

**SHARP**

Sustainability Report 2013



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## About the Cover



The image of the sunrise represents a new start for Sharp in which the principles of its business philosophy and business creed drive the company in its quest for recovery and growth.

## Compiling This Report

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### ■ Policy for Information Disclosure

Sharp's efforts toward corporate social responsibility (CSR), particularly the environmental and social dimensions of CSR, contribute to creating a sustainable society. Information on these efforts is made available in the Social and Environmental Activities section of the Sharp corporate website.

The Sustainability Report 2013 presents Sharp's fiscal 2012 efforts in three sections—titled Management, Environmental Activities, and Social Activities—which are accompanied by a variety of related data. To keep our various stakeholders appropriately informed, the website also provides detailed data and information on Sharp's latest CSR activities.

The Sustainability Report 2013 is also available as a downloadable PDF file that can be viewed or printed as required.

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Sharp Social & Environmental Activities website <<http://www.sharp-world.com/corporate/eco/index.html>>

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### ■ Period and Items Covered

**Period covered:** Fiscal 2012 (April 2012 to March 2013)

However, some actual facts prior to and after this period, as well as subsequent policies, objectives, and plans, are also included.

**Coverage:** Sharp Corporation, along with its domestic and overseas subsidiaries and affiliates.  
See pages 72 to 75 for the boundary of environmental performance data.

The names of overseas subsidiaries and affiliates are denoted with acronyms, such as SEC. For a list of the full names of subsidiaries and affiliates, see pages 72 and 73.

### ■ Referenced Guidelines

- Environmental Reporting Guidelines (2012 Version), Ministry of the Environment, Japan
- Sustainability Reporting Guidelines Version 3.1 (2011, Japanese), Global Reporting Initiative (GRI)
- Environmental Accounting Guidelines 2005, Ministry of the Environment, Japan

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Environmental Reporting Guidelines Content Index <<http://www.sharp-world.com/corporate/eco/report/ssr/guideline/index.html>>

GRI Content Index <<http://www.sharp-world.com/corporate/eco/report/ssr/guideline/gri/index.html>>

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### ■ Scheduled Publication Date for Next Report

August 2014 (published annually since 1999)

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## Business Philosophy and Business Creed

### Sharp Will Fulfill Its Social Responsibility, Abiding by the Core Principles of Its Business Philosophy and Business Creed

"Make products that others want to imitate." These words, spoken by Sharp founder Tokuji Hayakawa, exemplify Sharp's management concept of contributing to society through its technologies and manufacturing by being the first to make products that meet the needs of a new era, and in the process, becoming a corporation that is known and trusted by society.

In 1973, Sharp articulated the unchanging spirit of its founder in the company's business philosophy and business creed. The business philosophy states that Sharp aims for mutual prosperity with society and stakeholders—the foundation of CSR\* today—by "contributing to the culture, benefits and welfare of people throughout the world." The business creed calls for "Sincerity and Creativity," and all employees must hold to it and follow it in order to realize the business philosophy.

Through its business activities, Sharp has always strived to put its business philosophy into action and to contribute to the building of a sustainable society. In making a new start towards recovery and growth, Sharp will once again return to the principles behind its business philosophy. By practicing sincerity of conduct and action and by calling upon its "gene of creativity" to develop new products that generate new value—all the while keeping a strong customer focus—Sharp is committed to fulfilling its social responsibility and to remaining a company that is known and trusted throughout society.

\* 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.

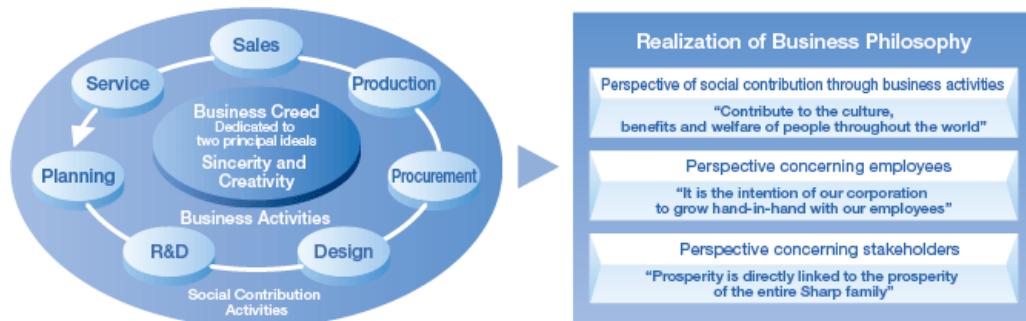
Harmony brings strength ... trust each other and work together.

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.

### Achieve the Tenets of the Business Philosophy by Promoting "Sincerity and Creativity" in All Business Practices



- The business creed is the central axis of all business activities.
- "Sincerity" means a working attitude mindful of what will offer genuinely useful solutions and happiness to everyone.
- "Creativity" means a working attitude not content with the way things are. An attitude which always seeks to add value, and to make efforts to innovate and improve.


**Top Message**

## Making a New Start towards Recovery and Growth, and Aiming for Sustainable Development of Both Society and Sharp



**President Kozo Takahashi**

### Return to the Spirit of Sharp's Business Philosophy and Business Creed

It is with great regret that we announce Sharp's second consecutive financial term with a large operating loss and net loss. We are truly sorry for the worry this is causing our customers, business partners, and other stakeholders. To break out of our current management crisis, while returning to the unchanging spirit that has been enshrined in our Business Philosophy and Business Creed since Sharp's founding, we are putting every possible effort into company reform, and we are going for achieving recovery and growth based on our medium-term management plan announced in May 2013.

### Become the Kind of Company Society Needs

In rebuilding business and regaining confidence from society in today's complex business environment, it is important to have a decision-making standard that is concise and clear.

We must make a renewed effort to become the kind of company that society needs. Our standard for how we conduct the business and management of our company should not be "what should we do for the sake of the company?" but rather "what is the right thing to do as a person?" and "what should we do for society?"

### Continue to Provide People Worldwide with New Value and Joy

Sharp has a wealth of technological capital, with proprietary technologies in business areas including LCDs, solar cells, Plasmacluster Ions, telecommunications, and document systems. Its experienced employees provide the company with valuable human capital. We will leverage this technological and human capital in strongly customer-focused efforts that will help us expand existing businesses. Moreover, we aim to expand the scope of business in five new areas in which we can provide solutions for society: healthcare/medical services; robotics engineering; smart home/mobility/office; safety and security of food/water/air; and education.

A look back at Sharp's roots shows that our strengths lie in our strong customer focus and in our capacity to develop new technologies. By further boosting our efforts to refine technology while putting customers first, we will bring new value and joy to customers and business partners alike.

### Fulfill Our Social Responsibility in All Aspects of Business

Expanding Sharp's business globally, we will continue to support the 10 principles, in areas that include human rights, labour, the environment, and anti-corruption, of the United Nations Global Compact that we joined in 2009. In addition, we will act in compliance with national and local laws and with internationally accepted social norms, as well as contribute to solving such worldwide issues as conflict minerals, and respect for human rights.

Regarding environmental matters, companies must increasingly respond to social needs, such as the reduction of carbon emissions, resource recycling, and harmony with nature. To describe the fulfillment of these needs in unison with the creation of value through company business, Sharp sets the term "Green Shared Value." We have formulated a new environmental policy founded on maximizing this value. Under this policy, we will further improve environmental performance throughout the entire supply chain, including product manufacturing, shipment, product use, final disposal, and recycling. We will also continue to manufacture products that meet the needs of society.

Through the efforts I have mentioned here and through steady and thorough implementation of Sharp's medium-term management plan, we will fulfill our social responsibility as we aim for the sustainable development of both society and Sharp.

We will continue to disclose information on company activities, and will strive to reflect the valuable opinions of stakeholders in company management.

President  
Kozo Takahashi

## ■ Approach to CSR Activities

Sharp's CSR has its roots in its business philosophy and business creed. Having divided its CSR activities into four large categories, Sharp pursues them by overseeing and ensuring well-balanced progression among the activities and the categories, while also engaging and communicating with society and stakeholders.

# Become the Kind of Company Society Needs



## Sharp Will Contribute to the Sustainable Development of Society by Offering Innovations

I have come to realize that companies around the world today are required now more than ever to promote CSR that contributes to the solution of social issues through business activities.

In May 2013, Sharp announced its medium-term management plan. In it, Sharp declared that it would accelerate development of its current business areas by applying its many unique technology assets to meet various customer needs. Sharp also stated that it would exploit the new business areas of healthcare/medical services; robotics and engineering; smart home/mobility/office; safety and security of food/water/air; and education, creating synergy through global strategic alliances with other companies. Through these business activities, Sharp is committed to offering innovations that create new value for society and to becoming the kind of company that society needs.

Sharp will also strive even further to fulfill its social responsibility—in line with such international standards as the United Nations Global Compact and ISO 26000—by engaging and communicating with all its stakeholders.

With a firm grounding in its business philosophy and business creed of “Sincerity and Creativity”—the roots of Sharp’s CSR—the company is aiming for sustainable development, together with society.

We sincerely ask for your continued support.



Yumiko Ito  
Director and Executive Officer  
General Counsel  
Corporate Management Group  
Sharp Corporation

## ■ Environmental Policy: Increase 'Green Shared Value'

### Sharp's New Environmental Policy: Increase 'Green Shared Value'

To be a company that society recognizes for its sincere environmental credentials, Sharp strives to promote business growth in tandem with environmental conservation. Companies must increasingly respond to society's needs regarding environmental matters such as the pursuit of a low-carbon society, the recycling of resources, and our harmony with nature.

Against this backdrop, Sharp is placing the fulfillment of these needs in close alignment with its strategy for business growth, with a view to achieving success in both areas. Sharp has defined the value thus created as "Green Shared Value" and has formulated a new environmental policy founded on maximizing this value.



Masashi Yasuki  
Division General Manager  
CS and Environmental  
Promotion Division  
Sharp Corporation

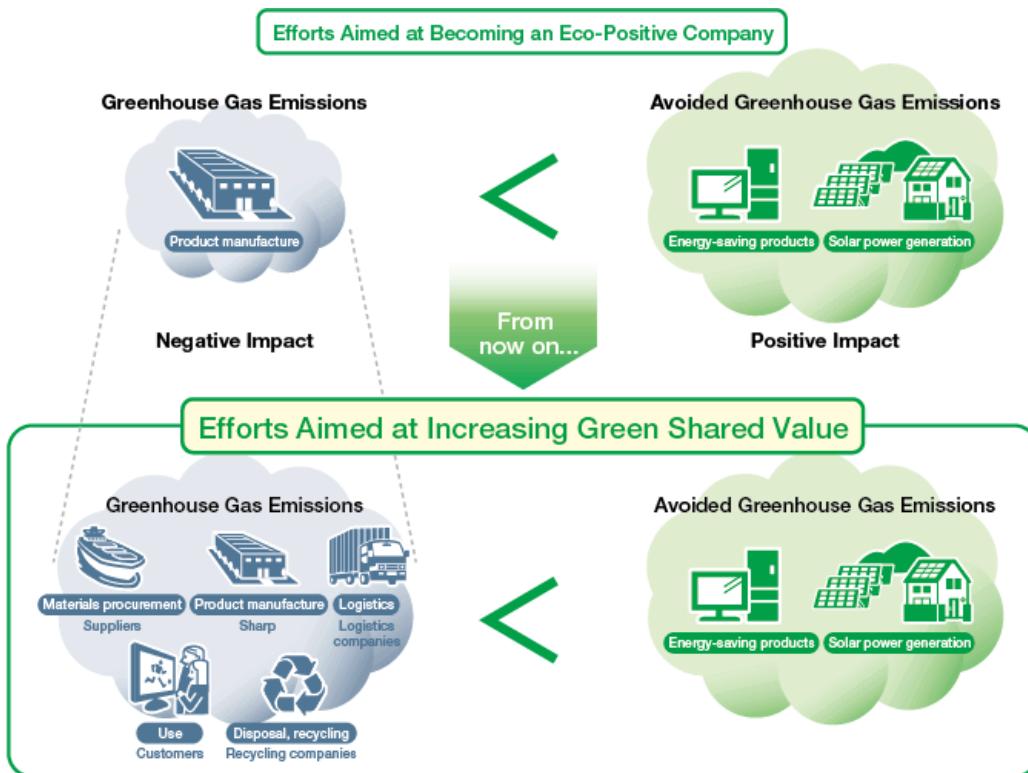
#### Moving from Eco-Positive to Green Shared Value

Under its Eco-Positive Company corporate vision, Sharp has been striving to make the positive impact of its avoidance of greenhouse gas (GHG) emissions—achieved through customer use of energy-creating and energy-saving Sharp products—more than balance out the negative impact of GHG emissions from Sharp's business activities. In fiscal 2011, Sharp was able to surpass this goal: the positive impact (avoided emissions) was 3.1 times more than the negative impact (emissions).

In the effort to reduce carbon emissions, a new trend has emerged whereby companies disclose all emission amounts in their supply chain, in compliance with the GHG Protocol Corporate Value Chain (Scope 3) Standard. This covers emissions not only in product manufacture, but throughout the entire supply chain, from materials procurement to product use.

In response to this trend, Sharp has extended the scope of its 'negative impact' category to cover the entire supply chain, including materials procurement, product manufacture, logistics, product use, final disposal, and recycling.

#### ■ New Environmental Policy: Increase Green Shared Value



## Green Shared Value Scenario for 2020

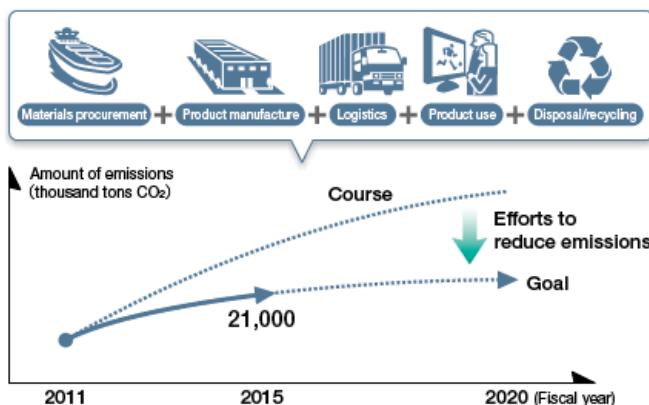
### Green Shared Value Scenario

Extending the scope of the 'negative impact' category enables Sharp to push forward with concrete efforts to reduce GHG emissions in all stages of the supply chain where such gases are emitted. These efforts include reducing emissions through energy-saving measures at factories during product manufacture; reducing emissions during materials procurement by making products smaller and lighter; reducing emissions during logistics activities by improving load efficiency and shifting to environmentally friendlier modes of transport (modal shift); and reducing emissions during product use by improving the energy-saving performance of products.

Meanwhile, in the 'positive impact' category, Sharp will work to create and sell more energy-saving products and expand its solar power business in an effort to achieve both business growth and further increases in avoided GHG emissions.

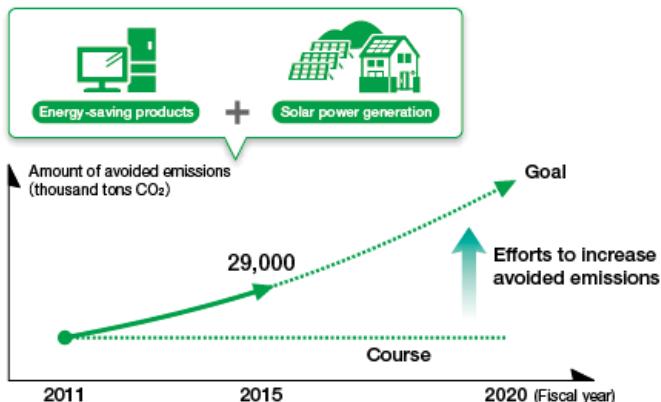
Through these dual efforts, Sharp will work to increase Green Shared Value.

#### ■ Reducing Emissions



[See calculation method.](#)

#### ■ Increasing Avoided Emissions



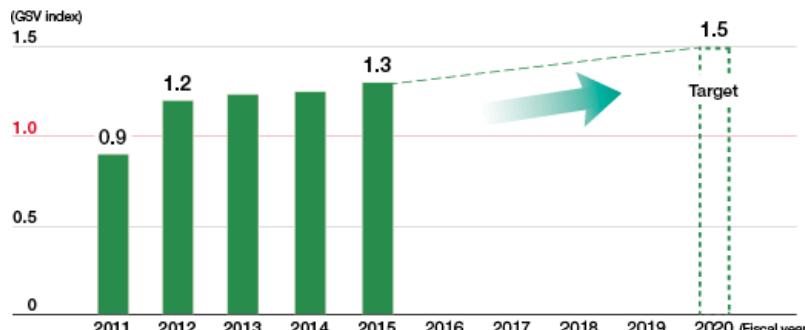
[See calculation method.](#)

### Challenge for the Year 2020

Sharp will strive constantly to have its amount of avoided emissions exceed its emissions—the sources of which are now defined more broadly by Sharp—by pushing forward with the Green Shared Value scenario.

Specifically, Sharp has set a target in the Green Shared Value scenario of increasing avoided emissions to 1.5 times the amount of emissions by the year 2020, when the Kyoto Protocol's second commitment period ends. To this end, Sharp will endeavor to raise environmental awareness in all business activities.

#### ■ Green Shared Value Scenario Target



**<Special Feature > Sharp Continues to Bring New Value and Joy to People around the World by Advancing Its Technologies, All the While Keeping a Strong Customer Focus**

Ever since Sharp was founded, the company has striven to make never-before-seen “products that others want to imitate” by following its business philosophy of using its “unique, innovative technology to contribute to the culture, benefits, and welfare of people throughout the world.” Today, Sharp returns to this spirit as it puts itself in its customers’ shoes and strives to advance technologies that will bring people worldwide new value and joy.

### Doing Business with an Eye to Taking On Society’s Challenges

Bringing the world new value and joy requires that Sharp adapt to the changing environment and needs of the times. People’s desire for things that bring them convenience and a fulfilling life is something that never changes. But with today’s emphasis on CSR, companies must be more customer-oriented than ever as they aim to solve society’s problems through their business and achieve sustainable development for both society and their bottom line.

Throughout its history, Sharp has continually sought to develop, manufacture, and release products with an eye to solving society’s problems through product areas such as LCDs, solar cells, Plasmacluster Ion products, telecommunication devices, and document systems.

### Measures to Deal with Global Environmental Issues

Global warming is a worldwide problem and one that can be hopefully alleviated through the use of renewable energy that allows electricity to be generated without increasing CO<sub>2</sub> emissions. Sharp does business in the entire spectrum of solar power, from residential solar power systems right up to mega-solar power plants. (For details, see “[Promoting Solar Power Business](#).”) The company is also involved in initiatives to build new power supply systems; for example, it is participating in a joint US-Japan project on smart grids underway in Albuquerque, New Mexico. It also recently developed a concentrator triple-junction compound solar cell (to be used in a lens-based concentrator system that focuses sunlight on the cells to generate electricity) that achieves a conversion efficiency of 44.4%, the world’s highest\*1. (For details, see “[Environmental Technologies That Contribute to a Low-Carbon Society](#).”)

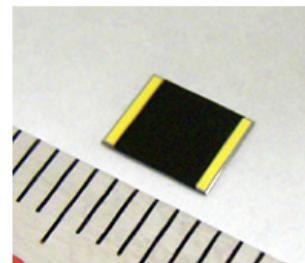
\*1 As of June 2013.



Mega-solar power plant in Lop Buri Province, Thailand

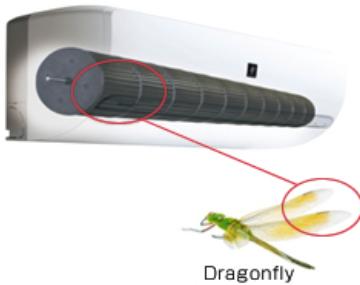


Sharp solar power systems on homes in a housing development in Chiba Prefecture, Japan

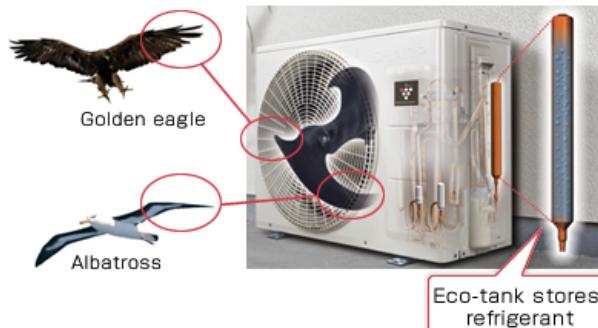


Concentrator triple-junction compound solar cell with conversion efficiency of 44.4%, the world's highest

Sharp is also contributing to saving energy by continuing to make all its products more energy efficient. Of particular note in this area is what Sharp calls “nature technology” (biomimetics)—the application of the mechanisms and structure of plants and animals to industrial products. For example, Sharp is making air conditioners with highly efficient fans whose blades imitate the shape of the wings of dragonflies, albatrosses, and golden eagles. It is also coming up with new ways to save energy and thus help protect the environment. An example is an air conditioner that uses less electricity by using an amount of refrigerant that matches the air conditioning needs of the moment; a certain amount of refrigerant is stored in the tank for when it is needed to quickly warm up a room or to maintain a fixed temperature for a long period of time. (For details, see “[Environmentally Conscious Products and Devices for Fiscal 2012](#).”)

