

# Environmental History and Awards

## History

### Environmental Activities Over the Years in Japan

	Activities
1971	● Established the Environmental Technology Center
1979	● Established the First Synthetic Energy Committee
1987	● Established the CFC Regulation Countermeasure Committee
1991	● Appointed the Corporate Director for Environmental Management ● Established the Environmental Activities Promotion Department
1992	● Enacted the SHARP Environmental Charter and Basic Environmental Conservation Guidelines
1993	● Established the First Environmental Strategy Conference ● Announced the Voluntary Plan on Environment ● Began registration of persons in charge of environmental conservation for overseas operations
1994	● Phased out ozone-depleting chemicals in the cleansing process of all operations ● Phased out vinyl chloride in all packaging ● Established the C-PA (Chemical Product Assessment) system
1995	● Revised the Product Assessment Guidelines
1996	● Started an all-company effort to create Green Products
1997	● Completed ISO 14001 Certification acquisition at all Japanese production sites ● Conducted a Global Environmental Conference ● Established the Environmental Protection Group

	Activities
1998	● Began the Environmental "3G-1R Strategy" ● Green Products Guidelines published ● Sharp Green Seal system introduced ● Green Mind Campaign started
1999	● Environmental Report published ● Kansai Recycle Systems Corporation established ● Trial introduction of the Environmental Accounting System
2000	● All Japanese sites introduce the Green Purchasing System ● Introduced full-fledged "Environmental Accounting System" ● Launched "Environmental Solutions" business ● Established company-wide chemical substance management committee ● Issued "Green Factory Guidelines"
2001	● Launched "Green Engineering" training ● Started "Super Green Initiatives" ● Acquisition of ISO 14001 Integrated Certificate at major bases of all domestic sales and service companies
2002	● Achieved zero discharge to landfill at all Japanese production sites ● Established environmental compliance committee

## Awards

### Sites

	Sites and Awards
1995. 6	<b>Tenri LCD Group, Tenri, Japan</b> ● IPA (isopropyl alcohol) recovery and refinement, Ministry of International Trade and Industry Prize, 21st Award for Excellent Environmental Equipment.
1995.10	<b>ALL SHARP</b> ● 1995 US Environmental Protection Agency Stratospheric Ozone Protection Award
1995.12	<b>Sharp-Roxy Appliances Corporation (M) Sdn. Bhd. (SRAC), Selangor, Malaysia</b> ● Malaysia Ozone Layer Protection Award
1996. 4	<b>Sharp Manufacturing Company of U.K. (SUKM), North Wales, U.K.</b> ● UK Styrofoam Recycling Award
1997. 6	<b>Electronic Components Group, Shinjo, Japan</b> ● 1997 Environmental Protection Distinguished Service Award for Global Warming Prevention from the Environmental Agency
1997. 6	<b>TFT LCD Group, Tenri and Mie, Japan</b> ● DMSO (dimethyl sulpho oxide) Contaminated Waste Water Recovery and Reuse System, Ministry of International Trade and Industry Prize, 23rd Award for Excellent Environmental Equipment.
1997.10	<b>Fukuyama IC Group, Fukuyama, Japan</b> ● Recycling Promotion Achievement Award, Chairman's Prize from Recycling Promotion Association
1997.12	<b>Sharp Electronics Taiwan (SET), Kaohsiung, Taiwan</b> ● 1998 Industrial Waste Recycling Activity Grand Prize from the Economy Management Bureau
1998. 1	<b>Sharp Thebnakorn Manufacturing (Thailand) (STTM), Nakornchaisri, Thailand</b> ● 1997 Excellent Environmental All Factory Award
1998.10	<b>TFT LCD Group, Tenri, Japan</b> ● Recycling Promotion Achievement Award, Chairman's Prize from Recycling Promotion Association
1999.10	<b>Integrated Circuits Group, Fukuyama, Japan</b> ● Recycling Promotion Achievement Award, Ministry of International Trade and Industry Prize, from Recycling Promotion Association
1999.10	<b>TFT LCD Group, Mie, Japan</b> ● Recycling Promotion Achievement Award, Chairman's Prize from Recycling Promotion Association
1999.12	<b>Sharp Electronics (Taiwan) Co., Ltd. (SET), Taiwan</b> ● Award for Environmentally Conscious Companies ● Silver Award for Recycling Activities
2000. 2	<b>ALL SHARP</b> ● Special Company Award for Energy Savings
2001. 4	<b>TFT LCD Group, Mie, Japan</b> ● 3rd Japan Water Award, Promotion Prize
2001.10	<b>West Japan Logistics Center</b> ● 2nd Railway Freight Promotion Awards

