to toast bread.

1988
SJ-38WB/32WB Dual-Swing Door Refrigerator
Taking a hint from a broach clip, Sharp developed a refrigerator with the world's first right/left swing-opening door. Highly rated for its ease of use that didn't change even when moved to a new location.

1992
ES-BE65 Fully Automatic Washing Machine with Hole-Less Tub
Sharp released a fully automatic washing machine with a single, hole-less tub that cuts water and detergent use by approximately 30% (compared to Sharp's previous models).

1996
AY-H28FX/H25FX Air Conditioners
An air conditioner equipped with not only conventional cooling, heating and dehumidifying functions, but also the industry's first humidifying and ventilation functions, enabling total control over five air conditioning functions.

2000
FU-L40X Plasmacluster Ion Air Purifier
Sharp released its first product incorporating Plasmacluster Ions, a proprietary air purifying technology.

2002
ES-U80D/U70D Ag^+ Ion Fully Automatic Washing Machine
Sharp developed another world-first: an antibacterial coating function that uses Ag^+ (silver) ions. The product has changed the way people think about washing machines owing to its ability to suppress the growth of bacteria on clothing and eliminate odors associated with sweat and hanging clothes to dry indoors.

Yesterday & Today

Bringing the Legacy of Sharp's Founding Spirit to Life in Creating "One-of-a-Kind" Products

Sharp introduced the first "crystal radio set" produced in Japan in the 1920s, and Japan's first "picture-tube television" after World War II. Sharp subsequently developed Japan's first "electronic oven that cooks with microwaves" and the world's first "all transistor-diode electronic calculator."

"Make products that others will imitate!" was the favorite phrase of Sharp's founder, Tokuji Hayakawa. These words embody his deeply felt desire to contribute to the development of society and improvement of people's lives by making products so good, that competitors would want to copy them, thereby fostering technological competition within the industry. Through these words, Sharp has been fulfilling its great social responsibility of producing a ripple effect in the industry and indeed, in the whole world, by building new markets through the creation of innovative new products.

Entering the 21st century, Sharp has developed a series of original new technologies and products, such as Plasmacluster Ion technology that doesn't merely filter indrawn air, but disinfects the entire space while releasing ions, and the "Water Oven*," a health-conscious cooking appliance that uses superheated steam instead of a flame to cook deliciously. In the view of some, the home appliance market has already matured, but it is Sharp's view that by incorporating proprietary technologies and offering the potential of new lifestyles, new markets can be built. By bringing Sharp's founding spirit to life in "making products others will imitate," the company aims to take advantage of developing a wealth of proprietary technologies and creating unique "one-of-a-kind" products.

Another thing is the importance of communicating value. In particular, Sharp has been explaining to customers the significance of, and the use for, totally new products so that benefits are easily understood. For ion-effect products like Plasmacluster Ion products and the Ag^+ ion washing machine, as well as for the Water Oven, Sharp has been carrying out joint research with respected third-party organizations to prove and disseminate information on the benefits of these products. For the Water Oven, Sharp has been demonstrating the product to show consumers how it reduces fat in foods and cooks delicious meals. Sharp believes that through efforts such as these, the world can begin to understand the value of Sharp's one-of-a-kind products.

* Superheated Steam Oven

Envisioning the Kitchen of the 21st Century—Protecting the Environment and Promoting Health in Daily Life

According to population dynamics studies by Japan's Ministry of Health, Labor and Welfare, cancer, heart disease and cerebral vascular disease account for 60% of all causes of death. In many cases, these three major geriatric diseases result from skewed lifestyle habits, particularly diet, and have recently have been labeled as "lifestyle-related diseases."

Sharp's Water Oven, which became popular immediately after its introduction in September 2004, is a completely new type of cooking appliance born out of the concept of improving dietary habits by changing the method of food preparation. It brings to a domestic oven the technology to heat, using not conventional open flame or microwaves, but hot superheated steam at a temperature of 300°C. This oven has the ability to reduce excess fat and salt as well as prevent the oxidation of food to limit the destruction of vitamin C.

To take full advantage of "roasting with water," a food preparation method with which consumers have no direct experience up to now, Sharp chose 126 recipes appropriate to this cooking method, and programmed them into an Auto Menu feature that automatically determines the time, temperature and optimal amount of superheated steam for foods. In response to customer requests for more recipes, Sharp develops new recipes and makes them available in pamphlets, as well as on the company's Web site. Starting with this Water Oven, Sharp is moving ahead with product development in line with its theme of the health-conscious, environmentally friendly "Kitchen of the 21st Century."

Sharp's QW series of countertop dishwashers reduces environmental impact based on a technology that uses ordinary table salt to clean, thus eliminating the use of detergents. New models feature an enhanced water-saving function—a new "spot cleaning" function that cleans by shifting to one side when only a small load of plates and utensils is being washed.

Sharp's Kitchen Waste Composters process organic waste generated in the home using proprietary biotechnology and can reduce the volume of waste by 92%* in 24 hours. Sharp listens to what its customers have to say about these products, and this feedback is put to use in developing new models and other new application products.

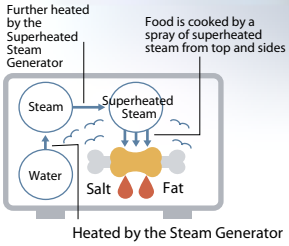
Sharp will continue to listen to the requests of its customers and make use of their comments in an ongoing effort to develop more one-of-a-kind products that promote customer satisfaction and offer new lifestyle possibilities.

* When processing a standard test batch of 700 grams of organic kitchen waste at a temperature of 20°C.

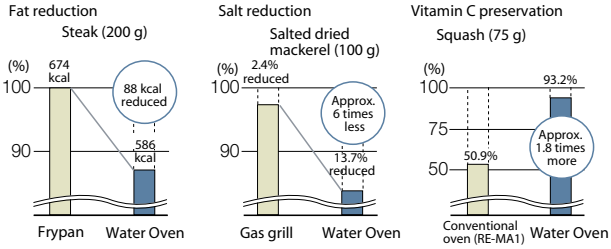
Water Oven

This health-conscious cooking appliance cooks food deliciously using superheated steam obtained by further heating 100°C steam to a temperature of 300°C. It enables "low-fat cooking" that drains away excess fat and oils from meat and fried foods, "low-salt cooking" that drains away excess salt from foods such as salted salmon or mackerel, and "low-oxidation cooking" that minimizes loss of vitamin C.

Superheated Steam System Mechanism



Health Benefits



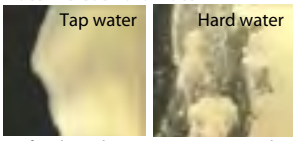
Analysis: Japan Food Research Laboratories

Hard-Water Ion Dishwasher

A proprietary ion exchange system using salt generates hard water (containing large amounts of magnesium and calcium ions). This ion-rich water washes away stubborn dirt and proteins such as hardened egg residue.

Hard-water ions scour away stubborn protein food residues

Comparison of cleaning using tap water versus hard water



No food residue removed at all

Dissociates and dissolves protein

Kitchen Waste Composter

Thanks to the action of a proprietary Composting Bio Mix and an innovative agitation system, this product dramatically reduces the volume of kitchen waste by 92% in 24 hours. Also suppresses unpleasant odors while it works.

Tomorrow

Earning Credibility Based on Scientific Explanations of Effectiveness and Benefits, Expanding the Possibilities of Technology with Sharp Corporate Clientele

Plasmacluster Ion technology, which Sharp developed in 2000, stops the activity of airborne bacteria by releasing positive and negative ions into the air. This technology was commercialized at the stage where its effectiveness against mold fungi had been verified. However, even after that, Sharp continued collaborative research efforts with leading-edge academic research organizations and went on to demonstrate its effectiveness in eliminating allergens such as airborne viruses and pollen, as well as the dead bodies and feces of mites, and also to explain the mechanism behind their elimination.

By being the first in the home appliance industry to adopt such an industry-academic collaboration (thus harnessing the entire process from development to marketing by working with universities and third-party public institutions to theorize and scientifically verify the efficacy and benefits of a technology), Sharp was able to boost customer confidence and push application development in fields beyond the boundaries of home appliances. Currently, Sharp is working together with corporate customers in diverse fields of business, including automobiles and elevators, further broadening the potential of Plasmacluster Ion technology.

The equipment and environments in which Sharp's business partners are embedding Plasmacluster Ion technology varies widely. By setting up liaisons responsible for working with each partner, Sharp is laying the groundwork that will enable the company to service and readily respond to their needs.

Constructively Proposing "Eco-Conscious Lifestyles" to Customers and Dealers in Japan

Making environmentally conscious products is a responsibility that must naturally fall on the shoulders of manufacturers. Beyond that, Sharp also feels it has an obligation to propose "Eco-Conscious Lifestyles" to its dealers and customers. Since September 2004, Sharp has held a series of Environment Forums aimed at dealers, focusing on the importance of global environmental issues and suggesting ways to broaden the use of energy-saving products. Thus far, over 1,000 stores have participated in these forums. In the future, Sharp will be tailoring proposals to the size and business format of dealers. Sharp has also been promoting a set of Eco Driving (environmentally conscious driving) suggestions to its dealers, offering examples on how to improve fuel consumption.

To enable customers to enjoy the best environmental performance that Sharp products have to offer, the company has begun to include a section in instruction manuals on how to use products in an environmentally conscious way. Ten types of products were targeted, including LCD TVs, air conditioners, dishwashers, kitchen waste composters and photovoltaic power systems. In the future, Sharp plans to further expand the types of target products, and is committed to working together with all stakeholders to reduce environmental impact in both distribution and sales.

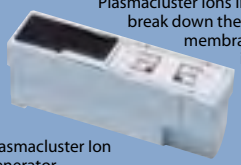
WEB Information posted on the Web site

http://sharp-world.com/corporate/eco/report

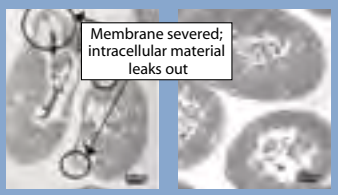
- Water Oven (Superheated Steam Oven)
- Plasmacluster

In 2004, Mechanism Underlying Plasmacluster Ion Technology Revealed

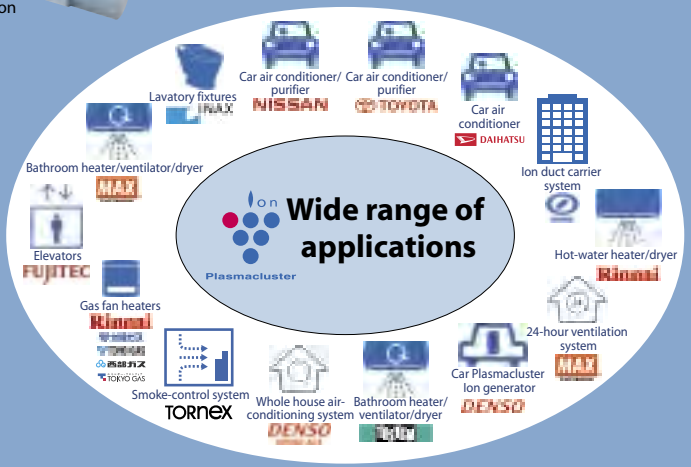
Working in collaboration with Professor Gerhard Artmann of the Department of Cell Biophysics and Bioengineering of Aachen University of Applied Sciences in Germany, Sharp has been able to shed light on the mechanism by which Plasmacluster Ions inactivate bacteria. The ions break down the protein in the cell surface membrane of the bacteria, thereby inactivating it. Since the DNA is not damaged, it is clear that this technology is safe and reliable.



Plasmacluster Ion generator



With Plasmacluster Ions　No Plasmacluster Ions present



Educational poster

Eco Driving pamphlet and sticker

Instruction manual explaining how to use the product in an environmentally conscious manner

Campaign button worn by all employees

Dialogs with Stakeholders

"I was delighted that foods tasted delicious, even with less salt. It would be great if the cooking time could be faster."

Ms. Hiromi Imanishi, Habikino, Osaka Prefecture, Japan
User of Sharp's Water Oven

To look after my husband's health, we pay close attention to food. An acquaintance introduced me to the Water Oven when it came on the market, and we bought one immediately. Salted salmon comes out delicious even with less salt, so my husband is happy. I also use it often to roast sweet potatoes. Even reheated *tempura* tastes delicious, as if it was just made. But warming up rice takes a bit of time, and it would be nice if it could heat a little faster.

"We have clearly positioned it as a cooking appliance for good health, but we are also working to improve its heating function."

Mr. Takashi Tanaka, Chief
Water Oven Product Team
Kitchen Appliance Systems Division, Sharp Corporation
Responsible for development of the Water Oven

Many people who purchase the Water Oven are concerned with health, and we think the three positive effects of reduced fats, reduced salt and preserving vitamin C have been well received by consumers. Plus, the fact that it gets high ratings for "delicious flavor" is also a gratifying response for those of us involved in cooking appliance development. In the future, we will be working to develop more new pre-programmed settings, as well as improve the product's attractiveness to consumers by concentrating on the challenge of shortening the heating time.

"We would like to see more products with outstanding environmental performance and Sharp to provide information that increases environmental awareness."

Mr. Yoshiaki Taniyama, Corporate Director and
Sales Division General Manager
Taniyama Musen Co., Ltd.
Working for environmentally conscious sales in Kyoto, Japan

Concern for the environment runs high in our part of the country, which is where the Kyoto Protocol was adopted. We are constantly thinking about how our stores can get involved in reducing greenhouse gases and how we should be selling things.

We are indebted to the people from Sharp for the environmental training and help in store planning and operation we received through their Eco-Conscious Lifestyles campaign. We would like to see even more energy put into making people more aware of the environment, starting with the development of environmentally conscious products, of course, and airing more TV commercials that portray Sharp as an environmentally advanced company.

"Sharp is committed to enhancing information dissemination aimed at consumers."

Mr. Eisaku Mori, Chief
Eco-Conscious Lifestyles Strategy Project Team
Marketing and Sales Promotion Department
Domestic Sales and Marketing Group, Sharp Corporation
In charge of Eco-Conscious Lifestyle proposal activities

We provided environmental training to the employees of Taniyama Musen. We also welcomed their feedback on the content of their training and the suggestions for developing their stores that we offered under our Eco-Conscious Lifestyle campaign.

Sharp's efforts toward Eco-Conscious Lifestyles have been to propose comfortable, ecology-minded lifestyles to consumers and retailers through the use of Sharp products. To respond to the enthusiastic efforts that our retailers are making in environmental sustainability management, we are committed to enhancing and improving the development of environmentally conscious products and to providing consumer-oriented information.

"Objective independent assessment of outstanding technologies—we welcome this attitude toward new ideas."

Mr. Yuzuru Yoshinami
Vehicle Component Engineering Department No. 1
Engine Cooling and Vehicle Climate System Engineering Group
Nissan Motor Co., Ltd., Japan
Joint development of world's first car air conditioner equipped with a Plasmacluster Ion generator

Demands for cleaner air inside vehicles are increasing, so we thought about incorporating Sharp's Plasmacluster Ion technology in our cars, and this was the catalyst for our working together. The reason we decided to adopt this technology was that its outstanding effectiveness and performance had been scientifically verified by independent third-party organizations.

We overcame problems that are far removed from those involved in developing home appliances, such as cabin temperatures that vary from below freezing to baking under the blazing sun, changes in power supply voltage which are typical in a vehicle, and more. Nissan has now equipped 11 car models with this technology. In the future, we hope to see more outstanding new technologies based on objective assessments.

"We are demonstrating the effectiveness of new technologies by using the techniques of industry-academic collaboration."

Mr. Shigeyuki Harada, Assistant Manager
Second Engineering Department
Home Electronics Business Promotion Center
Appliance Systems Group, Sharp Corporation
Joint development of the world's first car air conditioner equipped with Plasmacluster Ion generator

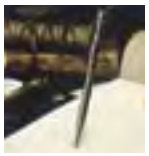
Our collaborative development was highly rated by the people at Nissan, and we are grateful that we were awarded a Special Prize for corporate excellence, the most prestigious honor, as one of their business partners. When putting Plasmacluster Ion technology into products, we introduced the technique of collaborating with academic organizations. We proved its effectiveness scientifically by working together with those organizations worldwide that are engaged in research at the top level of their fields.

Sharp will continue working on developing new technologies, whose effectiveness can be clearly explained to customers by the companies adopting these technologies.

The Story Continues: Sharp Contributes to Society Through One-of-a-Kind Technology

Sharp's History of Original Products and Technologies Ever Since Its Foundation

1915
Tokuji Hayakawa Invents the Ever-Sharp Pencil



Sharp founder Tokuji Hayakawa invented the first pencil in the world with a core that could be constantly pushed out to keep the pencil "sharp" at all times. First called the Ever-Ready Sharp Pencil, the name was later shortened to Ever-Sharp Pencil, which is the origin of our company name, Sharp.

1925
Japan's First Crystal Radio Set

Sharp successfully assembled a crystal radio set. This was Japan's very first radio receiver.

1953
Japan's First TV

Back in 1931, when radio was just beginning to become popular, Sharp started research into TVs. In 1951, the company built Japan's first prototype, and two years later started mass production.

1963
Photovoltaic Module

Sharp began development of solar cells in 1959 and became the first company to mass-produce them in 1963. At first, Sharp's engineers acted as marketers, and in May of the same year Sharp photovoltaic modules were installed on a buoy in Yokohama harbor.

1964
The Compet All-Transistor Calculator

This was the world's first electronic desktop calculator to use all-transistor diodes. The Compet was the result of Sharp's effort to develop a calculator that anyone could use anywhere and anytime.

1973
ELSI Mate LCD Calculator

The world's first successful application of a liquid crystal display, the ELSI Mate was also the world's first COS (calculator on substrate) calculator.

1992
LCD Viewcam Video Camera

A revolutionary video camera that replaced the conventional viewfinder with an LCD screen that made it easier to watch while taking videos, the Viewcam was an instant hit.

1994
Refrigerator with Non-CFC Vacuum Insulation

Sharp developed the first refrigerator in the world that used no CFCs and thus did not contain any ozone-layer-depleting materials. Using non-CFC vacuum insulation and a refrigerant that does not harm the ozone layer, this product was the first step in protecting the ozone layer.

2001
AQUOS LCD Color TV

Sharp developed the AQUOS as the TV for the 21st century. The AQUOS features a high-quality image with the industry's highest brightness and a design by world-renowned industrial designer Toshiyuki Kita that handsomely complements the interior of any home.

2001
Notebook PC

The 12.1-inch notebook PC came on to the stage as the world's thinnest (16.6 mm) and lightest (1.31 kg) notebook PC.

2002
3D LCD

Sharp developed a 3D LCD that requires no special glasses to see images in 3D. The product was immediately in the spotlight for its ability to provide unprecedented life-like images.

2004
65V-Inch AQUOS LCD TV

Sharp manufactured experimentally and introduced the world's largest 65V-inch LCD TV that uses a full-spec high-definition LCD panel with a resolution of 6.22-million pixels—an industry-first. This incredible leap in screen size showed LCD technology has potential for even more innovations in the future.

2005
Non-CFC Refrigerator with French Doors

Sharp released a refrigerator with the industry's first warming compartment that keeps dishes at an ideal 55°C. It's not only convenient, but also environmentally conscious, boasting superb energy efficiency and using recycled plastic in some of the parts.

Sharp and the Environment

In Pursuit of Becoming an Environmentally Advanced Corporate Group

Fundamental Orientation and Vision Concerning the Environment
Major Objectives and Fiscal 2004 Results

Advancing Super Green Management
How Business Activities Relate to the Environment
Developing Super Green Technologies
Creating Super Green Products and Devices
Achievement of a Super Green Factory

Reducing Greenhouse Gas Emissions
Minimizing and Recycling Waste
Appropriate Management and Reductions in the Discharge Risk of Chemical Substances
Promoting Risk Management

Environmentally Conscious Logistics and Packaging
Recycling Used Products
Promotion of Environmental Communication

The Mie Plant, which achieved Super Green Factory status following the Kameyama Plant, in Japan

Fundamental Orientation and Vision Concerning the Environment

In accordance with environmental guidelines established under the Basic Environmental Philosophy, the Sharp Group Charter of Corporate Behavior, and the Sharp Code of Conduct*, Sharp is pursuing environmental conservation in all aspects of its business activities. Since fiscal 2004, Sharp has raised its mid-term objective of becoming an "environmentally advanced company" with the new corporate vision of achieving "zero global warming impact by 2010." In future, the company will further strengthen its efforts in environmental conservation.

Basic Environmental Philosophy

Creating an Environmentally Conscious Company with Sincerity and Creativity

The Sharp Group Charter of Corporate Behavior

Contribution to Conservation of the Global Environment

The Sharp Group will fulfill our responsibility for environmental conservation by promoting the creation of proprietary technologies that contribute to protection of the global environment, and by carrying out our product development and business activities in an environmentally conscious manner.

The Sharp Code of Conduct

Contribution to Conservation of the Global Environment

1. To Conserve the Environment:

① We will comply with all applicable environmental laws, regulations and territorial agreements, and work to practice efficient use and conservation of resources and energy voluntarily, in the recognition that environmental conservation is an essential facet of corporate and individual pursuits.

② We will ensure proper use and control of chemical substances in our business activities including research, development and manufacturing, meeting or exceeding levels determined by laws and regulations.

③ We will engage in the active acquisition, reporting and promotion of environmental information at an international level, as the Sharp Group companies promote communication with shareholders and local residents.

④ We understand the importance of internal company systems and related details in acquiring third-party certification and recertification of our ISO environmental management systems, and we will conduct our business operations in accordance with relevant internal guidelines.

2. To Develop Environmentally Conscious Products and Services, and Conduct Our Business Operations in an Environmentally Conscious Manner:

① We will engage positively in the minimization of resource use, reduction in the size and weight of products, use of recycled materials, and the development of long-lasting, energy-saving, energy-creating products.

② We will work to compile information related to harmful substances that might damage the environment or human health, and will not, as a matter of principle, make use of these harmful substances in our products, services and business activities.

③ We will 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.

④ We will work aggressively to reduce greenhouse gas emissions in the full range of our business activities, in order to contribute to the prevention of global warming.

⑤ We will work to conduct our business in such a way to select and purchase materials that are harmless to the global environment, and to local residents and employees, for the resources needed for business activities (equipment, raw materials, subsidiary materials, tools, etc.).

⑥ We realize that waste material is a valuable resource, and we will actively conduct our business operations in such a way as to maximize the 3Rs (reduce, recycle and reuse) and will contribute to minimizing the amount of waste sent for permanent landfill disposal.

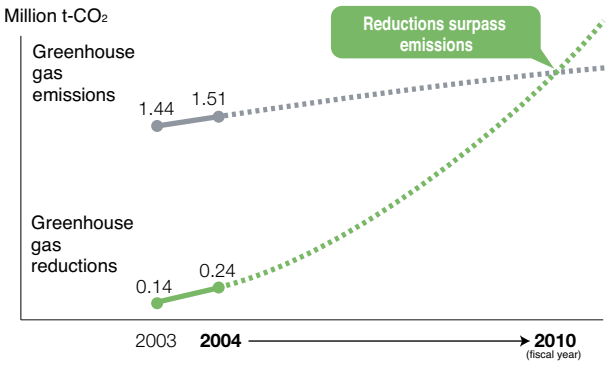
* The Sharp Group Charter of Corporate Behavior and the Sharp Code of Conduct were instituted in May 2005 as a revised edition of the preceding Sharp Charter of Conduct (instituted in 2003). The section above is an excerpt from descriptions of Sharp's environmental conservation efforts.

Corporate Vision of Achieving "Zero Global Warming Impact by 2010"

In fiscal 2004, Sharp set a new corporate vision of becoming a company that has zero global warming impact by 2010. This is a concept to limit to the greatest extent possible the amount of the greenhouse gas emissions resulting from Sharp's business activities around the world, while at the same time, significantly increasing reductions in greenhouse gas emissions based on the energy-creating effects of solar cells and the energy-saving effects of new products manufactured by Sharp. The idea is for the amount of greenhouse gas emissions reduced to exceed the amount emitted by fiscal 2010.

Sharp's greenhouse gas emissions in fiscal 2004 were approximately 1.51 million t-CO_2[*1]. At the same time, it is estimated that the solar cells that Sharp produced over the 20 years up to 2003 generated approximately 542 GWh[*2] in fiscal 2004. This is equivalent to a reduction in greenhouse gas emissions of approximately 0.24 million t-CO_2[*3].

*1 For details, see page 47.
*2 Calculation based on 521 MW, Sharp's total solar cell production over the 20 years from 1984 to 2003. The figure 521 MW is based on data from the Optoelectronic Industry and Technology Development Association for 1984 to 1988 and from PV News for 1989 to 2003.
*3 Calculated using a CO_2 emission unit of 0.436 kg/kWh (fiscal 2003) at the receiving end, announced by the Federation of Electric Power Companies of Japan.



Note: The greenhouse gas reduction amount is a result of using photovoltaic power generation and does not include the amount reduced through the use of new energy-saving products.

Becoming an Environmentally Advanced Company

Developing unique environmental technologies that contribute to environmental conservation

Sharp categorizes environmental technologies in two aspects: 1) technologies that contribute to global environmental conservation and the improvement of living environments, and 2) technologies that reduce the burden on the environment. Sharp is also promoting the development of unique environmental technologies based on five themes, including the prevention of global warming, effective use of resources and reduction of chemical substances.
(For details, see pages 41 and 42).

Factories with high environmental consciousness

Sharp coexists in harmony with the natural environment and earns the trust of the local community through efforts that minimize burdens on the environment. Such efforts include the introduction of cogeneration systems and photovoltaic power systems. They also include the substitution of greenhouse gases, the installation of scrubbers to reduce damage from greenhouse gases, the reduction and recycling of waste into valuable material, the reuse of wastewater and fluids, the substitution of harmful chemicals, and more.
(For details, see pages 45 and 46).

Creating products and devices with high environmental performance

Sharp upholds stricter-than-average evaluation items and authorization criteria to improve the environmental performance of its products and devices, thus endeavoring to create Super Green Products and Super Green Devices with extremely high environmental performance.
(For details, see pages 43 and 44).