**Air Conditioner Indoor Unit**

Biomimetics uses nature as a design model

**Air Conditioner Outdoor Unit**

Energy-saving technology controls the amount of refrigerant

In the field of LCD, one of Sharp's key businesses, together with Semiconductor Energy Laboratory Co., Ltd. the company jointly developed technology for the practical application of IGZO, a new oxide semiconductor. Compared to conventional amorphous silicon (a-Si) LCDs, IGZO LCD panels consume between just one-fifth to one-tenth the power during still image display, thus contributing to energy-efficient LCDs that provide long operation times. (For details, see "[Environmental Technologies That Contribute to a Low-Carbon Society](#)."



LCD panels incorporating IGZO oxide semiconductor technology



Comparison of energy consumption between Sharp's conventional a-Si LCD panel and the IGZO LCD panel

**Measures to Improve the Air Environment**

There is growing interest in providing clean air that can be inhaled with peace of mind. Sharp has developed Plasmacluster Ion, a proprietary technology that effectively controls viruses, mold, and other harmful airborne substances. In 2000, it released air purifiers with Plasmacluster Ion, followed by a string of home appliances using this air purifying technology, including ion generators, air conditioners, vacuum cleaners, washing machines, refrigerators, hair dryers, and fans. Plasmacluster Ion technology is also at work in cars and trains, in office buildings, and in many public buildings such as libraries. As of the end of June 2012, Sharp had sold more than 40 million Plasmacluster Ion products worldwide.



Plasmacluster ion generator for cars



Plasmacluster ion generators are installed in the express trains of the Nankai Electric Railway Co., Ltd.



Plasmacluster ion generators installed in a day-care center

### Measures to Deal with Changes in Social Structure

Sharp is responding to the changes in social structure that are occurring in industrialized countries; these include an aging population and a move towards nuclear family households.

Sharp has released a simple smartphone in Japan for use by the elderly that limits functions to the most common ones, sports a large screen with easy-to-view icons, and has dedicated buttons for phone, e-mail, and home screen.

Sharp has also developed an ultra-compact proximity sensor that contains a function to detect movements (such as gestures) and an RGB illuminance sensor function. Installed in smartphones, it allows users to control the phone by making gestures in front of the screen, not by touching it. This is just one of the ways Sharp is seeking an easier user phone experience by improving things like operability and image quality.



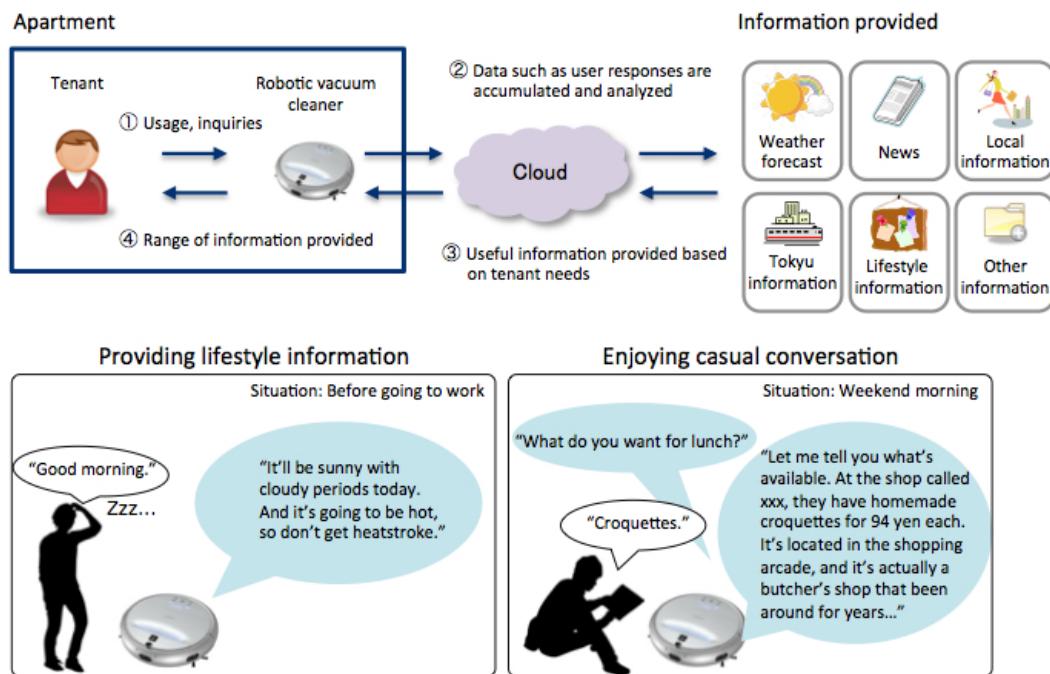
Simple smartphone for provider SoftBank  
(in Japan)



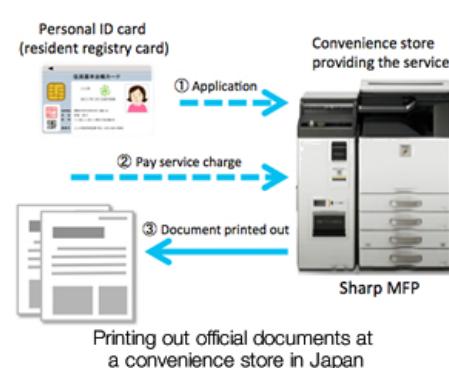
Proximity sensor

Since its market release, Sharp's robotic vacuum cleaner has been highly rated for an interface that offers users soothing, easy communication with their cleaning appliance. The interface is driven by Sharp's COCORO Engine, which the company plans to incorporate in numerous other health and environment appliances. The COCORO Engine uses spoken words and lights to communicate with users, and it provides them with information on convenient uses and functions, thus creating a new relationship between users and their health and environment appliances.

Sharp is also conducting verification tests together with Tokyu Corporation on cloud-based systems in which users can give voice commands to the robotic vacuum cleaner and receive information such as weather reports and news, as well as local lifestyle information.



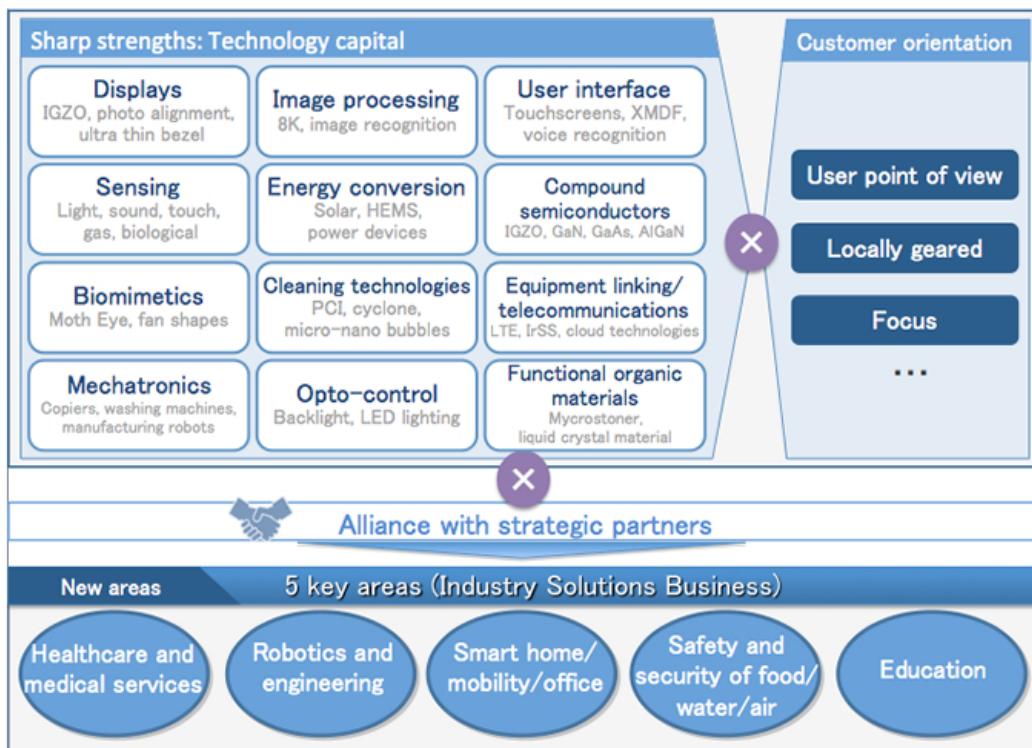
In recent years, an increasing number of people living alone find it difficult on weekdays to take advantage of public services such as renewing their driver's license or going to the tax office. In Japan, for example, some municipalities provide services that allow people to apply for certain official documents on weekends or late at night via MFPs in convenience stores, and Sharp products work with such services. As well, Sharp is teaming up with convenience stores to offer convenient lifestyle services; for example, at the convenience store, people can print out data sent from their smartphones, and data that they download from a network.



## Expanding Business in 5 Key Areas (Sharp's Industry Solutions Business)

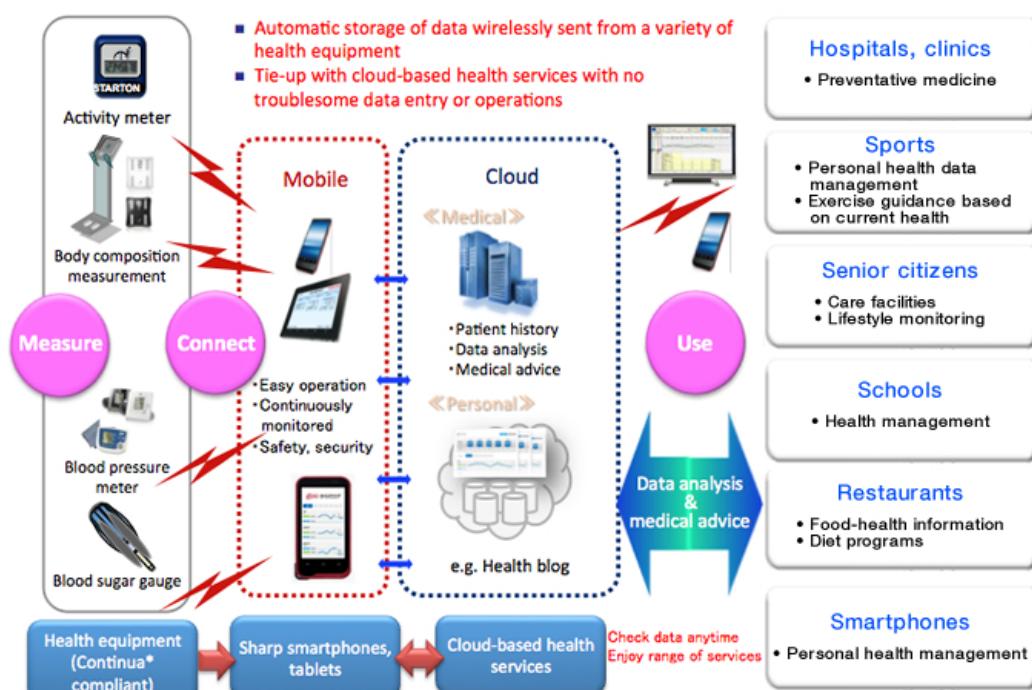
Besides existing businesses, Sharp is venturing into new fields by leveraging its manufacturing strengths, i.e., proprietary technologies and skilled, experienced human resources.

Under its fiscal 2013-to-2015 medium-term management plan, the company has identified five new areas: healthcare and medical services; robotics and engineering; smart home/mobility/office; safety and security of food/water/air; and education. Sharp is actively seeking partner companies with which to carry out efforts in these five areas, collectively called the Industry Solutions Business. It also plans to take on social challenges in these areas, while also seeking to secure sustainable growth in the long term.



### Healthcare and Medical Services

Sharp is in the process of developments that will make it possible for people to get advanced healthcare and medical services with minimal fuss. These developments include a high-resolution X-ray imaging and diagnosis system that uses next-generation IGZO LCDs; an IT healthcare system that links health measurement devices like blood pressure meters and body weight scales to a smartphone; and medical cloud services that provide information such as the location of the most ideal hospital for a patient's needs, and that allow medical experts to provide local hospitals with medical advice and guidance.



## Robotics and Engineering

The world is beginning to see full-fledged use of robots, such as Sharp's robotic vacuum cleaner, in everyday life.

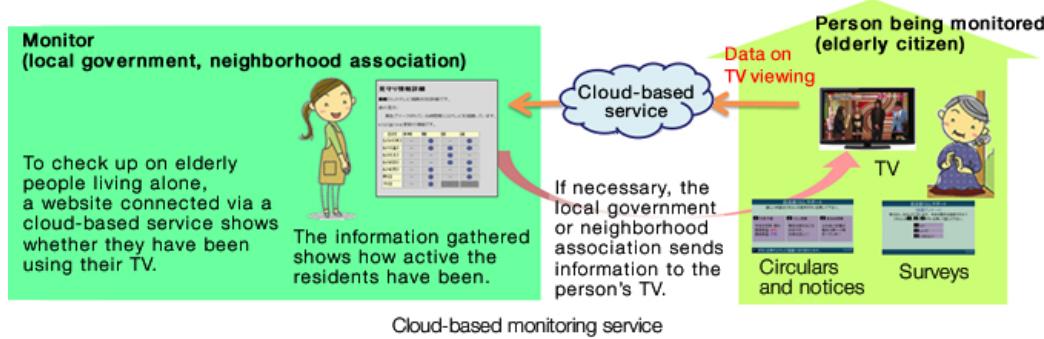
Sharp hopes to contribute to improving workplace environments and making people's lives safer by taking the substrate cleaning technology and delivery technology used in LCD manufacture and using it to develop robots that clean places like shopping malls, offices, and mega-solar power plants.



Industrial-use cleaning robot

## Smart Home/Mobility/Office

Increasingly advanced and widespread IT infrastructure such as high-speed Internet, wireless networks, and cloud technology is being used to develop systems that support the daily activities of people and society. Sharp is developing and introducing such systems. Examples include tablet-controlled systems that graphically display power consumption of each appliance in the home in real time so users can save on their electricity bills; and cloud-based monitoring services in which computers at local governments send information to and receive information from the TVs of elderly citizens living alone.



Also proceeding is the development of cloud-based home management systems that allow family members to connect and that cover everything from comfort and energy savings to safety, security, and communication. For example, using a family-dedicated, cloud-based communication service, household members anywhere outside the home can exchange information with the robotic appliance to remotely control the air conditioner or AQUOS TV, or they can have the robotic vacuum cleaner deliver information on family members living far away. Sharp aims to use robotic appliances and cloud systems to make people's lives more convenient and fulfilling.



## Safety and Security of Food/Water/Air

Securing the safety of food, water, and air has become one of the key issues of our times.

Sharp has developed a microorganism sensor system that automatically measures in 10- to 20-minute intervals the amount of mold and bacteria in the air—something that used to take several days to do manually by culturing the microorganisms. The company plans to introduce this for use not just in food processing plants and hospitals but in people's homes as well.

Sharp is developing other products and systems that contribute to the safety of food, water, and air. One focus is a completely automated plant cultivation factory that uses Sharp technologies in areas such as LED lighting and water purification.



Microorganism sensor system

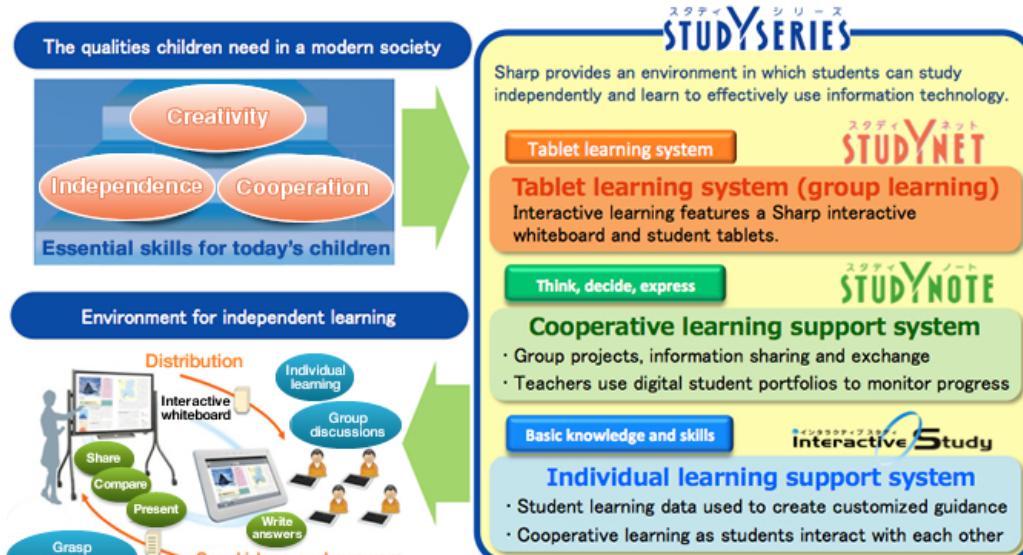


Strawberry growing experiment in a plant cultivation factory

## Education

Sharp understands the importance of educating children in every aspect of society. The company is contributing to education driven by ICT (information and communications technology)—that not only boosts children's interest, enthusiasm, and understanding, but also monitors and nurtures their learning progress—by developing systems that incorporate products like its interactive whiteboard and tablets.

Sharp also works towards an environment in which people around the world have equal education opportunities. With an eye on developing countries and newly emerging countries, where teachers are in short supply or cannot be sent to remote areas, Sharp is using networks and ICT products to create a remote teaching system.



Sharp's education support system using ICT equipment like interactive whiteboards and tablets

## Become the Kind of Company Society Needs

Under its fiscal 2013-to-2015 medium-term management plan, Sharp will firmly ground itself on its business philosophy and business creed of "Sincerity and Creativity" as it strives to develop and bring to market the products talked about here. Sharp believes that the many and varied technologies it possesses can be applied to unique products that will contribute to making society a better place. Through these business activities, Sharp aims to become the kind of company that society needs.

## Objectives and Achievements in the Area of Management

The Sharp Group Charter of Corporate Behavior and the Sharp Code of Conduct characteristically include the “practice of fair and open management.” To contribute to society through manufacturing and technology-oriented business and to continue to be a company that has the trust of society, Sharp is establishing priority action themes in the area of management—the foundation of its business activities. The company will be working for continuous improvement while verifying and assessing the results of these activities.

### Overview of Efforts and Achievements in Fiscal 2012

In fiscal 2012, Sharp continued to work to improve the objectivity and soundness of its corporate governance system and took steps to ensure the stable operation of the company's internal control system. With a view to its global operations, Sharp conducted an ongoing series of training and educational activities to promote policies for compliance, which form the very basis of CSR in advancing business activities. Sharp also pushed forward with ongoing efforts to improve specific management-related areas by, for example, reviewing BCPs (business continuity plans) at major overseas production bases and strengthening information security measures.