### Products

	Products and Awards
1994. 2	<b>Fully Automatic Washer</b> ● Commendation from the Director General of the Agency of National Resources and Energy in the 1993 Energy Conservation Vanguard 21
1996. 2	<b>Electric Refrigerator</b> ● Commendation from the Chairman of the Energy Conservation Center in the 1995 Energy Conservation Vanguard 21
1997. 1	<b>Residential Photovoltaic Power System</b> ● Commendation from the Director General of the Agency of National Resources and Energy in the 1996 Energy Conservation Vanguard 21
1997. 1	<b>Electric Carpet</b> ● Commendation from the Chairman of the Energy Conservation Center in the 1996 Energy Conservation Vanguard 21
1997. 1	<b>Refrigerator</b> ● Commendation from the Director General of the Agency of National Resources and Energy in the 1996 Energy Conservation Vanguard 21
1997.11	<b>Vacuum Insulation Technology</b> ● 1997 US Environmental Protection Agency Stratospheric Ozone Protection Award
1998. 1	<b>Fully Automatic Washer</b> ● Commendation from the Minister of International Trade and Industry in the 1997 Energy Conservation Vanguard 21
1998. 2	<b>Residential Photovoltaic Power System</b> ● Commendation from the Director General of the Agency of National Resources and Energy in the 1997 Energy Conservation Vanguard 21.
1999. 2	<b>LCD Navigation Microwave Oven / Super Mobile LCD / Low Energy Switching Power Device</b> ● Commendation from the Chairman of the Energy Conservation Center in the 1998 Energy Conservation Awards.
1999. 2	<b>200 kW Photovoltaic Generator with Snow Melting Function</b> ● Commendation from the Minister of International Trade and Industry in the 1998 New Energy Awards
1999. 2	<b>Residential Photovoltaic Power System</b> ● Commendation from the Chairman of the New Energy Foundation in the 1998 New Energy Awards
2000. 1	<b>Refrigerator [made at Shanghai Sharp Electronics Co., Ltd. (SSEC)]</b> ● Ozone Protection Award from China's Environmental Protection Agency
2000. 2	<b>20-inch LCD TV</b> ● Commendation from the Chairman of the Energy Conservation Center in the 1999 Energy Conservation Awards
2000. 2	<b>Refrigerator</b> ● Commendation from the Chairman of the Energy Conservation Center in the 1999 Energy Conservation Awards
2000. 2	<b>Environment-Friendly Housing Complexes Equipped with Photovoltaic Power Generation System</b> ● Commendation from the minister of International Trade and Industry in the 1999 New Energy Awards
2000.11	<b>Non-volatile memory cell read-out circuit logic</b> ● 2000 Kinki Regional Invention Prize
2001. 2	<b>Refrigerator/freezer</b> ● Commendation from the Chairman of the Energy Conservation Center in the 2000 Energy Conservation Awards
2001. 2	<b>Residential Photovoltaic Power System</b> ● Commendation from the Chairman of the New Energy Foundation in the 2000 New Energy Awards
2002. 2	<b>Apartment Equipped with High Density Photovoltaic Power System</b> ● Commendation from the Minister of Economy, Trade and Industry in the 2001 New Energy Awards
2002. 2	<b>Residential Photovoltaic Power System for Hipped Roof</b> ● Commendation from the Chairman of the New Energy Foundation in the 2001 New Energy Awards
2002. 2	<b>Microwave Oven</b> ● Commendation from the Chairman of the Energy Conservation Center in the 2001 Energy Conservation Awards

# Corporate Profile

## Corporate Profile

Name	Sharp Corporation
Head office	22-22, Nagaike-cho, Abeno-ku, Osaka 545-8522, Japan
President	Katsuhiko Machida
Establishment	1912
Domestic bases	36
Overseas bases	65 in 27 countries
Operations	Manufacture and sales of audio-visual and communication equipment, home appliances, information equipment, electronic components, etc.
Employees	46,518* (30,010 in Japan, 16,508 in rest of world) *As of March 31, 2002, for Sharp Corporation and consolidated subsidiaries
Capital stock	205 billion yen* (rounded to nearest 1 billion yen) *As of March 31, 2002

## Main Businesses

### Products

Audio-Visual and Communication Equipment	LCD TVs, LCD projectors, PDPs, CRT color TVs, HDTVs, TV/VCR combos, digital broadcast receivers, DVD players, ViewCams, VCRs, digital still cameras, 1-Bit digital audio systems, portable MD players, MD/CD radio cassette players, MD/CD stereo component systems, personal mobile tools, facsimiles, mobile phones, PHS phones, cordless phones, electronic dictionaries, electronic calculators
Home Appliances	Refrigerators, microwave ovens, air conditioners, washing machines, drum-type washing machines, vacuum cleaners, kerosene heaters, electric heaters, CCD cameras, home network control units, air purifiers, dehumidifiers, small cooking appliances
Information Equipment	Personal computers, POS systems, handy data terminals, electronic cash registers, workstations, LCD monitors, PC software, digital copier/printers, electrostatic copiers, PC peripherals including color inkjet printers and color scanners, supplies for copier/printers, copiers and printers