Enhancing environmental sustainability management

Sharp is improving its levels of environmental sustainability management and employees' environment-consciousness. We implement unique measures, such as introducing and expanding the Sharp Environmental Management System (S-EMS), strengthening compliance with environmental directives, utilizing environmental management accounting, as well as promoting environmental education and environmental social contribution activities.
(For details, see pages 35 to 38).

Note: Sharp certifies its products, devices and factories as "Super Green" based on proprietary assessment criteria and certification standards established by Sharp.

Information posted on the Web site

http://sharp-world.com/corporate/eco/report

- The Sharp Group Charter of Corporate Behavior (full text)
- The Sharp Code of Conduct (full text)

Major Objectives and Fiscal 2004 Results

Sharp does business in line with a three-year medium-term plan, which is combined with annual objectives. To develop the medium-term plan, the company conducts a review each year before formulating annual objectives, and establishes new goals and specific action programs for each fiscal year. Similarly, the company pursues environmental activities based on a three-year medium-term plan with annual objectives. For fiscal 2004, Sharp set a long-term goal of achieving its new corporate vision of becoming a Zero Global Warming Impact Company by 2010[*1].

Fiscal 2004 Achievements

For fiscal 2004, Sharp defined its medium-term goal of becoming an Environmentally Advanced Company and established the corporate vision stated above. That year can be regarded as the inaugural year marking the point where Sharp made a definitive shift in corporate management toward the environment.

In fiscal 2004, Sharp also constructed the system that is the foundation for achieving its goal of becoming such a company. The system focuses on areas that form the core of Sharp's business, including technologies, products/devices and production facilities. Sharp reinforced these efforts by establishing far-reaching targets, which enable the company to achieve results close to the desired levels.

In the development of environmental technologies, Sharp is steadily enhancing the environmental performance of new products. The percentage of sales accounted for by Green Seal Products[*2] reached approximately 74%. Six products entered the new Super Green Product[*2] category introduced in the second half of the fiscal year, and the percentage of sales accounted for by Green Devices[*2] reached approximately 24%. The company also took up the challenge of improving the environmental performance of its manufacturing facilities. Super Green Factory[*3] certification was attained for its Mie Plant, the first for an operating production facility, and following in the footsteps of the Kameyama Plant last year.

Sharp also achieved its major objectives in all areas. The company advanced the introduction of its own S-EMS environmental management system, launched e-learning, reduced the amounts of regulated chemical substances in products, and achieved zero discharge of industrial waste to landfills[*4] at domestic production sites (companies) as a whole for the fourth straight year. Sharp also reduced the risk of hazardous chemical substances it released into the environment, set up a recycling system in Europe, reduced CO_2 emissions from logistics activities, and launched various Sharp Green Club (SGC) campaigns.

However, despite redoubling its efforts, the company was not able to reach its goal of reducing the amount of CO_2 emissions per production unit from domestic production sites because of declines in the shipped prices of manufactured products. Nevertheless, Sharp was able to restrain growth in greenhouse gas emissions as a whole[*5]. Targets for percentage of sales of Super Green Products were not reached, but the company is committed to achieving them in the future.

Future Efforts

Looking toward fiscal 2007, the year it intends to achieve its medium-term plans, Sharp has set far-reaching targets that it expects to achieve as an Environmentally Advanced Company. The goals for fiscal 2007 comprise Green Seal Products accounting for 90% of sales and including 35% Super Green Products. Green Devices are to comprise 75% of sales with Super Green Devices[*2] accounting for 15%. All domestic and overseas production sites (companies) are to be certified as Green Factories[*3], and among them, all Sharp Corporation production sites are to be Super Green Factories. All of these goals present significant difficulties, but the company will resolutely confront such challenges, and as an Environmentally Advanced Company, Sharp will work to contribute to building a sustainable society.

• For more details, please refer to the page numbers below.
*1 Page 32, *2 Page 43, *3 Page 45, *4 Page 48, *5 Page 47
• Green Seal Products, Super Green Products, Green Devices and Super Green Devices designated as *2, as well as Super Green Factories and Green Factories designated as *3, are certified following Sharp's own evaluation criteria and certification standards.

Major Objectives and Achievements in Fiscal 2004

Stages	Themes	Major Objectives
Environmental Sustainability Management	Enhance and expand environmental management system	Implement Sharp Environmental Management System (S-EMS)
		Acquire ISO 14001 certification
	Establish tools for environmental sustainability management	Introduce environmental management accounting and develop tools for promoting environmental sustainability management
	Hold environmental education programs	Hold environmental seminars
Planning and Design	Establish 3R technologies	Promote closed-loop plastic material recycling
		Commercialization of materials to facilitate disassembly (easy-release fasteners)
		Establish recycling technologies for LCD TVs
	Improve safety of components and materials	Use lead-free solder in all products
		Reduce chemical substances in products
	Develop Green Products	Increase Green Seal Products' share of net sales in Japan[*1]
		Increase Super Green Products' share of net sales in Japan
	Develop Green Devices	Increase Green Devices' share of net sales[*2]
		Increase Super Green Devices' share of net sales
Manufacturing	Convert factories to Green Factories	Build Green Factories and Super Green Factories
	Reduce greenhouse gas emissions	Reduce CO_2 emissions (per production unit)
	Reduce and recycle waste	Reduce the amount of waste discharged (per production unit) and promote conversion to valuable materials
	Reduce risk from harmful chemicals	Reduce discharge risk of chemicals under high-priority control
Logistics	Reduce distribution-related CO_2 emissions	Change modes of transportation in Japan
Recycling	Recycle used products	Enhance and improve recycling systems
Social Responsibility	Social contribution activities	Expand and diversify environmental social contribution activities

*1 The sales ratio of Green Seal Products includes sales of Super Green Products.
*2 The sales ratio of Green Devices includes sales of Super Green Devices.

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

Fiscal 2004 Objectives	Fiscal 2004 Achievements	Self-Evaluation	Fiscal 2005 Objectives	Fiscal 2007 Objectives	See page(s)
Introduce S-EMS at 28 domestic non-production sites	Completed introduction of S-EMS at 28 domestic non-production sites	○	Complete introduction of S-EMS at all 50 domestic non-production sites	Complete introduction of S-EMS at all domestic and overseas production sites (companies)	35, 36
Acquire certification at all domestic and overseas production sites (companies) Acquire certification at 8 overseas non-production consolidated subsidiaries	Completed certification at all production sites (companies) (16 in Japan; 22 overseas) Completed certification at 8 overseas non-production consolidated subsidiaries (total 17)	○	Complete certification at all overseas non-production consolidated subsidiaries (total 21)	—	
Introduce pilot version of environmental management accounting as a tool to promote environmental sustainability management	Completed introduction of pilot version of environmental management accounting	○	Introduce environmental management accounting to all domestic production sites (companies)	Develop tools to provide feedback to management	37, 38
General: Begin e-learning in Japan Expert: Continue Compliance: Hold programs for overseas production sites	General: 25,308 participants (80.2%) Expert: 11 recycling training sessions Compliance: 15 sites in 7 Chinese and Asian nations	○	General: Continue e-learning Expert: Continue Compliance: Hold programs at North American and European sites	General: Encourage e-learning to take root Expert: Environmental leader training (develop framework for 200 individuals)	36
Use 420 tons of recycled plastics in new products	420 tons of recycled plastics used in new products	○	Use 500 tons of recycled plastics in new products	Use 1,000 tons of recycled plastics in new products	41, 42
Use in communications equipment	Researched use of easy-release fasteners in communications equipment	○	Use in communications equipment	Use in audio/video equipment	
Develop LCD panel recycling technology	Guidelines set for recycling LCD panels	○	Develop recycling technologies for LCD TV cabinet materials	Develop technology to recover indium from LCD panels	
Eliminate all lead solder (in new products for main markets*3)	Eliminated all lead solder (in new products for main markets*3)	○	Eliminate all lead solder (in new products for all markets)	—	42
Eliminate all six RoHS substances (in new products for main markets*3)	Eliminated all six RoHS substances (in new products for main markets*3)	○	Eliminate all six RoHS substances (in new products for all markets)	—	44
Green Seal products accounting for 65% of net sales	Green Seal products accounted for 73.9% of net sales	◎	Green Seal products accounting for 80% of net sales	Green Seal products accounting for 90% of net sales	43, 44
Super Green Products accounting for 10% of net sales (2nd half-year)	Super Green Products accounted for 5.4% of net sales (2nd half-year)	×	Super Green Products accounting for 20% of net sales	Super Green Products accounting for 35% of net sales	
Green Devices accounting for 5% of net sales (2nd half-year)	Green Devices accounted for 23.9% of net sales (2nd half-year)	◎	Green Devices accounting for 40% of net sales	Green Devices accounting for 75% of net sales	
			Super Green Devices accounting for 5% of net sales	Super Green Devices accounting for 15% of net sales	
Japan: Upgrade 2 Sharp Corporation production sites to Super Green Factories and 8 production sites and 2 domestic subsidiaries/affiliates to Green Factories Overseas: Assess all 22 production sites	Japan: 2 Sharp Corporation production sites upgraded to Super Green Factories and 8 production sites and 2 domestic subsidiaries/affiliates to Green Factories Overseas: Completed assessment of all 22 production sites	○	Japan: Raise average improvement rate of environmental performance at Sharp Corporation production sites by 11% compared to fiscal 2003 and upgrade 4 domestic subsidiaries/affiliates to Green Factories Overseas: Upgrade 4 production sites to Green Factories	Upgrade all 10 Sharp Corporation production sites to Super Green Factories Upgrade all other domestic and overseas production sites (companies) to Green Factories	45, 46
Japan: Product sites: Reduce by 2% from previous fiscal year Device sites: Reduce by 5% from previous fiscal year Overseas: Reduce by 2% from previous fiscal year	Japan: Product sites: Increased by 14% from previous fiscal year Device sites: Increased by 3% from previous fiscal year Overseas: Reduced by 6% from previous fiscal year at production sites	×	Japan: Product sites: Reduce by 2% from previous fiscal year Device sites: Reduce by 5% from previous fiscal year Overseas: Reduce by 2% from previous fiscal year at production sites	Goal for fiscal 2010: Reduce by 25% compared to fiscal 1990 per real production unit*4 (Japan)	47
Japan: Recycle 12% of waste into valuable materials Overseas: Reduce by 2% per production unit from previous fiscal year	Japan: Recycled 11% of waste into valuable materials Overseas: Reduced by 5% per production unit from previous fiscal year	△	Japan: Recycle 14% of waste into valuable materials Overseas: Reduce by 2% per production unit from previous fiscal year	Japan: Recycle 16% of waste into valuable materials Overseas: Reduce by 2% per production unit from previous fiscal year	48
Reduce discharge risk of chemicals by 20% compared to fiscal 2003 at Sharp Corporation production sites	Discharge risk of chemicals reduced by 30% compared to fiscal 2003 at Sharp Corporation production sites	◎	Reduce discharge risk of chemicals by 30% or more compared to fiscal 2003 at Sharp Corporation production sites	Reduce discharge risk of chemicals by 50% or more compared to fiscal 2003 at Sharp Corporation production sites	49
Railway cargo transport of 625 containers/month Reduce CO_2 emissions by 3,000 tons	Railway cargo transport of 770 containers/month CO_2 emissions reduced by 3,170 tons	◎	Railway cargo transport of 900 containers/month Reduce CO_2 emissions by 3,500 tons	Railway cargo transport of 1,100 containers/month Reduce CO_2 emissions by 4,000 tons	51, 52
Build collection/recycling system in EU countries	Participated in building recycling systems in European countries. In Germany, jointly established a unique recycling scheme called ProReturn with Loewe and Philips.	○	Begin smooth operation of recycling system in Europe	Efficient operation of recycling systems	53, 54
Japan: Total 10,000 employees from 29 sites (one-third of all employees) participating in SGC activities Overseas: Expand number of active sites to 30	Japan: Total 23,964 employees from 29 sites (approx. 80% of all employees) participated in SGC activitis Overseas: Number of active sites expanded to 24	○	Japan: Total 30,000 employees from 29 sites (almost all employees) participating in SGC activities Overseas: Expand number of active sites to 30	Japan: Total 45,000 employees participating in SGC activities (1.5 times for each employee) Overseas: Enhance, expand and encourage SGC activities to take root	68～70

*3 Main markets: North America, Europe, China and Japan

*4 Per real production unit (t-CO_2/100 million yen) = CO_2 emission (t-CO_2) ÷ production output (100 million yen) ÷ domestic corporate price index (electrical equipment) determined by the Bank of Japan

Advancing Super Green Management (1)

Under the environmental sustainability management system of the Environmental Protection Group, Sharp is dedicated to steadily improving its environmental sustainability management level and employees' commitment to environmental conservation. Efforts toward this goal include adding environmental criteria to the evaluation of business group achievements, introducing Sharp's original environmental management system S-EMS[*1], utilizing environmental management accounting, and promoting environmental education.

Objectives for Fiscal 2004	Achievements	Objectives for Fiscal 2005	Objectives for Fiscal 2007
● Introduce S-EMS at 28 domestic non-production sites	**Completed introduction of S-EMS at 28 domestic non-production sites**	● Complete introduction of S-EMS at all 50 domestic non-production sites[*2]	● Complete introduction of S-EMS at all domestic and overseas production sites (companies)
● Acquire ISO 14001 certification at all domestic and overseas production sites (companies)	**Completed ISO 14001 certification at 16 domestic and 22 overseas production sites (companies)[*3]**	——	——
● Acquire ISO 14001 certification at 8 overseas non-production consolidated subsidiaries	**Completed ISO 14001 certification at 8 overseas non-production consolidated subsidiaries (for a total of 17 subsidiaries so far)**	● Complete ISO 14001 certification at all overseas non-production consolidated subsidiaries[*2] (for a total of 21 subsidiaries so far)	——

*1 Sharp Environmental Management System *2 Sites (companies) of less than 30 employees are excluded.
*3 Excluding the Chinese production subsidiary STW, which just started production in fiscal 2004. (STW will be certified within fiscal 2005.)

Environmental Sustainability Management System Centered on the Environmental Protection Group

The Environmental Protection Group holds an environmental strategy conference as the governing legislative body for the Sharp Group's environmental sustainability management policies. At the conference, overseen by the director in charge of environmental affairs, participants discuss and decide on important matters such as environmental guidelines, strategies and objectives. The Group also hosts company-wide environmental conferences for sites to discuss and report on progress and establish concrete action plans for the future.

The Group also gathers representatives from Sharp's main sites every second year to a global environmental conference, where participants not only gain a deeper understanding of environmental guidelines, strategies and objectives, but also discuss specific themes and case reports from the sites.

Environmental conferences also take place regionally in the US, Europe, ASEAN and China.

The Environmental Protection Group and departments in charge of environmental matters at all sites work closely together.

Integrating Environmental Criteria into the Evaluation of Business Group Accomplishments in Japan

Sharp raised the bar for environmental performance in fiscal 2000, when it first included environmental criteria in the business group accomplishment evaluation system that is used semi-annually to evaluate all business group contributions to corporate management.

By fiscal 2003, Sharp included five additional criteria—a Green Product* attainment ratio, Green Seal* acquisition ratio, CO_2 reduction ratio, zero discharge to landfill attainment ratio and chemical management index—yielding the positive results of increased Green Seal products, the attainment of zero discharge to landfill (since fiscal 2001) and reduced use of chemicals.

In fiscal 2004, Sharp introduced a new business evaluation system, which reflected two important items: a sales ratio of Green Products and Devices* and CO_2 reduction volume.

Sharp will set forth precise environmental measures to help all business groups enhance their levels of environmental sustainability management and support the entire Sharp Group in achieving its objectives and environmental vision.

* For details on Green Seal Products, Green Products and Green Devices, see pages 43 and 44.

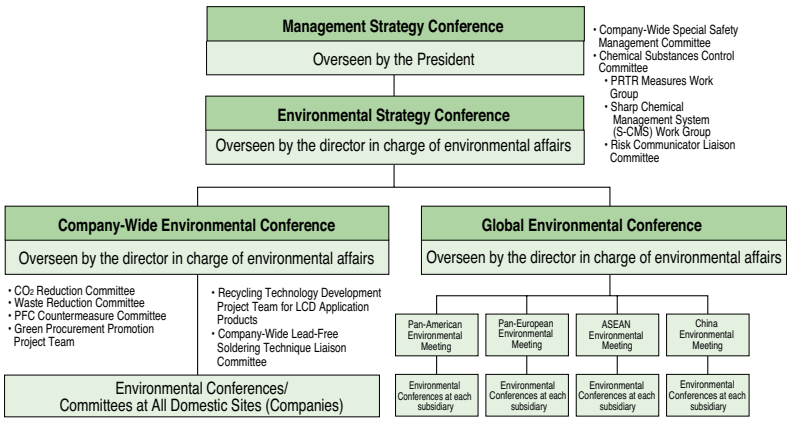
Acquiring ISO 14001 Certification

Sharp is striving to achieve ISO 14001 certification as a management tool for continuously reducing the burden its business activities place on the environment. All of Sharp and its domestic and overseas consolidated subsidiaries are eligible sites (companies) for certification, as well as all domestic and overseas non-consolidated production subsidiaries and affiliates.

In 1995, Sharp began working toward ISO certification, and by fiscal 2004, all production sites (companies)[*1], including 16 domestic and 22 overseas bases, had successfully achieved ISO 14001 certification. In addition, all domestic non-production sites (companies)[*2] have been certified, and Sharp plans to certify all overseas non-production consolidated subsidiaries (total 21 companies)[*2] within fiscal 2005.

*1 Excluding the Chinese production subsidiary STW, which just started production in fiscal 2004. (STW will be certified within fiscal 2005.)
*2 Sites (companies) of less than 30 employees are excluded.

Environmental sustainability management system




President Machida speaks at the Fourth Global Environmental Conference (held in November 2004)


Participants of the Fourth Global Environmental Conference

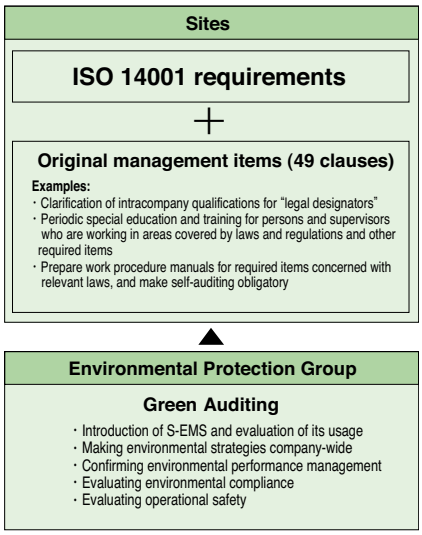
Introducing the Sharp Environmental Management System (S-EMS)

To reinforce environmental compliance and enhance environmental efforts, Sharp established the S-EMS, a standard of 49 original management clauses to supplement those specified under ISO 14001 standards. In fiscal 2002, Sharp began introducing S-EMS at all its sites.

By fiscal 2004, Sharp had already introduced S-EMS into 10 production and 28 main non-production sites in Japan. Continuing in fiscal 2005, Sharp plans to complete the introduction of S-EMS into all domestic non-production sites (total 50 sites)*. Sharp will further accelerate introduction into its production sites (companies), aiming for complete introduction into all its domestic and overseas production sites (companies) in fiscal 2007.

* Sites (companies) of less than 30 employees are excluded.

S-EMS structure



Education of S-EMS Auditors

Since Sharp's internal auditing also requires the inspection of original management items at S-EMS sites, Sharp auditors need higher auditing abilities than those required for ISO 14001 alone. That's why the Environmental Protection Group established the S-EMS Auditor Certification System, offering S-EMS training seminars for auditors.

Based on this certification system, approximately 560 auditors completed S-EMS auditor certification in Japan by fiscal 2004. In future, Sharp plans to foster leaders who can train auditors and improve auditors' skills.

Execution of Green Auditing

The Environmental Protection Group is also carrying out "green auditing" at sites (companies) where S-EMS has already been introduced. As a general auditing measure, green auditing provides a comprehensive understanding of company-wide environmental policies and evaluates environmental performance, environmental compliance and operational safety to confirm the operating status of S-EMS. Through these measures, Sharp aims to not only boost environmental management at all sites (companies), but also to improve and expand the contents of S-EMS to make it a more effective management system.

In fiscal 2004, Sharp conducted green auditing at eight domestic production sites to identify problems and areas for improvement. The audits revealed that S-EMS was operating soundly at all sites, without any major problems.

Green auditing

Reinforcing Environmental Compliance

In fiscal 2001, Sharp established the Environmental Compliance Program to focus on creating systems and a corporate mindset conducive to adhering to environmental laws. To promote this program company-wide, Sharp established the Environmental Compliance Committee in fiscal 2002.

Sharp reorganized the structure for reinforcing environmental compliance in fiscal 2005. The company transferred the role of the Environmental Compliance Committee to the Company-Wide Environmental Conference for production sites and to the CSR and BRM (business risk management) Promotion Conference supervised by Sharp's Domestic Sales and Marketing Group for non-production sites.

Looking ahead, the Environmental Protection Group aims to continue to strengthen this intracompany system for observing environmental laws by providing the latest information on environmental legislative control and necessary training seminars for all sites, as well as confirming Sharp's compliance with environmental laws.

Stepping Up Environmental Education

In fiscal 2004, Sharp launched an e-learning seminar for environmental education in Japan. This "environmental basics" seminar was offered via the company intranet to approximately 32,000 employees of the domestic Sharp Group. 25,308 people completed the course.

For specialized environmental education, Sharp held a "design for recycle" seminar. In the actual training for engineers in charge of product design, participants joined the plant's disassembly line and took apart products, allowing them a firsthand perspective for making suggestions and improvements on the recycling design and disassembly process.

Sharp also held environmental education seminars in China and Asia at 15 production companies. In fiscal 2005, Sharp plans to extend these seminars to its bases in the US and Europe.

Company-wide environmental e-learning

Seminar at an overseas production subsidiary

WEB Information posted on the Web site

http://sharp-world.com/corporate/eco/report

- Table of ISO 14001-certified sites (companies)
- Examples of Sharp's environmental education

Advancing Super Green Management (2)

Environmental Accounting

The Sharp Group introduced environmental accounting in Japan in fiscal 1999 as a tool to provide a quantitative assessment of the costs and effectiveness of its environmental conservation activities, and has applied the results to environmental sustainability management.

Introduction

Beginning last fiscal year, the Sharp Group adopted a disclosure format tailored to the classifications of Sharp's environmental sustainability management activities.

The format follows the Environmental Accounting Guidelines 2005 (published by the Ministry of the Environment), which were revised in 2005, with two points amended as follows:

1) **Rigorously calculating depreciation**
Calculation methods for depreciation associated with investments related to environmental conservation were brought in to conformance with financial accounting standards.

2) **Addition of inferred effects to economic effects**
In the past, the effects of environmental conservation activities at Sharp's sites covered only those items that could be assessed in terms of actual monetary amounts. Beginning this fiscal year, however, the company revised its internal standards to be able to assess inferred effects by calculating monetary amounts based on reduced levels of environmental burden and electricity savings resulting from the use of energy-efficient products. This revised approach has made it possible to assess the economic effects of environmental conservation activities not only within the company, but also in terms of contributions to society.

Disclosure Process

Relationship between environmental conservation costs, economic effects, environmental conservation effects and environmental burden

These relationships are organized in a single table with environmental conservation costs, monetary impacts and the effects of environmental conservation arranged horizontally according to the category of environmental conservation activity at Sharp.

Describing environmental conservation effects

Sharp selected and disclosed measurable indexes that best represented the effects resulting from Sharp's implementation of environmental conservation activities. In addition, data for levels of environmental burden for two consecutive years is also provided as a way to gain a better picture of the effects of environmental conservation by comparison with environmental burden in the previous fiscal year.

Calculation Methods

Environmental conservation costs

Environmental conservation expenses are based on reporting differences in costs relative to normal business activities, and are calculated from overhead costs and personnel expenses associated with environmental conservation activities, investments intended to protect the environment, and attendant depreciation. Note also that depreciation is calculated in accordance with the Sharp Group's financial accounting standards.

Economic effects

Economic effects are the combination of real effects that can be assessed in the form of actual monetary amounts such as revenue and cost savings derived from environmental conservation activities, and inferred effects that are monetary equivalents of environmental conservation effects and economic effects on consumers resulting from the use of environmentally conscious products.

Calculation of real effects

Real effects include energy efficiency measures, reductions in waste treatment/disposal fees, profit on the sale of valuable resources, use of recycled water, etc.

Calculation of inferred effects

Inferred effects include the following: 1)Environmental conservation effects (reduced greenhouse gas emissions) at sites converted into equivalent monetary amounts, 2)Environmental conservation effects from the use of solar power and energy-saving products (reduced greenhouse gas emissions) and electricity savings converted to equivalent monetary amounts

Note that the following conversion factors were used in calculating equivalent monetary amounts:
- Cost required to reduce greenhouse gas emissions by 1 ton: 735 yen/t-CO_2 (US$7/t-$CO_2$)
- Unit cost of electricity used in calculating electricity savings: 23 yen/kWh

Classification of Environmental Conservation Activities

		Category based on Guidelines*	Description of Major Environmental Conservation Activities
Environmental Sustainability Management		Management activities	• Operation of environmental management system • Promoting environmental sustainability management • Environmental education activities
Planning and Design		R&D	• Promoting closed-loop recycling of plastic materials • R&D on next-generation solar cells • R&D on basic environmental technologies
Manufacturing	Controlling greenhouse gas emissions	Global environmental conservation	• Introducing scrubbers for PFCs • Installing photovoltaic power systems and cogeneration equipment
	Discharge control and recycling of waste	Recycling resources	• Reducing waste discharge and recycling waste into valuable materials
	Preventing pollution	Preventing pollution	• Introducing specific gas discharge treatment systems • Installing scrubbers
Recycling/Logistics		Upstream/ downstream	• Promoting collection, recycling and proper disposal of used products
Social Responsibility		Social activities	• Expanding social contribution activities
Total			

What Environmental Accounting Reveals

Continuing from the previous fiscal year, production output grew in this fiscal year, centered on energy-creating and energy-saving products, and thus, the level of environmental burden also continued to trend upward. In this light, Sharp placed particular emphasis this fiscal year on controlling greenhouse gas emissions.