### Objectives and Achievements for Fiscal 2012

Self Evaluation  : Results exceeded objectives  : Results met objectives  : Certain results were accomplished

| Important Themes                                                                                    | Objectives for Fiscal 2012                                                                                                                                                                                                                                                                                                                             | Achievements in Fiscal 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Self Evaluation                                                                       |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <a href="#"><u>Reinforce corporate governance</u></a>                                               | <ul style="list-style-type: none"> <li>Further improve transparency, objectivity, and soundness in management</li> </ul>                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>Reviewed operation of Executive Management Meeting and consultative committees to enhance rapid decision-making and soundness in management</li> </ul>                                                                                                                                                                                                                                                                                    |    |
| <a href="#"><u>Develop, maintain, operate, and assess internal control system</u></a>               | <ul style="list-style-type: none"> <li>Continuously put into practice various policies related to internal control system</li> <li>In each internal control area, review progress of implementation to improve efficiency from an operational perspective and mount intensive efforts to resolve critically important items (problem areas)</li> </ul> | <ul style="list-style-type: none"> <li>Continuously put into practice various policies related to internal control system (implemented internal control policies as a corporate group, including for new subsidiaries)</li> <li>Reviewed progress of implementation in each internal control area, mounted intensive efforts to resolve critically important items (problem areas), and submitted Internal Control System Report (information disclosure) (June 2013)</li> </ul> |   |
| <a href="#"><u>Review systems for promoting CSR</u></a>                                             | <ul style="list-style-type: none"> <li>Expand and improve CSR measures in Japan and abroad, giving consideration to ISO 26000 and OECD Guidelines for Multinational Enterprises, etc.</li> </ul>                                                                                                                                                       | <ul style="list-style-type: none"> <li>Studied and communicated with relevant functional units/divisions about measures for priority areas that are covered similarly by multiple sets of major guidelines including ISO 26000</li> </ul>                                                                                                                                                                                                                                        |  |
| <a href="#"><u>Strengthen business risk management</u></a>                                          | <ul style="list-style-type: none"> <li>Ongoing improvement of BCM system</li> <li>Ongoing review and improvement of BCPs for major overseas production bases</li> </ul>                                                                                                                                                                                | <ul style="list-style-type: none"> <li>Reviewed and improved BCPs for major overseas production bases</li> </ul>                                                                                                                                                                                                                                                                                                                                                                 |  |
| <a href="#"><u>Practice compliance in business</u></a>                                              | <ul style="list-style-type: none"> <li>Ongoing compliance training for employees in Japan and abroad</li> <li>Ongoing training on antitrust laws for employees of all business groups and domestic subsidiaries</li> <li>Ongoing implementation of education on and awareness of anti-bribery guidelines</li> </ul>                                    | <ul style="list-style-type: none"> <li>Implemented compliance training for employees in Japan and abroad</li> <li>Implemented training on antitrust laws for employees of all business groups and domestic subsidiaries</li> <li>Implemented continuous education on and awareness of anti-bribery guidelines</li> </ul>                                                                                                                                                         |  |
| <a href="#"><u>Strengthen measures for maintaining confidentiality and information security</u></a> | <ul style="list-style-type: none"> <li>Conduct regular website penetration tests</li> <li>Centralize and unify management of websites</li> </ul>                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>Established security operation team and conducted regular website penetration tests</li> <li>Established company-wide cloud environment to consolidate websites</li> </ul>                                                                                                                                                                                                                                                                |  |
| <a href="#"><u>Strengthen personal information protection system</u></a>                            | <ul style="list-style-type: none"> <li>Ongoing implementation of internal audits related to protecting personal information</li> <li>Ongoing implementation of education and awareness policies related to protecting personal information for employees and others</li> </ul>                                                                         | <ul style="list-style-type: none"> <li>Implemented regular internal audits related to protecting personal information</li> <li>Implemented continuous education and awareness policies related to protecting personal information for employees and others</li> </ul>                                                                                                                                                                                                            |  |

## ■ Objectives for Fiscal 2013

| Important Themes                                                                    | Objectives for Fiscal 2013                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Reinforce corporate governance</u>                                               | <ul style="list-style-type: none"> <li>• Further improve transparency, objectivity, and soundness in management</li> </ul>                                                                                                                             |
| <u>Develop, maintain, operate, and assess internal control system</u>               | <ul style="list-style-type: none"> <li>• Continuously put into practice various policies related to internal control system and mount intensive efforts in each internal control area to resolve critically important items (problem areas)</li> </ul> |
| <u>Streamline systems for promoting CSR</u>                                         | <ul style="list-style-type: none"> <li>• Respond to new social challenges associated with global business development</li> </ul>                                                                                                                       |
| <u>Strengthen business risk management</u>                                          | <ul style="list-style-type: none"> <li>• Ongoing review of priority risks and implementation of risk management based on PDCA cycle</li> </ul>                                                                                                         |
| <u>Practice compliance in business</u>                                              | <ul style="list-style-type: none"> <li>• Ongoing compliance training for employees in Japan and abroad</li> </ul>                                                                                                                                      |
| <u>Strengthen measures for maintaining confidentiality and information security</u> | <ul style="list-style-type: none"> <li>• Conduct web application assessments of publicly accessible servers; centralize and unify management of such servers</li> </ul>                                                                                |
| <u>Strengthen personal information protection system</u>                            | <ul style="list-style-type: none"> <li>• Ongoing implementation of internal audits related to protecting personal information</li> </ul>                                                                                                               |

## <Management> Corporate Governance / Internal Control

Sharp is working to improve corporate governance functions while strengthening its director/corporate auditor system. These efforts have included appointing outside directors, speeding up managerial decisions by separating supervisory and decision-making functions from business execution functions based on an executive officer system, and expanding the Internal Audit Unit as an organization that works with the Board of Corporate Auditors to provide oversight and maintain a rein on management. In addition, by continuously developing and maintaining the internal control system, Sharp is working to enhance this system to ensure the propriety of the operational activities of the entire Sharp Group.

### Corporate Governance

#### Concept of Corporate Governance

Sharp's basic policy on corporate governance is to maximize corporate value through timely and appropriate management, while ensuring transparency, objectivity, and soundness supported by the concept, "Our future prosperity is directly linked to the prosperity of our customers, dealers and shareholders ..." as stated in the company's Business Philosophy.

This is why Sharp appoints to its Board of Directors outside members who have an international and multi-faceted perspective on such matters as compliance and on such wide-ranging issues as the social and economic environment and the future direction of Sharp. In doing so, Sharp has strengthened both the decision-making functions within the Board of Directors and the functions for supervising the directors' execution of their duties.

Sharp has also introduced an executive officer system that clearly separates supervisory and important decision-making functions from business execution functions, thereby creating a structure that steadily facilitates nimble and efficient business execution.

As for corporate auditors and the Board of Corporate Auditors, Sharp appoints outside auditors with a high degree of independence to monitor and hold management in check. Through these measures, Sharp is strengthening corporate governance.

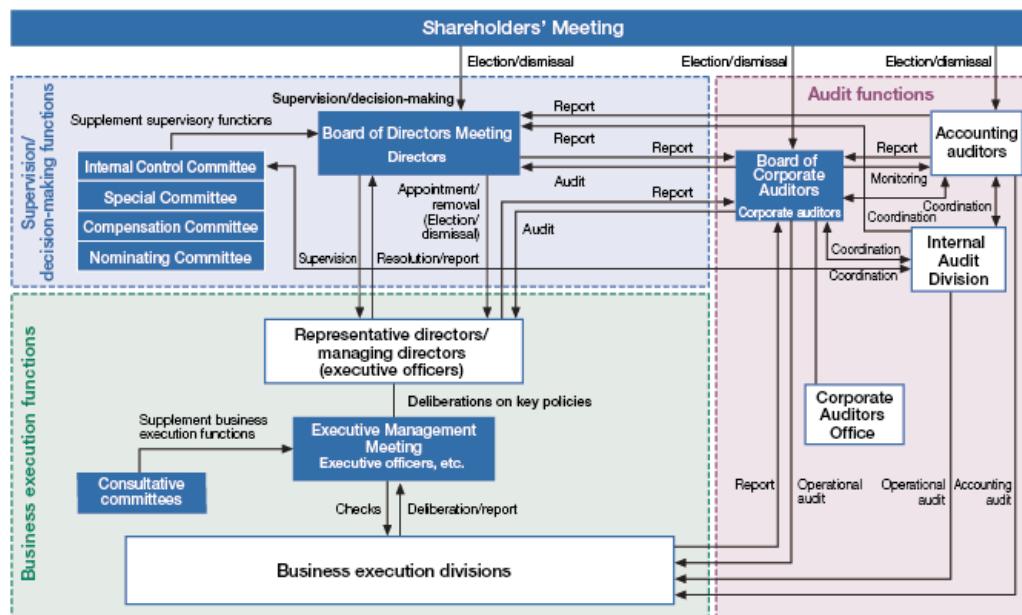
#### Status of Corporate Governance System

Sharp Corporation Board of Directors Meetings are held on a monthly basis to make decisions on matters stipulated by law and on management-related matters of importance, and to supervise the state of business execution. To improve management agility and flexibility and to clarify the responsibilities of the company management during each accounting period, the term of office for members of the Board of Directors is set at one year.

In addition to the Board of Directors, the company has the Executive Management Meeting, where matters of importance related to corporate management and business operation are discussed and reported twice a month.

The Board of Corporate Auditors formulates audit policies, listens to reports from accounting auditors, and receives reports on the execution of duties, in particular from the Board of Directors. Corporate auditors also exchange information and opinions on such matters as the progress of deliberations of important meetings and auditing (on-site auditing) results, which increases the validity of audits.

#### ■ Corporate Governance System (as of August 2013)



## Remuneration to and Evaluation of Directors and Corporate Auditors

Monthly remuneration is determined within the scope of the respective maximum amount of total remuneration as set forth in a resolution adopted at a general shareholders' meeting. Monthly remuneration for each director is decided by the Compensation Committee as delegated by the Board of Directors, taking into consideration business performance, extent of risks, and other factors. Monthly remuneration for each corporate auditor is decided by consultation among the corporate auditors.

Bonuses are subject to approval of the total amount payable to directors and corporate auditors, respectively, by resolution of the ordinary general shareholders' meeting. Based on this approval, the amount of the bonus for each director is decided by the Compensation Committee as delegated by the Board of Directors, taking into consideration the individual's performance and level of contribution. The amount of the bonus for each corporate auditor is decided by consultation among the corporate auditors.

The remuneration paid to directors and corporate auditors in fiscal 2012 was as follows.

|                                                        | Total Amount of Remuneration |
|--------------------------------------------------------|------------------------------|
| Directors (excluding outside directors)                | 273 million yen              |
| Auditors (excluding outside auditors)                  | 24 million yen               |
| Outside board members (outside directors and auditors) | 62 million yen               |

Notes:

1. The above figures include the amount of remuneration for the relevant fiscal year paid to the six directors whose resignations took effect at the end of the 118th ordinary general shareholders' meeting held in June 2012. Board member bonuses were not paid in fiscal 2012.
2. No Sharp executive received more than 100 million yen in remuneration.

## eS-SEM Strategic Management System

In fiscal 2004, Sharp introduced its own strategic management system (eS-SEM) using the balanced scorecard method. The goal of eS-SEM is to improve the performance of the organization and individuals by balancing the strategy of an organization from both financial and non-financial perspectives and breaking down company-wide organizational goals to the level of the individual, thereby improving the effectiveness of objectives. The system is revised every fiscal year based on the business environment to ensure that the results obtained are in line with company-wide strategies.

## Message from an Outside Director

Corporate enterprises can exist only as long as they are needed by society, and they have an obligation to continuously contribute to society. For companies to achieve sustainable development, it is crucial that they strengthen corporate activities in terms of not only economic dimensions, but also environmental and social dimensions. Such efforts are critical factors in the evaluation of companies by their stakeholders, including customers, shareholders, and financial institutions.

More specifically, Sharp's responsibility as a manufacturing company lies in contributing to society through new technologies and products. Stakeholders also expect Sharp to fulfill this responsibility. I hope to see Sharp respond to stakeholders' expectations by advancing not only in existing business areas, but also in new fields, such as education and health care.

Sharp is currently in an unfavorable business condition, but business management is full of ups and downs. A company can achieve sustainable development by always thinking of the "downs" when it is experiencing the "ups," and vice versa. Now is the time for Sharp to nurture enthusiastic, compassionate personnel and to push forward with fair and open business activities—all in an effort to become the kind of company society needs and to achieve recovery and growth.

I myself have had many experiences in business management during my time at a trading company. As an outside director, I hope to fulfill my role of overseeing Sharp's management operations from an independent standpoint, and I hope to use my experiences to contribute to Sharp's corporate activities to the greatest extent possible.



Makoto Kato  
Outside Director

### Career Overview

|              |                                                             |
|--------------|-------------------------------------------------------------|
| June 1995    | Director, Itochu Corporation                                |
| October 1998 | Representative Senior Managing Director, Itochu Corporation |
| April 2001   | Representative Executive Vice President, Itochu Corporation |
| April 2006   | Vice Chairman, Itochu Corporation                           |
| June 2007    | Corporate Senior Advisor, Itochu Corporation                |
| June 2011    | Director, Sharp Corporation (current position)              |

 <Management> Corporate Governance / Internal Control

## Internal Control

### Basic Policy for Internal Control and Maintaining the Internal Control System

Sharp is developing and maintaining its internal control system to ensure that the entire Sharp Group engages in fair and appropriate business practices based on the provisions of Japan's Companies Act and the Internal Control Reporting System under the Financial Instruments and Exchange Act.

In response to the enactment of the Companies Act in 2006, the Board of Directors passed a resolution to adopt a basic policy related to the development and maintenance of systems necessary to ensure the propriety of business practices (Basic Policy for Internal Control), and the company is working to properly maintain and operate those systems.

In accordance with this policy, Sharp also established the Internal Control Committee to serve as an advisory panel to complement the supervisory functions of the Board of Directors. The Internal Control Committee discusses various policy measures related to the internal control system and affirms their operational status.

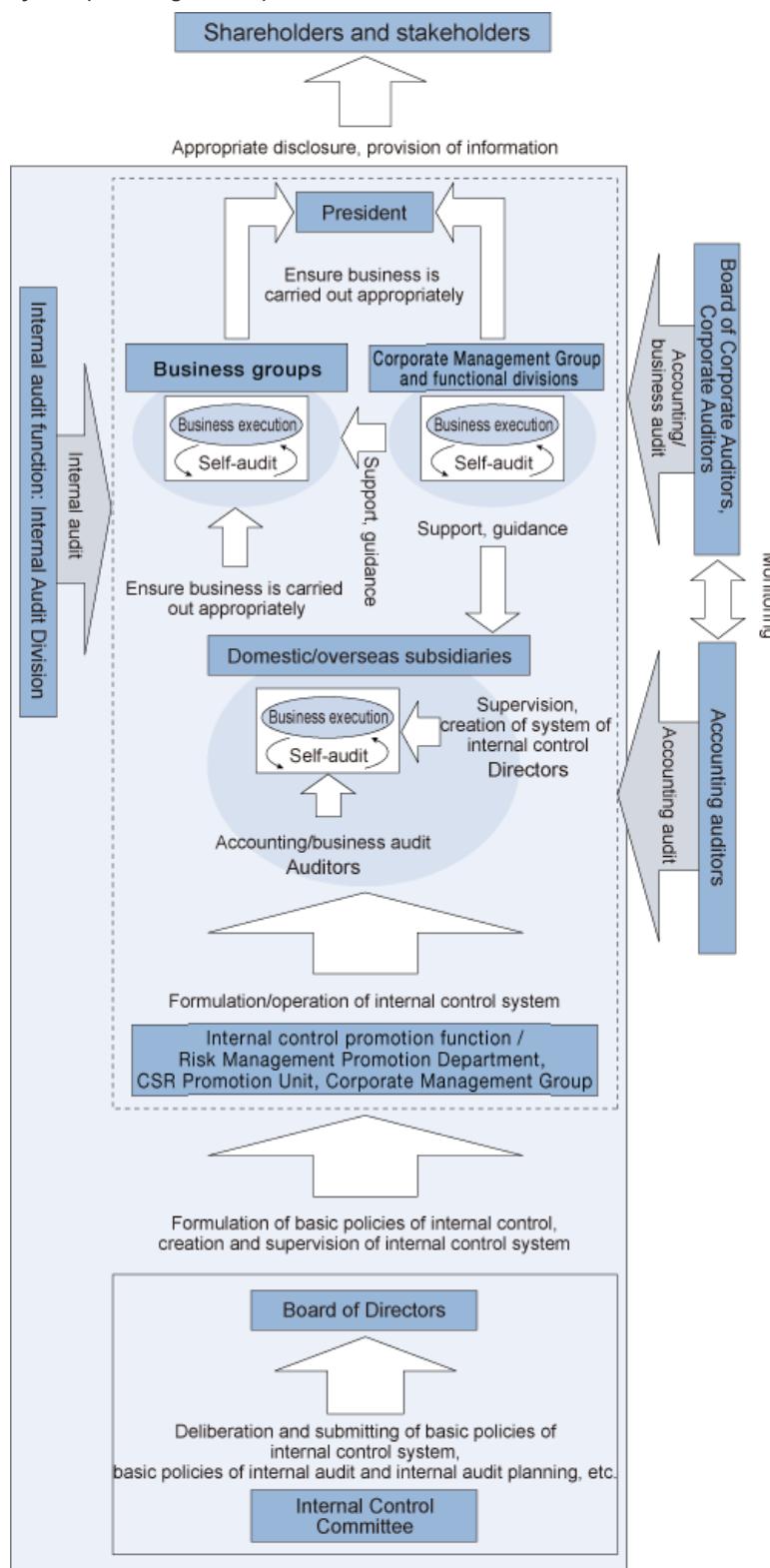
In fiscal 2012, Sharp continued its efforts to ensure that those policy measures firmly take root and that the internal control system was generally being successfully maintained and properly operated.

At the same time, in response to the Financial Instruments and Exchange Act, the Sharp Group has been evaluating the effectiveness of the internal control system in relation to financial reporting. It has also taken steps to reduce various business risks through the sound operation of the internal control system.

In fiscal 2012, Sharp implemented various measures to boost the control functions of each internal control area as well as the efficiency with which internal control system effectiveness is evaluated. Sharp also mounted intensive efforts to resolve critically important items and submitted an Internal Control System Report in June 2013.

For fiscal 2013, Sharp will continue to put into practice various policies related to the internal control system and will mount intensive efforts to resolve critically important items (problem areas) in each internal control area.

■ Internal Control System (as of August 2013)



## <Management> System to Promote CSR / Risk Management

Sharp has set up internal systems to promote CSR, including a CSR/Compliance Committee. Additional efforts toward CSR include instituting the Sharp Group Charter of Corporate Behavior and the Sharp Code of Conduct as a set of principles and standards of behavior for putting CSR into practice. Sharp is also continuously improving business risk management through actions such as developing and improving BCPs (business continuity plans) to be followed in the event of a major earthquake or other disaster.

### System to Promote CSR

#### Structure to Promote CSR Policies and Activities

Sharp holds quarterly meetings of the CSR/Compliance Committee to discuss and review policies and measures for the entire company. These meetings are chaired by Sharp's president and attended by chief officers in charge of the business groups and by relevant officers of the Corporate Management Group. The work of this committee serves to complement the business execution functions of Sharp.

In addition, Sharp has established the CSR Promotion Unit for planning and promoting CSR policies and measures for the entire Sharp Group. Under the control of the executive officer in charge of legal affairs, the CSR Promotion Unit collects and analyzes information related to domestic and overseas trends, formulates policies on issues deemed important from the perspective of CSR, and plans and promotes measures to implement policies, working in collaboration with relevant units/divisions.

#### Sharp Group Charter of Corporate Behavior and the Sharp Code of Conduct

To put into practice its Business Philosophy and Business Creed—the roots of Sharp's CSR—and to fulfill its social responsibilities, Sharp has established the Sharp Group Charter of Corporate Behavior, the principles of corporate behavior of all Sharp Group companies; and the Sharp Code of Conduct, the standards of conduct for all directors and employees.

The Charter of Corporate Behavior and Code of Conduct were reviewed as appropriate and recently revised in April 2010 to accommodate changes in the business environment, including changes in the nature of what society and stakeholders expect of companies. The revisions also reflect changes to existing laws and the enactment of new ones.

The Charter of Corporate Behavior and Code of Conduct represent a common set of behavioral norms and standards of conduct for the Sharp Group. The Boards of Directors of Sharp Group companies around the world passed resolutions to adopt them, and Sharp is working to thoroughly communicate their content through internal notices, pamphlets, and training.

▶ [Sharp Group Charter of Corporate Behavior, Sharp Code of Conduct](#)

## United Nations Global Compact

Sharp became a participant in the United Nations Global Compact in June 2009. Since then, Sharp has set concrete targets for its efforts to support the 10 principles of the Global Compact in the areas of human rights, labour, the environment, and anti-corruption, and is working to further promote these efforts throughout the Sharp Group.

### » [United Nations Global Compact](#)

| The Global Compact's 10 Principles                                                                                                     | See                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Human Rights</b>                                                                                                                    |                                                                                                                                                                                                                                                                                                           |
| Principle 1 : Businesses should support and respect the protection of internationally proclaimed human rights; and                     | > <a href="#">Top Message</a><br>> <a href="#">Objectives and Achievements in the Social Dimension of CSR</a><br>> <a href="#">Fair and Impartial Procurement Activities</a><br>> <a href="#">Promoting CSR Measures throughout the Supply Chain</a><br>> <a href="#">Efforts Related to Human Rights</a> |
| Principle 2 : make sure that they are not complicit in human rights abuses.                                                            |                                                                                                                                                                                                                                                                                                           |
| <b>Labour</b>                                                                                                                          |                                                                                                                                                                                                                                                                                                           |
| Principle 3 : Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining; | > <a href="#">Top Message</a><br>> <a href="#">Objectives and Achievements in the Social Dimension of CSR</a><br>> <a href="#">Fair and Impartial Procurement Activities</a><br>> <a href="#">Promoting CSR Measures throughout the Supply Chain</a><br>> <a href="#">Efforts Related to Human Rights</a> |
| Principle 4 : the elimination of all forms of forced and compulsory labour;                                                            |                                                                                                                                                                                                                                                                                                           |
| Principle 5 : the effective abolition of child labour; and                                                                             |                                                                                                                                                                                                                                                                                                           |
| Principle 6 : the elimination of discrimination in respect of employment and occupation.                                               |                                                                                                                                                                                                                                                                                                           |
| <b>Environment</b>                                                                                                                     |                                                                                                                                                                                                                                                                                                           |
| Principle 7 : Businesses should support a precautionary approach to environmental challenges;                                          | > <a href="#">Top Message</a><br>> <a href="#">Environmental Policy (Green Shared Value)</a><br>> <a href="#">Special Feature</a><br>> <a href="#">Environmental Activities</a>                                                                                                                           |
| Principle 8 : undertake initiatives to promote greater environmental responsibility; and                                               |                                                                                                                                                                                                                                                                                                           |
| Principle 9 : encourage the development and diffusion of environmentally friendly technologies.                                        |                                                                                                                                                                                                                                                                                                           |
| <b>Anti-Corruption</b>                                                                                                                 |                                                                                                                                                                                                                                                                                                           |
| Principle 10 : Businesses should work against corruption in all its forms, including extortion and bribery.                            | > <a href="#">Top Message</a><br>> <a href="#">Objectives and Achievements in the Area of Management</a><br>> <a href="#">System to Promote Compliance</a><br>> <a href="#">Putting Compliance into Practice</a>                                                                                          |

## Responding to New Trends in CSR

In fiscal 2012, the CSR Promotion Unit studied and communicated with relevant functional units/divisions about measures for priority areas that are covered similarly by multiple sets of guidelines, including ISO 26000, an international standard providing guidelines for social responsibility; the OECD Guidelines for Multinational Enterprises; and the Global Compact. Sharp will continue to improve and expand its CSR activities in Japan and abroad.