### Electronic Components

ICs	Flash memory, combination memory, CCD/CMOS imagers, ICs for LCD, analog ICs, microcomputers
LCDs	TFT LCD modules, system LCD modules, duty LCD modules, EL display modules
Other Electronic Components	Electronic tuners, RF/infrared communication units, components for satellite broadcasting, laser diodes, hologram lasers, MD pickups, DVD pickups, optoelectronics, regulators, switching power supplies, solar cells, LEDs

# Ensuring the Reliability of Sharp's 2002 Environmental Report

## Third-Party Certification

Sharp considers third-party certification of environmental reports to be extremely important in gaining the trust of the reader. This certification process is intended to provide a comprehensive guarantee of the credibility of the contents of the report, ensuring that all necessary items are contained in the report, that there are no errors in the content, that numeric results were correctly calculated using appropriate methodologies, and the like. However, we did not seek third-party certification of this Environmental Report because we could not judge the methods currently implemented to be the most appropriate for meeting the goals and objectives of certification.

In the future, we believe that the means to ensure the objectivity, impartiality, and comparability of the certification process will be in place, including publishing coherent guidelines for qualification requirements for third-party certification examiners, auditing standards and auditing methodologies. We will monitor developments in this area, and will conduct frequent reviews regarding when it would be appropriate to introduce certification, and to whom to make the request for the audit.

## Third-Party Opinion

The performance figures published in this report were compiled based on information provided by the various departments involved. For some time, we have been working to improve their reliability through mutual communications, such as giving serious weight to the opinions and views received through questionnaires and via the Internet to improve upcoming editions of our Environmental Reports.

In addition to these efforts, we have worked to improve the reliability the report content by inviting Mr. Kazutaka Murakami of the Kansai ISO Senior Consultant Network to participate in planning for its compilation and design of the publication. In addition to providing expert assistance in developing environmental audits and environmental systems, Mr. Murakami has also furnished overall guidance and pointed out deficiencies and areas that need improvement in last year's Environmental Report. We have also asked Mr. Murakami to give us a "third-party opinion" regarding the improvements made in the content of the finished report as a whole (see below).

In the future, we will be working hard to strengthen communications channels between ourselves and our readers in a committed effort to improve the report's credibility and reliability.

## Third-Party Opinion With Respect to Sharp's Environmental Report

This report represents an accurate description of the high level of environmental protection activities that the company as a whole is engaged in, based on ISO 14001 standards. In an industry like manufacturing where the burden placed on the environmental is high, it can be clearly understood that the company is aggressively engaged in environmental management activities encompassing all aspects of its business—from product development to recycling. The content is entirely appropriate for an Environmental Report, including 1) general, standardized report items; 2) clarification of executive management's positions, policies and objectives related to environmental protection; 3) accurate descriptions of their activities and efforts in this area, 4) disclosure of past performance data, and 5) creation of a comprehensive, easy-to-understand report. The items covered in the report are descriptions of added measures taken to ensure regulatory compliance. In addition, the order of sections in the report and the graphs and charts have been improved so as to be significantly more reader-friendly. Social and economic-impact reports have also been added, and the strong intention to disclose more detailed information is quite apparent. Through disclosure in future environmental reports, we can look forward to the success of Sharp's ongoing corporate efforts to give careful consideration to the environment.



Kazutaka Murakami  
Representative  
Kansai ISO Senior Consultant  
Network

### Professional background of Mr. Kazutaka Murakami

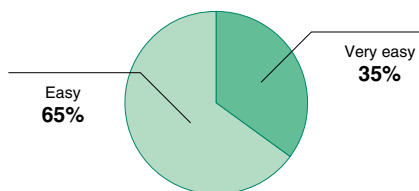
- 1962 ~ 1968 Tokyo Institute of Technology; completed Master's program in Industrial Engineering
- 1968 ~ 1978 Matsushita Electric Industrial Co., Ltd.; acquired management skills in the field of electronic components
- 1978 ~ 1981 Angel Co., Ltd.; held overall responsibility for development, manufacturing and quality control
- 1982 ~ 1996 Rohm Co., Ltd.; production control manager for thermal heads and chief of environmental management
- 1997 ~ 1998 A management consulting company; conducted ISO consulting and cost reduction consulting based on technology management
- 1998 ~ present Became an independent ISO and management innovation consultant (in a business-oriented private consultant network)

## Replies to Sharp Environmental Report 2001 Questionnaire

Every year, Sharp asks readers for opinions on its Environmental Report. Many readers responded with a wide range of valuable information in last year's Environmental Report survey. We thank those participants for their cooperation as we present the results of the 2001 survey and our subsequent improvements in response to reader comments.