The Mie and Kameyama sites introduced scrubbers and both sites have now completed installation on all its production lines that use PFCs. In addition, Sharp has taken positive steps to save energy at all sites (companies), including the introduction of large-scale energy-saving equipment at the Fukuyama and Katsuragi sites. Sharp is also promoting the installation of photovoltaic power systems and has completed installation at all Sharp Corporation production sites by this fiscal year.

Investment in measures to reduce greenhouse gas emissions totaled approximately 4.1 billion yen, accounting for nearly two-thirds of the total amount (approximately 6.2 billion yen) invested in environmental conservation. The results indicate that dramatic growth in production output superceded the effects of energy conservation, and thus, the company was not able to fully compensate for increased CO_2 emissions, which were 23% above the levels of the previous fiscal year. However, the company was able to significantly reduce PFC gas emissions, which were 77% of the previous fiscal year's levels.

Environmental Conservation Costs (Unit: ¥ million)		Economic Effects (Unit: ¥ million)		Environmental Conservation Effects	Environmental Burden			See page(s)
Invest-ment	Expen-ses	Real Effects	Inferred Effects		Index	Fiscal 2003	Fiscal 2004	
53	1,458	–	–	Promoting environmental sustainability management Number of sites that acquired ISO 14001 certification: 15 Number of employees who received general environmental training: 511 Number of employees who received specialized environmental training: 530 Number of employees who participated in basic e-learning classes: 25,308	–			35～38
–	764	–	13,434	Supplying environmentally conscious products Green Seal products' share of net sales: 73.9% Super Green products' share of net sales (2nd half-year): 5.4% Total amount of power generated by photovoltaic power systems: 541,621MWh CO_2 emission control effect: 236,147t-CO_2 CO_2 emission control effect through energy-saving design/development: 15,026t-CO_2	–			41～44
4,101	1,986	1,207	247	Greenhouse gas emissions reduced by controlling electricity and fuel consumption CO_2 emissions controlled: 70,567t-CO_2 PFC emissions controlled: 265,945GWPt	Energy applied CO_2 emissions PFC emissions	14,896TJ 675,852t-CO_2 550,280GWPt	18,178TJ 829,575t-CO_2 424,743GWPt	45～49
180	2,672	955	–	Waste recycled or sent for appropriate disposal Waste: Waste recycled: 96,281 tons; Final landfill disposal rate: 0.02% Recycled and reused water: 14,421,000m³	Waste generated Final landfill disposal rate Water consumption (received volume) Total drainage	172,866 tons 97 tons 11,863,000m³ 10,252,000m³	204,713 tons 44 tons 12,959,000m³ 9,212,000m³	
1,862	4,208	–	–	Observed environmental laws and regulations Prevented air/water pollution and noise/vibration Promoted risk management Chemical substances properly managed and correctly disposed of Reduced risk of soil contamination	SOx emissions NOx emissions COD emissions PRTR-designated chemical substances handled PRTR- designated chemical substances released/transferred	1.7 tons 61.2 tons 26 tons 3,907 tons 136 tons	6.4 tons 113.8 tons 21.8 tons 4,089 tons Released: 13.7 tons Transferred: 149.2 tons	
0	220	90	2	Collection, recycling and proper disposal of used products Used business-use PCs: Recycled: 2.6 tons Used home-use PCs: Recycled: 17.8 tons Used copiers: Collected and recycled: 1,830 tons Used home appliances (4 categories): Recycled: 34,344 tons Environmental burden during distribution reduced CO_2 emissions controlled: 3,170t-CO_2 Number of low-pollution vehicles introduced: 615	Total transportation CO_2 emissions Total product shipment Container/packaging materials used	150,680,000 tkm 23,584t-CO_2 512,239 tons 18,381 tons	170,000,000 tkm 26,697t-CO_2 549,395 tons 17,696 tons	51～54
0	54	–	–	Environmental social contributions Number of employees who attended SGC activities: Total 23,964	—			68～70
6,196	11,362	2,252	13,683					

* Environmental Accounting Guidelines 2005, the Ministry of the Environment, Japan

Environmental Accounting Scope and Time Period

Sites covered

A total of 15 sites (companies) in Japan fall within the scope of environmental accounting: Sharp Corporation sites at Tochigi, Yao, Hiroshima, Nara, Katsuragi, Fukuyama, Mie, Tenri, Mihara, Kameyama and Tanabe, the business premises of Sharp's head office, Sharp Manufacturing Systems Corporation, Sharp Niigata Electronics Corporation and Sharp Takaya Electronic Industry Co., Ltd.

Period covered

April 1, 2004 through March 31, 2005

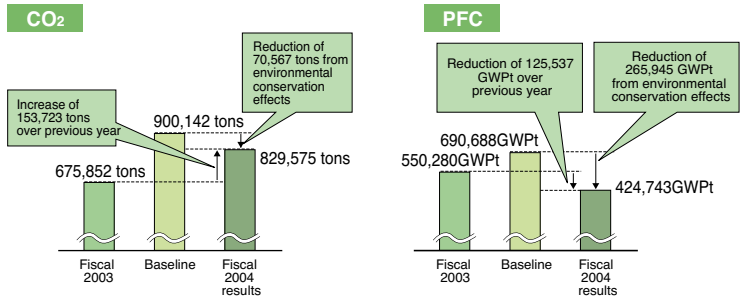
Referenced guidelines

Environmental Accounting Guidelines 2005 published by the Ministry of the Environment, Japan

Effect of Controlling Greenhouse Gas Emissions

To make it easier to understand Sharp's activities aimed at protecting the environment, the results of our efforts to control greenhouse gas emissions are indicated by comparing the amount of reduction in emissions to a baseline* value. By comparing the environmental impacts for this fiscal year with this baseline, the reader will be able to determine the degree to which environmental impacts have been reduced as a result of on-going environmental conservation activities that would be difficult to grasp in a year-on-year comparison.

* The baseline represents the environmental impact that would have occurred in the same period if no environmental conservation activities had been implemented.



How Business Activities Relate to the Environment

Sharp determines numerical values that represent the relationship between its business activities and the environment, using them to improve environmental sustainability management. By taking these numerical values at all stages of its business activities and using them to create proposals for measures, as well as to analyze and assess results, Sharp is aiming to effectively reduce the burden it places on the environment.

INPUT

Energy consumption 21,911TJ※1

Electricity
1,894 million kWh
Japan 1,635 million kWh
Overseas 259 million kWh

LPG
14,821 tons
Japan 10,713 tons
Overseas 4,108 tons

City gas
53.1 million m^3
Japan 49.915 million m^3
Overseas 3.185 million m^3

Heavy oil, kerosene, gas oil, gasoline
11,605 kl
Japan 9,448 kl
Overseas 2,157 kl

PFCs purchased
Japan
2.55 million GWPt※2

Water consumed
15.484 million m^3
Japan 13.254 million m^3
Overseas 2.230 million m^3

Chemical substances (PRTR) handled
Japan
4,089 tons

Packaging materials
Japan
17,696 tons

Resources consumed
Japan and overseas
631,000 tons※3

※1 TJ=10^{12}J

※2 Global warming potential. The value of the scale of impact on global warming converted into CO_2 weight.

※3 Total weight of products in the 15 major categories shipped in fiscal 2004 (estimate) and waste generated from production sites.

Flow of Sharp Group business activities

Technological development, planning, design

Sharp develops technology for reducing the burden on the environment: products are designed to be energy saving, use minimum resources, and adhere to the "3R"※ principle.

Materials procurement

Based on Sharp's own Green Procurement Guidelines, the entire Sharp Group purchases parts and materials that are environmentally conscious.

Manufacture

In addition to striving to reduce the burden on the environment, Sharp also works to make manufacturing activities coexist in harmony with the local community and the natural environment.

※ 3R: Reduce (reduce waste), Reuse (reuse products and parts), Recycle (recycle materials)

OUTPUT

CO_2 emissions
1.087 million t-CO_2
Japan 864,266 t-CO_2
Overseas 222,635 t-CO_2

SOx emissions
Japan
6.4 tons

Drainage
Japan
9.507 million m^3

Nitrogen discharged
Japan
150.1 tons

Final landfill disposal
Japan
219 tons

Chemical substances (PRTR) released and transferred
Japan
Released 13.7 tons
Transferred 149.2 tons

PFC emissions
Japan
424,743 GWPt※2

NOx emissions
Japan
113.8 tons

COD (chemical oxygen demand)
Japan
22.3 tons

Phosphorous discharged
Japan
1.9 tons

Recycled into new products, reused as new parts, closed-loop material recycling, etc.

Other uses

INPUT

Energy consumption

Japan
Vehicle fuel
10,177 kl※4

※4 Estimate

INPUT

Energy consumption
25,784 TJ※1

Electricity
2,623 million kWh※5

RECYCLE

Material recycling

Amount of used home appliances (4 kinds) recycled into new home appliances (4 kinds)
Japan 34,344 tons

TVs 9,056 tons
Air conditioners 6,642 tons
Refrigerators 10,832 tons
Washing machines 7,814 tons

Amount of closed-loop material recycling of plastics※7
Japan 420 tons

Amount of recycled copiers
Japan 1,830 tons

Amount reused as new copier parts
Japan 34 tons

Amount of recycled PCs
Japan 20.4 tons

※7 For details, see page 42.

Logistics

For product delivery, Sharp is doing its best to switch from trucks to trains, which place less burden on the environment, and to introduce low-pollution vehicles into its delivery force.

Product use

Sharp helps people live in harmony with the natural environment by offering photovoltaic power systems and energy- and resource-saving products.

Recycling

Sharp is building recycling systems for used products and developing recycling technology that cooperates with product design groups.

OUTPUT

CO_2 emissions

Japan
26,697 t-CO_2

Total shipment weight from the Logistics Center

Japan
549,395 tons

OUTPUT

CO_2 reductions

150,000 t-CO_2※6
(337 million kWh)

OUTPUT

CO_2 emissions

1.14 million t-CO_2※5

OUTPUT

Weight of which that was not recycled into new products or materials, or reused

Japan
11,648 tons
(four home appliances, PCs, copiers)

※5 Estimate of annual energy used and amount of CO_2 emitted by products in the 14 major categories shipped in fiscal 2004. Calculation based on each product's energy consumption rate.
※6 Amount of annual power generated (kWh) by Sharp's solar cells shipped in 2004 and CO_2 reductions (t-CO_2).

Developing Super Green Technologies

The development of superior environmental technologies is an essential factor in the environmental performance of products and devices. That's why Sharp is making a corporate-wide effort to develop "Super Green Technologies",* envisioning its highest-priority environmental technologies as "One-of-a-Kind Environmental Technologies."

* See the paragraph below on details of what Sharp defines as "Super Green Technologies."

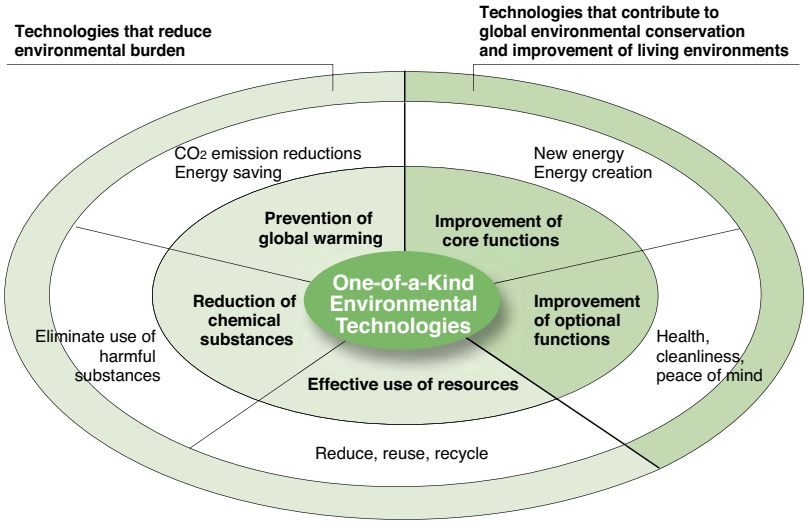
Objectives for Fiscal 2004	Achievements	Objectives for Fiscal 2005	Objectives for Fiscal 2007
● Develop closed-loop plastic material recycling technology; use 420 tons of recycled plastics in new products	→ **420 tons of recycled plastics used in new products**	● Use 500 tons of recycled plastics in new products	● Use 1,000 tons of recycled plastics in new products
● Develop mass-production technology for easy-release fasteners; use in communications equipment	→ **Researched use of easy-release fasteners in communications equipment**	● Use in communications equipment	● Use in audio/video equipment
● Develop LCD panel recycling technology	→ **Guidelines set for recycling LCD panels**	● Develop recycling technology for LCD TV cabinet materials	● Develop technology to recover indium from LCD panels
● Eliminate all lead solder (in new products for main markets)	→ **Eliminated all lead solder (in new products for main markets)**	● Eliminate all lead solder (in new products for all markets)	——

Developing Super Green Technologies

Sharp classifies environmental technologies 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. Category 1) is further divided into two fields: improvement of core functions and improvement of optional functions. Category 2) covers three fields: prevention of global warming, reduction of chemical substances, and effective use of resources. Sharp centers its environmental activities on these five fields, and it envisions the most important theme in each field as a One-of-a-Kind Environmental Technology and aggressively promoting its further development.

Unique technologies evolving from these developments, which contribute to environmental conservation, are what Sharp calls Super Green Technologies.

One-of-a-kind technological development fields that give birth to Super Green Technologies



Developing Easy-Release Technologies

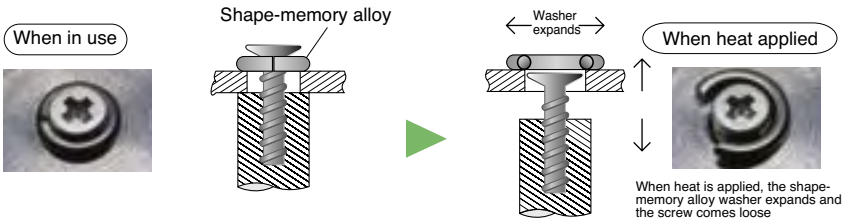
Since fiscal 2003, Sharp has been working in collaboration with NEC Tokin Corporation, Union Seimitsu Co., Ltd., and Tokai University in Japan on the development of mass production technology for parts that make it easy to disassemble used products.

During fiscal 2004, this group implemented cost reductions and improved the fastening strength of parts developed during the previous fiscal year for practical application in communications equipment. The resulting washers employ TiNi* shape-memory alloy. As seen in the illustration, the washer remains securely fastened in use but expands when heated, releasing the head of the screw and enabling the two combined pieces to come apart easily.

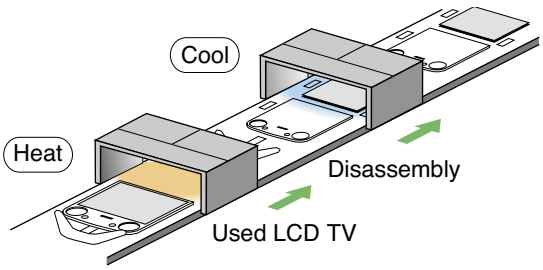
The group will continue its research in mass production technology over the coming year, with plans to develop applications to home appliances in the future.

* TiNi: Alloy made of titanium and nickel

TiNi shape-memory alloy washer



Principle of automatic disassembly with application of heat



Development of Closed-Loop Plastic Material Recycling Technology

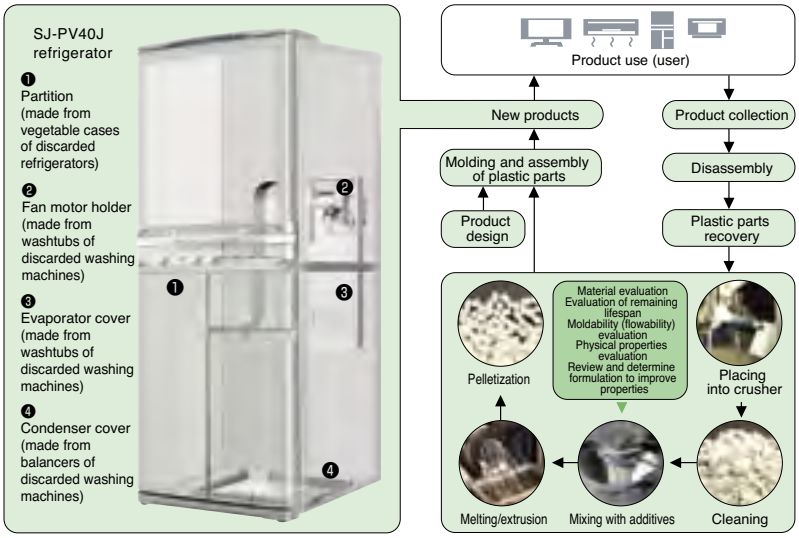
In 1999, Sharp began working on the development of closed-loop plastic material recycling technology that repeatedly recycles scrap plastics from four types of home appliances[*1] and reuses it as material to manufacture new home appliance products. This process was successfully put into practice in 2001 in Japan. Continuing progress expanded the recycling technology ever further. Sharp developed a method for easily evaluating the lifespan of recycled plastics in May 2003, and followed with the technology for dismantling scrap washing machine tubs.

During fiscal 2004, Sharp developed the technology to modify the physical properties and lifespan of recycled plastics, making it possible to specify requirements for recycled parts or materials. This led to a surge in the consumption of recycled plastics in Japan, from 270 tons last fiscal year to 420 tons this year. In honor of this contribution to the establishment of a recycling-oriented society, Sharp received the Education, Culture, Sports, Science and Technology Minister's Prize at the 13th Global Environment Awards[*2] in Japan (April 2004). Sharp was also winner of the 15th Best Technology Award[*3] (June 2005) sponsored by the Japan Society of Polymer Processing.

Continuing forward in fiscal 2005, Sharp plans to boost consumption of recycled plastics to 500 tons and advance the development of material recycling technologies for other types of plastics, such as ABS resin and technologies that allow the separation and sorting of mixed plastics.

*1 Four home appliances: air conditioners, TVs, refrigerators and washing machines.
*2 Sponsored by the Japan Industrial Journal, the awards recognize businesses and municipalities that have made active environmental conservation efforts toward the harmonious coexistence of industry growth and the global environment.
*3 This award, sponsored by the Japan Society of Polymer Processing (JSPP), recognizes unique and superior technologies that contribute to the advancement of plastic processing.

Process flow diagram of plastic material recycling and practical examples



Developments in practical material recycling

Used parts		Material type	Technologies	Recycled as	Quantity of recycled material used (ton/year)				
					FY2001	FY2002	FY2003	FY2004	FY2005 (target)
Washing machine	Washtub	Polypropy-ene	· Adjust properties · Improve lifespan	Washing machine tub	40	80	190	180	200
			· Adjust moldability · Adjust properties · Improve lifespan	Refrigerators parts	—	—	—	80	90
	Spin tub/ balancer	Polypropy-ene	· Adjust moldability · Improve lifespan	Refrigerator parts	—	—	50	65	80
TV	Rear cabinet	Polypropy-ene	· Sort non-incombustible PP · Improve lifespan · Improve heat resistance	Air conditioner parts	—	—	10	20	20
				Refrigerators parts	—	—	15	40	40
Refri-gerator	Vegetable case	Polypropy-ene	· Improve properties · Improve lifespan	Refrigerators parts	—	—	—	35	70
	Shelf plate	Poly-styrene	· Sort materials · Adjust physical properties · Improve lifespan	Refrigerators parts	—	—	5	—	—
				Total	40	80	270	420	500

Developing Recycling Technology for LCD Application Products

Aiming to develop recycling technology for LCD TVs and other LCD applications, Sharp has been working on a corporate-wide recycling technology project since fiscal 2003.

In fiscal 2003, Sharp established guidelines for the safe removal of mercury backlights used widely in LCD TVs and LCD panels and, soon after, formulated guidelines for recycling LCD panels in fiscal 2004.

Sharp plans to continue to develop the basic technologies needed for recycling LCD TVs, such as the plastic material recycling for LCD TV cabinets, to bring LCD TV recycling into full practice in the immediate future in Japan.

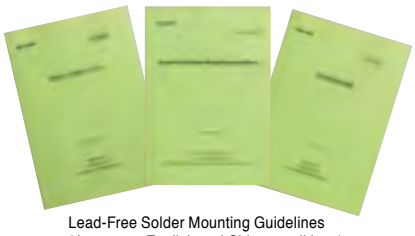
Eliminating Lead Solder

Sharp introduced the Lead-Free Solder Introduction Guidelines in 2001, following with the Lead-Free Solder Mounting Guidelines and the Management Guidelines for Sn-3.0Ag-0.5Cu[*1] Flow Solder Tank in 2003.

In fiscal 2004, Sharp reviewed the Standard for Control of Lead-Free Solder Composition and introduced it at production sites in Japan and overseas. Sharp also held training sessions on mounting lead-free solder. A company-wide conference was also held as a forum to enhance the technical knowledge of its engineers and share information about lead-free soldering technology throughout the company.

As a result of these efforts, Sharp succeeded in completely eliminating lead solder in new products for main markets[*2] during fiscal 2004.

*1 Sn-3.0Ag-0.5Cu: A standard lead-free solder used by Sharp. Its composition is 96.5% tin (Sn), 3% silver (Ag) and 0.5% copper (Cu).
*2 New products released after April 2005 in North America, Europe, China and Japan.



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

WEB Information posted on the Web site

http://sharp-world.com/corporate/eco/report

Environmental technology development examples

Creating Super Green Products and Devices

To continually enhance the environmental performance of its products and devices, Sharp revises and upgrades its original in-house guidelines each year to set stricter-than-ever standards for the development of Green Products and Devices. Through these efforts, Sharp has increased the ratio of Green Seal Products* to total net sales and brought more Super Green Products and Green Devices onto the market during fiscal 2004 in Japan.

Objectives for Fiscal 2004	Achievements	Objectives for Fiscal 2005	Objectives for Fiscal 2007
● Green Seal Products* accounting for 65% of net sales in Japan	→ **Green Seal Products accounted for 73.9% of net sales**	● Green Seal Products accounting for 80% of net sales in Japan	● Green Seal Products accounting for 90% of net sales in Japan
● Super Green Products accounting for 10% of net sales in Japan (2nd half-year)	→ **Super Green Products accounted for 5.4% of net sales (2nd half-year)**	● Super Green Products accounting for 20% of net sales in Japan	● Super Green Products accounting for 35% of net sales in Japan
● Green Devices accounting for 5% of net sales (2nd half-year)	→ **Green Devices accounted for 23.9% of net sales (2nd half-year)**	● Green Devices accounting for 40% of net sales ● Super Green Devices accounting for 5% of net sales	● Green Devices accounting for 75% of net sales ● Super Green Devices accounting for 15% of net sales

* Green Seal Products are certified as such based on Sharp's own certification standards.
Note: The sales ratios of Green Seal Products and Green Devices include both sales of Super Green Products and Super Green Devices.

Make All Products "Green Products"

Environmentally conscious products are what Sharp calls "Green Products." Aiming to make all its products Green Products, Sharp formulated guidelines in December 1998, defining specific design targets and design know-how based on seven concepts. Sharp has introduced these guidelines at all design and production sites in Japan and overseas.

Since April 1998, Sharp has been certifying products for Japan, which offer a particularly high level of environmental performance, as "Green Seal Products." Since that time, the volume of sales for certified Green Seal Products has increased along with Sharp's certification standards, which are reviewed every year.

In fiscal 2004, Sharp introduced an even higher standard of environmental performance for its products, one that surpasses that of Green Seal Products. This next stage in environmentally conscious products, which exceed stricter-than-ever in-house standards, is what Sharp calls the "Super Green Products."

Development of Green Products

The first step in developing Green Products is product planning, where Sharp applies its Green Product Guidelines to design a product that is environmentally enhanced in every aspect. Next, in the design stage, Sharp sets specific objectives based on the assessment items of the Green Product Standard Sheet.

Finally, in the testing and mass production stages, Sharp determines how well the actual product has met the objectives set out for it.

In fiscal 2004, Green Products had to satisfy at least 90% (85% for fiscal 2003) or more of 47 assessment items, a standard that was met by all of Sharp's new products.

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

Category	Green Seal Products	Super Green Products
Ⅰ Required items	・Satisfies four required items of the Environmental Performance Criteria	・Satisfies four required items of the Environmental Performance Criteria ・Meets the RoHS directive ・Has environmental label status
Ⅱ Level of environmental consciousness	・Satisfies at least one item of the External Environmental Claim Standards	・Is 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 environmental 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.

Sharp Green Product concept

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.

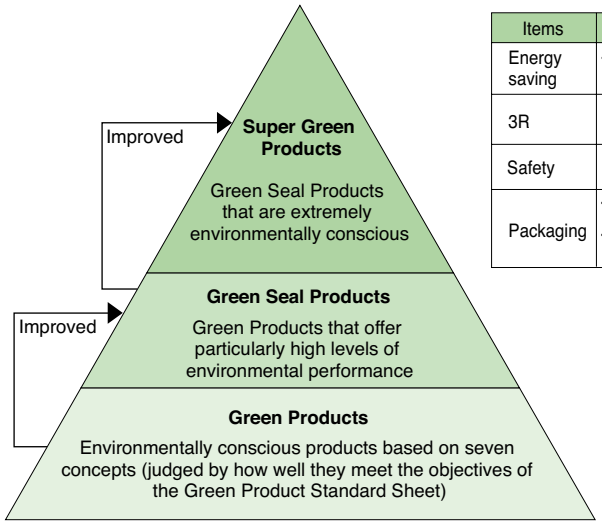
Recycle — **Recyclable products**
Choose materials that can be easily recycled or reused in products, and label the type of material used.

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.

The Sharp concept of environmentally conscious products



Four required items of the Environmental Performance Criteria in Japan

Items	Detail
Energy saving	・Less power consumption and standby power consumption when compared to previous models
3R	・Easy separation and disassembly or is upgradeable
Safety	・Uses lead-free solder in more than one circuit board
Packaging	・Abolishes the use of polystyrene foam (for products weighing less than 10 kg) ・Uses less plastics or packaging material when compared to previous model

Green Seal
(Sharp's own environmental label)

Certification of Green Seal Products and Super Green Products in Japan

In fiscal 2004, Sharp established the Environmental Performance Criteria as the new overall assessment standard for certifying Super Green Products.