## <Management> System to Promote CSR / Risk Management

### Risk Management

#### Creating Integrated CSR and BRM Activities

Sharp believes BRM (business risk management) is indispensable in fulfilling corporate social responsibility and makes it a top priority to conduct integrated CSR and BRM activities.

The CSR/Compliance Committee holds quarterly meetings to regularly review major risks, deliberate on company-wide BRM measures for dealing with them, and communicate those measures throughout the company. In addition, functional units/divisions and business divisions identify major risks pertinent to Sharp business and operations and then plan and promote measures to either prevent those risks or minimize their impact.

#### Promoting BRM

##### 1) Management Based on the Rules of Business Risk Management

Sharp has developed the Rules of Business Risk Management as a basic policy for the promotion of BRM and controls its business risks based on these rules. In the Rules, risk items that could have a major impact on management are identified as "specific risks." Sharp has also created a risk control manual and, for each specific risk, has designated a business group or division to be responsible for risk management across the entire company. Sharp is continuously moving forward with initiatives to minimize and optimize risks and to prevent risks from actually occurring.

In addition, Sharp has established the Rules of Emergency Response, detailing responses if a major risk incident does come to pass. Taking prompt and appropriate action when an emergency situation occurs works to minimize loss and to prevent the damage from spreading not only across the company, but also to society at large. These Rules also specify action items to be implemented to ensure prompt and appropriate information disclosure to stakeholders.

Sharp periodically reviews and revises these Rules and the manual to reflect changes in the business environment by, for example, adding new specific risks.

##### 2) Management Methods for Important Risks

From among the risks that Sharp has designated as specific, those that have a greater potential impact and a higher probability of occurrence are selected as "priority risks," and they become the subject of intense focus in the risk management activities of each group or division.

Each group or division continuously works to deal with these priority risks from the perspective of policy measures to (1) reduce the likelihood of a risk occurring and (2) reduce the impact on business activities in the unlikely event that a risk incident actually does occur.

In fiscal 2013, the previously mentioned CSR/Compliance Committee began conducting risk management based on a PDCA cycle. The committee specifies which priority items Sharp should tackle first, taking into consideration any risk incidents that have occurred within the company as well as the measures drawn up by each group or division. The committee also clarifies the persons responsible, provides a time frame for tackling those priority items, and then steadily checks the progress being made.

##### 3) Promoting BCPs

Sharp is committed to continuously reviewing and improving BCPs (business continuity plans) that assume the occurrence of major disasters, such as an earthquake or an outbreak of a new strain of influenza. This effort is intended to ensure the safety of employees and to expedite the continuation or early recovery of business when such disasters occur.

In fiscal 2012, Sharp held ongoing reviews of the BCPs at major overseas bases and worked to improve them.

## <Management> Compliance

In strengthening its global business expansion, Sharp has been using the PDCA cycle to develop and improve its compliance system for Sharp Corporation as well as for affiliated companies in Japan and overseas subsidiaries, and has been working to foster awareness of compliance on a global basis and promote the spread of this awareness throughout the Sharp Group.

### System to Promote Compliance

#### Basic Policy Regarding Compliance

Sharp defines compliance as "observing social codes of conduct and company regulations, including laws and corporate ethics," and regards it as the foundation of fulfilling its CSR (corporate social responsibility). Accordingly, Sharp is using the PDCA cycle to pursue, on a global basis, the ongoing development and strengthening of systems and policy measures for the promotion of management practices that give first priority to compliance.

#### Strengthening the System to Promote Global Compliance

Sharp is working not only to strengthen its compliance and legal systems in Japan but also to improve and enhance its legal systems internationally to ensure that compliance is integrated into all management practices.

To strengthen compliance and legal systems in Japan, the Legal Unit at the Head Office holds regular meetings with legal affairs chiefs and staff members for each Sharp Corporation business group and affiliated company of Sharp Corporation in Japan. At these meetings, they discuss problems and case studies related to legal affairs as part of an ongoing effort to establish a shared awareness of compliance issues.

In 2009, to strengthen its compliance and legal systems overseas, Sharp appointed a top management executive from major regions overseas (such as the US, Europe, and China) to serve as a Compliance Officer (CO) and appointed a legal affairs staff member in each region. To strengthen the compliance and legal functions in the region as well as share information, the legal affairs appointees serve on the staff of their regional CO and work in cooperation with every base in the region. The appointees also hold regular meetings with Sharp's Legal Unit at the Head Office.

In support of these efforts to promote compliance in all regions of Japan and abroad, the CSR/Compliance Committee, chaired by the Sharp president, regularly carries out the following activities: 1) discusses and confirms how to raise awareness of compliance measures and how to thoroughly enforce them; and 2) prioritizes the order of implementation for each measure and adjusts the schedule accordingly.

▶ [Sharp Group Compliance System](#)

## <Management> Compliance

### Putting Compliance into Practice

#### Raising Legal and Ethical Awareness to Ensure Compliance

In a social environment in which social responsibility is being subjected to ever more severe scrutiny, Sharp regards the role of the corporation as not merely to pursue profits, but rather to sustain and continue business activities in a way that places the highest priority on compliance. In this light, Sharp produced the Sharp Group Compliance Guidebook as a how-to guide to ensure that each individual employee has a thorough understanding of the meaning of compliance and how to put compliance into practice in their routine work activities.

In Japan, Sharp uses training sessions as an opportunity to disseminate the contents of this guidebook, and is working to foster awareness of compliance and ensure that this awareness permeates the entire Sharp Group. These sessions include job-level-specific training for directors, senior executives, managers, mid-career employees, and new employees; training for employees transferred overseas; and specialized training in specific fields.

Sharp has made antitrust laws in particular a priority area and is working constantly to ensure compliance with them. In fiscal 2012, Sharp implemented an online training program in antitrust laws for all employees in Japan, conducted training at overseas bases, and reviewed the answers submitted by Sharp employees for the checklist in its internal control self-check system to comply with antitrust laws in Japan (which prohibit the formation of cartels). Sharp's Legal Unit at the Head Office also implemented training on compliance with antitrust laws for all Sharp Corporation business groups and affiliated companies in Japan.

Other methods of in-house education include training on the Japanese Subcontract Act (Act Against Delay in Payment of Subcontract Proceeds, etc. to Subcontractors) and publishing a compliance newsletter containing case studies and explanations of key laws and regulations.

At overseas bases, in fiscal 2012 as in the previous fiscal year, Sharp used teaching materials customized to the laws and regulations in each region to conduct training in antitrust laws, compliance, and the Sharp Code of Conduct and also expanded its efforts to foster awareness and acceptance of compliance on a global basis.

In fiscal 2013, in addition to the ongoing initiatives described above, as its business expands even further globally, Sharp will continue to further expand and improve its efforts toward regulatory compliance so that business activities are carried out properly in accordance with regulations that apply globally and with local laws and regulations.

#### Consultation Hotline for Compliance Issues

Sharp Corporation and its affiliated companies in Japan have set up a hotline to provide counseling services for problems in the workplace, such as compliance issues, and an antitrust law hotline as a contact point specifically for issues related to antitrust laws. These hotlines are accessible inside the company and externally (via an outside law firm providing legal counsel) to enable employees and temporary staff, as well as employees of business partners\*, to ask questions or request a consultation in line with the spirit of Japan's Whistleblower Protection Act.

These services enable Sharp to work with employees to quickly catch violations of the law or acts likely to be violations, and take early action to resolve the problem. In fiscal 2012, the compliance hotline received about 60 reports and requests for consultation; however, there were no material compliance violations.

The Sharp Code of Conduct clearly stipulates that the privacy of individuals who report compliance violations or seek consultation will be strictly protected and that those persons will suffer no unfavorable treatment or penalties.

Similar reporting and consultation services have been set up at Sharp's major overseas bases, and early actions are being taken to resolve problems.

\*Only the compliance hotline is available for use by employees of business partners.

#### Preventing Corruption in All Forms and Dealing Properly with Donations

The Sharp Group Charter of Corporate Behavior and the Sharp Code of Conduct contain provisions that strictly prohibit any form of corrupt behavior, such as bribery or extortion of money or gifts, and require that donations be handled in a proper manner.

In Japan, Sharp prevents illegal payoffs and improper expenditures through a system of compulsory reviews by the Monetary Contribution Examination Committee on CSR, in place since December 2008 to assess the propriety of monetary disbursements such as donations and contributions made by Sharp Corporation and its affiliated companies.

|                   | Fiscal 2010 | Fiscal 2011 | Fiscal 2012 |
|-------------------|-------------|-------------|-------------|
| Number of reviews | 222         | 184         | 72          |

In fiscal 2012, Sharp worked to promote anti-corruption awareness on a global basis by revising its guidebook for preventing bribery and other corrupt practices and producing training materials customized to reflect the laws and regulations of each region where Sharp has overseas bases.

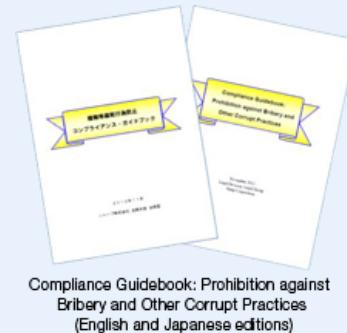
Sharp will continue these measures in fiscal 2013.

**Topics****Compliance Guidebook: Prohibition against Bribery and Other Corrupt Practices**

In fiscal 2010, as part of its efforts to comply with such anti-bribery laws as the United States Foreign Corrupt Practices Act (FCPA), Sharp formulated a guidebook on preventing bribery. In July 2012, the United Kingdom Bribery Act 2010, which has a wider scope of application than the FCPA, came into force. In light of this, Sharp has revised the contents of its anti-bribery guidebook and has also changed its title to *Compliance Guidebook: Prohibition against Bribery and Other Corrupt Practices*.

This revised guidebook includes content from the previous edition (explanations and case studies pertaining to the FCPA and Japan's Unfair Competition Prevention Act, a checklist for selecting subcontractors, and FAQ from the field) as well as explanations on the key points of the Bribery Act 2010. The opening pages provide precautionary notes on various countries' regulations as points to consider for ensuring compliance with global anti-bribery regulations.

Sharp acknowledges that compliance with anti-bribery regulations is a pressing issue in global business operations and will make best efforts towards full use of this guidebook.



Compliance Guidebook: Prohibition against  
Bribery and Other Corrupt Practices  
(English and Japanese editions)

**Preventing Insider Trading**

Sharp has effectuated regulations restricting insider trading, established controls on undisclosed material facts ("insider tips"), and instituted restrictions on the buying and selling of stocks and other securities. Sharp has also implemented in-house training related to insider trading. This training includes, among other approaches, an educational campaign on the corporate intranet that targets Sharp Group employees in Japan with the aim of preventing insider trading by Sharp Group directors, auditors, executive officers, or employees.

In addition, given the importance of disclosure, when "material facts specified in the Financial Instruments and Exchange Act" and/or "important company information that should be disclosed in a timely manner as stipulated by securities exchanges" is generated, Sharp will do its utmost to promptly disclose and publicize the relevant details. Further, regarding media and analyst coverage, Sharp will deal with it in a positive manner, while fully honoring the spirit of disclosure and remaining attentive so as not to violate insider-trading regulations.

In fiscal 2012, Sharp continued its controls on material facts, as stipulated by the regulations restricting insider trading. Sharp also made proactive efforts to prevent insider trading—for example, through holding lectures on insider trading regulations at new employee orientations and during on-the-job training for new managers.

**Compliance with Laws Related to Fair Advertising Practices and Proper Representations**

In November 2012, the Japanese government's Consumer Affairs Agency issued Sharp a warning that the brochures and other advertising materials for its vacuum cleaners violated the Act against Unjustifiable Premiums and Misleading Representations by making misleading claims. Sharp has responded to that warning with sincerity and is taking the following preventive measures to ensure compliance with laws and regulations regarding fair advertising and publicity activities, the Act against Unjustifiable Premiums and Misleading Representations, and labeling under the fair competition code.

- 1) Establish a dedicated team to check the representations made in brochures, ads, and other such materials prior to their release.
- 2) Put final decisions on what to do with any questionable representations before a company-wide committee on fair representations, headed by the Group General Manager of the Corporate Management Group.
- 3) Hold regular in-house training on the Act against Unjustifiable Premiums and Misleading Representations and the fair competition code.

In addition to these measures, Sharp is fostering awareness among its employees on preventing violations of these laws and regulations by ensuring that representations are in accord with in-house standards and checklists, as set forth in in-house rules and guidelines. The company is also using a dedicated website on its corporate intranet to support skill development in personnel in charge of representations.

Sharp will work on an ongoing basis to further strengthen its checking system in Japan and abroad, while also enhancing related policy measures. The company will continue to ensure compliance with representation/labeling laws as well as laws and regulations governing fair advertising and publicity activities aimed at stakeholders, particularly customers.

## Export Control

Sharp is also committed to proper export control.

When exporting goods and transferring technical information from Japan to other countries, Japanese companies are obliged to comply with laws and regulations related to export control, such as the Japanese Foreign Exchange Law and the Foreign Trade Act. Each Sharp Group company, including domestic and overseas subsidiaries, has a system in place for secure export control based on the Sharp Code of Conduct and Sharp Compliance Program on Export Control.

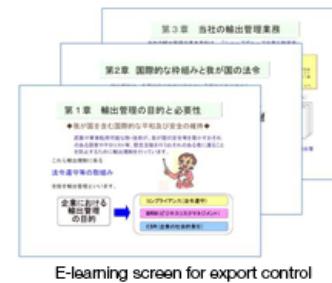
Every Sharp company takes the utmost care not to become involved in illegal exports or in transactions that may lead to Sharp products and technologies being diverted to military/weaponry purposes.

In recent years, product development, manufacturing, parts procurement, and sales have crossed international borders to take place in more than one country. In light of this, it is crucial that companies focus on the secure export of not only goods but also technologies. Sharp is working to prevent unauthorized exports by imposing rigorous controls on exports. Such controls include determining classification of goods or technologies, whether such goods or technologies fall under Japanese export control regulations, and confirming the uses for the exported goods at the export destination. To date, there have been no instances of unauthorized exports by Sharp.

In addition, Sharp provides information on prohibited exports when goods that fall under the regulations are supplied to a customer in Japan. Upon customer request, Sharp will also issue a certificate indicating whether or not the goods or technologies are regulated.

Sharp is also working to comply with the United States' law on export control (regulations on re-exporting US-origin products).

In addition to the Japanese Foreign Exchange Law, the Foreign Trade Act, and the United States' export control regulations, companies engaged in global manufacturing and sales must follow the export control systems established by the country in which it is located. To raise awareness of export control among its employees, Sharp provides training on global export control via e-learning sessions for all employees, in accordance with their job type.



E-learning screen for export control

## <Management> Compliance

### Information Security / Protecting Personal Information

#### Management of Confidential and Personal Information

To avert the risk of leaks, Sharp strictly manages not only internal information but also personal data collected from customers and confidential information received from business partners and others. This is done in line with internal regulations based on the Global Basic Policy on Information Security and the Basic Policy on Protecting Personal Information.

▶ [Global Basic Policy on Information Security](#)

▶ [Basic Policy on Protecting Personal Information](#)

In Japan, e-learning sessions are provided to all employees each year on topics such as information security and protection of personal information. In addition, regular audits are conducted (as a general rule, once a year) on management of confidential and personal information at each business group and affiliated company. Sharp will continue to review and upgrade relevant regulations and will also continue to ensure that all employees are well informed of them.

#### Global Information Security Management System

In fiscal 2012, an autonomous management cycle for information security was constructed at each of the four major overseas regions (North America, Europe, China, and Asia). Sharp reviewed the information security systems at overseas bases and appointed the top management executive from each region as regional chief information security officer. Each region conducted its own information-security audit.

#### Responding to New Threats to Information Security

In fiscal 2012, as a measure against attacks on website vulnerabilities, which have recently become a major security issue, Sharp formulated website management standards and conducted website penetration tests in Japan and abroad to check for vulnerabilities.

In addition, in February 2013, the IT Infrastructure/Information Security Committee thoroughly informed the entire company about advanced persistent threats and advised that thorough precautions be taken to avert risks.

Going forward, Sharp will continue conducting website penetration tests. It is also planning to consolidate websites under centralized management and control and to conduct information security incident response exercises to strengthen the company's capability to respond rapidly to information security incidents.

#### Acquiring Privacy Mark Certification

Sharp Corporation and its domestic affiliates have established a basic policy for protection of personal information and are promoting measures related to the protection of personal information by constructing an in-house management system. As a result of these efforts, Sharp Corporation and the affiliated companies in Japan listed below have received Privacy Mark certification and are successively renewing their certification.

As befits a company that has acquired certification, Sharp will continue its ongoing efforts to improve and strengthen its system for the protection of personal information.



Sharp Corporation's Privacy Mark

##### ■ Privacy Mark-Certified Companies (as of August 2013)

Sharp Corporation

Sharp Electronics Marketing Corporation

Sharp Energy Solutions Corporation

Sharp Engineering Corporation

Sharp Business Solutions Corporation

Sharp Finance Corporation

Sharp Yonago Corporation

Sharp Business Computer Software Inc.

iDeep Solutions Corporation

## <Management> Compliance

### Intellectual Property

#### Intellectual Property Strategy and Management System

Sharp regards its strategy on intellectual property as one of its most important management measures and is promoting it together with its business strategy and R&D strategy. Sharp is aggressively pursuing the acquisition of patents to ensure the superiority of its uniquely featured products and devices, thereby working to strengthen the foundation of its business.

In developing a unified intellectual property strategy, Sharp's Intellectual Property Center of the Corporate Research and Development Division is responsible for overall strategic management and is involved in a variety of activities related to intellectual property, working in mutual cooperation with patent-related departments located within each business group and base.

Regarding patent acquisition, Sharp is clarifying the business areas that form the core of each of its businesses and is staffing these core business fields with engineers well versed in patent-related matters. Sharp is thus able to file strategic patent applications tightly focused on the actual situation. In addition, Sharp is also acquiring useful patents invented in cooperation with other companies or derived from the activities of alliances, such as industry-university cooperation.

As of the end of March 2013, Sharp's patent holdings consisted of 20,764 Japanese patents and 25,093 foreign patents. Sharp is using this patent portfolio to reinforce its strategic businesses. In addition, Sharp is filing applications and registering rights for designs and trademarks globally under its brand strategy.

| Date             | End of March 2011 | End of March 2012 | End of March 2013 |
|------------------|-------------------|-------------------|-------------------|
| Japanese patents | 19,932            | 20,644            | 20,764            |
| Foreign patents  | 24,170            | 24,232            | 25,093            |

#### Protecting Intellectual Property

Sharp's business and R&D strategies are interlinked with its intellectual property assets, which are used to the fullest possible advantage. At the same time, Sharp is firmly committed to protecting its own intellectual property rights while also respecting the intellectual property rights of others. Even though Sharp regards discussion as the basis for resolving cases of infringement, it is the company's policy to seek judgment from a third party, such as the courts, when its intellectual property rights are not respected.

By strengthening in-house rules, Sharp is also working to bolster protection for trade secrets and to prevent unauthorized disclosure of production technologies and manufacturing know-how, particularly those that are unique or critically important to Sharp.

Further, counterfeit Sharp-brand products have had a growing impact in overseas markets in recent years, and Sharp is taking measures to counter these imitations through cooperation with industry groups and with regulatory authorities taking enforcement actions.

With regard to respecting the intellectual property rights of others, Sharp holds company-wide conferences on the subject for persons involved with patents and trains its engineers accordingly.

#### Incentives for Employee Inventions

To comply with the intent of Article 35 of Japan's Patent Law, Sharp consulted with employees before stipulating its in-house rules, called the "Regulations for Employee Inventions." The regulations include detailed standards on rewarding an employee who comes up with an invention while on the job—when and after the employee reports the invention and hands over the rights to the invention to the company.

Sharp also reviewed and revised compensation systems in subsidiaries and affiliated companies in Japan according to the intent of the Patent Law and has come up with programs that improve incentives for employees who devise inventions. In this way, Sharp has built and is promoting systems to compensate employees fairly and appropriately, depending on the contribution their invention makes to the company and on the contribution that each employee involved made to the invention.

#### Combating Counterfeit Goods

Sharp has implemented the following two main initiatives to combat counterfeit goods:

- 1) When counterfeit goods are traded within the national borders of a country, Sharp will petition local law enforcement agencies to crack down and will hold training workshops for officials. Sharp will also cooperate with other companies in the same business area to expose the goods.
- 2) When counterfeit goods are moved from one country to another country, Sharp will petition local customs authorities to crack down and will hold training workshops for officials.

Sharp will continue its efforts against counterfeit goods through these actions.