Note:  
The survey statistics represent only those responses received by fax.

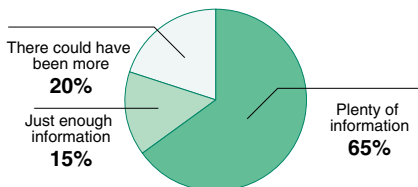
### Q1 How easy to understand was the Environmental Report?



#### ◆ Opinions and improvements in fiscal year 2002

- The Environmental Report is not just a report; it's a source of knowledge.  
⇒ This year we did a feature on Sharp's environmental technologies.
- Easy to understand for people who are not environment experts. On the other hand, it is too simple for experts.  
⇒ We've tried to give as much data as possible by supplying sufficient site information.

### Q2 How did you feel about the amount of information in this Environmental Report?



#### ◆ Opinions and improvements in fiscal year 2002

- All the necessary items are included.  
⇒ We tried to include even more social and economic reports, as well as information from various sites.
- There's plenty of information, with the report divided into 6 environmental activity stages.  
• It's good that activities in Asian bases were included.  
⇒ This year as well, we've included lots of case studies from international bases.
- There's not enough data from the standpoint of an LCA. Also, I want to know the level of understanding individual employees have in their environmental activities.  
⇒ We understand that employees' environmental knowledge and thinking are very important. In future, we plan to boost environmental education and introduce what employees are doing in the Environmental Report. This year's Environmental Report includes information on how employees are working to decrease the burden on the environment.

### Q3 What information about Sharp did you find most impressive in this Environmental Report?

- Long vision...5 persons
- Cover story...6
- Main objectives and level of achievement...4
- Management...6
- Products (Green Products)...7
- Factories (Green Factories)...4
- Recycling (Recycling Business)...4
- Awareness (Green Mind)...6
- Sites data...2

#### ◆ Opinions

- The features were entertaining and showed how Sharp is a unique company.
- The features were very interesting.
- I could see exactly what Sharp is doing to make environmentally friendly products.

### Q4 Please add any thoughts or opinions you have on this Environmental Report or on Sharp's environmental activities.

#### ◆ Opinion and improvement

- Sharp should take into consideration the opinions of third parties (general public, other industries, NGOs), even if they are not certified  
⇒ The 2002 Environmental Report included comments by environmental consultant Mr. Murakami.

### Q5 What do you hope to see Sharp do in future as far as the environment is concerned?

#### ◆ Opinions

- I hope to see Sharp, an environmental leader, make energy-efficient, environmentally conscious products that contribute directly to the environment.
- I want Sharp to be an industry leader by pursuing its 3R policy.

## Editorial Policy for Environmental Reports

- ① We have given priority to articulating Sharp's corporate attitude and aim for achieving a "sustainable society." We have also presented material emphasizing the interlinked environmental, social and economic aspects of Sharp's business activities within the framework of the Sustainability Reporting Guidelines advocated by the Global Reporting Initiative (GRI).
- ② We have presented material encompassing the full range of our activities, including negative information, referring to the Ministry of the Environment's Environmental Report Guidelines (Fiscal 2002 Edition) and Environmental Performance Indicators for Business (Fiscal 2002 Edition), and the GRI's Sustainability Reporting Guidelines.
- ③ We have emphasized conveying information in an easily comprehensible form, targeting not only environmental experts, but also users of our products, people who live in the vicinity of our business locations, suppliers, vendors, business partners, students, and other broad segments of the community, and have aimed at using a straightforward writing style and incorporating numerous illustrations and photographs. We have also given serious attention to the feedback received from questionnaires accompanying our 2001 Environmental Report, and have worked to improve its content based on this information.
- ④ We will redouble our efforts in the future, and move aggressively to disclose additional information to achieve further improvement in this report.

## About the Cover Design

The cover design for this report was chosen from contest submissions received from employees of the Sharp Group in Japan and abroad, and from their families. From among the 156 entries received, we selected the work of Ms. Kaoru Hokazono, Junior Manager, Appliance Systems Group Design Center to use as the cover design.

For any inquiries on this report please contact:

Environmental Strategy Planning, Environmental Protection Group,  
SHARP CORPORATION, JAPAN

4-3-41, Kami-minami, Hirano-ku, Osaka 547-0003, Japan  
Phone: +81-6-6792-5500 Fax: +81-6-6792-0012

E-mail: [eco@sharp.co.jp](mailto:eco@sharp.co.jp)

# ENVIRONMENTAL REPORT 2002



## SHARP

SHARP CORPORATION, JAPAN  
22-22, Nagaike-cho, Abeno-ku,  
Osaka 545-8522, Japan  
Phone: +81-6-6621-1221  
<http://www.sharp.co.jp>



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