The certification standard of Green Seal Products is to satisfy all four required items of the Environmental Performance Criteria, at least one item of the External Environmental Claim Standards, and score 70 points or higher out of a total 100 points of the Environmental Performance Criteria.

Even higher standards have been established for the certification of Super Green Products, where compliance with the EU RoHS directive* and acquisition of the Japanese Eco Mark are essential. In addition, products must score 90 points or higher in the Environmental Performance Criteria to achieve Super Green Product status.

During fiscal 2004, 188 models of Green Seal Products accounted for over 73.9% of total net sales in Japan, and 6 models of Super Green Products such as LCD TVs and air purifiers were created during the second half of the year. In the coming years, Sharp plans to raise those percentages even higher.

* RoHS: An EU directive on the "Restriction on the use of certain Hazardous Substances." RoHS prohibits the use of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) in electrical and electronic equipment released in the EU after July 1, 2006.

External Environmental Claim Standards (Green Seal Products) in Japan

Items	Detail
Energy saving, energy creating	Power consumption ・Industry-leading model of each product category Standby power consumption ・Industry-leading model of each product category ・0.1W or less (remote controlled products) ・1.0W or less (phones, faxes, PCs) Energy creating ・Industry-leading conversion efficiency
The 3Rs	Resource savings during use ・Industry-leading model of each product category (saving water and detergent, etc.) Compact/lightweight ・Industry-leading model of each product category ・Reduced by 30% or more compared to previous models Recycled materials ・Use of recycled materials (material recycling)
Safety	Green materials ・Abolishing use of halogen-based flame retardants, substituting polyvinyl chloride ・Use of refrigerant with low global warming potential ・Use of lead-free solder in all circuit boards ・Abolishing use of heavy metals (lead, mercury, hexavalent chromium, cadmium)
Eco Mark	Acquired Eco Mark ・Acquired Eco Mark authorized by the Japan Environment Association
Others	Original technology ・Sharp technology, the environmental consciousness of which can be evaluated objectively

Development and Certification of Green Devices and Super Green Devices

Environmentally conscious devices are what Sharp calls "Green Devices." To define the standards and assessment method for their development, Sharp established guidelines, which it began introducing into all device groups in April 2004.

The development of Green Devices begins at the planning stage, where the environmental consciousness of the product is discussed in every aspect. Next, in the design stage, Sharp sets specific objectives based on the assessment items of the Green Device Standard Sheet. Finally, in the prototype building and mass production stages, Sharp determines how well the actual product has met the objectives set out for it.

In fiscal 2004, Green Devices had to satisfy at least 90% or more of all 21 assessment items (9 of which are compulsory) listed in the Environmental Performance Criteria. As a result, 1,079 devices were certified as Green Devices and accounted for over 23.9% of total net sales, greatly exceeding the initial goal.

Starting from fiscal 2005, Sharp will develop devices that have an even higher standard of environmental performance, one that surpasses even that of Green Devices. This is the next stage up in environmentally conscious devices, and they will be what Sharp calls "Super Green Devices."*

* Super Green Devices will have to satisfy at least 95% or more of the 21 assessment items (10 of which are compulsory) listed in the Environmental Performance Criteria. At the same time, they must be either the industry's No. 1, or the industry's first devices in at least one item of the External Environmental Claim Standards.

The Green Device concept

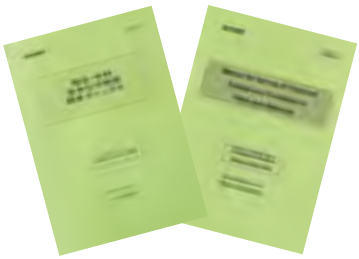
Energy saving	Reduce total power consumption and reduce power consumed in standby mode compared to previous models
Recyclability	Use standard plastic or materials that are easy to separate and disassemble (target: LCD devices)
Resource saving	Reduce device weight or volume compared to previous models
Green materials	Use no RoHS*-designated substances or substances prohibited under Sharp standards
Long life	Extend the life of the product with exchangeable parts and consumables (target: LCD devices)
Packaging	Reduce packaging materials
Information disclosure	Provide information on chemical substances in devices

Promoting Green Procurement

In fiscal 2000, Sharp established the Green Procurement Guidelines and began efforts to enhance the environmental consciousness of parts and materials at a supplier level. Under these guidelines, Sharp evaluates the environmental approach of a supplier using two assessment categories: the Assessment of Environmental Management and the Assessment of Delivered Goods.

In fiscal 2003, Sharp formulated its "Survey Manual for Chemical Substances in Parts and Materials" and adopted a survey tool issued by the Japan Green Procurement Survey Standardization Initiative* to investigate on chemical substance content as determined by the Initiative (with formaldehyde added as Sharp's own survey substance). The company also began taking measures toward eliminating RoHS-designated substances. To confirm the safety of parts and materials, particularly those likely to be in contact with food, tableware and human bodies, Sharp required its suppliers to provide safety test results and the like for evaluation.

* A council comprising 6 organizations and 85 companies, mainly electronics manufacturers including Sharp Corporation, which works to standardize research on chemical substances in parts and materials.



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

WEB Information posted on the Web site

http://sharp-world.com/corporate/eco/report

- Super Green Product examples
- Green Device examples
- Green procurement assessment items
- Data on environmental label products

Achievement of a Super Green Factory

Sharp is taking concrete actions toward enhancing the environmental consciousness of its production sites all over the world. Having established proprietary assessment standards to rank a factory with high environmental consciousness as a Green Factory, and one with extremely high environmental consciousness as a Super Green Factory, Sharp has set a medium-term objective of converting all its factories into Green Factories or higher by fiscal 2007.

Objectives for Fiscal 2004	Achievements	Objectives for Fiscal 2005	Objectives for Fiscal 2007
Sharp Corporation production sites ● Super Green Factory 2 ● Green Factory 8	**Sharp Corporation production sites** ● **Super Green Factory 2** ● **Green Factory 8**	Sharp Corporation production sites ● Raise average improvement rate of environmental performance by 11% compared to FY2003	● Upgrade all ten Sharp Corporation production sites to Super Green Factories
Subsidiaries and affiliated companies ● Green Factory 2 Overseas production sites (companies) ● Assess all 22 sites	**Subsidiaries and affiliated companies** ● **Green Factory 2** **Overseas production sites (companies)** ● **Completed the assessment of all 22 sites**	Subsidiaries and affiliated companies ● Green Factory 4 Overseas production sites (companies) ● Green Factory 4	● Upgrade all other domestic and overseas production sites (companies) to Green Factories

Upgrading All Plants to Green Factories

At Sharp, for a factory to earn the title of "Green Factory," it must achieve a high level of environmental consciousness. It must not only reduce the environmental burden associated with its production activities, but also try to ensure complete harmony with nature and the local community. Sharp formulated guidelines defining the basic policies and operational know-how for realizing a Green Factory based on 10 concepts. These guidelines were introduced at all domestic production sites from fiscal 1999 onward and at all overseas production sites from fiscal 2001 onward.

In fiscal 2003, Sharp drew up specific assessment criteria to evaluate environmental performance and began assessments for in-house certification. Sharp also set new criteria for the certification of "Super Green Factories," which surpass those of Green Factories. Using these measures, Sharp plans to improve the environmental performance of all its production sites, with the goal of upgrading all Sharp Corporation sites (currently 10 sites) to Super Green Factories and all other Sharp Group sites (currently 6 domestic and 22 overseas sites) to Green Factories by fiscal 2007.

Green Factory Guidelines
(Japanese and English editions)

Efforts Toward the Achievement of Super Green Factories

With regard to the construction of new factories, environmental impact assessments are incorporated at the early planning stages to achieve Super Green Factory status. This includes the establishment of environmental conservation measures that the plant must implement, as well as the standards that must be maintained. Sharp then carries out preliminary assessments exactly as an outside party would.

Moreover, Sharp is continually improving environmental performance at its existing plants to promote their step-by-step upgrade.

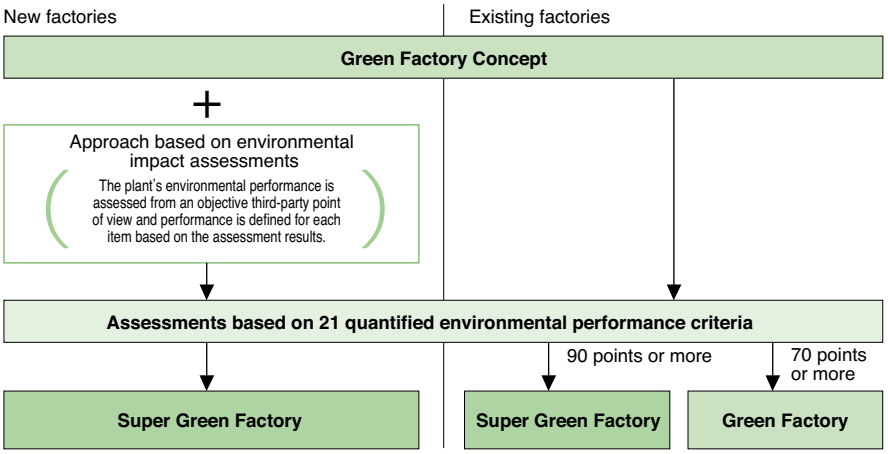
In fiscal 2003, the newly constructed Kameyama Plant was certified as the first-ever Super Green Factory. Then in fiscal 2004, the Mie Plant became the first-ever existing plant to upgrade to a Super Green Factory.

Other Sharp production sites have also been endeavoring to improve environmental performance by focusing on release reductions of chemical substances and the expansion of waste utilization. These combined efforts have improved the total environmental performance of Sharp Corporation's production sites by 9% compared to fiscal 2003.

The Green Factory concept

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

Process required to achieve Super Green Factories



Certification of Green Factories and Super Green Factories

Twenty-one quantified environmental performance criteria and assessment weighting

	Reductions in greenhouse gas emissions	Release reductions of chemical substances	Appropriate disposal of industrial waste	Reductions in the consumption of industrial water	Surveillance, safety and information disclosure
Environmental performance criteria	· 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 CO_2 emissions per production unit · Implementation of managerial decision-making standards	· PRTR* atmospheric emissions · PRTR water emissions · Sulfoxide produced by combustion · Measures against various bad odors	· Zero discharge to landfill · Confirmation of appropriate disposal · Convert waste to valuable recycled materials	· Use of rain condensation water · Recovery of production rinse water	· 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%

* PRTR: Pollutant Release and Transfer Register

Assessment and approval are based on 21 quantified environmental performance criteria grouped into five major categories: "reductions in greenhouse gas emissions," "release reductions of chemical substances," "appropriate disposal of industrial waste," "reductions in the consumption of industrial water," and "surveillance, safety and information disclosure." After evaluation, a plant scoring 70 points or more out of a possible 100 is certified as Green Factory, and one scoring 90 points or more is certified as Super Green Factory.

Topics

Mie Plant Becomes First Existing Factory to Achieve Super Green Status

Major efforts in upgrading to a Super Green Factory

Zero Discharge to Landfill

In April 2004, the Mie Plant achieved zero discharge to landfill. It eliminated waste by recycling at every step of the manufacturing process, with measures that included introducing a system to recycle 100% of the hydrofluoric acid wastewater and using the gloves from the clean rooms as roadbed material.

Scrubber to Reduce Odors

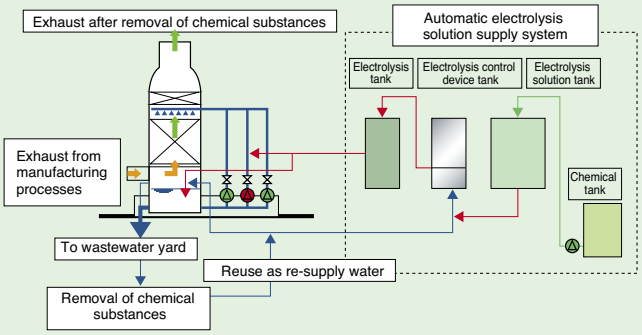
Exhaust gas from manufacturing processes contains chemical substances that cause air pollution and foul odors if released into the atmosphere directly. To reduce each of these substances (acids, alkalis, isopropyl alcohol) and thus control such releases, the Mie Plant installed a scrubber.

In fiscal 2004, the plant also installed an electrolysis device on a scrubber that absorbs and eliminates acetic acid. This device causes strong oxidation that breaks down the acetic acid into water and carbon dioxide. The result is higher performance for the scrubber.

Photovoltaic Power System

The Mie Plant No. 3 installed a 1,246-m^2, 180-kW photovoltaic power system on its south exterior wall. The system began generating electricity in March 2005. Used mainly to provide lighting for all non-manufacturing rooms, the system is expected to contribute to the reduction of 50 tons of CO_2 emissions a year.

Mie Plant No. 3



Topics

The Kameyama Plant Receives Japan Sustainable Management Award

The Kameyama Plant in Japan was recognized for its outstanding environmental sustainability management by being chosen from among 125 applicants for the highest honor, the Sustainable Management Pearl Award, in the 2004 Japan Sustainable Management Awards* (sponsored by the Japan Sustainable Management Awards Committee and Mie Prefecture).

This award shows the high esteem for the environmental measures—including 100% recycling of manufacturing process wastewater, the introduction of an LNG cogeneration system and the installation of a photovoltaic power system—taken by the Kameyama Plant, Sharp's first Super Green Factory.

The Kameyama Plant was also the proud recipient of the grand prize at the 1st Nikkei Monozukuri Awards 2004, sponsored by Nihon Keizai Shimbun, Inc. For details, please refer to page 21.

* The Japan Sustainable Management Awards honor all organizations across the nation, no matter what their size or type of business—including private companies, NPOs and schools—that demonstrate outstanding results of their environmental sustainability management efforts.

Information posted on the Web site

http://sharp-world.com/corporate/eco/report

- Environmental efforts at the Mie Plant
- Environmental efforts at the Kameyama Plant

Reducing Greenhouse Gas Emissions

Sharp is taking active measures to control the greenhouse gas emissions resulting from its business activities. In addition to reducing energy consumption through the introduction of cogeneration systems, energy-efficient production equipment and photovoltaic power systems, Sharp is also reducing greenhouse gas emissions such as PFCs[*1] by installing scrubbers and using replacement gases with less greenhouse effect.

Objectives for Fiscal 2004	Achievements	Objectives for Fiscal 2005	Mid- and Long-Term Objectives
CO_2 emissions per production unit[*2] ● Japan: -Product sites: Reduce by 2% from previous fiscal year -Device sites: Reduce by 5% from previous fiscal year ● Overseas: Reduce by 2% from previous fiscal year at production sites (companies)	CO_2 emissions per production unit[*2] ● Japan -Product sites: Increased by 14% from previous fiscal year -Device sites: Increased by 3% from previous fiscal year ● Overseas: Reduced by 6% from previous fiscal year at production sites (companies)	CO_2 emissions per production unit[*2] ● Japan: -Product sites: Reduce by 2% from previous fiscal year -Device sites: Reduce by 5% from previous fiscal year ● Overseas: Reduce by 2% from previous fiscal year at production sites (companies)	Every fiscal year CO_2 emissions per production unit[*2] ● Japan: -Product sites: Reduce by 2% from previous fiscal year -Device sites: Reduce by 5% from previous fiscal year ● Overseas: Reduce by 2% from previous fiscal year at production sites (companies) Objectives for FY2010 CO_2 emissions per real production unit[*3] ● Japan: All production sites: Reduce by 25% compared to FY1990

Domestic sites include only the business sites of Sharp Corporation. Overseas sites include Sharp subsidiaries and affiliated companies. To reasonably evaluate the effect of controlling greenhouse gas emissions, Sharp adopts an index referred to as "per production unit."

*2 Per production unit (t-CO_2/100 million yen) = CO_2 emission (t-CO_2) ÷ production output (100 million yen)

*3 Per real production unit (t-CO_2/100 million yen) = CO_2 emission (t-CO_2) ÷ production output (100 million yen) ÷ domestic corporate price index (electrical equipment) determined by the Bank of Japan

*1 A general term for perfluorocarbon gases such as CF_4 (carbon tetrafluoride), C_2F_6 (carbon hexafluoride) and the like, which are greenhouse gases.

Efforts by the Sharp Group

In fiscal 2004, the Sharp Group was able to keep greenhouse gas emission increases to 4.7% compared to the previous fiscal year, despite the Kameyama Plant starting full-scale operations. Greenhouse gas emissions per production unit decreased by 8% compared to the previous fiscal year. This is thanks to company-wide efforts to save energy and to greatly reduce PFC emissions by installing scrubbers. In future, the Sharp Group will work harder toward achieving its corporate vision of "zero global warming impact by 2010."*

* For details, refer to pages 5, 12 or 32.

Controlling CO_2 Emissions

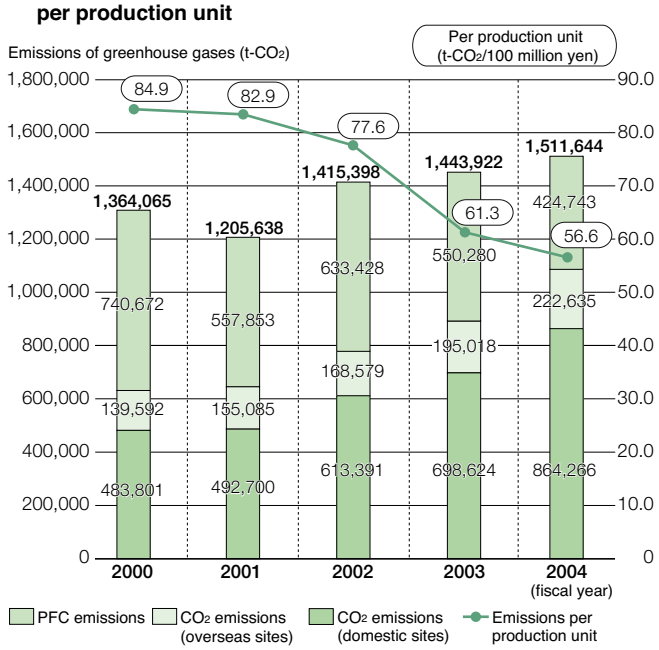
Sharp surpassed its goals for reducing CO_2 emissions per production unit at overseas manufacturing sites. At domestic manufacturing sites, although Sharp kept increases in energy use to less than increases in production volume, changes in the market resulted in large decreases in shipped prices for manufactured goods, and CO_2 emissions per production unit increased for both products and devices. Sharp will, however, continue to work to reduce CO_2 emissions through aggressive efforts including the introduction of cogeneration systems, energy-efficient equipment and photovoltaic power systems.

Controlling PFC Emissions

Sharp reduced emissions of greenhouse gases like PFCs and SF_6 by 23% from the previous fiscal year through measures such as switching to gases with lower global warming potential and introducing scrubbers to decompose greenhouse gases.

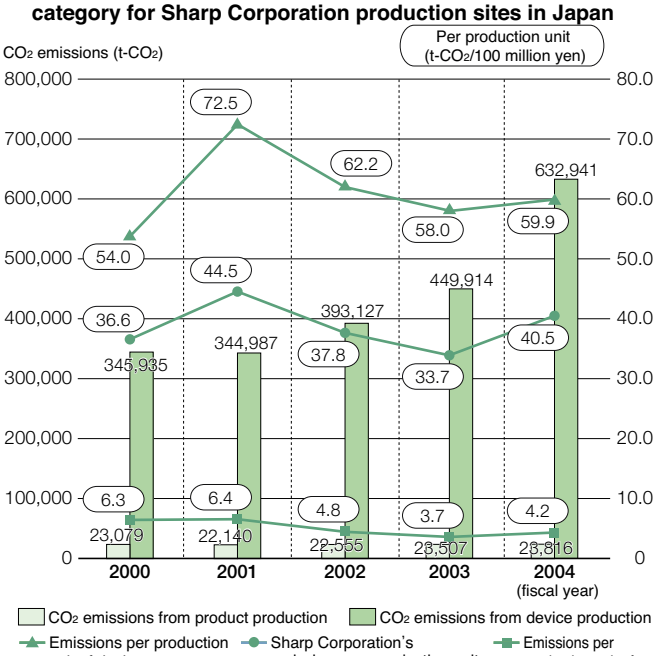
For decomposing greenhouse gases, Sharp adopted optimum treatment methods based on the type or quantity of gases used, achieving a decomposition efficiency rate of more than 90%. In addition, Sharp is taking an integrated approach toward reducing environmental burden, for example, by developing technology that recovers and reuses fluorine generated during the gas decomposition process.

Sharp Group's emissions of greenhouse gases and per production unit



Per production unit is calculated from production-related emissions.

CO_2 emissions per production unit by business category for Sharp Corporation production sites in Japan



Information posted on the Web site http://sharp-world.com/corporate/eco/report

- Examples of reductions in greenhouse gases
- Data on greenhouse gases

Minimizing and Recycling Waste

Sharp has been working to bring down its total amount of waste generated and to recycle waste as much as possible. As a result, Sharp's domestic production sites (companies) as a whole have achieved zero discharge to landfill[*1] for four consecutive years. In the future, Sharp plans to enhance the recycling rate of valuable waste[*2] domestically and reduce the amount of waste generated overseas. In addition, Sharp is focusing on recycling wastewater and controlling the amount of water supplied.

Objectives for Fiscal 2004	Achievements	Objectives for Fiscal 2005	Objectives for Fiscal 2007
● Domestic production sites (companies): Recycle 12% of waste into valuable materials	→ **Recycled 11% of waste into valuable materials**	● Domestic production sites (companies): Recycle 14% of waste into valuable materials	● Domestic production sites (companies): Recycle 16% of waste into valuable materials
● Overseas production sites (companies): Reduce waste generated by 2% per production unit from previous fiscal year	→ **Reduced by 5% per production unit from previous fiscal year**	● Overseas production sites (companies): Reduce waste generated by 2% per production unit from previous fiscal year	Every fiscal year ● Overseas production sites (companies): Reduce waste generated by 2% per production unit from previous fiscal year

*1 Sharp defines "zero discharge to landfill" as reducing the amount of landfill disposal as close to zero as possible. Specifically, zero discharge to landfill is considered to have been achieved when the final landfill disposal rate (amount of landfill disposal ÷ total waste generated × 100) is less than 0.5%.

*2 Valuable waste is waste, which may be sold as resources or recyclable materials. Recycling rate of valuable waste = Quantity of valuable recycled waste ÷ total quantity of waste generated × 100

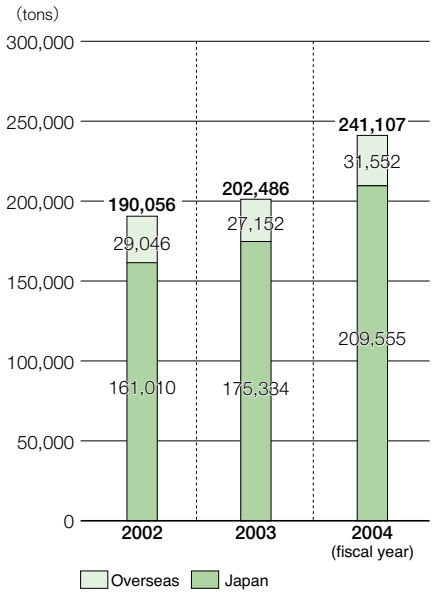
Zero Discharge to Landfill[*1] in Japan for Four Years in a Row

The total amount of waste generated by the Sharp Group in fiscal 2004 increased by 19% compared to the previous fiscal year with the startup of full-scale operations at the Kameyama Plant. However, Sharp's thorough recycling of waste brought the final landfill disposal rate in fiscal 2004 down to 0.02%, making it four years in a row that Sharp has achieved zero discharge to landfill at its domestic production sites (companies) as a whole.

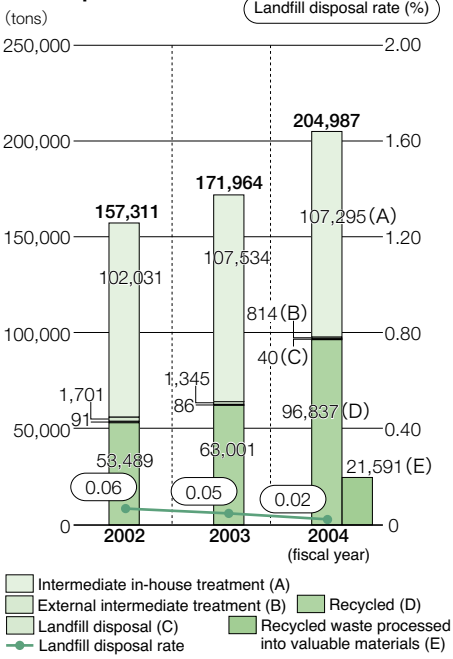
In particular, the Kameyama and Mie sites achieved landfill disposals of absolute zero. Since it began production, the Kameyama Plant has employed a system for the complete recycling and reuse of all waste. The Mie site too, achieved zero discharge to landfill by finally being able to develop a method for recycling clean room gloves into roadbed materials. As well, Sharp was able to recycle 11% of all generated waste into valuable materials in fiscal 2004. At the same time, overseas production sites reduced waste generation per production unit by 5% compared to the previous fiscal year.

Sharp aims to further reduce the amount of landfill disposal and improve the recycling rate of valuable waste. To do so, Sharp will minimize the generation of waste, thoroughly separate and recover recyclable waste, and pursue recycling through the development of intermediate treatment technologies. Furthermore, to ensure proper management and disposal of industrial waste, Sharp will introduce databased manifesto management systems into all domestic production sites by fiscal 2006.

Amount of waste generated from Sharp Group



Amount of waste and landfill disposal rates from production sites (companies) in Japan

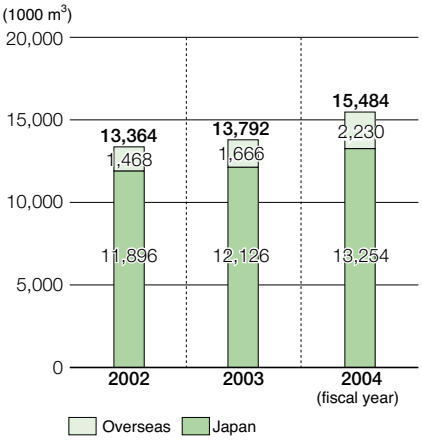


Figures include domestic subsidiaries and affiliated companies as of FY2004. Sharp began calculating the amount of waste processed into valuable materials from FY2004.