## Topics

**Sharp Ranks 3rd in Number of PCT International Patent Applications**

With intellectual property departments in North America, Europe, and China, Sharp supports the filing of applications and the registering of patents by the research laboratories and R&D departments of its overseas subsidiaries. Sharp is also reinforcing patent applications overseas in an effort to construct a global patent portfolio in line with the company's business strategy. As a result of these efforts, in 2012, Sharp ranked number three in the world for the number of PCT (Patent Cooperation Treaty) applications.

|    |                                                        |       |
|----|--------------------------------------------------------|-------|
| 1  | ZTE Corporation (China)                                | 3,906 |
| 2  | Panasonic Corporation (Japan)                          | 2,951 |
| 3  | Sharp Corporation (Japan)                              | 2,001 |
| 4  | Huawei Technologies Co., Ltd. (China)                  | 1,801 |
| 5  | Robert Bosch GmbH (Germany)                            | 1,775 |
| 6  | Toyota Motor Corporation (Japan)                       | 1,652 |
| 7  | Qualcomm Incorporated (United States)                  | 1,305 |
| 8  | Siemens Aktiengesellschaft (Germany)                   | 1,272 |
| 9  | Koninklijke Philips Electronics N.V. (The Netherlands) | 1,230 |
| 10 | Telefonaktiebolaget LM Ericsson (Sweden)               | 1,197 |

Source : WIPO (World Intellectual Property Organization)

## Putting Environmental Sustainability Management into Practice

In accordance with internal environmental conservation guidelines established in line with Sharp's Basic Environmental Philosophy, the Sharp Group Charter of Corporate Behavior, and the Sharp Code of Conduct, Sharp is pursuing environmental consciousness across all of its business activities.

### 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 make efforts to further contribute to global environmental conservation by strengthening our development of proprietary technologies for protecting the global environment, and by carrying out business activities in an environmentally conscious manner.

### The Sharp Code of Conduct

#### Contribution to Conservation of the Global Environment

1. To Conserve the Environment
2. To Develop Environmentally Conscious Products and Services, and Conduct Our Business Operations in an Environmentally Conscious Manner

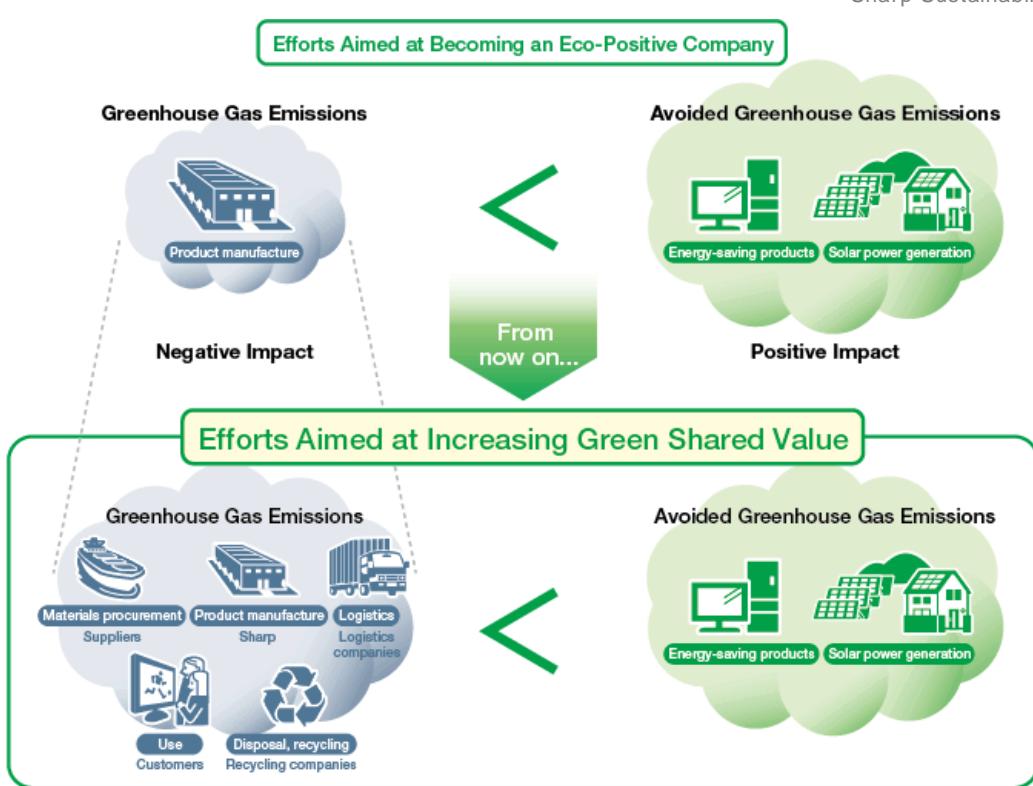
## Aiming to Increase Green Shared Value

Under its Eco-Positive Company corporate vision, Sharp has been striving to make the positive impact of its avoidance of greenhouse gas (GHG) emissions—achieved through customer use of energy-creating and energy-saving Sharp products—more than balance out the negative impact of GHG emissions from Sharp's business activities. In fiscal 2011, Sharp was able to surpass this goal: the positive impact (avoided emissions) was 3.1 times more than the negative impact (emissions).

In the effort to reduce carbon emissions, a new trend has emerged whereby companies disclose all emission amounts in their supply chain, in compliance with the GHG Protocol Corporate Value Chain (Scope 3) Standard. This covers emissions not only in product manufacture, but throughout the entire supply chain, from materials procurement to product use.

In response to this trend, Sharp has extended the scope of its 'negative impact' category (GHG emissions from business activities) to cover not only Sharp but also its entire supply chain. Sharp is placing the fulfillment of society's environmental needs in close alignment with its strategy for business growth, with a view to achieving success in both areas. Sharp has defined the value thus created as "Green Shared Value" and has formulated a new environmental policy founded on increasing this value.

Sharp will strive to always have the positive impact of its avoidance of GHG emissions—achieved through customer use of energy-creating and energy-saving Sharp products—more than balance out the negative impact of GHG emissions from Sharp's business activities.



### Promoting Environmental Sustainability Management

Sharp Corporation has set up the CS and Environmental Promotion Division as an organization to plan and promote overall company strategy for protecting the global environment, and it is deploying environmental sustainability management on a global basis.

Critical policies, strategies, and measures relating to environmental sustainability management are referred to the Executive Management Meeting. With the approval of corporate executives, these initiatives are thoroughly implemented across the entire Sharp Group.

To ensure that these initiatives are thoroughly communicated to the sites where Sharp's manufacturing takes place (to the product design and manufacturing departments, for example), a basic environmental policy meeting is held twice a year. At these meetings, the managers responsible for environmental affairs at each manufacturing-related department and base worldwide are thoroughly briefed on priority measures and strategies.

Sharp also holds Company-Wide GP (Green Product)/GF (Green Factory) Conferences in Japan as well as regional environmental conferences in North America, Europe, Asia, and China to review and discuss environmental solutions and the progress made on each of the environmental measures being taken at each department and base. In this way, Sharp has a system in place to put environmental sustainability management into practice across its entire organization.

#### ■ Sharp Group's Environmental Sustainability Management



## Environmental Objectives and Achievements

Under its Eco-Positive Strategy, Sharp sets priority themes for each stage of business—not only taking the environment into account in all its business activities but also pursuing what will create positive outcomes for the environment. The following shows Sharp's achievements in fiscal 2012 and its key objectives for the future.

### Fiscal 2012 Achievement Summary

Fiscal 2012 was another tough year for Sharp; the company posted a significant loss for the second consecutive year. Sharp had no choice but to lower production levels for its factory operations, which, in terms of reducing environmental burden, meant a significant reduction in greenhouse gas emissions and waste discharge. On the other hand, emissions per product unit, an index for representing environmental efficiency in production activities, worsened.

Meanwhile, Sharp was able to achieve all of its objectives listed under the theme “improving the environmental performance of products and devices.” Factors contributing to that success included making progress in raising the environmental friendliness of products such as LCD TVs and smartphones and making devices such as smartphone LCDs and camera modules more energy- and resource-efficient.

For fiscal 2013 and beyond, Sharp will push forward with policies and measures that enable the company to increase Green Shared Value: Sharp will establish objectives for reducing environmental burden across the entire supply chain, in line with its new environmental policy of increasing Green Shared Value, and Sharp will review the scope and indices of the priority objectives it has already made efforts towards.

### Objectives and Achievements for Fiscal 2012

Self Evaluation

◎ : Achieved more than targeted ○ : Achieved as targeted △ : Achieved more than 80% of target X : Achieved less than 80% of target

| Stages       | Themes                                                                    | Fiscal 2012 Objectives                                                                                                                                                                                                                                                                                                                                                 | Self Evaluation | Fiscal 2012 Achievements                                                                                                                                                                                       |
|--------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technologies | <a href="#">Develop 3R technologies</a>                                   | <ul style="list-style-type: none"> <li>• Expand closed-loop plastic material recycling           <ul style="list-style-type: none"> <li>▪ Use 1,800 tons of recycled plastic in new products</li> </ul> </li> </ul>                                                                                                                                                    | △               | <ul style="list-style-type: none"> <li>• Used 1,500 tons</li> </ul>                                                                                                                                            |
|              |                                                                           | <ul style="list-style-type: none"> <li>• Develop waste LCD panel recycling technology</li> </ul>                                                                                                                                                                                                                                                                       | ○               | <ul style="list-style-type: none"> <li>• Developed basic technology for synthesizing zeolite from waste LCD panels</li> </ul>                                                                                  |
| Products     | <a href="#">Improve environmental performance of products and devices</a> | <ul style="list-style-type: none"> <li>• Increase Super Green Products' share of net sales in Japan           <ul style="list-style-type: none"> <li>▪ To 50%</li> </ul> </li> </ul>                                                                                                                                                                                   | ○               | <ul style="list-style-type: none"> <li>• 58%</li> </ul>                                                                                                                                                        |
|              |                                                                           | <ul style="list-style-type: none"> <li>• Increase Advanced Green Products' share of net sales in Japan           <ul style="list-style-type: none"> <li>▪ To 80%</li> </ul> </li> </ul>                                                                                                                                                                                | ○               | <ul style="list-style-type: none"> <li>• 86%</li> </ul>                                                                                                                                                        |
|              |                                                                           | <ul style="list-style-type: none"> <li>• Increase Super Green Devices' share of net sales           <ul style="list-style-type: none"> <li>▪ To 30%</li> </ul> </li> </ul>                                                                                                                                                                                             | ○               | <ul style="list-style-type: none"> <li>• 66%</li> </ul>                                                                                                                                                        |
|              |                                                                           | <ul style="list-style-type: none"> <li>• Increase Green Devices' share of net sales           <ul style="list-style-type: none"> <li>▪ To 95%</li> </ul> </li> </ul>                                                                                                                                                                                                   | ○               | <ul style="list-style-type: none"> <li>• 98%</li> </ul>                                                                                                                                                        |
|              | <a href="#">Recycle used products</a>                                     | <ul style="list-style-type: none"> <li>• Implement high-value-added recycling of recovered components and materials</li> </ul>                                                                                                                                                                                                                                         | ○               | <ul style="list-style-type: none"> <li>• Used waste refrigerator urethane as reducing agent</li> <li>• Established simple method for identifying light guide plate materials for LCD TVs</li> </ul>            |
| Operations   | <a href="#">Improve environmental performance of plants and offices</a>   | <ul style="list-style-type: none"> <li>• 11 Sharp Corporation plants SGF II Grade S</li> </ul>                                                                                                                                                                                                                                                                         | △               | <ul style="list-style-type: none"> <li>• 10 plants SGF II Grade S</li> </ul>                                                                                                                                   |
|              |                                                                           | <ul style="list-style-type: none"> <li>• 4 Japanese Sharp Group plants (consolidated subsidiaries) SGF II Grade B or higher</li> </ul>                                                                                                                                                                                                                                 | △               | <ul style="list-style-type: none"> <li>• 3 plants SGF II Grade B or higher</li> </ul>                                                                                                                          |
|              |                                                                           | <ul style="list-style-type: none"> <li>• 15 overseas plants (consolidated subsidiaries) SGF II Grade B or higher</li> </ul>                                                                                                                                                                                                                                            | ○               | <ul style="list-style-type: none"> <li>• All plants SGF II Grade A or higher</li> </ul>                                                                                                                        |
|              |                                                                           | <ul style="list-style-type: none"> <li>• Hold Eco Best Practice Forums*1 at least twice a year in each region (North America, Europe, Asia, and China)</li> </ul>                                                                                                                                                                                                      | ○               | <ul style="list-style-type: none"> <li>• Held forums twice a year on average (once in Europe, North America, and Asia; 7 times in China)</li> </ul>                                                            |
|              |                                                                           | <ul style="list-style-type: none"> <li>• Shift focus from setting criteria for improving environmental performance of offices and evaluation/certification of environmental performance to placing priority on information sharing/mutual learning</li> <li>• Issue Green Office Guidelines</li> <li>• Hold Green Office study sessions on a regional basis</li> </ul> | △               | <ul style="list-style-type: none"> <li>• Shifted to mutual learning among bases</li> <li>• Held training 3 times at 6 overseas bases on renewal of environmental data collection/compilation system</li> </ul> |
|              | <a href="#">Curb greenhouse gas emissions</a>                             | <ul style="list-style-type: none"> <li>• Production-based CO2 emissions for the 10 Sharp Corporation plants*2           <ul style="list-style-type: none"> <li>▪ Reduce to below fiscal 2007 levels</li> <li>▪ Reduce by 3% compared to BAU</li> </ul> </li> </ul>                                                                                                     | ○               | <ul style="list-style-type: none"> <li>• Reduced by 29% from fiscal 2007 levels</li> <li>• Reduced by 4.5% compared to BAU</li> </ul>                                                                          |

|  |                                                             |                                                                                                                                                                                                                                                                                                   |   |                                                                                                                                      |
|--|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                             | <ul style="list-style-type: none"> <li>Production-based CO<sub>2</sub> emissions per adjusted production unit for all 11 Sharp Corporation plants           <ul style="list-style-type: none"> <li>Reduce by 35% from fiscal 1990 levels (average for fiscal 2008 to 2012)</li> </ul> </li> </ul> | ◎ | <ul style="list-style-type: none"> <li>Reduced by 37.9% from fiscal 1990 levels</li> </ul>                                           |
|  |                                                             | <ul style="list-style-type: none"> <li>CO<sub>2</sub> emissions per production unit for overseas plants           <ul style="list-style-type: none"> <li>Reduce by 2% from previous fiscal year</li> </ul> </li> </ul>                                                                            | X | <ul style="list-style-type: none"> <li>Increased by 4.7% from previous fiscal year</li> </ul>                                        |
|  | <u>Reduce and recycle waste</u>                             | <ul style="list-style-type: none"> <li>Amount of waste discharged at the 10 Sharp Corporation plants*2           <ul style="list-style-type: none"> <li>Reduce to below fiscal 2007 levels</li> <li>Reduce by 6% compared to BAU</li> </ul> </li> </ul>                                           | ◎ | <ul style="list-style-type: none"> <li>Reduced by 76.5% from fiscal 2007 levels</li> <li>Reduced by 14.9% compared to BAU</li> </ul> |
|  |                                                             | <ul style="list-style-type: none"> <li>Amount of waste, etc. discharged per production unit at overseas plants           <ul style="list-style-type: none"> <li>Reduce by 2% from previous fiscal year</li> </ul> </li> </ul>                                                                     | X | <ul style="list-style-type: none"> <li>Increased by 9.4% from previous fiscal year</li> </ul>                                        |
|  | <u>Reduce distribution-related CO<sub>2</sub> emissions</u> | <ul style="list-style-type: none"> <li>CO<sub>2</sub> emissions per shipping volume by Sharp Group in Japan           <ul style="list-style-type: none"> <li>Reduce by average 1% each year for the most recent years (fiscal 2008 to 2012)</li> </ul> </li> </ul>                                | ◎ | <ul style="list-style-type: none"> <li>Reduced by average 3% each year</li> </ul>                                                    |

\*1 Mutual learning sessions for sharing the advanced environmental protection efforts of each plant and for searching for solutions to common problems.

\*2 Since the Sakai Plant was not online in fiscal 2007, it was not included among [the 10 plants](#) cited in comparisons with fiscal 2007 figures.

\*3 Grade A is defined as attaining a progress rate that is at least 20% higher than the average rate of all Sharp bases in fiscal 2009.

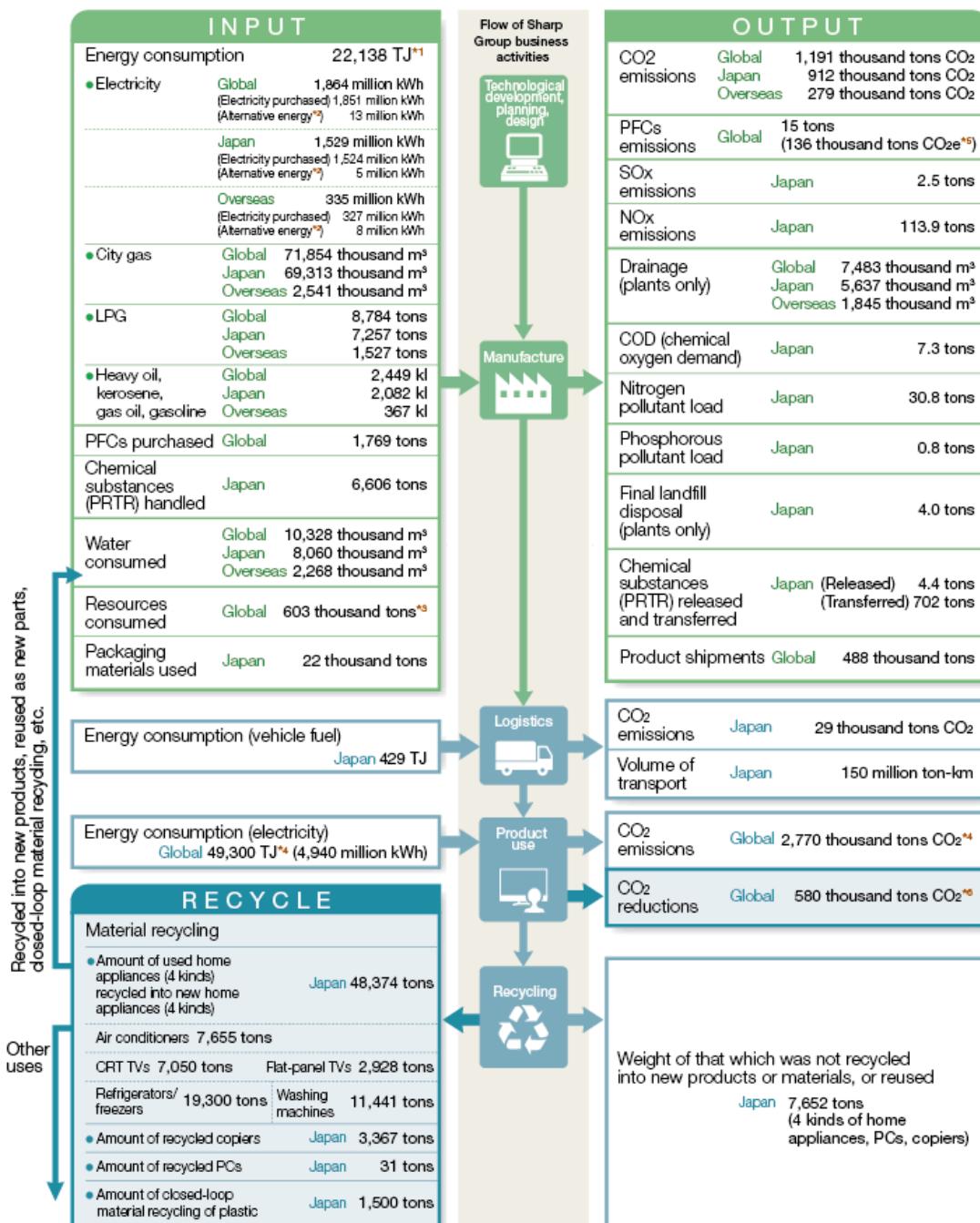
## ■ Objectives for Fiscal 2013 and Beyond

| Stages                                         | Themes                                                                                                   | Fiscal 2013 Objectives                                                                                                                                                                                                       | Fiscal 2015 Objectives                                                                                                                                 |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental technologies                     | <u>Develop 3R technologies</u>                                                                           | <ul style="list-style-type: none"> <li>Expand scope of plastic material recycling technology (practical application of PC+ABS*4 recycling)</li> </ul>                                                                        | <ul style="list-style-type: none"> <li>Develop basic technology for high-value-added recycled materials</li> </ul>                                     |
|                                                |                                                                                                          | <ul style="list-style-type: none"> <li>Develop practical application technology for synthesizing zeolite from waste LCD panel glass</li> </ul>                                                                               | <ul style="list-style-type: none"> <li>Verify water purification performance of zeolite</li> </ul>                                                     |
| Environmentally conscious products and devices | <u>Improve environmental performance of products and devices</u>                                         | <ul style="list-style-type: none"> <li>Super Green Products (Japan)           <ul style="list-style-type: none"> <li>3 or more products certified in each product category</li> </ul> </li> </ul>                            | <ul style="list-style-type: none"> <li>5 or more products certified in each product category</li> </ul>                                                |
|                                                |                                                                                                          | <ul style="list-style-type: none"> <li>Increase Green Devices' share of net sales           <ul style="list-style-type: none"> <li>To 95%</li> </ul> </li> </ul>                                                             | <ul style="list-style-type: none"> <li>Make all newly developed devices Green Devices</li> </ul>                                                       |
| Environmentally conscious business activities  | <u>Curb greenhouse gas emissions</u>                                                                     | <ul style="list-style-type: none"> <li>Japan: Specific energy consumption rate           <ul style="list-style-type: none"> <li>Improve by average 1% each year (average for fiscal 2009 to 2013)</li> </ul> </li> </ul>     | <ul style="list-style-type: none"> <li>Improve by average 1% each year (average for fiscal 2011 to 2015)</li> </ul>                                    |
|                                                |                                                                                                          | <ul style="list-style-type: none"> <li>Overseas: Specific energy consumption rate           <ul style="list-style-type: none"> <li>Improve over fiscal 2012</li> </ul> </li> </ul>                                           | <ul style="list-style-type: none"> <li>Improve over fiscal 2014</li> </ul>                                                                             |
| Environmentally conscious distribution         | <u>Shift to environmentally friendly modes of transport</u><br><u>Select optimal ports for unloading</u> | <ul style="list-style-type: none"> <li>CO<sub>2</sub> emissions per shipping volume           <ul style="list-style-type: none"> <li>Reduce by average 1% each year (average for fiscal 2009 to 2013)</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>Reduce by average 1% each year (average for fiscal 2011 to 2015)</li> </ul>                                     |
| Recycling                                      | <u>Recycle used products</u>                                                                             | <ul style="list-style-type: none"> <li>Reduce recycling costs</li> </ul>                                                                                                                                                     | <ul style="list-style-type: none"> <li>Increase recycling efficiency of used LCD TVs to accommodate increasing number of products collected</li> </ul> |
|                                                |                                                                                                          | <ul style="list-style-type: none"> <li>Formulate collection scheme for used solar panels</li> </ul>                                                                                                                          | <ul style="list-style-type: none"> <li>Formulate recycling scheme for used solar panels</li> </ul>                                                     |

\*4 A polymer alloy of polycarbonate and acrylonitrile, butadiene, and styrene (a macromolecular material given new properties as a result of mixing in several types of polymers).