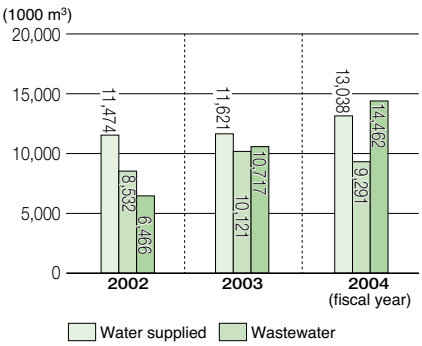
Recycling of Water

In Japan, Sharp collects the water used in manufacturing processes and recycles it using advanced wastewater purification technologies. The Mie and Kameyama sites, in particular, recover and recycle all wastewater generated during production. In fiscal 2004, the Kameyama site began full-scale operations, bringing with it a substantial increase in the amount of water recovered and recycled compared to the previous fiscal year. Sharp will continue its efforts toward the effective use of water resources into the future.

Amount of water used by Sharp Group



Amount of water supplied, wastewater, and recovered and recycled water at all production sites (companies) in Japan



Figures include domestic subsidiaries and affiliate companies as of FY2004.

Information posted on the Web site http://sharp-world.com/corporate/eco/report

- Examples of reductions in the discharge of waste
- Examples of effective water use
- Data on waste
- Data on water usage

Appropriate Management and Reductions in the Discharge Risk of Chemical Substances

Sharp achieves unified control and management of all chemical substances used through its chemical substances management system (S-CMS[*1]). Sharp also defines 460 chemical substance groups under high-priority control, including 354 substance groups specified under the PRTR[*2] Law and 106 additional substance groups such as hazardous air pollutants. Sharp evaluates the health risks associated with each substance for its proper management and implements systematic reductions in its discharge.

Objectives for Fiscal 2004	Achievements	Objectives for Fiscal 2005	Objectives for Fiscal 2007
● Reduce discharge risk[*3] by 20% compared to FY2003 at Sharp Corporation production sites in Japan	● **Reduced by 30% compared to FY2003**	● Reduce discharge risk by 30% or more compared to FY2003 at Sharp Corporation production sites in Japan	● Reduce discharge risk by 50% or more compared to FY2003 at Sharp Corporation production sites in Japan

*1 S-CMS: Sharp Chemical Management System *2 PRTR: Pollutant Release and Transfer Register. A system to collect and publicize data, such as the amount of harmful chemicals handled and discharged. *3 Discharge risk: Sum total of all numerical values assigned to each chemical substance released into the atmosphere. Values are calculated based on: Discharged amount (concentration at site boundary) X risk to human health coefficient

Introduction of a Unique Chemical Management System

To ensure centralized management of chemical substances at all sites, Sharp developed the Sharp Chemical Management System (S-CMS), which it began introducing at all domestic production sites in fiscal 2000. S-CMS enables total management of all chemicals used by classifying them in categories such as production site, type of chemicals used in each country, amount, constituents, the degree of harmfulness, and related laws and regulations.

In fiscal 2001, Sharp established a global version of the system, and in fiscal 2002, began introducing it into overseas production sites. By fiscal 2004, all 10 of Sharp's domestic production sites and 15 of its 22 overseas production sites were operating under the system.

Because strict management of chemical substances is an essential requirement in establishing Green Factories, Sharp is planning to introduce S-CMS at all its production sites, including those overseas.

Promotion of Risk Management in Japan

Sharp's approach to managing the level of risk associated with the discharge of chemical substances is to evaluate it from a human health point of view. Sharp measures the impact of chemicals on human health at site boundaries based on Sharp's management standard value (one thousandth of the TLV*) assigned to each substance, and makes efforts to reduce risks. For chemical substances that Sharp has placed under high-priority control (460 chemical substance groups, including 354 substance groups specified under the PRTR Law and 106 additional ones such as hazardous air pollutants), Sharp is reducing discharge risks by promoting a preferential reduction in substances that have a greater impact on human health.

In fiscal 2004, Sharp achieved a 30% reduction in discharge risks compared to fiscal 2003 by improving treatment facilities at domestic production sites.

In coordination with plans to expand production in fiscal 2005, Sharp will also take additional measures to reduce the discharge of chemical substances by installing more scrubbers, improving processes and using alternative substances. These efforts will help Sharp achieve a 50% or more reduction in discharge risks compared to fiscal 2003 by fiscal 2007.

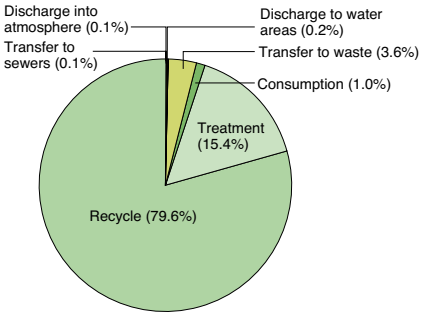
* Threshold limit value: The allowable concentration of airborne chemical substances in working environments, as stipulated by the American Conference of Industrial Hygienists

Eliminating PRTR Substances in Japan

Of the 354 chemical substance groups covered by the PRTR Law in fiscal 2004, the number of chemicals handled in quantities greater than 500 kg annually at all Sharp Corporation production sites was 17 substance groups (17 substances for the previous fiscal year), and the handling of these substances totaled 4,089 tons (up 5% compared to the previous fiscal year).

Although the use of PRTR chemicals increased with the launch of full-scale production at the Kameyama Plant, and there was a production increase at the Katsuragi (formerly Shinjo) site, Sharp reduced emissions by 33% compared to the previous fiscal year. This was achieved by thoroughly treating harmful substances and recycling, as well as by substituting phenols and 2-Ethoxyethyl acetate. Sharp will continue its efforts to reduce the amount handled and emitted in the future.

Destinations of PRTR-covered chemical substances in Japan



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

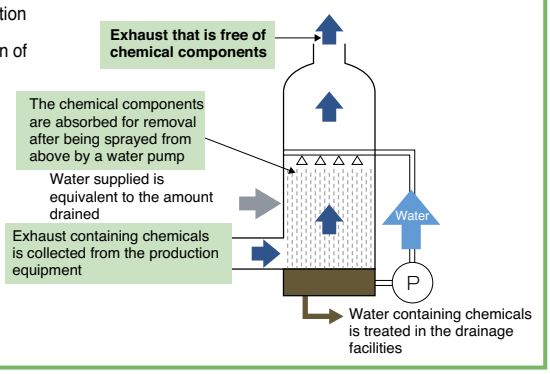
Main chemical substances	Amount of release (tons) in FY2004	Proportion (%)	Destination	Amount of release (tons) in FY2003 (reference)
Hydrogen fluoride & its water-soluble salts	9.3	68.1	Water areas	12.1
2-Aminoethanol	1.9	14.0	The atmosphere	2.1
2-Ethoxyethyl acetate	1.0	7.0		2.7
Xylene	0.5	3.8		0.6
Phenol	0.5	3.4		2.3
1,3,5-Trimethylbenzene	0.4	3.0		0.6
Others	0.1	0.7		0.2

Example

Measure to reduce emissions of chemical substances
Plant exhaust gas purification system (Kameyama Plant, Japan)

Treatment method of exhaust gas containing water-soluble organic, acidic and alkali chemicals

The exhaust gas generated in the production process contains chemical components, which are removed to reduce the emission of chemicals into the atmosphere.



WEB **Information posted on the Web site**
http://sharp-world.com/corporate/eco/report

- Data on chemical substance management
- Data on the atmosphere and water quality

Promoting Risk Management

Sharp is working to prevent accidents by strengthening safety measures for hazardous articles and harmful chemical substances. At the same time, Sharp is aiming to develop better relationships with the local community and actively promoting risk communication. Examples are the exhibition of environmental information at Sharp Festivals and the appointment of "Risk Communicators" at each domestic site.

Strict Implementation of Special Safety Measures for Hazardous Articles and Harmful Chemical Substances

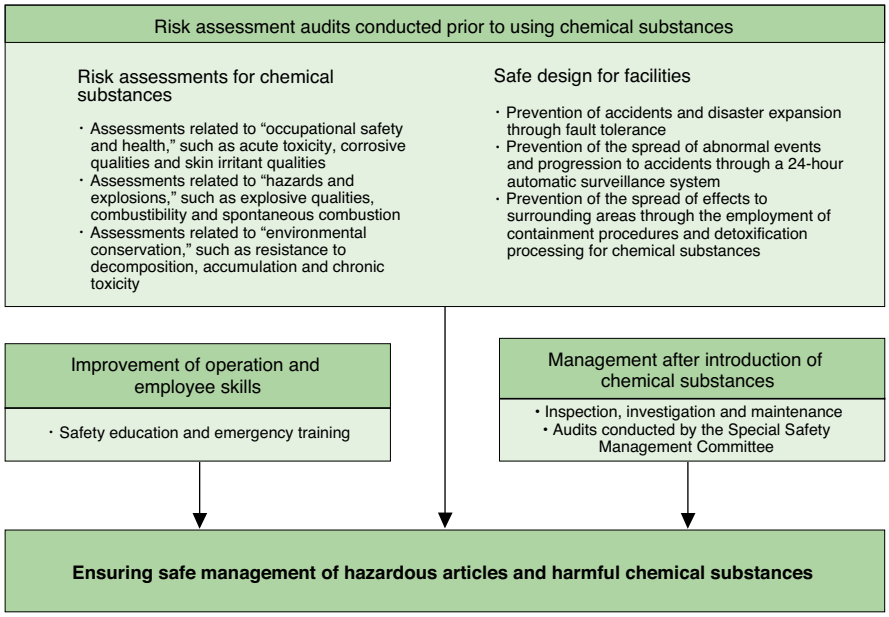
Ensuring the safe management of hazardous articles and harmful chemical substances, Sharp implements numerous safety measures in business activities ranging from R&D to production as "special safety management."

In special safety management, risk assessment audits are mandatory in the introductory stage for hazardous articles and harmful chemical substances, as well as in the installation stage of handling equipment. By carrying out risk assessment audits to investigate, evaluate and predict risks and hazards from the two viewpoints of preventing accidents, disasters and health hazards, and reducing environmental burden, Sharp is able to reduce and remove these risks to the greatest extent possible. In addition to regular maintenance and inspections that ensure facility safety, Sharp implements extra safety control measures in line with its fault tolerance and fail-safe* principles.

To support and enhance safety measures, Sharp has appointed a Special Safety Management Committee at each site. In preparation for the possibility of an emergency situation, the committee conducts training, safety education programs and audits on the use of hazardous articles and harmful chemical substances.

* Fail-safe: Design principle for predicting the occurrence of faults such as failures, faulty operation or defects in design, as a way of minimizing damage should such faults occur.

Management of hazardous articles and harmful chemical substances



Progress in the Purification of Soil and Groundwater in Japan

A survey conducted in 1998 on soil and groundwater identified chlorine solvent pollution within the Nara, Yao, Tenri and Katsuragi sites, all locations where today Sharp's soil and ground water purification treatments are well underway.

At the Yao site, chemicals such as trichloroethylene have now been reduced to levels lower than the environmental standard; however, Sharp is continuing purification of the district. Since fiscal 2003, the Tenri and Katsuragi (formerly Shinjo) sites have been conducting purification measures with biotechnology, which has lowered the concentrations of harmful substances.

All sites regularly notify local municipalities and residents of the cleanup progress and measures being taken to prevent soil pollution. The use of the chorine solvents, which was the cause of this type of pollution, was completely abolished in September 1999.

Progress in cleaning up soil and groundwater

Site	Cleanup status for fiscal 2004
Nara site	・Since October 1999, Sharp has conducted operations to prevent off-site pollution and purify polluted soil. Sharp is also studying ways to speed up the process to complete cleanup at the earliest possible date. ・Sharp informs and confirms its progress with local resident associations and government authorities every year.
Yao site	・As of September 1999, cleanup was completed in two of the three areas involved, and Sharp continues to periodically monitor the areas. Steady progress is being made in the remaining area, where Sharp was able to reduce chemicals such as trichloroethylene to levels even lower than the environmental standard; however, Sharp is continuing purification of the district. ・Periodic on-site inspections of the cleanup process are held for local authorities.
Tenri and Katsuragi sites	・Pollution was minor at both sites, but Sharp still performs periodic monitoring of groundwater and provides reports to local resident associations. ・Sharp uses biotechnology, which employs microorganisms to achieve results better than those set by the ordinary environmental standards.

Positive Promotion of Risk Communication in Japan

Sharp's domestic sites are promoting risk communication activities as a means of enhancing mutual understanding with residents living in the vicinity of Sharp sites. Efforts include exchanging opinions and providing information on conditions, such as effluents, exhaust gases, noise and vibrations, which may arise from business activities.

Since fiscal 2002, Sharp has assigned "Risk Communicator" posts at each domestic site, with the number totaling 21 in fiscal 2004. All Risk Communicators make an effort to share and upgrade their information by holding training based on Sharp's "Risk Communication Manual."

Each domestic site also disclosed information with environment information panels at events such as Sharp Festivals and by speaking at municipality-sponsored seminars on Sharp's environmental preservation efforts. In addition, the Nara and Yao sites hold information meetings every April with local government and resident associations to explain the company's progress and efforts related to purification measures for soil and groundwater pollution.

WEB **Information posted on the Web site**
http://sharp-world.com/corporate/eco/report

Examples of risk communication activities

Environmentally Conscious Logistics and Packaging

Sharp is working to reduce the environmental burden associated with distribution in Japan by shifting transportation modes from trucks to railway. It is also introducing low-pollution company vehicles and is encouraging drivers to drive in an environmentally conscious manner. The company is also trying to recycle and reuse packaging and cushioning materials used during product transportation as much as possible.

Objectives for Fiscal 2004	Achievements	Objectives for Fiscal 2005	Objectives for Fiscal 2007
● Domestic railway cargo transport (container transport): 625 containers/month	● Domestic railway cargo transport (container transport): 770 containers/month	● Domestic railway cargo transport (container transport): 900 containers/month	● Domestic railway cargo transport (container transport): 1,100 containers/month
● Reduce 3,000 t-CO_2 of CO_2 emissions in Japan	● Reduced 3,170 t-CO_2 of CO_2 emissions in Japan	● Reduce 3,500 t-CO_2 of CO_2 emissions in Japan	● Reduce 4,000 t-CO_2 of CO_2 emissions in Japan

Changing Modes of Transport

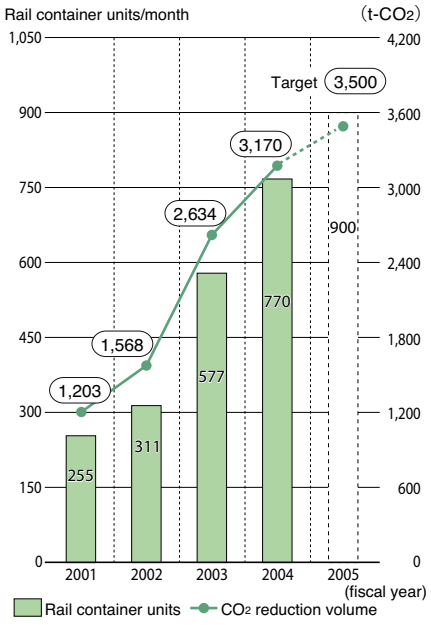
Sharp is shifting from transportation by truck to transportation by more environmentally friendly means in Japan; for example, by railway, which emits just one-eighth the CO_2 compared to trucks.

In fiscal 2004, Sharp made an average of 770 railway transport trips a month. This resulted in CO_2 emission reductions of 3,170 tons per year (a 20% greater reduction than the previous fiscal year), equivalent to the amount absorbed by a forest approximately 37 times the area of the Tokyo Dome*. As a result of these efforts, transportation by railway as a percentage of total transportation volume reached 14%.

In fiscal 2005, Sharp is planning to raise domestic railway transportation volume to 16% of total transportation volume in Japan. This will be achieved by accelerating the transportation shift from truck to railway, including domestic transport for import and export of cargo. In addition, Sharp is looking into changing from air transport for import and export of cargo to a new means, high-speed vessels.

* Calculation based on the assumption that 1 ha of cedar forest absorbs 18 tons of CO_2 per year.

Railway container shipments and CO_2 reduction in Japan



Improvements in Load Efficiency, Expansion of Direct-from-Factory Shipments, and Introduction of Low-Pollution Trucks

The total domestic transportation volume in fiscal 2004 was 170 million t×km, 13% more than the previous fiscal year. This increase in volume was due to the increase in the amount of products handled, including expanded production of LCD TVs at the Kameyama Plant. To reduce transportation volume even as the amount of products to be transported increases, it is necessary to seek higher efficiency in distribution. In fiscal 2005, Sharp's policy is to reduce the total transportation volume by improving the load efficiency using mixed load transportation, and by expanding direct delivery to/from factories without going through distribution centers.

To meet the Japanese laws and regulations related to transportation by truck, such as the NOx-PM Law and regulations on diesel-powered vehicles, Sharp is urging its shipping contractors to introduce low-pollution vehicles, since Sharp does not have its own trucks.


Shift from transportation by air to transportation by high-speed vessels


Loading a railway container

Low-pollution truck

Example

SEC in Environmentally Conscious Distribution Initiative (United States)

Since 2004, Sharp's US sales subsidiary (SEC) has been participating in the Smart Way Transport Partnership, an initiative of the Environmental Protection Agency (EPA), transport companies and shipper companies to promote efficient, environmentally conscious distribution of goods. Through this partnership, SEC delivers products by preferentially using Smart Way transport companies that strive to reduce burden on the environment as well as by shifting from truck transport to the more environmentally friendly rail transport.

Within SEC sites, the company is urging drivers to turn off their engines when stopped by putting up "No idle" posters and by educating employees about the environmental benefits of such efforts.

SEC poster urging drivers to turn off engines and reduce exhaust gas

Introducing Low-Pollution Company Vehicles

Sharp is aiming to replace all business vehicles in Japan, including cars for sales activities, with low-emission-approved vehicles by fiscal 2010. Sharp introduced 615 low-emission-approved vehicles and put 44 diesel-powered vehicles out of service in fiscal 2004 based on the following principles: 1) replace old company vehicles with low-emission-approved vehicles, 2) shift from diesel-powered vehicles to gasoline vehicles, and 3) replace older vehicles and vehicles with high mileage. As a result, the number of low-emission-approved vehicles used by the Sharp Group in Japan accounted for 66.5% of all 3,900 company vehicles.

Sharp has also been pushing environmentally conscious driving* ("Eco Driving") company-wide since fiscal 2004 and working to enhance individual environmental awareness and driving manners. As an example, Sharp has been putting "Eco Driver" stickers on company vehicles as well as preparing and distributing the "Eco Driving Guide," which outlines how to drive in an environmentally conscious manner and how it can benefit everyone.

* To drive in a manner that ensures minimum exhaust emission from vehicles.

"Eco Driver" sticker

Eco Driving Guide

Reusing and Recycling Secondary Distribution Materials

Sharp is striving to reduce the amount of secondary materials used mostly for distribution in Japan; materials which are used to protect products and to prevent cargos from falling over or collapsing.

Sharp's Nishinihon Logistics Center has built a system that generates no waste by asking cooperative companies to process used stretch film*, so that it can be used over and over again as remanufactured film. This approach has allowed Sharp to reduce the amount of landfill disposal by about 100 tons in total in fiscal 2004 (3.8 times more compared to the previous year).

In addition, the Kameyama Logistics Center introduced reusable bands for preventing the collapse of cargos. These bands can be used in place of stretch film.

* Made of polyethylene, stretch film is used for wrapping stacked products in order to protect them from dust and water and to prevent collapse of cargos.

Stretch film to be reprocessed

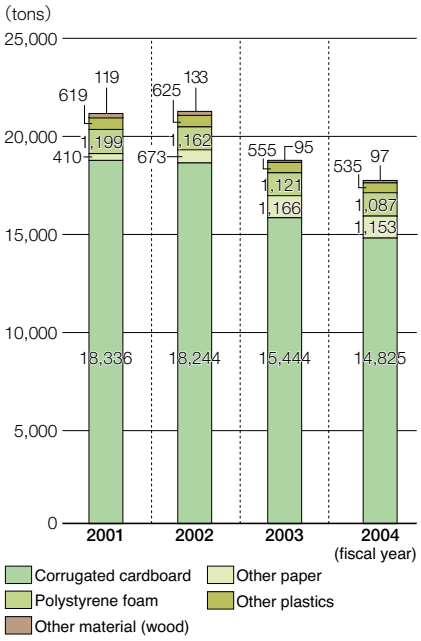
Reusable band to prevent cargos from collapsing

Designing Easy-to-Recycle Containers and Packaging Materials

Sharp makes an effort to use packaging materials made of paper such as corrugated cardboard, which is easy to be disposed of and has a high recycling rate in Japan. They are mainly used for packages for small article products* and can be disposed of as general domestic waste in most cases. To make it easier to dispose of corrugated cardboard from the home as recyclable materials, Sharp has developed packaging that can be easily collapsed to a small size and is working to put this packaging into practical use as soon as possible.

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

Amount of packaging materials used in Japan



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

Sharp was awarded a prize in the category of electrical appliance packaging in the 2004 Japan Packaging Contest (sponsored by the Japan Packaging Institute) for its easy-to-collapse and easy-to-collect packaging. Developed in 2003, this packaging is now used for MD component systems and MD radio cassette players. The high recycling efficiency and universal design of the packaging, which can be safely folded to a small size by following the directions on the package, were highly evaluated by the contest judges.

Packages collapsible to a very small size for easy collection

Recycling Used Products

To contribute to the construction of a recycling-oriented society, Sharp is taking the lead in the recovery and recycling of used products. The building of recycling systems is moving along in countries around the world, particularly in Europe, where recovery and recycling of electrical and electronic equipment will be mandatory starting in August 2005.

Objectives for Fiscal 2004	Achievements	Objectives for Fiscal 2005	Objectives for Fiscal 2007
● Build collection/ recycling system in EU countries	→ ● **Participated in building recycling systems in European countries. In Germany, jointly established a unique recycling scheme called ProReturn with Loewe and Philips.**	● Begin smooth operation of recycling system in Europe	● Efficient operation of recycling systems

Sharp's Recycling Concept

Sharp is engaged in the recycling of various used products based on three concepts: 1) improve the recycling rate and aim for zero landfill disposal, 2) improve the efficiency of the recycling system to reduce recycling costs, and 3) incorporate recycling technologies into the development and design of products.

The Japanese 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). Freezers were added to the list in 2004. The Japanese Law for Promotion of Effective Utilization of Resources made the collection and recycling of business-use PCs mandatory in April 2001. In October 2003, this law was amended, making it mandatory to collect and recycle home-use PCs.

Sharp 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, the company is engaged in reuse and recycling efforts for copiers.

Recycling of Four Kinds of Home Appliances (Air Conditioners, TVs, Refrigerators and Washing Machines)

Sharp is constructing a highly efficient recycling system by collaborating with five other consumer electronics companies* to establish and operate 190 designated sites for picking up old appliances and 16 sites for recycling in Japan.

In fiscal 2004, about 1.25 million units of the appliances (up 7.1% over the previous year) were recovered and recycled in total. The increase in the amount of appliances recovered is likely due to new purchases of air conditioners because of a summer heat wave and to an increased awareness by consumers about the importance of recycling appliances. The processing rates in the recycling plants satisfied the legal standard for all four kinds of appliances. In future, Sharp will improve the system in response to changes in conditions, such as an increase in the amount of products disposed of, and will work to further improve the processing rate.

Kansai Recycle Systems Corporation, a Sharp-affiliated recycling company, holds recycling design seminars aimed at providing product design engineers with feedback from the recycling plant on how to design easy-to-recycle products.

* Five companies: Fujitsu General Ltd., Hitachi Living Systems, Ltd., Mitsubishi Electric Corporation, Sanyo Electric Co., Ltd., Sony Corporation (in alphabetical order)

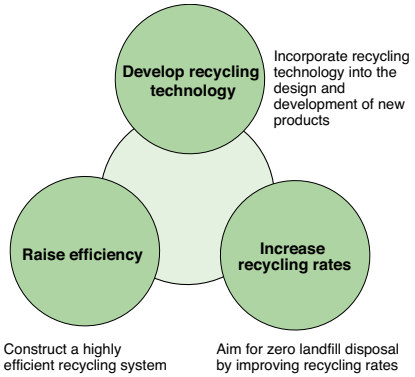
Recycling of PCs

To collect discarded home-use PCs from customers in Japan, Sharp established the PC Recycling Center. Customers can contact the Web site or telephone the center to request disposal. As well, the PC industry is working with Japan Post in a PC recovery system using special parcel packages called "Eco-Yu Packs" available at more than 20,000 post offices around Japan. This system offers convenient and nationally standardized service by which people can take used PCs to post offices or have them picked up at their homes (free of charge). In fiscal 2004, approximately 3,400 PCs (notebook, desktop) and monitors were recovered and recycled through this system.

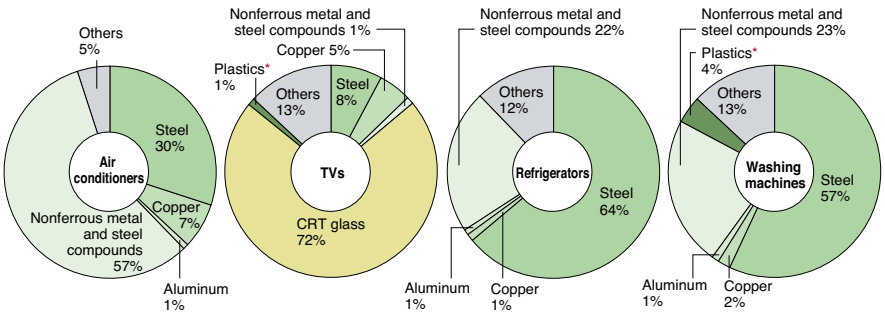
Meanwhile, Sharp is designated by the Japanese Ministry of the Environment as a "wide-area recycled industrial waste processor*", and has constructed its own recovery system to collect and recycle used business-use PCs.