## Mass Balance

Sharp uses numerical values to accurately assess the relationship between its business activities and the environment, and uses them to promote environmental sustainability management. By making use of these current values at all stages of business activities to create proposals for policy measures and to analyze and evaluate the results, Sharp is aiming to effectively reduce the impact it has on the environment.



### About the Environmental Data in This Report

\*1 1 TJ (terajoule) = 10<sup>12</sup> Joules

\*2 Amount of solar power generated; amount of green power certificates purchased.

\*3 Total weight of products in the 13 major categories sold in fiscal 2012 (estimate), plus waste, etc. discharged from production sites.

\*4 Estimate of annual energy used and amount of CO<sub>2</sub> emitted by products in the 13 major categories sold in fiscal 2012. Calculation based on each product's annual energy consumption rate.

\*5 A measure of how much a given amount of greenhouse gas will contribute to global warming, expressed relative to an equivalent mass of CO<sub>2</sub>.

\*6 Amount of CO<sub>2</sub> emissions reduced (tons CO<sub>2</sub>) annually by Sharp solar cells shipped in fiscal 2012.

## Greenhouse Gas Emissions Based on the GHG Protocol Initiative

Sharp calculates greenhouse gas emissions based on the GHG Protocol<sup>\*7</sup> and then works to limit those emissions resulting from customer use of Sharp products and Sharp's business activities including the supply chain. The results for fiscal 2012 are as follows.

<sup>\*7</sup> The GHG Protocol is an international standard for calculating greenhouse gas (GHG) emissions. It was jointly established by the World Business Council for Sustainable Development (WBCSD), a coalition of the world's leading companies, and the World Resources Institute (WRI), a United States-based think tank.

### ■ Greenhouse Gas Emissions by Scope 1/2/3 Categories Based on the GHG Protocol Initiative

| Scope                                                                                | Emissions<br>(thousand tons CO <sub>2</sub> ) | Notes                                                                                                                             |
|--------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Scope 1 (direct GHG emissions from business activities)                              | 333                                           | Emissions from combustion of gas, heavy oil, etc.                                                                                 |
| Scope 2 (indirect GHG emissions from energy usage in business activities)            | 994                                           | Emissions from the use of electricity                                                                                             |
| Scope 3 (indirect GHG emissions from areas outside the scope of business activities) | 32,552                                        | Calculated for 10 categories such as Procurement, Shipping & Distribution, Product Usage, and Employee Commuting & Business Trips |

### ■ Greenhouse Gas Emissions by Scope 3 Category

| Classification | Category                                                         | Emissions<br>(thousand tons CO <sub>2</sub> ) | Notes                                                                                                                                                                   |
|----------------|------------------------------------------------------------------|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Upstream       | Purchased goods and services                                     | 4,270                                         | CO <sub>2</sub> emissions from the manufacture of materials procured for products in the 13 major categories and devices that the Sharp Group sold in the relevant year |
|                | Fuel- and energy-related activities not included in scope 1 or 2 | 120                                           | CO <sub>2</sub> emissions from transmission losses of electricity purchased by the Sharp Group                                                                          |
|                | Upstream transportation and distribution                         | 40                                            | CO <sub>2</sub> emissions from transportation and distribution of materials procured by the Sharp Group                                                                 |
| Sharp          | Business travel                                                  | 20                                            | CO <sub>2</sub> emissions from business travel by all employees of Sharp Corporation                                                                                    |
|                | Employee commuting                                               | 20                                            | CO <sub>2</sub> emissions from commuting by all employees of Sharp Corporation                                                                                          |
|                | Leased assets                                                    | —                                             | Included in scope 1 and 2 CO <sub>2</sub> emissions                                                                                                                     |
| Downstream     | Processing of sold products                                      | 460                                           | CO <sub>2</sub> emissions from processing at destination of Sharp Group products                                                                                        |
|                | Downstream transportation and distribution                       | 130                                           | CO <sub>2</sub> emissions from transportation and distribution of products manufactured by the Sharp Group                                                              |
|                | Use of sold products                                             | 27,490                                        | CO <sub>2</sub> emissions in the relevant year from the use of products in the 13 major categories that the Sharp Group sold in the relevant year                       |
|                | End-of-life treatment of sold products                           | 2                                             | CO <sub>2</sub> emissions from recycling 4 types of appliances <sup>*8</sup> that Sharp Corporation sold in Japan                                                       |
| Total          |                                                                  | 32,552                                        |                                                                                                                                                                         |

<sup>\*8</sup> Air conditioners, TVs (CRT, LCD, PDP), refrigerators/freezers, washing machines/dryers

## Environmental Accounting

Sharp introduced environmental accounting in fiscal 1999 to provide a quantitative assessment of the costs and benefits of its environmental conservation activities and is applying the results to environmental sustainability management. In fiscal 2010, Sharp began to also present results based on the Connected Reporting Framework (CRF).

### Environmental Conservation Costs

In fiscal 2012, Sharp's environmental conservation investment was approximately 4.5 billion yen, and environmental conservation expenditures were approximately 35.0 billion yen. Costs associated with R&D made up a large percentage of these figures.

### Economic Benefits

Actual benefit was approximately 2.0 billion yen, resulting from the effective use of water resources (expanded use of recycled water and other methods) and the expanded recycling of waste into valuable resources. Estimated benefit was approximately 95.3 billion yen, due to an increase in the number of energy-creating and energy-saving products.

From fiscal 2012, the economic benefits and environmental conservation effects related to the "reduce greenhouse gas emissions (global environmental conservation)" category are calculated based only on the benefits and effects achieved through the use of equipment that is depreciating.

| Classification of Environmental Conservation Activities<br><small>(*) Category based on Environmental Accounting Guidelines, Ministry of the Environment</small> | Description of Major Activities                                                                                                                                                                                                                            | Environmental Conservation Costs<br>(Unit: ¥ million)                                                                                                                                            |          | Economic Benefits<br>(Unit: ¥ million) |                   | Environmental Conservation Effects                                                                                                                                                                                                |                                                                                                       |                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------|
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            | Investment                                                                                                                                                                                       | Expenses | Actual Benefit                         | Estimated Benefit | Tangible Effects                                                                                                                                                                                                                  | Estimated Benefit                                                                                     |                                  |
| Environmental Sustainability Management (management activities)                                                                                                  | <ul style="list-style-type: none"> <li>• Operation of environmental management system</li> <li>• Promote environmental sustainability management</li> <li>• Environmental education</li> </ul>                                                             | 75                                                                                                                                                                                               | 1,746    | —                                      | —                 | Promote environmental sustainability management                                                                                                                                                                                   |                                                                                                       |                                  |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |          |                                        |                   | Number of employees with environmental education                                                                                                                                                                                  | 246                                                                                                   | —                                |
| Planning and Design (R&D)                                                                                                                                        | <ul style="list-style-type: none"> <li>• R&amp;D on solar power generation systems</li> <li>• Promote closed-loop recycling of plastic materials</li> <li>• R&amp;D on basic environmental technologies</li> <li>• R&amp;D on biomass materials</li> </ul> | 4,370                                                                                                                                                                                            | 19,714   | —                                      | 95,305            | Supply environmentally conscious products<br>(Unit: ¥ million)                                                                                                                                                                    |                                                                                                       |                                  |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |          |                                        |                   | Green Seal products' share of net sales                                                                                                                                                                                           | 86%                                                                                                   | —                                |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |          |                                        |                   | Super Green products' share of net sales                                                                                                                                                                                          | 58%                                                                                                   | —                                |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |          |                                        |                   | Total amount of electricity generated by solar power generation systems                                                                                                                                                           | 28,989 GWh                                                                                            | 31,888                           |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |          |                                        |                   | CO <sub>2</sub> emissions reduced by solar power generation systems                                                                                                                                                               | 11,596 thousand tons CO <sub>2</sub>                                                                  | 19                               |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |          |                                        |                   | Electric power saved from energy-saving products                                                                                                                                                                                  | 28,800 GWh                                                                                            | 63,360                           |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |          |                                        |                   | CO <sub>2</sub> emissions reduced by energy-saving products                                                                                                                                                                       | 11,547 thousand tons CO <sub>2</sub>                                                                  | 39                               |
| Manufacturing                                                                                                                                                    | Reduce greenhouse gas emissions (global environmental conservation)                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• Introduce PFCs<sup>a1</sup> abatement systems</li> <li>• Install solar power generation systems</li> <li>• Introduce energy-saving equipment</li> </ul> | 90       | 5,849                                  | 960 <sup>a2</sup> | 16 <sup>a2</sup>                                                                                                                                                                                                                  | Greenhouse gas emissions reduced by controlling electricity and fuel consumption<br>(Unit: ¥ million) |                                  |
|                                                                                                                                                                  | Minimize and recycle waste (recycle resources)                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>• Reduce waste discharge and recycle waste into valuable resources</li> <li>• Recycle water</li> </ul>                                                    | 0        | 2,445                                  | 1,081             | —                                                                                                                                                                                                                                 | CO <sub>2</sub> emissions reduced                                                                     | 33 thousand tons CO <sub>2</sub> |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |          |                                        |                   | PFCs emissions reduced                                                                                                                                                                                                            | 463 thousand GWt·CO <sub>2</sub> <sup>a3</sup>                                                        | 15                               |
|                                                                                                                                                                  | Prevent pollution (prevent pollution)                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>• Install scrubbers</li> <li>• Introduce exhaust gas treatment systems</li> </ul>                                                                         | 38       | 4,336                                  | —                 | —                                                                                                                                                                                                                                 | Waste recycled or sent for appropriate disposal                                                       |                                  |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |          |                                        |                   | Waste recycled                                                                                                                                                                                                                    | 74 thousand tons                                                                                      | —                                |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |          |                                        |                   | Recycled and reused water                                                                                                                                                                                                         | 12,754 thousand m <sup>3</sup>                                                                        | —                                |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |          |                                        |                   | Observe environmental laws and regulations<br>Prevent air/water pollution and noise/vibration<br>Promote risk management<br>Chemical substances properly managed and their discharge reduced<br>Reduce risk of soil contamination |                                                                                                       |                                  |
| Recycling/Logistics (upstream/downstream)                                                                                                                        | Promote collection, recycling, and proper disposal of used products                                                                                                                                                                                        | 0                                                                                                                                                                                                | 163      | —                                      | —                 | Collection, recycling, and proper disposal of used products                                                                                                                                                                       |                                                                                                       |                                  |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |          |                                        |                   | Used PCs recycled                                                                                                                                                                                                                 | 31 tons                                                                                               | —                                |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |          |                                        |                   | Used copiers recycled                                                                                                                                                                                                             | 3,367 tons                                                                                            | —                                |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |          |                                        |                   | Used home appliances [4 categories] recycled                                                                                                                                                                                      | 48,374 tons                                                                                           | —                                |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |          |                                        |                   | Environmental burden during distribution reduced                                                                                                                                                                                  |                                                                                                       |                                  |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |          |                                        |                   | Railway/ship/cargo transport [container transport]                                                                                                                                                                                | 17,654 containers <sup>a4</sup>                                                                       | —                                |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |          |                                        |                   | Percentage of low-pollution vehicles                                                                                                                                                                                              | 99.7%                                                                                                 | —                                |
| Social Responsibility                                                                                                                                            | Expand social contribution activities                                                                                                                                                                                                                      | 0                                                                                                                                                                                                | 589      | —                                      | —                 | Environmental social contributions                                                                                                                                                                                                |                                                                                                       |                                  |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |          |                                        |                   | Number of employees who attended SGC activities                                                                                                                                                                                   | 16,707                                                                                                | —                                |
|                                                                                                                                                                  |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |          |                                        |                   | Number of schools where environmental/craftsmanship education was provided                                                                                                                                                        | 594                                                                                                   | —                                |
|                                                                                                                                                                  | Total                                                                                                                                                                                                                                                      | 4,573                                                                                                                                                                                            | 34,842   | 2,041                                  | 95,321            |                                                                                                                                                                                                                                   |                                                                                                       |                                  |

## Explanation of Terminology

### Environmental Conservation Costs

Overhead costs, personnel expenses, and investment associated with environmental conservation activities, in addition to attendant depreciation.

### Economic Benefits

Contributions to society and to the company that result from environmental conservation activities, expressed in monetary units.

**Actual benefit:** Economic effects that can be assessed directly in monetary terms, such as cost savings from energy-saving efforts and use of recycled water, as well as profits from the sale of valuable resources.

**Estimated benefit:** Sharp Corporation uses the following terms to convert the economic effects of reduced greenhouse gas emissions and electricity savings from the use of solar power generation and energy-saving products into equivalent monetary amounts.

(1) Reduced greenhouse gas emissions converted into equivalent monetary amounts: 33 yen/tons CO<sub>2</sub>.<sup>\*6</sup>

(2) Electricity savings converted into equivalent monetary amounts: Unit cost of electricity: 22 yen/kWh.<sup>\*7</sup>

\*1 HFCs, PFCs, sulfur hexafluoride, nitrogen trifluoride, HCFCs

\*2 Calculation confined to the benefits and effects resulting from the use of equipment that is depreciating.

\*3 On a single-year basis

\*4 GWP (global warming potential) is a measure of how much a given amount of greenhouse gas will contribute to global warming, expressed relative to an equivalent mass of CO<sub>2</sub>.

\*5 5-ton containers

\*6 Based on a Sharp survey.

\*7 Based on figures announced by the Home Electric Appliances Fair Trade Conference in Japan.

## Sites Covered

Sharp Corporation sites (Tochigi, Yao, Hiroshima, Nara, Katsuragi, Fukuyama, Mie, Tenri, Mihara, Kameyama, Tanabe, the Head Office, Kashiba, and Sakai), Sharp Manufacturing Systems Corporation, Sharp Niigata Electronics Corporation, Sharp Yonago Corporation, and Sharp Mie Corporation

## Period Covered

April 1, 2012 to March 31, 2013

## Referenced Guidelines

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

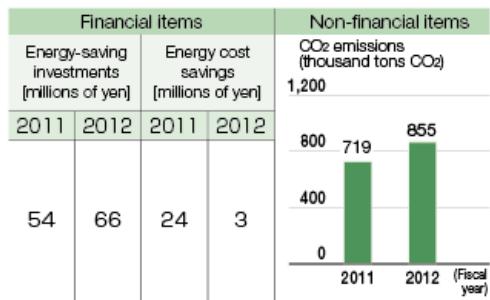
## Reporting under CRF

Sharp refers to the Connected Reporting Framework (CRF)<sup>\*8</sup> advocated by the Accounting for Sustainability Project, a British NGO, in disclosing results achieved through its efforts to reduce CO<sub>2</sub> emissions and the amount of waste generated.

In fiscal 2012, CO<sub>2</sub> emissions increased by 19% compared to the previous fiscal year as a result of worsening CO<sub>2</sub> emission coefficients and other factors. On the other hand, waste discharged was down by 4% over the previous year. The percentage of waste sent for final landfill disposal was 0.005%, which means Sharp has achieved zero discharge to landfill for the 12th year in a row.

\*8 An integrated reporting scheme that presents both financial and non-financial results as an integrated representation of a company's performance.

### Efforts to Reduce CO<sub>2</sub> Emissions



### Efforts to Reduce Waste



## Developing Environmental Technologies

Sharp is working to develop unique environmental technologies to raise the environmental performance of its products and devices, lower the environmental impact of its production facilities, and make effective use of valuable resources. Sharp is advancing its research and development of people-friendly and environmentally friendly technologies covering four areas—energy saving and energy creation, effective use of resources, safety and peace of mind, and health and comfort.

### R&D on Unique Environmental Technologies

Since fiscal 2001, Sharp has been putting closed-loop plastic material recycling technology into practical use. This technology repeatedly recovers plastic from used consumer electronics and reuses it in parts of new consumer electronics for the Japanese market. Year after year, Sharp is recovering a greater volume of recyclable plastic, as well as expanding high-value-added applications for recycled plastic. In fiscal 2012, Sharp further expanded the scope of its recycling by recovering PP (polypropylene) from mixed plastic\*1 (shredder dust), most of which had previously just been disposed of.

Sharp is also developing recycling technology for scrap LCD panels, which are expected to grow in number as LCD TVs and LCD application products become even more widespread. In fiscal 2012, Sharp successfully developed a technology for recycling waste LCD panel glass into environmental purification material.

In the area of energy-saving technologies, Sharp has developed practical applications for highly energy-efficient IGZO oxide semiconductor technology and has incorporated it into its smartphones. The company is also advancing the energy efficiency of major consumer electronics, such as TVs, air conditioners, and refrigerators. In the area of energy-creating technologies, Sharp achieved the world's highest\*2 conversion efficiency of 37.9%\*3 for solar cells as well as the world's highest\*4 44.4%\*5 conversion efficiency for concentrator solar cells.

\*1 The plastic that remains after removing the metal from the mixture of plastic and scrap metal produced when consumer electronics products are shredded.

\*2 As of April 24, 2013, for non-concentrator solar cells at the research level (based on a survey by Sharp).

\*3 Conversion efficiency confirmed by the National Institute of Advanced Industrial Science and Technology (AIST; one of several organizations around the world that officially certifies energy conversion efficiency measurements in solar cells) in February 2013 (cell surface: approx. 1 cm<sup>2</sup>).

\*4 As of June 14, 2013, for concentrator solar cells at the research level (based on a survey by Sharp).

\*5 Conversion efficiency confirmed by the Fraunhofer Institute for Solar Energy (ISE; one of several organizations around the world that officially certifies energy conversion efficiency measurements in solar cells) in April 2013 under a light-concentrating magnification of 302 times (cell surface: approx. 0.165 cm<sup>2</sup>).

### One-of-a-Kind Technological Development Fields



### Examples of Sharp's Environmental Technologies

- ▶ [Expanding Closed-Loop Plastic Material Recycling Technology for the Repeated Reuse of Plastic](#)
- ▶ [Developing Technologies to Recycle Waste LCD Panel Glass](#)
- ▶ [Revolutionizing Displays with Development of IGZO, a New Oxide Semiconductor Technology](#)
- ▶ [Sharp's Solar Cells Achieve World's Highest Conversion Efficiency of 37.9%](#)
- ▶ [Sharp's Concentrator Solar Cell Achieves World's Highest Conversion Efficiency of 44.4%](#)
- ▶ [Sharp's Plasmacluster Washer-Dryer Most Energy- and Water-Efficient in Industry](#)

## ■ Environmental Technologies That Contribute to a Sustainable, Recycling-Based Society

### Expanding Closed-Loop Plastic Material Recycling Technology for the Repeated Reuse of Plastic

Sharp and Kansai Recycling Systems Co., Ltd.\*1 jointly developed closed-loop plastic material recycling technology for the repeated recovery of plastic from used consumer electronics and its reuse in parts of new consumer electronics for the Japanese market. This technology has been in practical use since fiscal 2001.

Thanks to the development and introduction of technologies that integrate everything from recovery to quality control, Sharp has been able to recover a greater volume of recyclable plastic year after year. These technologies include: a high-precision system for detecting and removing metal parts attached to plastic components (1), a solution for separating and recovering high-purity PP (polypropylene) (2), a method of improvement of the properties of recyclable materials to match the application (3-1), and quality control suitable for recyclable materials (3-2).

Because recycled plastic can be reused numerous times, it has been adopted for use in washing machines, refrigerators, and other such home appliances that are sold in Japan and are subject to the Home Appliance Recycling Law. From the very start of commercial application, this recycled plastic has been utilized in the tubs of all fully automatic washing machine models. It has also been used intensively in Sharp's flagship high-energy-efficiency refrigerator models.