* As an exception to the Japanese disposal/cleaning laws, manufacturers that have been designated as "wide-area recycled industrial waste processor" can collect and process industrial waste on a nation-wide basis from their manufactured and processed products for the purpose of recycling.

Recycling concept



Sharp Corporation's recycling component ratio of materials for the four home appliances in Japan (fiscal 2004)



* Only plastics closed-loop recycled into Sharp products (other plastics are included in "Others")

Recycling of Copiers

Sharp is collecting discarded copiers through two systems in Japan: a recovery system run by the copier industry, and one built independently by Sharp.

In fiscal 2004, about 22,800 copiers (68% more than the previous fiscal year) were recovered. A portion of the collected copiers is then remanufactured: copiers are given status testing, disassembled into parts, cleaned and tested before being put back into the production line. New parts are also added to produce copiers with a guarantee of performance and quality equal to new products. In fiscal 2004, Sharp shipped 818 of these (down 46% from the previous fiscal year) remanufactured copiers.

As with the main unit of copiers, Sharp is working to recover and recycle used toner cartridges across the country. In fiscal 2004, approximately 351,000 toner cartridges (43% more than the previous fiscal year) were recovered, and about 243,000 of these (57% more than the previous fiscal year) were remanufactured and shipped.

Those copiers and toner cartridges that could not be remanufactured were disassembled manually and sorted so that their materials could be recycled.

Recycling of Portable Rechargeable Batteries

Sharp is a member of the JBRC (Battery Association of Japan's Portable Rechargeable Battery Recycling Promotion Center), and participates in the center's Collection System for Used Small Portable Batteries.

Sharp established collection stations at sites and repair centers around Japan. These stations collect and recycle nickel cadmium batteries, nickel-metal-hydride batteries, lithium-ion batteries, and some small-sized sealed lead-acid batteries.

In fiscal 2004, the JBRC recovered about 1,162 tons of used batteries.

Sharp will actively continue working to improve recovery and recycling of portable rechargeable batteries as a manufacturer of products that use these batteries.

Recycling Activities Overseas

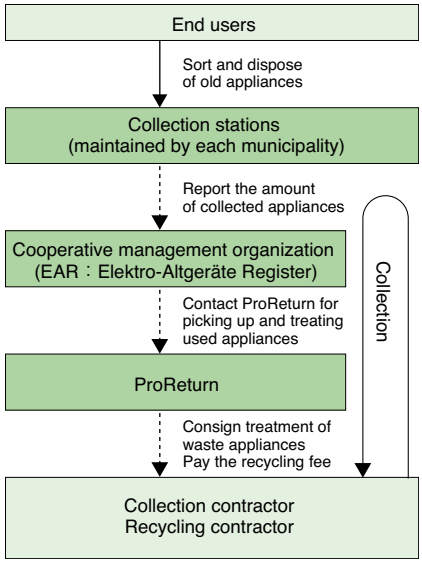
Europe

In EU member states, as of August 2005, the producers of electrical and electronic equipment are obligated to recover and recycle used electrical and electronic appliances under the Waste Electrical and Electronic Equipment (WEEE) Directive, which was enacted in February 2003.

Presently, industry associations and other organizations in each EU member state are constructing collective recycling systems, with Sharp's local subsidiaries participating in this construction.

In Germany, Sharp's sales subsidiary (SEEG), Loewe AG and Philips Consumer Electronics have established ProReturn, a recovery and recycling cooperation for waste electrical and electronic equipment. ProReturn is constructing a high-efficiency system maximizing economy of scale based on cooperative management.

Recycling system in Germany



Participants from Sharp's European subsidiaries in the Pan-European WEEE Meeting

United States

Sharp's US sales subsidiary (SEC) has been participating in "Plug-In To eCycling," a recycling program that the Environmental Protection Agency has been promoting in various regions in the US since 2002.

In 2004, SEC supported more than 130 recycling events and achieved recovery and recycling of about 1,200 tons of used home appliances across America. In recognition of such efforts, SEC and its partners were honored by the Environmental Protection Agency at the Consumer Electronics Show in January 2005. SEC continues to be a participating partner in this program.

SEC employee receiving an award from the Environmental Protection Agency

Australia

In Australia, as a proactive initiative before the Recycling Act is established throughout the country, a not-for-profit company, PSA (Product Stewardship Australia Ltd.) was established in November 2004 to manage and promote the end-of-life disposal of TVs in an environmentally sound manner. Sharp's sales subsidiary in Australia (SCA) is a foundation member of PSA and has contributed seed funding for PSA's establishment. PSA is working with the Australian government to devise a financing model for end-of-life recycling of all TVs in Australia and to ensure that all importers will share the responsibility on an equitable basis approved by the government.

Information posted on the Web site
http://sharp-world.com/corporate/eco/report

Data on recycling of used products

Promotion of Environmental Communication

To communicate its policies and efforts in environmental sustainability management to its wide range of stakeholders, Sharp publicizes its fundamental orientation on the environment in various media and exhibitions, including Environmental Reports, Web sites and newspaper ads. The company also makes efforts to improve communication with local communities through site reports and factory tours.

Environmental Report and Site Report

Every year since 1999, Sharp has issued an annual report on its environmental activities. Beginning with the fiscal 2002 edition, the report added to its coverage of environmental issues social and economic perspectives of the company in order to give an overall view of Sharp's activities. The fiscal 2002 and 2003 editions of Sharp's "Environmental Report" won awards of merit, while the fiscal 2004 edition received the award for excellence, the highest award given, in the Green Reporting Awards*.

This year's edition contains expanded coverage of the social aspects of Sharp's business activities. The title has also been changed to "Environmental and Social Report".

And, since 2004, all production sites have been issuing site reports, which are distributed to neighboring residents as well as to visitors touring the plant. In future, the number of sites issuing reports will be expanded to include non-production sites and overseas bases.

* Sponsored by Toyo Keizai Inc. and the Green Reporting Forum, these awards recognize outstanding environmental reports.

Environmental Reports
(Japanese, English and Chinese editions) and site reports

Exhibitions

In December 2004, Sharp took part in Eco Products 2004 in Japan, conveying the theme that "Sharp aims to achieve zero global warming impact in both business and daily life." At the exhibition, Sharp introduced its environmentally conscious technologies, devices and products along with information on Sharp's approach to tackling environmental problems in production.

Eco Products 2004

Web Site on Social Environmental Activities

Introducing content from the Environmental Report, Sharp's Web site also presents the latest information on its environmental activities with detailed data on the environmental impact resulting from its business activities.

Web site for Sharp's social environmental activities
http://sharp-world.com/corporate/eco

Exchanges with Local Communities

To enhance communication with neighboring residents, the company's domestic sites hold events such as Sharp Festivals, as well as conduct factory tours.

Environment exhibit at a Sharp Festival

Advertising and Commercials

In order to get messages as well as information about its environmental efforts to a wider audience, Sharp advertises in print media and on television. In fiscal 2003 in Japan, with the slogan "Let's go Ecology Class with Sharp," the company created TV commercials with the theme of environmentally conscious lifestyles, as well as newspaper ads that highlighted its environmentally conscious one-of-a-kind products, technologies and production plants.

Newspaper ad

TV commercial

Information posted on the Web site
http://sharp-world.com/corporate/eco/report
Exchanges with local communities

Example

Hosting Regional Exchanges with Local Municipalities in Japan

In an effort to promote communication and give the local residents a deeper understanding of plant operations, Sharp invited 13 community association officials from the Hajikami district of Katsuragi City to a meeting at the Katsuragi Plant in June 2004.

At the meeting, Sharp explained the history and operations of the plant, introduced the latest key devices produced by the plant, including laser diodes, LEDs, opto-devices, photovoltaic power systems and others, and also outlined the measures Sharp is taking to turn the plant into a Super Green Factory.

Visitors observing the latest devices

Sharp and Society

In Pursuit of Becoming a Corporate Group Trusted by Society

Fulfilling Corporate Social Responsibilities (CSR)

For Customers
Enhancing Customer Satisfaction
Reinforcing Information Security

For Shareholders and Investors
An Appropriate Return of Profits

For Business Partners
Mutual Prosperity with Suppliers and Dealers

For Employees
A Fair and Rewarding Workplace
A "Safety First" Work Environment

For Local Communities
Social Contribution Activities

**Nara Wakakusayama Cleanup Campaign 2004.
Held since 2003, this event aims to preserve the landscape of Wakakusayama in Nara Prefecture, Japan. The second event, held on May 22, gathered some 1,230 Sharp employees, their families and friends.**

Fulfilling Corporate Social Responsibilities (CSR)

Under our Business Philosophy and Business Creed and based on the company's founding spirit, all employees are uniting efforts and increasing awareness on all fronts to promote CSR awareness.

The Sharp Group Charter of Corporate Behavior

Sharp has instituted a charter of conduct as a model to help all employees understand and fulfill Sharp's Business Philosophy and Business Creed in their daily business lives.

In May 2005, the former Sharp Charter of Conduct was revised into the "Sharp Group Charter of Corporate Behavior," which is a set of principles to guide our corporate behavior, and the "Sharp Code of Conduct," which clarifies the conduct expected of every employee and director of the company.

The new Sharp Group Charter of Corporate Behavior, which places the utmost priority on legal compliance and business ethics, further clarifies "contributions to achieving a sustainable society" and "efforts toward good communication with various stakeholders."

Thorough Observance of Business Ethics and Compliance

Business ethics and legal compliance are the minimum social responsibilities a corporation must uphold.

In Japan, Sharp has appointed a Chief of Legal Affairs at each business group and affiliated company, to prevent violations of laws or regulations in the course of business.

The company also aims to increase awareness by publishing CSR e-mail newsletters and continually providing educational opportunities for employees.

The Sharp Group Charter of Corporate Behavior

- Practice of Fair and Open Management
- Enhancement of Customer Satisfaction
- Disclosure of Relevant Information/ Protection and Security of Information
- Contribution to Conservation of the Global Environment
- Sound, Equitable Economic Activities
- Respect for Human Rights
- Creating a Safe, Fair, Motivating Work Environment
- Harmony with the Community
- Implementation of The Sharp Group Charter of Corporate Behavior

Rules and Structure to Prevent Illegal Granting and Expending of Benefits

Making it a principle to practice fair play in business management, the Sharp Group Charter of Corporate Behavior makes it clear that the Sharp Group will work to prevent corruption in all forms, including extortion and bribery.

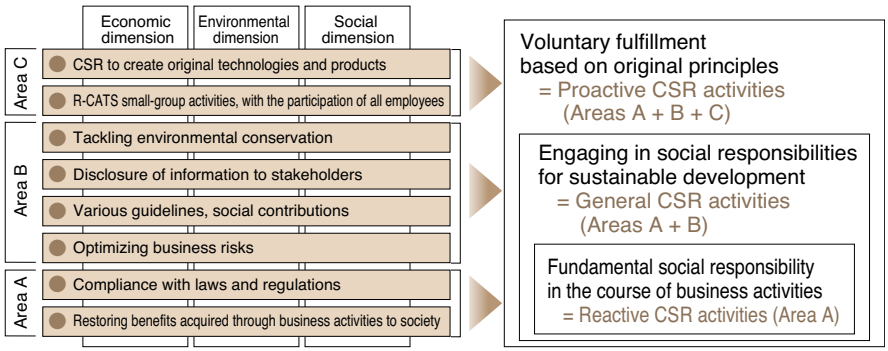
Also, the Sharp Code of Conduct clarifies Sharp's position on political donations and against anti-social forces or organizations. In this way, Sharp secures its stance of striving to develop and maintain social order.

Concerning donations in Japan, Sharp has constructed a system of compulsory examination by the Donation Examination Committee for monetary donations and other cases of expenditure, thus preventing payoff and unlawful expenditure.

Corporate Governance with the Director/Auditor System as the Nucleus in Japan

Because the business activities of Sharp Corporation are clearly bounded by the development, production and sales of products as well as devices, and further, because there is strong interrelation between them, Sharp believes that having all directors holding operational responsibility at the division level make decisions after consulting with one another serves to clarify their reciprocal managerial responsibilities and facilitates nimble, responsive business execution. Sharp intends to further strengthen the current Board of Directors/Corporate Auditors System, which allows management and manufacturing divisions to work very closely, enabling the business to expand. Through this system Sharp will enhance corporate governance.

Area of CSR activities



Topics

R-CATS small-group activities solve problems in everyday work

The Sharp Group has initiated small-group activities called R-CATS (Revolution, Creative Action Teams). These activities challenge groups to address and solve common problems and issues in the workplace from the viewpoint of CSR, using the combined effort of everyone at the job site. With the aim of enhancing the strengths of both "personnel" and the "organization" to their highest levels, R-CATS activities are held in all divisions of the Sharp Group. The best ones worldwide are selected for presentation at contests twice a year to stimulate all personnel toward reaching higher.

In November 2004, about 2,800 domestic teams and 800 overseas teams (comprising approx. 35,600 people in total) participated in R-CATS.

Comment from Akiyo Tsuchimoto, leader of the "eSSeM achievement team" which won the top award

Since we were all busy with our own work, it was hard at first to get everyone together and work toward a common goal with the same mindset. I believe that our team members were not very well organized in the beginning, but we learned from each other and enlightened ourselves through R-CATS activities and, in the end, we became a "real team."

Information posted on the Web site
http://sharp-world.com/corporate/eco/report

- Carrying out business with "Sincerity and Creativity" at all times
- Sharp Group's efforts to firmly establish CSR
- Structuring a PDCA cycle of CSR
- CSR efforts in sales and marketing activities in Japan
- The Sharp Group Charter of Corporate Behavior (full text)
- The Sharp Code of Conduct (full text)

For Customers

Enhancing Customer Satisfaction (1)

As a corporation trusted by customers and working to ensure their full satisfaction, the Sharp Group makes it a point to publish accurate, easy-to-understand information on all its products and services. Sharp pays close attention to the opinions, impressions and requests of its customers, and accurately reflects such findings in the development and improvement of its products and services.

Focused on Obtaining Customer Favor

One of the basic principles of Sharp Group management is to provide the utmost in customer satisfaction (CS). All development, production, sales and service employees work to create high-quality products and services that not only attain a favorable evaluation from customers, but also offer continued product appeal.

In offering its products, Sharp encourages all employees to make quality and safety a top priority, by always considering "Quality First in Heart and Mind" and observing all safety laws and regulations.

Sharp always provides speedy, accurate support for inquiries, with accurate troubleshooting, thus endeavoring to deliver "safety"to customers all over the world.

And, to achieve CS through concrete measures, the following items are outlined in the Sharp Group Charter of Corporate Behavior.

Displayed at each site as a slogan for company-wide quality enlightenment

The Sharp Group Charter of Corporate Behavior

"Enhancement of Customer Satisfaction"

- The Sharp Group will contribute to the development of society by creating innovative, original products and services that can revolutionize lifestyles across the globe, always seeking to offer people never-before-imagined possibilities while caring for the environment.
- To gain the trust of our customers and ensure their satisfaction, the Sharp Group will provide products and services that address its customers' needs and aspirations, and meet or exceed applicable industry standards for safety, quality and reliability.

Diversifying the Windows of Customer Communication

The number of requests for information in Japan during fiscal 2004 increased by about 170,000 compared to fiscal 2003, reaching a total of approximately 2,850,000 cases. As interest in new, never-before-seen products such as digital consumer electronics including DVD recorders, and the Water Oven (Superheated Steam Oven) continues to grow, so does the number of inquiries related to these unique products.

Responding to diversifying lifestyles, Sharp is increasing the functionality of its customer communication windows in Japan. In addition to receiving telephone inquiries at the Integrated Call Center, Sharp has posted "Q&A Information" on its Web site, based on frequently asked questions, as well as a glossary of technical terms with easy-to-understand definitions. Moreover, Sharp is expanding Web support further by providing download access to instruction manuals for major Sharp products.

There are also 4,000 cases per year of e-mail questions originating overseas. Sharp handles these in the same sincere manner as domestic inquiries.

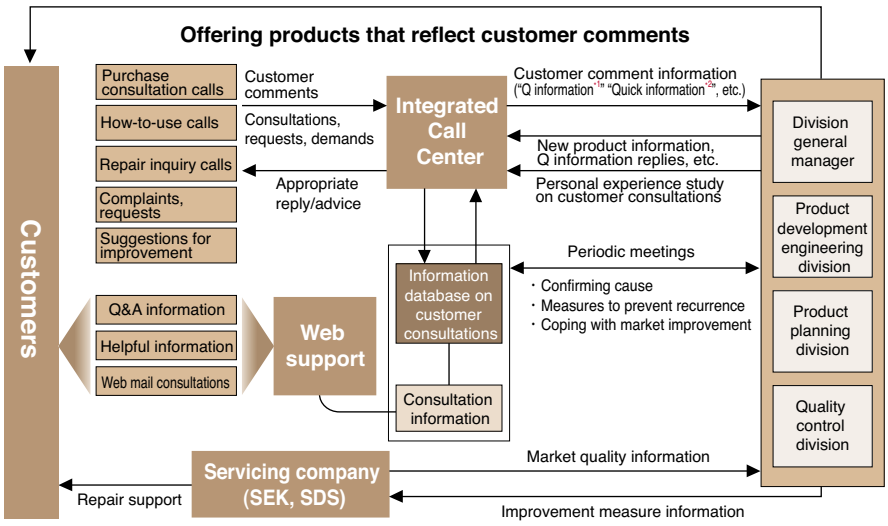
Reflecting Customer Comments in Products and Services

Sharp's Customer Information Center in Japan, which handles direct inquiries and information requests, aims to deliver maximum satisfaction by thinking from a customer's point of view and anticipating customer needs.

For the purpose of spreading and assimilating customer comments in-house, even more so than in the past, Sharp launched two new initiatives in fiscal 2004. The first delivers a monthly report (or a weekly report for priority products) to a product division, detailing the inquiries and information requests received regarding a new product for up to 3 months after its launch. The second initiative is "a new product quick information system," in which warning e-mails are automatically sent to the heads of each department in the concerned division. This occurs when similar complaints are received about the same model several times.

Through these initiatives, Sharp has been able to promptly reflect customer comments in production and sales activities.

Customer-oriented management system in Japan



Note: To protect privacy, information that is shared within Sharp excludes personal information.

*1 Q information: Data on improvement sent by the Integrated Call Center to product divisions.
*2 Quick information: Complaints about new products.

For Customers

Enhancing Customer Satisfaction (2)

"Personal Experience Study" on Handling Customer Consultations

Starting in May 2000 in Japan, Sharp introduced a program for employees to take part in a "personal experience study." During the study, employees experience handling customer inquiries so that they can work to improve customer satisfaction by taking the customer's feelings into consideration in future duties.

In fiscal 2004, Sharp began conducting the program as part of promotion training for mid-level employees working in the product planning, engineering, quality control and sales departments of Sharp's product divisions. As a result, employees who are to play central roles in production jobsites now recognize the importance of lending an ear to customer comments.

A trainee answering an inquiry from a customer while a veteran consultant (left) looks on

Comments of a "personal experience study" participant

Shuichi Fujita,
Assistant Manager
Technical Dept. II
LCD Digital Systems Division I
Audio-Visual Systems Group

During the personal experience study, I gained first-hand experience in fielding diverse inquiries and discovered the importance of speaking directly with customers.

Hereafter, I would like to tackle the development and design of new products from a customer standpoint, questioning whether a function is really needed and considering how I can make the required functions easier to use.

Cases of Complaints Decreased and "Satisfied" Evaluations Exceeded 90%

Sharp strives to set up repair/maintenance service systems that meet customer needs and boost customer satisfaction in Japan. Sharp has introduced special service systems, such as "after-repair calls," which ask customers about the status of a product after completed repairs, and "pick-up repair service of consumer electronics" for specific products. Sharp also sends out female service engineers to user locations where only women are present.

As a result, the number of complaints related to repairs and maintenance service in fiscal 2004 decreased 20% from the previous year, and the results from service questionnaires reached a 90.3% evaluation response of "satisfied."

In view of such results, Sharp will continue to provide meticulous service in responding to the needs of its customers.

Furthering Ease of Use with Usability Tests

Sharp places high importance not only on the functional quality of products, but also on a product's ease of use, also called the "usage quality of products." With this in mind, the person in charge of product planning and development directly observes people actually using the product and verifies ease of use. These "usability tests" have been introduced in all product divisions. As a result, the person in charge quickly discovers factors that hinder the product's ease of use and makes modifications for greater usability.

With an aging society in Japan, it is more important then ever to give special consideration to the needs of seniors. Moreover, consideration for people with disabilities is also growing throughout the world. With this in mind, Sharp is working to adopt universal designs by developing products that can be easily used by everyone.

Example

Improvement of LCD TV remote control

Before

Customers said that it looked too complicated with so many buttons to push and labels so difficult to read.

After

Redesigned with only the needed buttons to fit a compact size, easy-to-read characters and color-coding for improved ease of use.

Improvement of instruction manual for digital high-definition recorder

Before

Customers said that the manual was difficult to understand because it used too much technical DVD terminology. Moreover, they stated that the instruction manual was thick and troublesome to read.

After

Sharp reworded operation methods using simple words and illustrations. A new "simplified guide" was prepared to explain basic operations with just one book.

Making the Most of CS Surveys in the Development and Improvement of Products

Since 1992, Sharp has been conducting surveys in Japan on the degree of customer satisfaction with product use (CS surveys).

A key benefit of the CS survey is that the correlation between the individual degree of satisfaction (degree of satisfaction related to each function of the product) and the degree of overall satisfaction (degree of satisfaction for the product as a whole) is expressed numerically and graphed, from which a CS portfolio analysis is made. As a result, Sharp can clearly identify priority areas of improvement for each product and conduct effective product developments and improvements.

In fiscal 2004, Sharp conducted CS surveys on a range of products, including air purifiers, dishwashers, PDAs and digital MFPs, and incorporated the survey results in product improvement.

To further strengthen its product CS survey, Sharp plans to conduct surveys through the Web in the near future.

Example

Improvement of the dual-swing door refrigerator

After conducting a CS survey, Sharp found that although customers held high expectations for double-door refrigerators on two points, namely their ease of opening and ease of putting in and taking out egg cases, the actual degree of satisfaction was low.

Sharp made the following improvements based on survey results, as well as adopting an ultra-low-speed inverter to reduce operation noise and increasing the volume of the chilled compartment by 40%.

Ease of opening of dual-swing doors[*1]

The physical effort required to open doors was reduced by 17%. Now doors can be opened and closed with very little effort.

Ease of removing and replacing the egg case[*2]

The adoption of a "double opening pocket" makes it possible to place the egg case on either the left or right side. This makes it quick and easy to take eggs out from the front.

*1 *2 Examples of improvement based on the Refrigerator CS Portfolio Analysis below.

Immediate Disclosure of Quality Problems

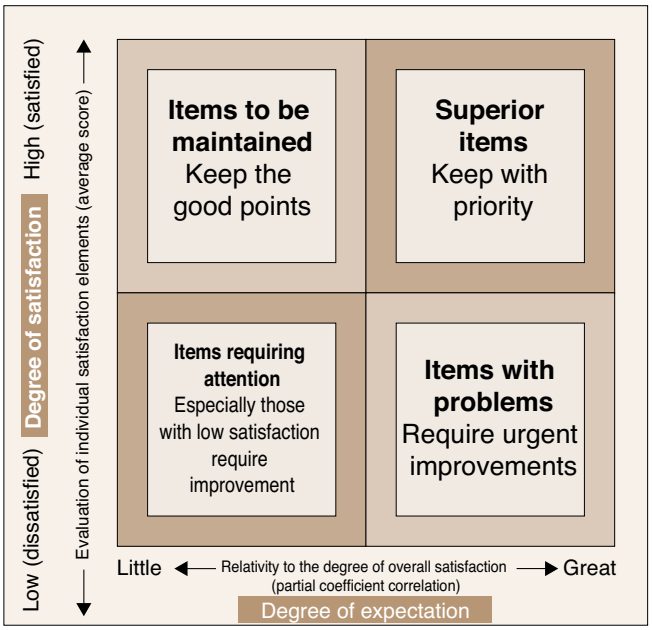
In the event that damage is inflicted upon customers, or the potential of harm to life, body or property is discovered in relation to the use of Sharp products, Sharp will disclose such information immediately through newspapers and its Web site, and provide an inquiry desk to keep customers informed and minimize any inconvenience.

During fiscal 2004, when irregularities were found in color TVs and commercial-use air conditioners, and in fiscal 2005 in single-crystal photovoltaic modules, Sharp inspected and repaired them free of charge.

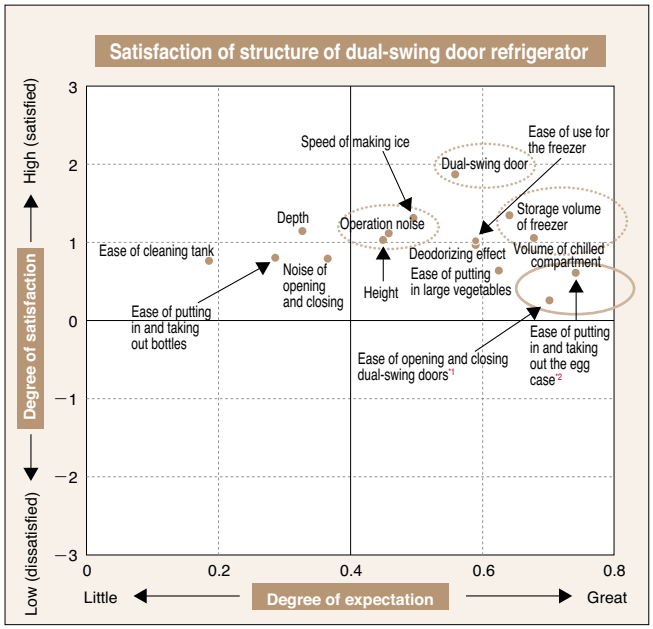
Information posted on the Web site
http://sharp-world.com/corporate/eco/report

Quality guarantee system and quality guarantee activities

Concept of CS portfolio analysis from the CS survey



Example of a refrigerator CS portfolio analysis



For Customers

Reinforcing Information Security

With the recently enacted Personal Information Protection Act in Japan, companies must now take more responsibility than ever for ensuring the privacy of information. This is why Sharp is aiming to become a company that can be trusted with information by strengthening information management systems, improving the safety of its information infrastructure, and providing employees with comprehensive training on information management and security.

Reorganization to Boost Personal Information Protection

Sharp has been concentrating on improving its information management system to ensure that information is kept safe. In January 2003, the Sharp Group in Japan established information security regulations and set up the Information Security Committee.

To comply with the Personal Information Protection Act, which was fully enforced in April 2005, Sharp established the Information Security Promotion Department in April 2004 and the Personal Information Protection Promotion in November 2004. Also, Sharp established personal information protection policies and in-house regulations to conform to the law's stipulations. Sharp then created conditions conducive to thorough and safe management of information: Sharp made rules for the handling of personal information, and created a management ledger to keep track of personal information being gathered and stored by Sharp and its affiliated companies in Japan.

Sharp also has online e-learning courses in personal information protection for all employees and basic information security technology seminars for managers.

For key departments that deal directly with customers, Sharp is aiming to achieve the highest level of safety in information management by acquiring authorization for third-party certification systems related to privacy and information security.

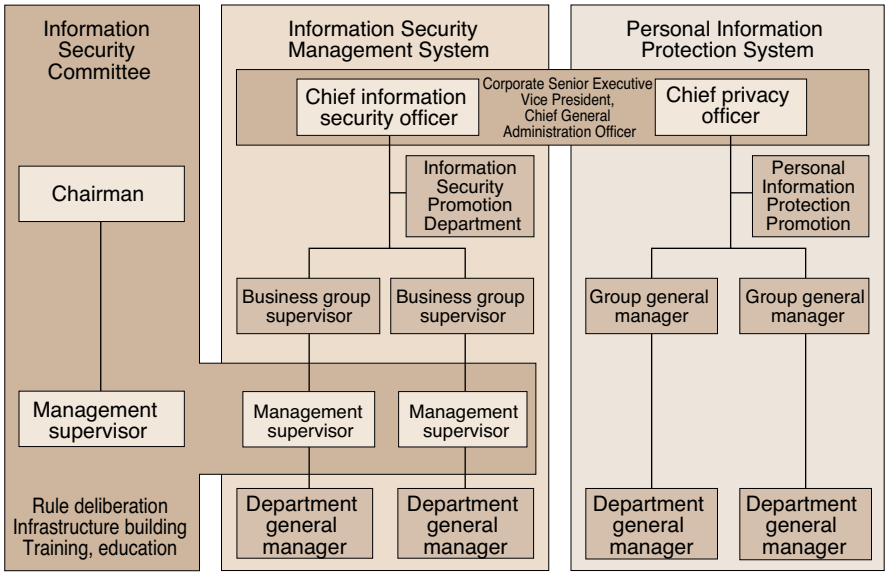
In fiscal 2005, Sharp is working to achieve an even higher level of personal information protection and to ensure that the company can maintain its information technology-based business activities. Sharp will do this by carrying out internal audits on personal information management and by stepping up information security measures.

Meanwhile, the Sharp Group overseas continued to strengthen existing information protection systems while also carrying out investigations in fiscal 2004 on how to strengthen future information management systems.

In fiscal 2005, Sharp will strengthen systems in various countries and regions around the world—as Sharp has done in Japan—and train a new group of leaders capable of guiding Sharp employees in information security.

In key departments that handle a large number of inquiries and in the Personal Information Protection Promotion, Sharp has established call centers to handle inquiries on personal information in Japan. As well, items that should be made public, such as policies on personal information protection, are put on Sharp's official Web site (in Japanese; www.sharp.co.jp/privacy-j.html).

System for information security and protection of personal information in Japan



How Sharp ensures constant security

The Sharp Group works to ensure constant and ever-improving information security, including the protection of personal information.

	Initiative	Actions up to fiscal 2004	Actions planned for fiscal 2005
Domestic Sharp Group	Compliance with the newly enacted Personal Information Protection Act	・Reviewed information security control in divisions handling personal information*1 ・Revised Information Security Regulations	Strengthen information security governance ・Implement internal audits for information security ・Introduce stricter management of PCs and servers ・Tighten monitoring of unauthorized PC use, including at subcontractor companies ・Establish measures to protect information flowing between partner companies
	Revamping of information infrastructure	・Established protection measures and enforced stricter control of servers and computers ・Began efforts related to the IT Security Management Measures*2	
	Stricter control rules	・Established the IT Infrastructure Building Rules (focused on introducing them in factories)	
Overseas Sharp Group	Implementation of basic measures	・Improved and continuously carried out measures for diagnosing things like connections to external networks, viruses and security	・Build a system to advance information security on a global scale ・Make stricter rules for top secret information ・More closely protect information on notebook PCs ・Boost security management of servers
	Revamping of information infrastructure	・Helped overseas bases comply with the IT Security Management Measures	

*1 Based on guidelines published by the Ministry of Economy, Trade and Industry
*2 IT safety measures relating to personal information in electronic form, as stated in the IT Security Management Measures of the the Personal Information Protection Act (controlling access to information systems, pirated software, information system monitoring, etc.)

Information posted on the Web site
http://sharp-world.com/corporate/eco/report

- Information Security Management System (ISMS) efforts and authorization, acquisition of privacy certification
- Information security audits
- Employee security training
- Information leak prevention measures using information technology
- Improved cooperation with business partners

For Shareholders and Investors

An Appropriate Return of Profits

One of the most important management principles for the Sharp Group is to return a portion of profit to shareholders. That's why Sharp strives to offer shareholders consistent dividends and implement other measures such as increasing these dividends according to the company's business results and financial situation. Sharp also strives to supply shareholders, investors and other stakeholders with prompt, accurate information, as well as ensure transparency through a wide range of public disclosure.

Consistent Dividends

Sharp considers distributing profits to shareholders to be one of the most important management issues. While maintaining consistently stable dividend pay-outs, and while carefully considering its business performance and financial situation in a comprehensive manner, Sharp has implemented a set of policies to return profits to its investors, such as increasing the amount of periodic dividends. Annual dividends in fiscal 2004 were 20 yen per share, which marked an increase for the fifth consecutive period.

To raise the operational efficiency of shareholder equity and further raise shareholder value, Sharp employs the treasury stock system* when the situation allows. In addition, Sharp uses internal reserve funds for investment in future growth fields, the development of uniquely featured products and proprietary devices, overseas business development, and environmental protection measures.

* Treasury stock system: A legal system related to the acquisition and holding of stock in-house. Treasury stock is a company's own stock that it purchases on the market and keeps. If a company acquires its own stock, it can effectively raise the ROE (return on equity) by reducing shareholder equity.

Net income per share (consolidated)

(fiscal year)

2000	2001	2002	2003	2004
34.20	10.10	29.37	55.37	70.04

(yen)

Dividend per share

(fiscal year)

2000	2001	2002	2003	2004
13	14	15	18	20

(yen)

Staying Financially Healthy and Raising Corporate Value

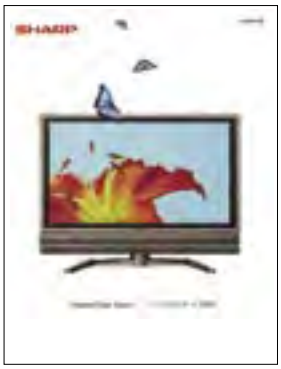
The Sharp Group makes various efforts to ensure that corporate value can grow further. These include aiming to improve ROE (return on equity) and free cash flow, as the main management indicators in terms of profitability, shareholder value, and efficiency of capital utilization. Sharp is also focusing on controlling its return on investment in all its business divisions based on PCC (profit after capital cost), which is calculated by subtracting the cost of invested capital from NOPAT (net operating profit after income taxes).

Investor Relations

Sharp strives to provide prompt, fair and accurate information to shareholders and investors.

Sharp prints Business Reports (in Japanese) and Annual Reports (in Japanese and English). It also publishes a variety of information when necessary on the Sharp Web site (sharp-world.com/corporate/ir/index.html). All of this information is meant to provide stakeholders with valuable details in an easy-to-understand format.

The main IR activities in fiscal 2004 were analyst meetings to announce quarterly financial results, business strategy meetings and factory tours. Sharp also visited major shareholders and investors in Japan and overseas to hold meetings on business results and company overview. The valuable feedback gathered from shareholders, investors and analysts at these meetings is regularly relayed to Sharp management for future improvements.



2004 Annual Report
(in Japanese and English)

Business Report (in Japanese)

Constituent of Three SRI Indices (Equity Indices) in Japan and Overseas

As part of appropriate information disclosure to stakeholders, Sharp cooperates in good faith with research organizations doing surveys on socially responsible investment (SRI).

SRI refers to the investment and financing of companies that contribute to solving social problems and that balance economic performance and social responsibility. In fiscal 2004, Sharp was added to the following SRI indices.

- FTSE4 Good Global Index (UK); September 2004
- Ethibel Sustainability Index (Belgium)
- Morningstar Socially Responsible Investment Index (Japan); July 2004

FTSE4Good Index Series

ETHIBEL
MEMBER OF THE ETHIBEL SUSTAINABILITY INDEXES

MS-SRI モーニングスター社会的責任投資株価指数
Morningstar Socially Responsible Investment Index

WEB **Information posted on the Web site**
http://sharp-world.com/corporate/eco/report
Investor relations

For Business Partners

Mutual Prosperity with Suppliers and Dealers

Sharp procurement activities are carried out based on the Basic Purchasing Principles: Sharp purchases outstanding parts and materials, which meet its demands, through just and fair evaluation, thus ensuring that all domestic and overseas companies are provided with equal opportunities. It is also Sharp's belief that CSR activities should apply to the entire supply chain, including its suppliers.

Equal Opportunity and Fair Evaluation for All Domestic and Overseas Suppliers

With business activities spanning the globe, Sharp receives parts and materials from numerous domestic and overseas suppliers.

When undertaking procurement activities, Sharp provides an equal opportunity to all domestic and overseas suppliers, and attains superb materials that comply with Sharp conditions and requests through fair evaluations. Moreover, to ensure a continuous supply of superb parts and materials, it is essential for Sharp to pursue a prosperous coexistence with its suppliers. Consequently, in 1990, Sharp stipulated "Basic Purchasing Principles" that clearly describe the fundamentals of impartial and fair purchasing, and promote the development of mutual collaboration and trust.

Making CSR a Common Goal Across the Entire Supply Chain

To successfully fulfill its social responsibility, Sharp must be conscious of CSR in all its business processes. This includes fulfilling social responsibility not only within its own group, but also within its entire supply chain and network of suppliers. Moreover, Sharp believes that this is how the Sharp Group and its suppliers will earn the trust of society and achieve the true meaning of a mutually prosperous coexistence.

Consequently, in May 2004, Sharp revised its Basic Purchasing Principles to include items such as conservation of the environment, the compliance with laws and regulations, no disclosing of confidential information and the CSR approach, and made a notification through the Sharp Web site.

Furthermore, in Japan Sharp clarified articles within its basic business agreement, which forms the foundation for Sharp's interactions with suppliers. The document now reflects Sharp's stance on conservation of the environment and compliance with laws and regulations, strengthens the position of quality control and quality assurance, and includes articles corresponding to revisions in the Japanese Subcontract Act, which was revised in April 2004.

In June 2005, Sharp further revised its Basic Purchasing Principles. This information, including the specific items which suppliers are requested to observe, was then made open to the public on Sharp's Web site.

Basic Purchasing Principles (revised June 2005)

1. Basic procurement concept

1) Sharp's procurement activities are conducted in an open and impartial manner, with a fair evaluation given to suppliers in and outside Japan.
2) Sharp will comply with laws and regulations, and achieve mutual prosperity with suppliers.
3) Sharp will practice social responsibilities such as conservation of the environment through its procurement activities.
4) Sharp pursues optimal quality and cost to the fullest.

2. Guidelines for procurement activities

1) Open and impartial procurement activities and purchase at optimal cost
2) Establishing mutual relationship
3) Conservation of the environment
4) Securing good product quality
5) Securing steady delivery time and stable supply
6) Leading technology

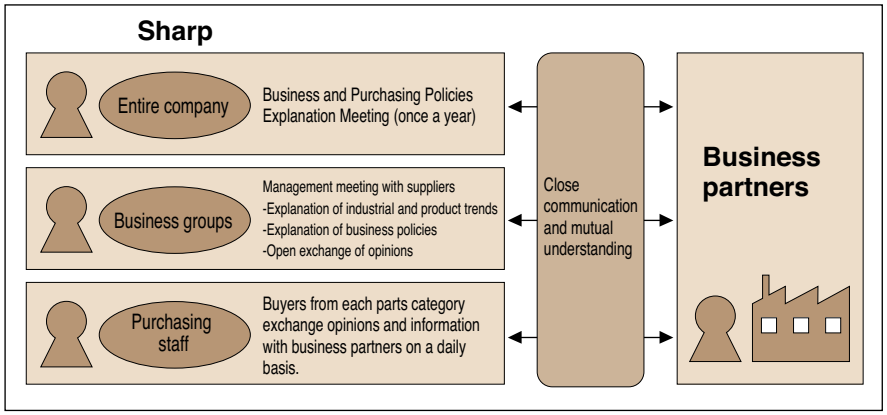
3. Requests to suppliers

1) Compliance with laws and social standards
2) Promotion of sound business operations
3) Consideration for the environment
4) Securing optimal quality and cost
5) Stable supply of parts and materials
6) Leading technology
7) No disclosing of confidential information

Management meeting with suppliers in Japan

Close communication for mutual understanding (Japan)

To build strong relationships with its suppliers, Sharp communicates proactively to pursue a balance of mutual understanding.



Approaching CSR Together with Suppliers

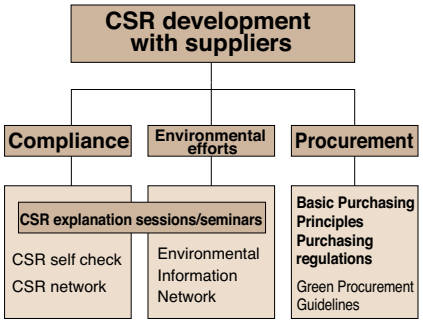
In fiscal 2004, Sharp invited suppliers in Japan to a CSR Explanation Session and CSR Seminar, and implemented a CSR promotion system at each company. Also, Sharp devised a checklist to let suppliers evaluate their current status.

Encouraging environmental actions, Sharp's Environmental Protection Group supervised and hosted "Environmental Information Network" group seminars for major suppliers. In the seminars, Sharp provided advice on how to reduce environmental burdens in business activities, how to promote environmental activities, and information on the process of acquiring ISO14001 certification.

Environmental Information Network seminar

In the future, Sharp plans to enlarge this target group and establish a "CSR Network" for the purpose of dispersing CSR information.

■ CSR development with suppliers (Japan)



Promoting "Eco-Conscious Lifestyles"

Since fiscal 2003 in Japan, Sharp has executed a company-wide campaign under the slogan "Let's Go Ecology Class with Sharp." The campaign proposes new "eco-conscious lifestyles" which maintain prosperity and comfort while giving consideration for the environment. Sharp aims to develop this initiative into a long-lived, definitive action for all stakeholders to contribute to improving environmental awareness.

For retail partners in Japan, Sharp provides education on the environmental performance of its products and enviromental information that can be useful in the management of their company. In fiscal 2004, as a new initiative, Sharp hosted an "Environment Forum" seminar on environmental management aimed at consumer electronics stores. By the end of March 2005, more than 1,000 retail stores had taken part in the seminars, where Sharp discussed environmental issues such as the relationship between global warming and consumer electronics and introduced ways of recommending Sharp's energy-saving products to customers.

Topics

Hosting CSR explanation sessions to request green procurement and strict compliance

On April 21, 2004, Sharp hosted a CSR Explanation Session for 90 executives from 65 of its suppliers in Japan. The purpose of the explanation session was to have suppliers who play a major role in Sharp production gain a clear understanding of CSR and introduce it in their own operations.

During the event, Sharp described trends in environmentally related laws and regulations and requested the cooperation of its suppliers with "green procurement" throughout the entire supply chain as well as thorough compliance (the observance of laws and regulations).

Following the session, Sharp heard from attendees that they were able to understand the purpose of promoting CSR very well.

Information posted on the Web site
http://sharp-world.com/corporate/eco/report

■ Basic Purchasing Principles (full text)

For Employees

A Fair and Rewarding Workplace

To create a fair and rewarding workplace, Sharp protects the basic human rights and personal dignity of all employees, provides opportunities to enthusiastic employees, and fosters the diverse abilities of each employee.

Basic HR (human resources) Policy

For the mutual growth of both the company and employees' happiness, Sharp upholds the following principles.

- Implement a corporate-asset-oriented management strategy, which values the experience and technical skills of each employee
- Carry out flexible personnel placement with a focus on "putting the right employee in the right position," based on performance and ability, without favor or partiality
- Provide support so that each employee can deepen their expertise, as well as obtain knowledge and skills in a broad range

Basic Human Rights and Personal Dignity

The Sharp Group stipulates in the Sharp Group Charter of Corporate Behavior and the Sharp Code of Conduct instituted in May 2005 the corporate policy and guidelines for all individual executives and employees regarding protecting personal dignity. To promote these values, human rights seminars are held regularly at each Sharp domestic site.

The Sharp Group encourages its business partners through the Basic Purchasing Principles to uphold the same standards in respecting human rights.

Labor-Management Relationship through Dialogue

Sharp values dialogue with labor unions. In Japan, Sharp has 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, Sharp has held European Works Council meetings every year since 1997.

Central Labor-Management Council

Personnel System that Values Employee Initiative and Fosters Diversity

Leadership Program and Challenge Course

Sharp introduced the Sharp Leadership Program in fiscal 2001 in Japan as an educational system targeting all employees, from younger staff members in semi-managerial positions to those in supervisory positions, with the objective of systematically nurturing management personnel. In addition to education implemented in relation to an MBA (Masters of Business Administration) curriculum, this program provides practical training 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.

The Challenge Course, for younger staff members in semi-managerial positions, strips away seniority-based factors and sets up a monthly compensation system based on performance. Along with an education support system, it is intended to enable early promotion of younger personnel.

MOT* Program

To foster the professional development of its management executives who contribute to the future creation of products and their commercialization, Sharp introduced the MOT (Management of Technology) Program in April 2005 in Japan.

Using original Sharp content and led by Sharp executives in technology fields, the MOT Program covers topics such as the origin of Sharp's basic attitude towards the creation of products. It also includes courses on technology management theory from outside lecturers.

* MOT (Management Of Technology): The Massachusetts Institute of Technology in the United States was the first to start a special lecture on management of technology. The purpose of the course is to understand both technology and management and to develop managers who are capable of creating new business and stimulating current business.

Personnel Declaration/Career Development System and Career Development Rotation

Under Sharp's Personnel Declaration/Career Development System, once a year all employees in Japan document a career development plan and their job aptitude. Sharp then uses the information for the purpose of developing skills and organizing job rotations.

Sharp also implements a Career Development Rotation to give employees in Japan the opportunity to experience multiple types of jobs. The aim is to systematically foster "T-shaped" personnel who balance a high degree of expertise and a wide intellectual horizon.

Recruitment Entry System

Sharp implements the Recruitment Entry System in Japan to solicit personnel from among all employees company-wide, inviting them to take newly available positions in critically important areas, such as pioneering new business and developing new technologies and products. In fiscal 2004, jobs were offered in approximately 60 projects, resulting in about 100 employees being assigned a new position.

Master System

Sharp introduced the Master System in October 2003 in Japan. Its purpose is to vitalize the company organization by creating and developing one-of-a-kind skills, passing down these technical skills to the younger generation, and fostering master technicians. The system covers seven types of skills. In fiscal 2004, Sharp certified five employees as Masters.

Step-up Campaign

Supporting the development of its employees, Sharp introduced the Qualification Acquisition Encouragement Plan in September 2004 in Japan to reward employees who have acquired any of the specified six qualifications, such as public accountant certification.

Adding to this in 2005, Sharp broadened the range of qualifications, from specialized fields such as technology and technical skills to foreign languages and IT, which are directly connected to daily duties. Sharp now provides incentives in recognition of 56 qualifications.

Seminars Classified by Function and Job Type

In Japan, Sharp holds seminars classified by function and job type for employees to deepen their knowledge and required expertise. The company also offers a versatile selection of self-development support programs, such as open lectures, e-learning, correspondence language courses and other skill-improvement seminars.

One example is the voluntary Essential Course, which gives participants across the company a chance to simultaneously 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.

Seminars classified by function

Affirmative Action* for Women

Currently, about 20 women hold managerial positions and 350 sub-managerial positions at Sharp in Japan. To strengthen the recruitment of more women managers, Sharp started a full-fledged "Company-Wide Affirmative Action Promotion Campaign" in April 2005, which aims to foster and support personnel who can take on Sharp's one-of-a-kind strategy.

Concrete measures include: 1) developing new job fields for women, 2) implementing skill development programs to select candidates and foster them into management, and 3) implementing job rotations to provide opportunities for developing skills. Through actions such as these, Sharp is giving ambitious female employees the chance to make the best of their abilities and qualifications.

* A voluntary effort by a company that seeks to redress discrimination of women in employment to ensure equal opportunity.

Expanding the Range of Benefits which Support Working Women

In Japan, Sharp offers various benefits, such as maternity and parental leave, for working women (see below).

Sharp has also formed action plans based on the Japanese "Law for Measures to Support the Development of the Next Generation," which came into effect in April 2005, and is making efforts to create a working environment in which children can grow up healthy and sound, and in which employees can demonstrate their abilities to the fullest.

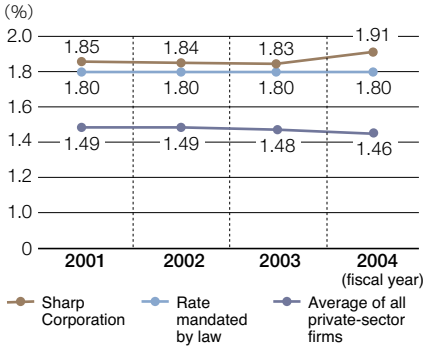
- Maternity leave and parental leave, as well as limited working hours to allow for childcare, which provide more days off and for a longer period of time than stated in laws
- Time-difference commuting for pregnant workers
- Reemployment for workers who left work for childbirth and childcare
- Leave to help children adjust to nurseries
- Childcare support system
- Subsidies to employees to pay for in-home nursing care, etc.

Supporting Self-Reliance of 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 in Japan specifically for the physically and mentally challenged. Sharp has also established a committee to promote employment of those who are physically or mentally challenged, and remains committed to creating a worker-friendly environment for physically and mentally challenged employees.

In fiscal 2004, Sharp's physically and mentally challenged employment rate in Japan reached 1.91%.

Employment rate for the physically and mentally challenged in Japan



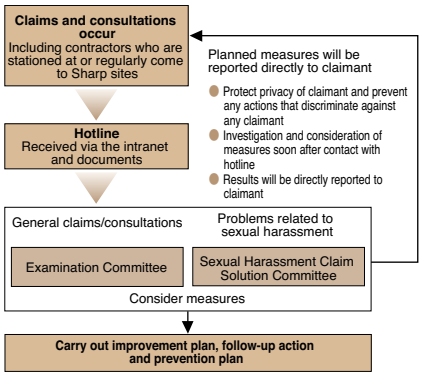
Fair Rewards for Employee Inventions

In April 2005, Article 35 of the Patent Law in Japan regarding employee inventions was amended and re-introduced. Prior to that date, Sharp held a conference with all employees in Japan to discuss upcoming revisions to Sharp's "Regulations for Employee Inventions." Under the revised version, an employee who invents something will be required to report it to the company, at which time the employee and the company will immediately decide the award for giving up rights to the company.

At present, Sharp is aiming to complete these revisions by July 2005, by taking into account the opinions of employees in various positions to create a new system.

Consultation Hotline for Employees

Sharp has an internal joint labor-management hotline in Japan for receiving claims and consultations from employees via intranet e-mail and documents. With the hotline in place, the company can immediately investigate and take action on violations of rules in the workplace and work swiftly toward solutions. The hotline also handles claims from contractors who are stationed at or regularly come to Sharp sites.



Information posted on the Web site

http://sharp-world.com/corporate/eco/report

- SHINE program
- Commendation system
- Respect for intellectual property rights
- Number of Sharp Group employees
- Sharp Corporation's employee personnel structure

For Employees

A "Safety First" Work Environment

Sharp has formulated a "Basic Philosophy" and "Safety and Health Principles" based on a safety-first policy. Its safety and health slogan for fiscal 2005 is to "create a work environment where employees can work safely and maintain strong mental and physical health so that Sharp and it employees can grow together." With this in mind, Sharp is working to prevent industrial accidents. And, based on its Healthy Sharp 21 comprehensive health-promotion program, Sharp is helping its employees and their families stay in good health.

Labor and Management Discuss and Promote Safety and Health

Sharp is aiming for zero industrial accidents by holding meetings of the monthly Safety and Health Committee and the regular Safety and Health Communication Meeting with contractors stationed at each site in Japan. Each site sets specific goals and carries out various activities. Specifically, Sharp carries out periodic workplace safety inspections and fire evacuation drills, as well as a variety of specialized advisory programs (mental health counseling, traffic safety classes, health management for long-hour workers, etc.). These efforts aim to heighten safety awareness among employees and eradicate unsafe behavior.

Sharp also holds Central Safety and Health Committee meetings in Japan as a forum to share information regarding safety and health. The meetings bring Sharp and the labor union together every two months, at which time they confirm the status of safety and health efforts and share valuable information.

At Sharp, the occurrence of industrial accidents (per thousand man-hours/year, closure of more than 4 days) is far below the average value for the whole industry and the manufacturing industry in Japan. However, 2004 saw an increase in the number of accidents.

Sharp once again clarified its stance on building a safety-first work environment by establishing the "basic philosophy" and "safety and health principles" in fiscal 2005. And to eliminate accidents, Sharp formulated measures that include company-wide safety and health objectives and a yearly promotion plan to strengthen safety and health efforts across the entire company.

These policies were communicated to all domestic sites at a "company-wide safety and health kick-off meeting." Safety and health conventions are also held at individual sites as part of the company-wide campaign.

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

Basic Philosophy

With the goal of creating a work environment where everyone at Sharp can work safely and healthily, Sharp places the utmost priority on health and safety and is working with sincerity and creativity to achieve the target of zero industrial accidents.