In fiscal 2012, Sharp began recovering PP (polypropylene) from mixed plastic\*2 (shredder dust), the bulk of which would previously have been disposed of. In order to recycle the recovered PP into high-grade PP, the company came up with a blending technology in which the types and amounts of additives are determined based on factors such as the varying degrees of purity and deterioration of the recovered PP. This high-grade recycled PP is now seeing expanded use, thanks to its adoption in refrigerator parts.

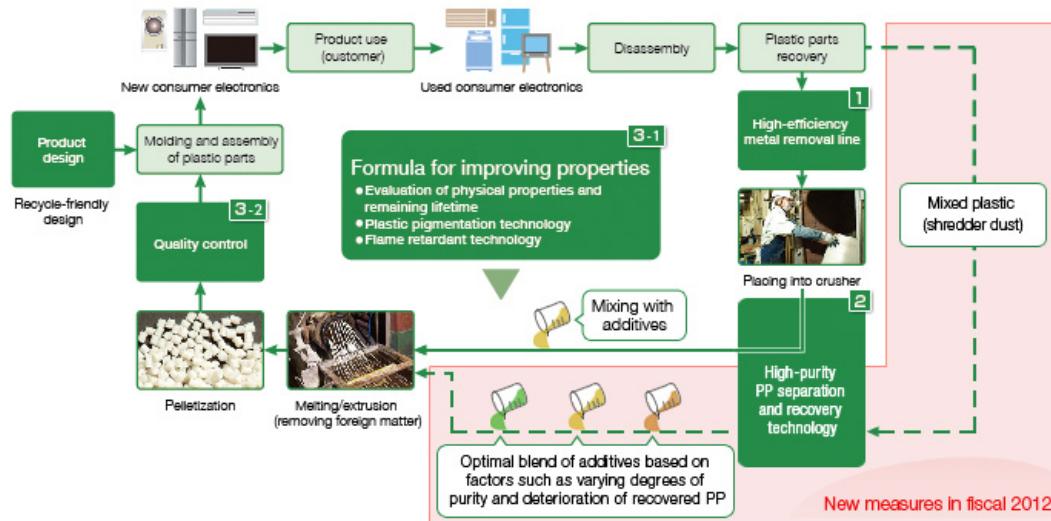
In the future, Sharp will work to advance the effective use of limited resources by expanding the scope of closed-loop plastic material recycling technology to PC+ABS (a polymer alloy\*3 of polycarbonate and acrylonitrile, butadiene, and styrene) and other plastics.

\*1 A consumer electronics recycling company established in Japan with joint investment from Sharp, Mitsubishi Materials Corporation, and four other companies.

\*2 The plastic that remains after removing the metal from the mixture of plastic and scrap metal produced when consumer electronics products are shredded.

\*3 A macromolecular material given new properties as a result of mixing in several types of polymers.

### ■ Closed-Loop Plastic Material Recycling Flow



## 1 High-Efficiency Metal Removal Line

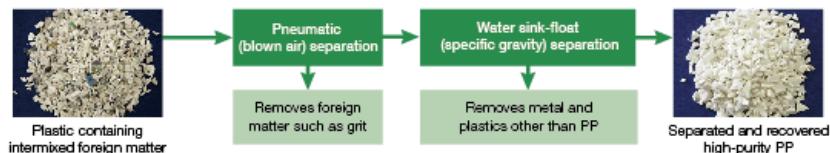


High-efficiency metal removal line  
(Kansai Recycling Systems Co., Ltd.)

System to detect and remove metal parts—such as screws attached to recovered plastic components—with a high degree of precision.

## 2 High-Purity PP (Polypropylene) Separation and Recovery Technology

Technology to recover high-purity PP (polypropylene) from waste plastic containing different types of plastic intermixed with metal.

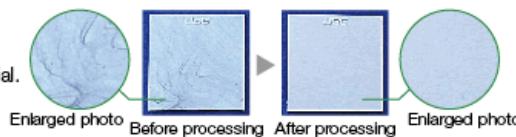


## 3 Property Improvement/Quality Control

Technology to enable the repeated reuse of recycled plastic; for example, by improving properties to match specifications demanded by the components it will be used in and implementing quality control suitable for recyclable materials.

### Example) Plastic Pigmentation Technology<sup>\*4</sup>

Technology to add pigments to visually obscure foreign matter intermixed with the recycled material.



<sup>\*4</sup> An original technology of Ube Industries, Ltd.

## Developing Technologies to Recycle Waste LCD Panel Glass

As LCD application products come into wider use and the number of discarded LCD TVs grows, demand for the recycling of LCD panel glass, a key component of such LCD products, is greatly on the rise.

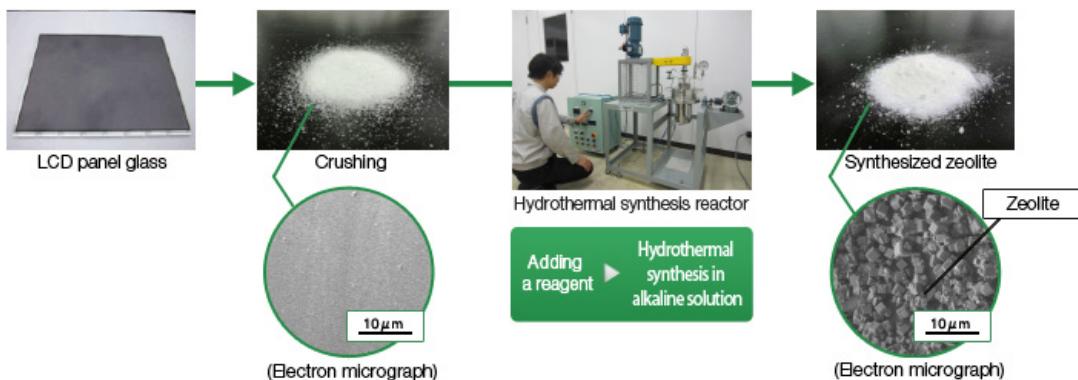
Turning its attention to the portion of LCD panel glass constituents that is similar to that of zeolite<sup>\*5</sup>, Sharp began in fiscal 2010 to conduct joint research with Osaka Prefecture University on a technology to synthesize zeolite from LCD panel glass. Zeolite has many functions, including those involving ion exchange, adsorption, and its use as a catalyst. Recently, zeolite has been attracting attention as an environmental purification material that can help purify water and improve soil quality.

In fiscal 2012, the joint research team succeeded in forming zeolite on the surface of glass by adding a reagent to finely crushed LCD panel glass and causing a hydrothermal reaction at a specific temperature in an alkaline solution.

Sharp will use this technology to establish a technique for mass-producing zeolite. The company will also move forward on the development of applied technologies that focus on the purification of water, such as seawater.

<sup>\*5</sup> The generic term for a crystalline, microporous aluminosilicate mineral composed mainly of silicon, aluminum, and oxygen.

## Process of Synthesizing Zeolite from Waste LCD Panel Glass



## Environmental Technologies That Contribute to a Low-Carbon Society

### Revolutionizing Displays with Development of IGZO, a New Oxide Semiconductor Technology

Together with Semiconductor Energy Laboratory Co., Ltd., Sharp jointly developed technology for the practical application of IGZO, a new oxide semiconductor.

IGZO is an oxide (O) semiconductor composed of indium (In), gallium (Ga), and zinc (Zn); thus the name IGZO. It uses these materials instead of silicon, which is used in conventional semiconductors. IGZO contributes to higher resolution in LCDs for smartphones and other mobile devices, to higher touchscreen performance, and, above all, to significantly lower power consumption for the products it is used in.

Conventional displays rewrite data frequently even when only showing still images. IGZO, however, can maintain the same image for a certain length of time without rewriting the data and with the power turned off, resulting in power consumption that is just one-fifth to one-tenth that of conventional LCD panels.

#### Power Consumed during Still Image Display



In November 2012, the world's first smartphone incorporating IGZO technology was released in Japan. This was the ZETA SH-02E AQUOS Phone in the NEXT Series from provider NTT DOCOMO. Compared to Sharp's previous smartphone, this model can display continuous still images up to 4.8 times as long and continuous video up to 2.8 times<sup>\*1</sup> as long.

For superb energy efficiency that allows the smartphone to be used for two days<sup>\*2</sup> without charging, in May 2013 Sharp's IGZO technology was honored with a Gold Award in the Display of the Year category at the Display Industry Awards<sup>\*3</sup> for products incorporating novel and outstanding displays.

<sup>\*1</sup> Compared to Sharp SH-01D. Figure derived when putting the phone through actual use with eco mode off and backlight on at all times at normal brightness (based on a survey by Sharp).

<sup>\*2</sup> Measured by Sharp based on assumed conditions of usage (e.g., sending/receiving e-mails, using apps). May vary greatly depending on factors such as how apps are used and the network environment.

<sup>\*3</sup> The Display Industry Awards are influential honors given by SID (Society for Information Display) every year since 1995.

#### Comparison with Previous Sharp Smartphone

|                                     | SH-02E                                              | SH-01D<br>(released 2011 winter) |
|-------------------------------------|-----------------------------------------------------|----------------------------------|
| Continuous still image display time | Approx. 24 hours<br><b>Approx. 4.8 times longer</b> | Approx. 5 hours                  |
| Continuous video display time       | Approx. 11 hours<br><b>Approx. 2.8 times longer</b> | Approx. 4 hours                  |



Gold Award, Display of the Year,  
Display Industry Awards

ZETA SH-02E AQUOS Phone in the NEXT Series from NTT DOCOMO



### Words from a Product Developer

By combining Sharp's LCD technologies accumulated over the years with the world's first mass-production of IGZO-technology panels, we have created a display that uses significantly less power. The results are similar to the power savings you get when you turn off your car engine when stopped instead of letting the engine idle.

We will maximize the potential of IGZO so that we can boost the environmental performance of our products.



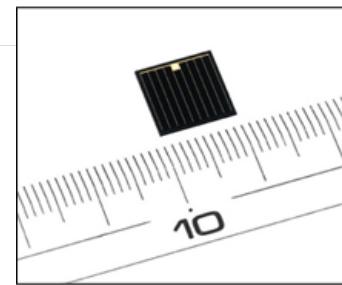
**Seiji Kaneko**  
Manager  
Development Department II  
Display Device Development Division  
Sharp Corporation

### Sharp's Solar Cells Achieve World's Highest Conversion Efficiency of 37.9%

Sharp achieved the world's highest solar cell conversion efficiency<sup>\*4</sup> of 37.9%<sup>\*5</sup> using a triple-junction compound solar cell in which three photo-absorption layers are stacked together.

Compound solar cells utilize photo-absorption layers made from compounds consisting of two or more elements, such as indium and gallium. The basic structure of this triple-junction compound solar cell uses proprietary Sharp technology that enables efficient stacking of the three photo-absorption layers, with InGaAs (indium gallium arsenide) as the bottom layer.

By optimizing the relative proportions of indium, gallium, and arsenide, Sharp succeeded in increasing the efficiency with which the cell absorbs sunlight at its various wavelengths. This improvement enabled Sharp to achieve the world's highest solar cell conversion efficiency<sup>\*4</sup> of 37.9%<sup>\*5</sup>. Sharp aims to apply these solar cells to a range of applications; for example, a lens-based concentrator system that focuses sunlight on the cells to generate electricity, and artificial satellites for outer space and other moving objects.

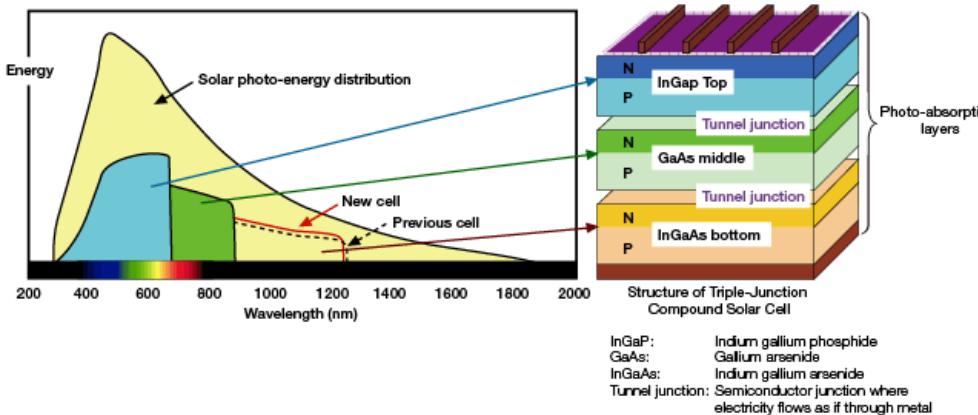


Triple-junction compound solar cell with the world's highest conversion efficiency of 37.9%

<sup>\*4</sup> As of April 24, 2013, for non-concentrator solar cells at the research level (based on a survey by Sharp).

<sup>\*5</sup> Conversion efficiency confirmed by the National Institute of Advanced Industrial Science and Technology (AIST; one of several organizations around the world that officially certifies energy conversion efficiency measurements in solar cells) in February 2013 (cell surface: approx. 1 cm<sup>2</sup>).

### ■ Wavelength Distribution of Solar Photo-Energy and Wavelength Sensitivity of Triple-Junction Compound Solar Cell



## Sharp's Concentrator Solar Cell Achieves World's Highest Conversion Efficiency of 44.4%

Sharp has achieved the world's highest solar cell conversion efficiency<sup>\*6</sup>, 44.4%<sup>\*7</sup>, with a concentrator triple-junction compound solar cell, which is used in a lens-based concentrator system that focuses sunlight on the cells to generate electricity.

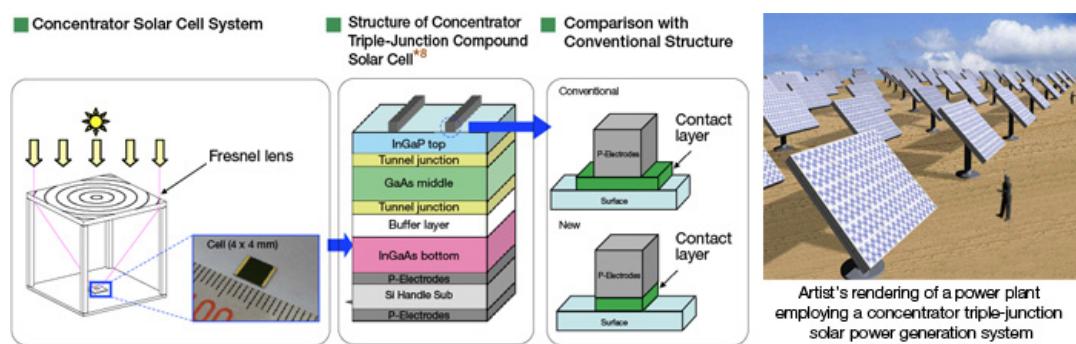
Like the aforementioned Sharp triple-junction compound solar cell, the concentrator triple-junction compound solar cell uses the same materials for the solar cells and utilizes three photo-absorption layers. However, concentrator solar cells allow dramatic reduction of the amount of compound and lower costs because they convert the sun's rays into energy by focusing it onto solar cells that require less surface space.

To achieve a concentrating conversion efficiency of 44.4%, Sharp worked to widen the effective concentrator cell surface and ensure uniformity of width at the interface of the connecting concentrator cell and electrodes.

Although compound solar cells have thus far been used primarily on applications such as space satellites, this latest achievement of high conversion efficiency provided the impetus to expand into land-based applications.

<sup>\*6</sup> As of June 14, 2013, for concentrator solar cells at the research level (based on a survey by Sharp).

<sup>\*7</sup> Conversion efficiency confirmed by the Fraunhofer Institute for Solar Energy (ISE, one of several organizations around the world that officially certifies energy conversion efficiency measurements in solar cells) in April 2013 under a light-concentrating magnification of 302 times (cell surface: approx. 0.165 cm<sup>2</sup>).



<sup>\*8</sup> InGaP: Indium gallium phosphide; GaAs: Gallium arsenide; InGaAs: Indium gallium arsenide

Tunnel junction: Semiconductor junction where electricity flows as if through metal.

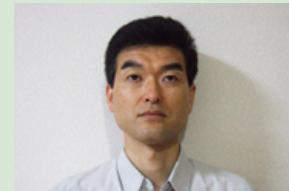
Buffer layer: A layer sandwiched between two materials to accommodate differences in their structures.



### Words from a Product Developer

The triple-junction compound solar cell is constructed of dozens of stacked semiconductor layers, each consisting of varying elements. Optimizing each of these layers has allowed us to achieve the world's highest conversion efficiency.

With the dream of seeing these solar cells at work in the desert and other extreme climates, as well as contributing in some small way to improving the environment, I will continue to work to further raise conversion efficiency.



Takaaki Agui  
Supervisor  
Technology Development Center  
Solar Systems Division  
Sharp Corporation

## Sharp's Plasmacluster Washer-Dryer Most Energy- and Water-Efficient in Industry

Sharp's home-use front-loading Plasmacluster washer-dryer (model ES-Z100) employs a proprietary heat pump to minimize loss of heat energy, and double sensor control to detect the dryness of laundry based on temperature and moisture. These developments have made it one of the most energy-efficient<sup>\*9</sup> washer-dryers in the industry. The product also employs "sunflower glass," which has a tightly spaced, spiral pattern of sunflower seed-shaped protrusions on the inside surface of the door window. With a bumpy inner surface for both the drum and the door, laundry is given extra scrubbing power, making the product one of the fastest-cleaning and most water-efficient in the industry<sup>\*9</sup>.

For technology that scrubs laundry in all directions, the ES-Z100 received the Energy Conservation Center Chairman's Prize in the Product and Business Model category<sup>\*10</sup> of the 2012 Energy Conservation Grand Prize.

<sup>\*9</sup> For washer-dryers in the 9 kg washing/4.5 kg drying class. 610 Wh of power to wash and dry 6 kg of laundry. 59 liters of water to wash 9 kg of laundry, estimated time of 29 minutes. As of January 25, 2013. (Figures bases on JEMA [Japan Electrical Manufacturers' Association] standards.)

<sup>\*10</sup> Sponsored by the ECCJ (Energy Conservation Center, Japan), these awards recognize outstanding energy-efficiency initiatives in the government and private sectors, and advanced energy-efficient products.



### Words from a Product Developer

My main job was the development of the bumpy-surface "sunflower glass." Although I was relatively new to product development, I had a lot of support from my more experienced colleagues. It was a difficult process to come up with the idea for the sunflower seed pattern to improve washing performance and to put the idea through testing, but eventually we succeeded in releasing a product that was among the fastest washing machines in the industry.

I want to release more products like this one—products with Sharp's advanced energy-efficient and laundry-washing technologies—in not just emerging countries but in all markets around the world.



Shintaro Funami  
Supervisor  
Laundry Systems Unit  
Health and Environment Systems Division  
Sharp Corporation

## Developing Products and Devices with High Environmental Performance

Along with establishing guidelines for environmentally conscious design, Sharp sets objectives for the development of environmentally conscious products and devices as well as assessment standards for certification as such. Every year, the company revises these guidelines and standards, thus constantly improving the environmental performance of its products and devices.

### Developing Green Products and Green Devices

Sharp calls its environmentally conscious products Green Products (GP). The GP Guidelines, which define development and design criteria in line with seven concepts, have been in use globally at all product design departments since fiscal 1998. Similarly, Sharp calls its environmentally conscious devices Green Devices (GD) and has established the GD Guidelines, which it began applying at all device design departments in fiscal 2004.

In developing products and devices, Sharp sets specific objectives according to the GP Standard Sheet and the GD Standard Sheet, which are formulated based on the GP Guidelines and the GD Guidelines. In the trial manufacture and mass production stages, it determines how well the actual product or device has met these objectives, with those achieving the standards being awarded GP or GD status.

The content of the GP Standard Sheet and the GD Standard Sheet—the benchmark for development objectives—is revised and made more stringent each year in order to further improve the environmental performance of Sharp products and devices.