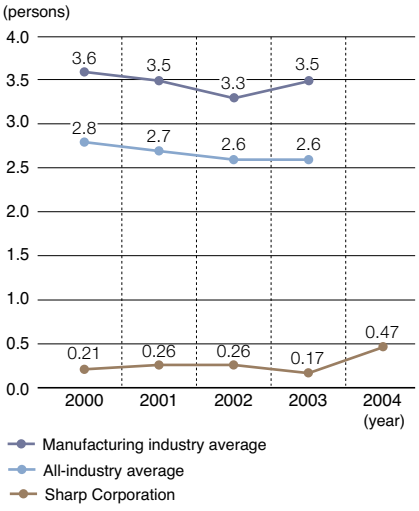
Safety and Health Principles

① Zero industrial accidents.
② Each individual promotes his or her own safety and health.
③ Observe the rules and coexist in harmony with local communities.

FY2005 Safety and Health Objectives

- Raise safety awareness in each employee and eliminate potential causes of danger in daily duties, to achieve zero industrial accidents.
- Build a system to secure the safety of employees in cases of natural disasters, fires and other hazardous external factors.

Industrial accident rates in Japan (per thousand man-hours/year)



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

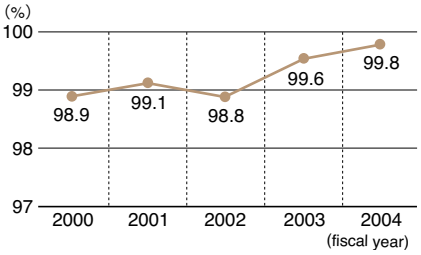
Health Promotion for Employees and Their Families

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 in Japan 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. Healthy Sharp 21 includes voluntary fitness programs and expanded health guidance.

Sharp also gives employees periodic physical checkups to maintain their health, with 99.8% of all domestic employees undergoing these checkups in fiscal 2004.

Sharp will give employees screened for further medical examinations in-depth health maintenance guidance and consult with them on changing their working conditions and requirements.

Physical checkup participation rates (in Japan)



Mental Health Care

Sharp's comprehensive Stress Care System in Japan aims to prevent and deal with mental illnesses at an early stage. In addition to providing mental health checkups for employees who have had a change in their work environment, such as a job transfer, Sharp appoints company counselors at its main sites. The company also provides employee consultations by phone or in person with outside specialized medical institutes. Moreover, to promote correct awareness of mentally related problems, Sharp holds training by specialists and a variety of educational activities over the intranet.

What's more, Sharp follows up on employees returning from medical leave through a support program that combines the efforts of the company physician and the employees' respective departments.

Scope of the Sharp Stress Care System

- Face-to-face counseling with company counselors
- Medical counseling with outside specialized medical institutes by phone or in-person
- Distribution of handbooks or manuals on mental health care
- Mental health seminars
- Mental health checkups for employees undergoing work environment changes, such as job transfers
- Educational seminars for managers
- Support programs to ensure that employees maintain their mental health

Information posted on the Web site

http://sharp-world.com/corporate/eco/report

- Encouraging smoke-free workplaces
- Accident risk management

For Local Communities

Social Contribution Activities (1)

In 2003, 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 vigorous environmental action by Sharp sites in Japan and around the world.

Sharp Green Club— Approximately 80% of All Employees in Japan Participated in Environmental Volunteer Activities

In June 2003 in Japan, Sharp and its labor union jointly established the Sharp Green Club (SGC) as an organization for planning and managing a variety of social contribution activities (mainly environmental volunteer activities). The purpose of the organization is to encourage all Sharp Group employees to face the environmental issues surrounding them and improve their awareness of environmental preservation.

In fiscal 2004, events such as the Wakakusayama Cleanup Campaign (Nara Prefecture), which began in 2003, and the Nagai Park Cleanup Campaign (Osaka Prefecture) became firmly established as annual events. Furthermore, environmental volunteer activities have intensified all over Japan; a total of 23,964 employees or approximately 80% of the Sharp Group's 31,000-person workforce have participated in SGC activities.

Even overseas, individual sites have carried out environmental social contribution activities such as tree-planting and cleanup activities. In fiscal 2005, Sharp aims to expand its measures and systems, both in Japan and overseas, to steadily improve employee awareness of the environment and CSR.

Basic framework of the SGC (Japan)

Promoter	Level	Contents of activities
SGC Executive Office Environmental Protection Group Sharp Workers' Union Headquarters Human Resources Group	Whole company	・Making a framework for activity implementation ・Activities that involve the entire company
SGC at each site Chief promoter Deputy chief promoter	Site	Activities for furthering exchanges with local citizens through Sharp Festivals, tours of plants, etc. ・Participating in activities hosted by local groups ・Cleaning areas around sites ・Other unique activities carried out by individual sites
Head of all divisions/ departments All employees	Division/ department, individual	・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. The commendation ceremony of the 16th Asian Pacific Awards was held in November 2004. Through these awards, Sharp contributes to the stability and development of the Asia-Pacific region.

16th Asian Pacific Awards ceremony

Approx. 110 Students Accepted for Internship

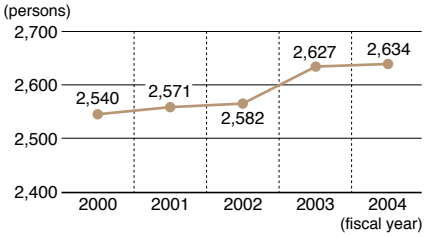
Sharp takes part in an internship program in Japan to support college students' career development by giving them on-the-job training.

In fiscal 2004, about 70 liberal arts students took part in the business internship programs, while about 40 students took part in the technical internship programs. The students eagerly tackled their assignments at the frontline of business, with guidance, advice and support from Sharp employees.

Blood Donations

Sharp holds blood donations every year at sites in Japan so that: 1) employees can contribute to society, 2) Sharp can increase employees' awareness of voluntary activities, and 3) participants can be informed of blood test results to use for their own health control. In fiscal 2004, there were more than 2,600 blood donations by Sharp employees in Japan. Sharp actively holds blood donations overseas also, in the US, China and Malaysia.

Blood donations by Sharp Corporation employees in Japan



Leave Systems to Support Social Contribution Activities

To enhance awareness and make it easier for employees to contribute to society and participate in volunteer activities, Sharp introduced the Volunteer Leave System and the Multipurpose Leave System in April 2004 in Japan.

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.

For Local Communities

Social Contribution Activities (2)

Examples of activities within Japan

Collaboration with NPOs

The Solar Systems Group at the Katsuragi site cosponsored the August 2004 "Nara To-Kae" (sponsored by NPO Nara To-Kae no Kai) and displayed solar cell lanterns. Sharp's technology was used for the festival of light, fantastically coloring the summer night of the ancient city. Sharp also actively supports other local NPOs, such as cosponsoring the "Natural Disaster Youth Summit 2005 in Hyogo" (sponsored by NPO JEARN) in March 2005.

Welcoming corporate facility tours

Sharp hosts popular summer vacation family events at its Tokyo Branch. In fiscal 2004, Sharp held programs such as the Solar Cell Seminar, Science Experiment Class and the Recycle Craft Class, with a total of 750 people attending the events. At the Advanced Development & Planning Center in Tenri, Nara, Sharp provides 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.

Personnel cooperation for schools

Sharp sent instructors from the Yao site to the Osaka University of Economics and Law to offer open lectures on the topic of company approaches to environmental issues. At the Yao site, Sharp also hosted a lecture as well as a factory tour for a class of citizens from Yao city under the theme "the company and the environment." Since fiscal 2003, Sharp has sent instructors from its Mie site to local high schools to present science lectures.

Cleaning up around sites

In November 2004, Sharp cleaned up the Yaita city park and neighboring roads in preparation for the Yaita Takahara Marathon. The day before the event, approximately 230 employees from the Tochigi site and their families participated and recovered garbage in an amount equal to a small truck. Also, approximately 470 people participated in the Tochigi site's "Cherry Blossom Viewing Area Cleanup Campaign" (at 7 locations) in March 2005. At Sharp, each site helps to beautify the neighborhood through activities such as these.

Joining river cleanups

In October 2004, approximately 400 employees from the Mie site and their families joined the environmental event called "Kushida River Day 2004," cleaning up the Matsunaze Seashore down the river. Also, in the same month, 73 employees and business partners from Sharp's Kameyama site cleaned up the Suzuka River as part of an event to clean up the main river basin and the gulf coast of Ise in the Tokai region's three prefectures.

Hosting Sharp Festivals

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

Participating in volunteer support programs

Since May 2002, the Mie site has participated in volunteer support programs by the Ministry of Land, Infrastructure and Transport. As a cooperative effort between labor and management, Sharp has been holding "Environmental Activity Days" regularly every month to collect garbage and plant flowers along the main street in front of the site. In fiscal 2004, approximately 1,200 employees and their family members took part.

Starting the creation of Sharp Forests

The three Sharp sites at Hiroshima, Fukuyama and Mihara began planting the Sharp Forest in Hachihonmatsu Yoshikawa, Higashi-Hiroshima as a place for employees to experience reforestation and tree planting. In November 2004, at the first tree-planting event, 1,500 trees were planted and 7,500 trees will be planted in the same region in the next 5 years.

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 2004, more than 32,000 people used the facilities.

Examples of overseas activities

Award for supporting local educational activities (SLE, UK)

SLE cosponsors youth education programs, accepting students from local Oxford schools and organizing special classes. In 2004, SLE invited more than 150 students from 10 schools and held lectures on liquid crystal display technology. In January 2005, the "Oxfordshire Education Business Partnership" recognized SLE's efforts with its award for the support of education (Investors in Education Award).

Photograph courtesy of CCLRC

Cosponsoring the "Walk America" charity event (SMCA, US)

Since 1991, SMCA has cosponsored "Walk America," a charity walking event. This event aims to raise monetary donations in support of preventing birth defects and infantile deaths. In April 2004, around 1,300 people, including 30 SMCA employees and their family members, took part in the event. SMCA also donated Sharp products.

Lending a hand to New York's fire department (SEC, US)

SEC lends a helping hand to the New York City Fire Department by supporting social contribution activities* for the fire fighters, their family members and local residents. For example, SEC invites more than 500 people every year to the SEC-sponsored games of the New York Mets. In appreciation of this contribution, the fire department presented SEC with a commemorative plate in November 2004.

* Social contributions by the New York City Fire Department include support activities for incumbent and retired fire fighters, their families and those of deceased fire fighters.

Joint management of public daycare (SEMEX, Mexico)

In cooperation with the Mexican Social Security Institute, SEMEX runs a public daycare at its plant site. The daycare, the largest in the state of Baja California, now cares for approximately 270 children. In March 2005, the daycare's children celebrated "Desfile Primavera" (the beginning of spring) by marching together dressed as flower spirits and butterflies.

Local tree planting and cleanups (SATL, Thailand)

SATL participates in social contributions in December to commemorate the birthday of the King of Thailand and to beautify the local areas. In 2004, some 650 people, including SATL employees and business partners, took part in a cleanup and memorial tree planting at a nearby university and in the Hua Sai local community in Chachoengsao. SATL also printed and distributed pamphlets describing the safe and energy-saving way of using electric appliances.

Hosting "Environmental Day" in local schools (SMM, Malaysia)

SMM hosted an "environmental day" at local schools in April 2004 to increase student awareness of environmental conservation. Some 200 participants, including the students, their parents, teachers and local residents, as well as SMM employees, took part in activities such as tree planting and grounds cleaning. The same day, SMM employees demonstrated how to separate and collect items such as empty bottles, PET bottles and paper for the purpose of recycling.

Tree planting with the city administration and local environmental groups (SEES, Spain)

SEES cosponsored a tree-planting project with the local government and environmental groups in the Rubi district of Barcelona. In November 2004, a total of 12 employees, including the SEES president, together with many local residents, planted oaks and shrubs.

Taking students on the "Visit Europe" program (SEI, Korea)

Since 2003, SEI has regularly invited university students to join the "Visit Europe" program as an activity to expand the global view of young people in Korea. In 2004, SEI selected 30 university students from 20,000 applicants to directly experience the language, culture and customs of Switzerland, Italy, France and the UK.

Supporting the victims and regions of the Niigata Chuetsu and Sumatra earthquakes

Sharp responded swiftly to the Niigata Chuetsu Earthquake, which occurred on October 23, 2004, delivering 1,000 kerosene heaters and thermo pots to the area. Sharp also pooled its efforts between labor and management, making a donation of approximately 20 million yen. The Sharp Group (domestic and overseas sites and companies) also donated approximately 35 million yen to support organizations and countries affected by the tsunami following the December 26, 2004 earthquake in Sumatra, Indonesia.

Information posted on the Web site

http://sharp-world.com/corporate/eco/report

■ Examples of social contribution activities

Third-Party Review

KPMG

Independent Review Report on "Sharp Environmental and Social Report 2005"

To the Board of Directors of Sharp Corporation

1. Purpose and Scope of our Review

We have reviewed "Sharp Environmental and Social Report 2005" (the "Report") of Sharp Corporation (the "Company") for the year ended March 31, 2005. Our engagement was designed to report to the Company, based on the results of our review, whether the environmental performance indicators, the social performance indicators and the environmental accounting indicators (the "Indicators") for the period from April 1, 2004 to March 31, 2005 included in the Report have been collected, compiled and reported, in all material respects, rationally and in conformance with the Company's policies and procedures.

The report, including the identification of material issues is the responsibility of the Company's management. Our responsibility is to independently report the results of our procedures performed on the Indicators.

2. Procedures Performed

We have performed the following review procedures:

① With respect to the Company's policies for compilation of the Report, interviewed the Company's responsible personnel.

② Assessed the Company's procedures used for the collecting, compiling and reporting the Indicators.

③ With respect to the way of collecting the Indicators and the process flow of calculating them, interviewed the Company's responsible personnel and reviewed the systems and processes used to generate the values of the Indicators.

④ Compared the Indicators on a sample basis with the supporting evidences to test the conformity in collection, compilation and reporting of the Indicators to the Company's policies and procedures.

⑤ Made on-site inspections of Company's facilities domestic and overseas.

⑥ Evaluated the overall statement in which the Indicators are expressed.

3. Results of the Procedures Performed

As a result of the procedures performed, we are not aware of any material modifications that should be made to the Indicators in the Report in order for them to comply with the Company's policies and procedures for the rational collecting and compiling such information.

KPMG AZSA Sustainability Co., Ltd.

KPMG AZSA Sustainability Co., Ltd.

Osaka, Japan
May 27th, 2005

Information Posted on Sharp's Web Site

Additional information related to this Environmental and Social Report can be found on Sharp's Web site at:

http://sharp-world.com/corporate/eco/report

Environmental and Social Report Contents			Information Posted on the Web Site	See page(s) in the report
Compiling This Report			Sites (companies) covered by the environmental performance data	1
			GRI content index	1
The Roots of Sharp's Corporate Social Responsibility (CSR)			–	–
A Message to People and the Earth			–	–
Outline of the Sharp Group			Financial results	8, 9
Special Feature	1 The Challenge of Broadening the Use of Solar Energy		Solar power generation systems	13, 14
			Decentralized solar power project in the village of Noyon in Mongolia	13, 15
	2 The Next Phase of Sharp's LCD Business		–	–
	3 The Environment, Health and Safety—"One-of-a-Kind" Products in the Years to Come		Water Oven (Superheated Steam Oven)	24, 25, 26, 27
			Plasmacluster	
Sharp and the Environment	Fundamental Orientation and Vision Concerning the Environment		The Sharp Group Charter of Corporate Behavior (full text)	31
			The Sharp Code of Conduct (full text)	
	Major Objectives and Fiscal 2004 Results		–	–
	Advancing Super Green Management		Table of ISO 14001-certified sites (companies)	35
			Examples of Sharp's environmental education	36
	How Business Activities Relate to the Environment		–	–
	Developing Super Green Technologies		Environmental technology development examples	41, 42
	Creating Super Green Products and Devices		Super Green Product examples	43, 44
			Green Device examples	
			Green procurement assessment items	
			Data on environmental label products	
	Achievement of a Super Green Factory		Environmental efforts at the Mie Plant	45 · 46
			Environmental efforts at the Kameyama Plant	
	Reducing Greenhouse Gas Emissions		Examples of reductions in greenhouse gases	47
			Data on greenhouse gases	
	Minimizing and Recycling Waste		Examples of reductions in the discharge of waste	48
			Data on waste	
			Examples of effective water use	
			Data on water usage	
	Appropriate Management and Reductions in the Discharge Risk of Chemical Substances		Data on chemical substance management	49
			Data on the atmosphere and water quality	
	Promoting Risk Management		Examples of risk communication activities	50
	Environmentally Conscious Logistics and Packaging		–	–
	Recycling Used Products		Data on recycling of used products	53, 54
	Promotion of Environmental Communication		Exchanges with local communities	55
Sharp and Society	Fulfilling Corporate Social Responsibilities (CSR)		Carrying out business with "Sincerity and Creativity" at all times	57
			Sharp Group's efforts to firmly establish CSR	
			Structuring a PDCA cycle of CSR	
			CSR efforts in sales and marketing activities in Japan	
			The Sharp Group Charter of Corporate Behavior (full text)	
			The Sharp Code of Conduct (full text)	
	For Customers	Enhancing Customer Satisfaction	Quality guarantee system and quality guarantee activities	59, 60
		Reinforcing Information Security	ISMS efforts and authorization, acquisition of privacy certification	61
			Information security audits	
			Employee security training	
			Information leak prevention measures using information technology	
			Improved cooperation with business partners	
	For Shareholders and Investors	An Appropriate Return of Profits	Investor relations	62
	For Business Partners	Mutual Prosperity with Suppliers and Dealers	Basic Purchasing Principles (full text)	63, 64
	For Employees	A Fair and Rewarding Workplace	SHINE program	65, 66
			Commendation system	
			Respect for intellectual property rights	
			Number of Sharp Group employees	
			Sharp Corporation's employee personnel structure	
		A 'Safety First' Work Environment	Encouraging smoke-free workplaces	67
			Accident risk management	
	For Local Communities	Social Contribution Activities	Examples of social contribution activities	69, 70
–			Environmental data on Sharp Corporation's production sites	–
–			Environment-related history and awards	–

SHARP

SHARP CORPORATION

22-22 Nagaike-cho, Abeno-ku, Osaka 545-8522, Japan

Phone: +81-6-6621-1221 http://www.sharp.co.jp

Published June 2005
Printed in Japan

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

We do our utmost to report our activities to as many people as possible. In the process we improve the quality of these activities through dialog with our customers and society. Please take a few minutes to fill in the questionnaire on the back of this sheet and fax it to us.

Sharp Corporation
Environmental Protection Group Tel: +81-6-6625-0438 Fax: +81-6-6625-0153
CSR Promotion Department Tel: +81-6-6625-1167 Fax: +81-6-6625-1274
22-22 Nagaike-cho, Abeno-ku, Osaka 545-8522, Japan E-mail: eco-info@sharp.co.jp

Replies to the Questionnaire in the 2004 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) Dividing the report into two sections: the first section, featuring a "Special Report" and "Highlight," organized activities typical to Sharp into an easy-to-read format, and the second section introduced Sharp's environmental activities in detail, making for a report that was easy to follow.
(2) Many readers were impressed with the "Highlight" article on the Kameyama Plant, which began operation in January 2004, showing how the plant's environmentally conscious design and operations are drawing public attention.
(3) Publishing comments from various stakeholders, including customers, business partners and employees was highly rated as creating a sense of familiarity within the report.

2. Points for Improvement

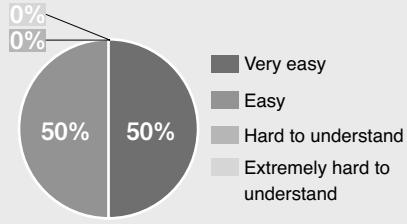
(1) Some readers felt that there wasn't enough information on environmental conservation at overseas sites.
(2) While the report was highly rated for its rich variety of information, as well as being easy to understand thanks to improvements in editing, etc., some readers commented that it contained too much information.

3. Future Expectations for Sharp

(1) There were many comments from readers looking forward to Sharp enhancing the performance and broadening the use of its environmentally conscious products. Many readers anticipate further cost reductions in LCD TVs, as well as the establishment of recycling/reuse technologies and higher conversion efficiency in photovoltaic power systems.
(2) Many readers hope Sharp will continue to step up its environmental conservation efforts as a leader in the industry.

Reader Opinions and Improvements in the 2005 Environmental and Social Report

Q1: How easy to understand was this report?

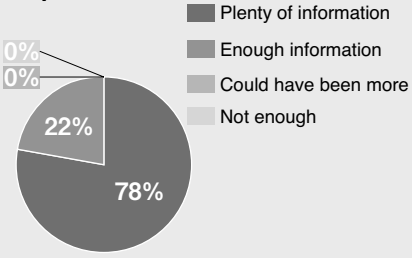


■Reader Opinions and 2005 Improvements

- The use of photos and diagrams made Sharp's activities easy to understand.
- Activities giving consideration to product lifecycle left a good impression.
- Placing the "Special Report" and "Highlight" in the first part of the report was a good idea.
- Sharp's basic environmental policy, objectives and achievements were well arranged in an easy-to-understand style.
- The writing style was easy to understand, without using too many difficult words.
- The fonts should be bolder and easier to read.

→This year's report uses fonts that are clearer and easier to read.

Q2: How did you feel about the amount of information in this report?



■Satisfactory Points

- Many comments from business partners and employees
- Objectives and achievements indicated by fiscal year
- Many visuals, such as graphs
- Environmental actions shown at different stages in a product's lifecycle

■Unsatisfactory Points and 2005 Improvements

- Not enough reporting on overseas efforts
- Not enough material in the social report section

→This year's report includes the sections "For Shareholders and Investors" and "For Business Partners" as an enhanced social report. The title has been changed accordingly to "Environmental and Social Report."

- Not clear whom the information is for

Q3: What information about Sharp did you find most impressive in this report?

(total number of respondents)

A Message to People and the Earth	4	Efforts Related to Product Lifecycle—Manufacturing	8
Sincerity and Creativity—The Wellspring that Underlies Sharp	6	Efforts Related to Product Lifecycle—Logistics & Packaging	3
Special Report	7	Efforts Related to Product Lifecycle—Recycling	8
Highlight	10	Social Report	6
Environmental Vision	6	Economic Report	2
Environmental Sustainability Management	8	Performance Data	2
Efforts Related to Product Lifecycle—Planning & Design	5	Third-Party Review	2

■Reasons

- Highly impressed with the Kameyama Plant's "Super Green Factory" efforts (Highlight).
- Reflects voices of customers and business partners (Highlight).
- Sympathized with Sharp's corporate policy (Sincerity and Creativity—The Wellspring that Underlies Sharp).
- Thought that Sharp is carrying out its activities in a sincere manner, the way manufacturers should (Efforts Related to Product Lifecycle).
- Efforts in recycling were easy to understand (Recycling).
- Was a good idea to include CSR in the Social Report.

Q4: Please give us your comments on this report or on Sharp's environmental activities.

- Sharp should publicize its environmental conservation efforts more.
- More of Sharp's unique activities in environmental sustainability management should be included.

→This year's report details Sharp's corporate vision of becoming "a zero global warming impact company by 2010" and advancing "Super Green" management.

- Too much information.

→This year, we narrowed down the contents of the report. Detailed activities, performance data, etc. are posted on Sharp's Web site.

Q5: What do you expect from Sharp's future activities?

■Reader Opinions

- Development of environmentally conscious products
- Further cost reductions in LCD TVs
- Establishment of recycling/reuse technologies for LCD TVs
- Development of high-conversion-efficiency solar cells, work toward further broadening the use of solar energy
- Offering new lifestyles appropriate to the "era of the environment" through manufacturing products

Please fill in the following questionnaire and fax it to:

FAX **Environmental Protection Group, Sharp Corporation +81-6-6625-0153**

Q1: How easy to understand was this Environmental and Social 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 report?

(1) Plenty of information (2) Enough information (3) Could have been more (4) Not enough

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 report?

(1) A Message to People and the Earth (2) Special Feature 1 The Challenge of Broadening the Use of Solar Energy
(3) Special Feature 2 The Next Phase of Sharp's LCD Business (4) Special Feature 3 The Environment, Health and Safety —"One-of-a-Kind" Products in the Years to Come (5) Fundamental Orientation and Vision Concerning the Environment
(6) Major Objectives and Fiscal 2004 Results (7) Advancing Super Green Management (8) How Business Activities Relate to the Environment
(9) Developing Super Green Technologies (10) Creating Super Green Products and Devices (11) Achievement of a Super Green Factory
(12) Reducing Greenhouse Gas Emissions (13) Minimizing and Recycling Waste (14) Appropriate Management and Reductions in the Discharge Risk of Chemical Substances (15) Promoting Risk Management (16) Environmentally Conscious Logistics and Packaging
(17) Recycling Used Products (18) Promotion of Environmental Communication (19) Fulfilling Corporate Social Responsibilities (CSR)
(20) For Customers (21) For Shareholders and Investors (22) For Business Partners (23) For Employees (24) For Local Communities

Please explain why

Q4: Did you see the information posted on Sharp's Web site?

(1) Yes (2) No (3) Didn't know about it

Items you viewed

Q5: How do you feel about information disclosure using both a printed report and the Web site?

(1) Favorable (2) Not favorable (3) Neither (4) Don't know

Please explain why

Q6: Please give comments on this report or on Sharp's environmental and social activities.

Q7: What do you expect from Sharp's future activities?

Q8: Which of the following would best describe you?

(1) Customer (2) Shareholder, investor (3) Someone who does business with Sharp (4) Person in charge of environmental matters at your company (5) Person in charge of CSR at your company (6) NGO or NPO member (7) Member of government, civil servant
(8) Member of research or educational institution (9) Student (10) Media member (11) Resident living near a Sharp site
(12) Sharp employee or family member (13) Other ( )

Q9: How did you hear about this report?

(1) Sharp Web site (2) Other Web site ( ) (3) Newspaper ( ) (4) Magazine ( )
(5) Seminar ( ) (6) Exhibition ( ) (7) Sharp employee ( ) (8) Others ( )

Q10: Please write any other comments, suggestions or wishes here.

Thank you for your cooperation.