#### Green Product Concepts

|                                                                  |                                                                                                                                                                                                        |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Energy Saving / Energy Creating</b>                           | <b>Products with superb energy-saving / energy-creating performance</b><br>Improve the energy efficiency and reduce the energy consumption of products; other measures                                 |
| <b>Resource Conservation</b>                                     | <b>Products designed to conserve resources</b><br>Reduce the amount of materials used; design products that conserve resources during use; extend the life span of products; other measures            |
| <b>Recyclability</b>                                             | <b>Products designed for recycling</b><br>Design products that are easy to disassemble; use easy-to-recycle materials; other measures                                                                  |
| <b>Safe Use and Disposal</b>                                     | <b>Products that can be used and disposed of safely</b><br>Do not use substances that negatively affect people's health or the environment; other measures                                             |
| <b>Use of Green Materials and Devices</b>                        | <b>Products that use green materials and devices</b><br>Use recycled materials / plant-based plastics; other measures                                                                                  |
| <b>Environmental Consciousness Pertaining to Batteries, etc.</b> | <b>Products that use batteries, manuals, and packaging with enhanced environmental consciousness</b><br>Reduce product packaging; design products that allow easy removal of batteries; other measures |
| <b>Showing Eco Information of Products</b>                       | <b>Products that show their environmental performance and information</b><br>Acquire environmental labels (eco labels); implement LCA; other measures                                                  |

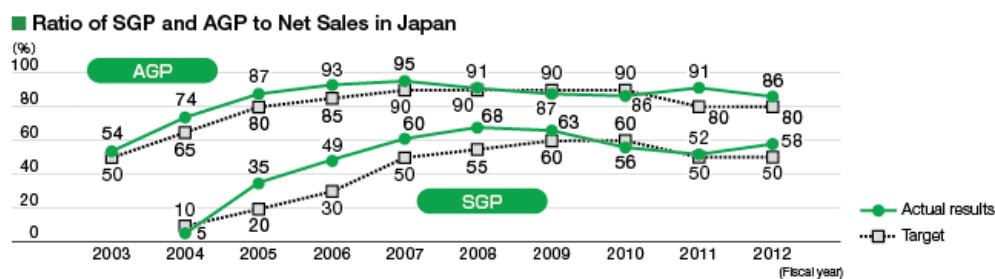
#### Green Device Concepts

|                               |                                                                                                                                                               |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Energy Efficiency</b>      | <b>Devices with superior energy efficiency and that consume less energy</b><br>Reduce power consumption during operation and in standby mode; other measures  |
| <b>Resource Conservation</b>  | <b>Devices designed to conserve resources</b><br>Reduce device weight or volume; other measures                                                               |
| <b>Recyclability</b>          | <b>Devices designed for recycling</b><br>Use standard plastic; design devices that are easy to disassemble; other measures                                    |
| <b>Safe Use and Disposal</b>  | <b>Devices that can be used and disposed of safely</b><br>Manage usage of chemical substances contained in parts and materials; other measures                |
| <b>Long Life</b>              | <b>Devices that make products last longer</b><br>Extend the life of the product with exchangeable parts and consumables (target: LCD devices); other measures |
| <b>Packaging</b>              | <b>Devices that use packaging with enhanced environmental consciousness</b><br>Reduce packaging; other measures                                               |
| <b>Information Disclosure</b> | <b>Devices that give environmental information</b><br>Provide information on chemical substances in devices; other measures                                   |

## Developing Super Green Products

Among Green Products, Sharp has been certifying those that offer a particularly high level of environmental performance as Advanced Green Products (AGP), and further, certifying those with the highest possible levels of environmental performance as Super Green Products (SGP).

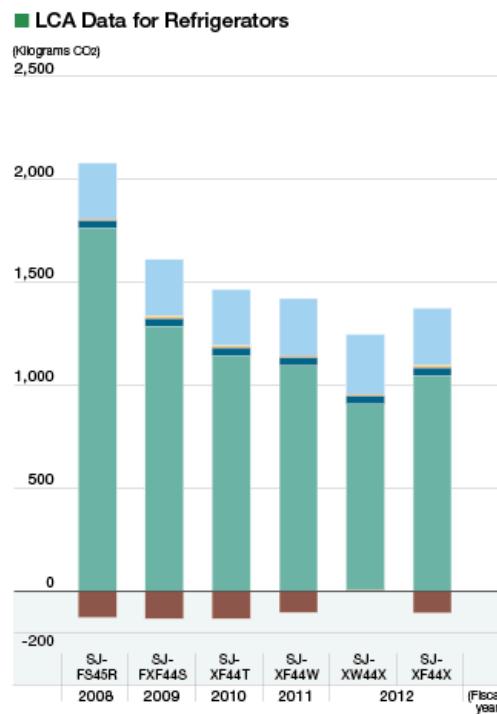
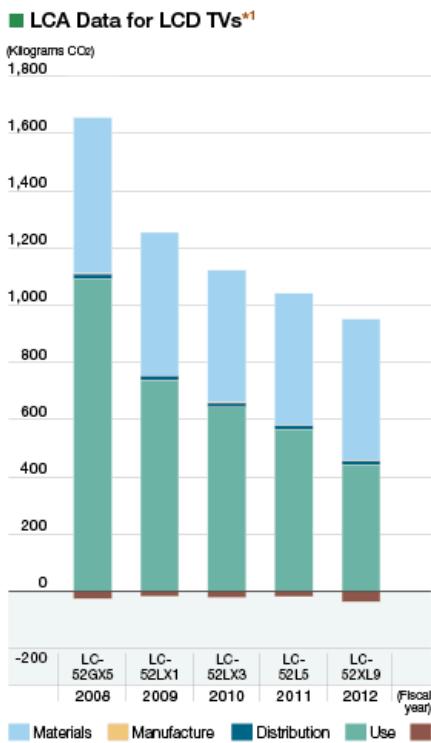
Sharp has revised the certification criteria for fiscal 2013 so that more emphasis is placed on energy-saving performance—something highly demanded in the global market—and further focus is given to creating environmentally conscious products and devices that meet customer demand.



## Identifying and Reducing Environmental Impacts throughout the Life of Products

Sharp performs a life cycle assessment (LCA) on its products to identify their impact on the environment throughout their service life. Converting this impact into CO<sub>2</sub> emissions provides a quantitative measure that Sharp uses in its efforts to reduce environmental impacts by enabling it to focus on the areas where the impact is especially large. For example, LCD TVs and other consumer electronics have a large impact during use. Thus, by focusing on improving their energy savings, overall environmental impact can be effectively reduced.

Sharp will continue to use LCA as a tool that contributes to the development of products with smaller environmental impacts.



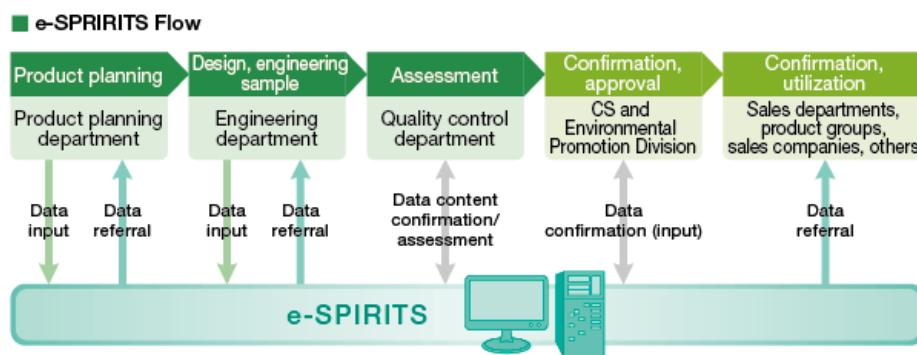
Note: CO<sub>2</sub> emissions during use are calculated using a CO<sub>2</sub> emission coefficient of 0.476 kilograms CO<sub>2</sub>/kWh (announced by the Federation of Electric Power Companies of Japan for fiscal 2012).

\*1 CO<sub>2</sub> emissions during use are calculated from annual power consumption based on fiscal 2010 measurement methods under targets set for Top Runner criteria based on the Law Concerning the Rational Use of Energy (Energy Conservation Law).

## Product Environmental Assessment System

Sharp operates the e-SPIRITS product environmental assessment system to ensure compliance with environmental laws and regulations as well as to promote environmentally conscious product design.

e-SPIRITS allows Sharp to keep a database of GP and GD development know-how and design data from all Sharp design and development bases. This database is used to raise design standards as well as standardize in-house life-cycle assessments (LCA). In addition, e-SPIRITS is used in the certification of SGP and AGP. This way, e-SPIRITS is contributing to the creation of environmentally conscious Sharp products and devices worldwide.



## SGP Environmentally Conscious Products and Devices for Fiscal 2012

### SGP XL9 Series AQUOS Quattron LCD TV

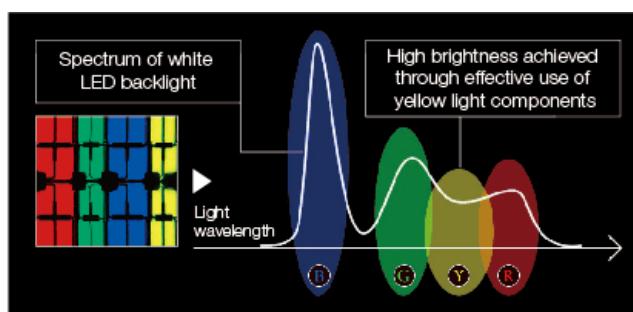
#### Energy Efficient

- Incorporates both a high-speed UV<sup>2A</sup>\*1 LCD panel for highly efficient use of light and high-speed response and an exceptionally efficient LED backlight
- Employs four-color technology\*2 for rich color display
  - Adds yellow—a color that renders images bright to the human eye—to the three RGB primary colors, allowing the LCD panel to make effective use of yellow light components in the LED backlight and achieve a brighter display
- Moth Eye® panel\*3 enables low reflectivity and high contrast to bring out the best in four-color technology\*2
- Save Mode enables users to reduce screen brightness and consume less power
- OPC (optical picture control) sensor automatically adjusts backlight brightness to match room brightness

**AQUOS** Quattron **3D**



LC-80XL9



- Annual power consumption:
  - LC-80XL9: 184 kWh/year (7% less than Sharp's previous model\*4)
  - LC-70XL9: 155 kWh/year (11% less than Sharp's previous model\*4)
  - LC-60XL9: 127 kWh/year (9% less than Sharp's previous model\*4)
  - LC-52XL9: 103 kWh/year (16% less than Sharp's previous model\*4)
  - LC-46XL9: 87 kWh/year (17% less than Sharp's previous model\*4)

#### Resource Saving

- Slimline aluminum frame creates a high-class look while making the chassis both highly rigid and recyclable

#### Green Materials

- Uses lead-free solder on circuit boards

\*1 UV<sup>2A</sup> stands for Ultraviolet-induced multi-domain Vertical Alignment.

\*2 Sharp's four-color concept was designed for use with LCDs; it differs from the conventional three-primary-color concept of light and color.

\*3 Moth Eye® is a trademark or registered trademark of Dai Nippon Printing Co., Ltd.

\*4 Models released in June 2012.

### SGP Plasmacluster Refrigerator

#### Energy Efficient

- In Power Save Mode, artificial intelligence assesses and responds to the household's refrigerator usage patterns to save up to 15%\*5 more power than under normal operation. Energy-saving results are displayed in two levels.
- e-Cool System reduces electricity waste by boosting heat-dissipation efficiency and compressor energy efficiency
- Annual power consumption: 170 kWh/year\*6 (23% reduction compared to previous model released in February 2011)



**E-COOL SYSTEM**

**Power Save Mode**  
Save up to 15% more power\*



▲ Green LED lights up to notify users when the refrigerator is saving more power



### Resource Saving

- Uses plastic recycled through closed-loop material recycling technology\*7

\*5 Comparing operation in Power Save Mode with normal operation. To reduce power consumption, the refrigerator compartment is set at a temperature roughly 1°C higher than normal but still within the range where food quality will not be affected. Calculated based on power consumption per day, with the refrigerator and freezer compartments both set to "Medium." Measurement differs from the JIS C9801-2006 standard. Energy savings will differ depending on the usage environment (including temperature adjustments, ambient temperature, frequency of door opening/closing, and amount of food stored inside).

\*6 Annual power consumption measurement values based on the JIS C9801-2006 standard.

\*7 [Closed-loop plastic material recycling technology](#)

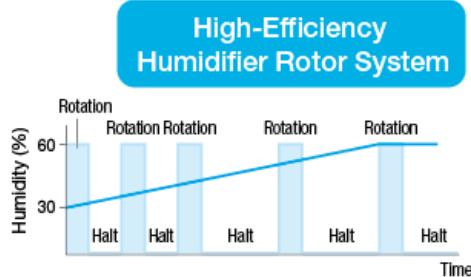
### SGP Plasmacluster Air Purifier

#### Energy Efficient

- Adoption for automated eco-friendly operation and high-efficiency humidifier rotor system
  - A sensor thoroughly monitors room air conditions and then adjust operation in response to the specific conditions efficiently
  - The humidifier rotor system increases humidification efficiency, and an automated air volume selection function optimizes airflow efficiency—both bringing reduced power consumption
- Equipped with the electricity bill monitor that indicates power costs per a day
  - Enables users to get a real sense of energy consumption and practice effective energy conservation



KI-BX70



## ACP C-SX Series Plasmacluster Air Conditioner

### Energy Efficient

- Eco Tank system is a new technology to achieve comfort and energy savings
  - Eco Tank adjusts the amount of refrigerant in line with operating conditions, which boosts energy efficiency through efficient operation according to operating conditions
- Monitoring function brings peace of mind
  - Features a temperature and humidity monitor. In summer, during those times when the air conditioner has been turned off to save on electricity bills, it will notify users, via light and sound, if dangerously high temperature and humidity levels are detected. The air conditioner can also be set to automatically start fan operation or cooling in response to room conditions.
  - In winter, the air conditioner will notify users, via light and sound, whenever it detects temperature and humidity levels low enough to allow viruses to thrive
- Easy, automatic eco-friendly operation
  - From the remote control's calendar function and fluctuations in external temperature, the air conditioner identifies the season and automatically selects operation and temperature settings accordingly
  - The air conditioner uses data gathered from sensors for humidity, natural light infiltration, artificial lighting, and floor temperature to operate in an energy-saving mode that responds to the perceived temperature and room conditions
- Improved airflow efficiency by taking nature as its model
  - Fans on the indoor and outdoor units are modeled after the shapes of insect and bird wings for efficient airflow control
- Seasonal power consumption: 1,293 kWh (3% reduction compared to previous model released in November 2011)



Eco Tank system controls the amount of refrigerant



\*8 Comparing this air conditioner's motor power with that of Sharp's previous model (Z-SX) when using same volume of air.

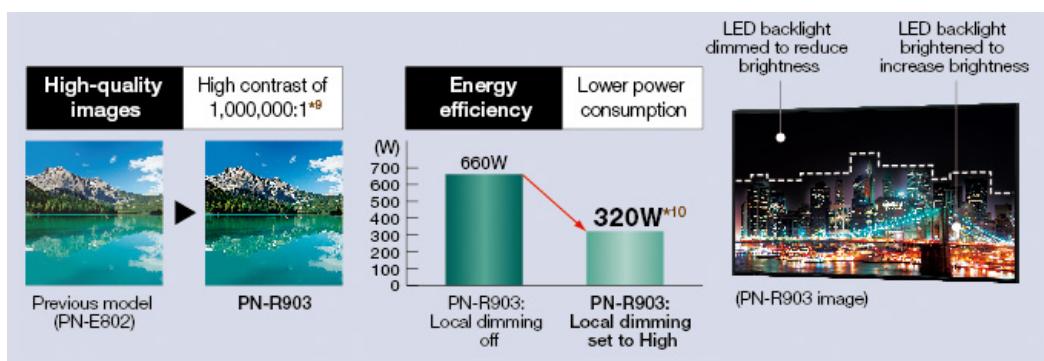
## SGP LCD Monitor

### Energy Efficient

- Achieves high contrast and low power consumption
  - Automatic backlight control (local dimming) heightens contrast while reducing power consumption by controlling the brightness of LEDs in different areas of the monitor according to the image displayed. The results are beautiful images and energy efficiency beyond what one would expect from a monitor of this size.



PN-R903



\*9 Local dimming set to High.

\*10 Results of Sharp measurements when displaying broadcast content (sub-clause 11.6) stipulated under IEC 62087 Ed. 2.0 with brightness set to maximum (at AC 100V). Note that the power consumption reduction will vary depending on the images displayed.

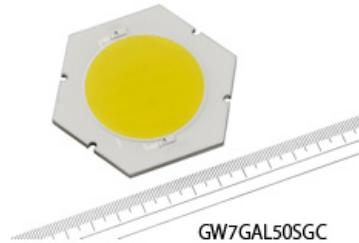
## Green Materials

- Uses halogen-free plastics in some external components

### GD 100W-Class LED Lighting Device

#### Energy Efficient

- Employs a material with high thermal conductivity for its substrate to boost heat dissipation. Thermal resistance is reduced to roughly 1/3 of previous 50W-class LED lighting devices.<sup>\*11</sup>
- Boasts a luminous flux of 14,000 lumens, the industry's highest<sup>\*12</sup> for a single-unit LED device; a luminous efficiency of 143 lm/W, roughly 1.3 times greater than previous models; and a long life of 40,000 hours



\*11 Comparing Sharp's previous GW7DAE50MR5 (50W-class input power, 110 lm/W luminous efficiency) with this device (100W-class input power, 143 lm/W luminous efficiency).

\*12 As of February 7, 2013, for 100W-class input power LED devices under standard usage conditions, based on Sharp survey.

## Topics

### SEC Wins 2013 ENERGY STAR® Partner of the Year Award (United States)

SEC, Sharp's sales and manufacturing subsidiary based in New Jersey, has received an ENERGY STAR® Partner of the Year award sponsored by the US Environmental Protection Agency (EPA) and the Department of Energy (DOE). The 2013 ENERGY STAR Award winners were selected from among the roughly 20,000 companies and organizations that participate in the ENERGY STAR program.

For three consecutive years starting in 2010, SEC has earned an ENERGY STAR Award for Excellence, but this is the first time the company has won the higher-ranking Partner of the Year award.

SEC was lauded for securing ENERGY STAR<sup>\*13</sup> certification on more than 150 product models sold in the US, including LCD TVs, home appliances, and copiers. Large-screen LCD TVs utilizing four-color<sup>\*14</sup> technology were singled out for their outstanding energy efficiency. SEC was also commended for raising elementary school children's awareness of environmental issues by providing ongoing environmental education on such topics as climate change and renewable energy through its Solar Academy programs.



At the 2013 ENERGY STAR Awards

\*13 A voluntary program by the EPA and DOE for promoting energy savings through increased energy efficiency in electrical equipment. Products that meet a certain level of energy efficiency are qualified to earn ENERGY STAR certification.

\*14 Sharp's four-color concept was designed for use with LCDs; it differs from the conventional three-primary-color concept of light and color.

### ■ SGP and AGP-Certified Models for Fiscal 2012

|     |               | Product                     | Model                                                                                                                               |
|-----|---------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| SGP | Japan         | LCD TV                      | LC-80XL9, LC-70XL9, LC-60XL9, LC-52XL9, LC-46XL9, LC-80GL7, LC-70GL7, LC-60G7, LC-52G7, LC-46G7, LC-70Q7, LC-52W9, LC-60W7, LC-40H7 |
|     |               | Refrigerator                | SJ-GF60X, SJ-XW47X, SJ-XW44X, SJ-PW38X, FJ-HS9X                                                                                     |
|     |               | Washing machine             | ES-Z100, ES-GE60N, ES-TX920, ES-TX820, ES-TX72, ES-GV90M, ES-GV80M, ES-GE70N, ES-GE55N                                              |
|     |               | Air purifier                | KI-BX85, KI-BX70, KI-BX50, KC-B70, KC-B50, KC-B40, FU-B51                                                                           |
|     |               | Plasmacluster Ion generator | IG-EK100, IG-EX20, EG-EC15, DI-BD1SW, PF-ETC1                                                                                       |
|     |               | Beauty appliance            | IB-BS12, IB-HU32, IB-CH12                                                                                                           |
|     |               | Electric fan                | PJ-B2CS                                                                                                                             |
|     |               | Vacuum cleaner              | EC-WX310, EC-VX310, EC-PX210, EC-QX310                                                                                              |
|     |               | Juicer                      | EJ-CP10A                                                                                                                            |
|     |               | Mobile phone                | 106SH, 107SH, 107SHB, DM013SH, 200SH, DM014SH, 203SH, SH-07D, SH-09D, SH-10D, SH-02E, SH-03E, SH-04E, SHL21, IS15SH                 |
|     |               | Facsimile                   | UX-810CL, UX-810CW, UX-81E9CL, UX-81E9CW, UX-310CL, UX-310CW                                                                        |
|     |               | Electronic dictionary       | PW-GX500, PW-GX300                                                                                                                  |
|     |               | Electronic cash register    | XE-A107, XE-A147                                                                                                                    |
|     |               | Tablet                      | RW-T110, RW-N110                                                                                                                    |
|     |               | LCD monitor                 | PN-E802, LB-T401, LB-T461, LB-T601, PN-R603, PN-R703, PN-R903, LL-S201A                                                             |
|     |               | Solar module                | NQ-195AA, NQ-138AA, ND-240CA, NU-167BA, NU062LA, NU062RA, NU119CA, ND-193CA, NU-172BB, NU081LB, NU081RB, NU122CB, NU-250KA          |
|     |               | Product                     | Model                                                                                                                               |
| SGP | Europe        | LCD TV                      | LC-70LE835E, LC-70LE835RU, LC-70LE836E, LC-70LE836S, LC-70LE838E, LC-80LE645E, LC-80LE645RU, LC-80LE646E, LC-80LE646S, LC-80LE648E  |
|     | North America | LCD TV                      | LC-60LE745U, LC-60LE845U, LC-60LE847U, LC-60C7450U, LC-60C8470U, LC-70LE745U, LC-70LE845U, LC-70LE847U, LC-70C7450U, LC-70C8470U    |
| AGP | Europe        | MFP                         | MX-2314N, MX-6240N, MX-7040N, MX-M904, MX-M1054, MX-M1204                                                                           |
|     |               | Solar module                | NA-E135G5, NS-F135G5, ND-240R1J, ND-245R1J                                                                                          |
|     | North America | MFP                         | MX-2640N, MX-3140N, MX-3640N, MX-2615N, MX-3115N, MX-6240N, MX-7040N, MX-M904, MX-M1054, MX-M1204                                   |
|     | Australia     | LCD TV                      | LC-46LE840X, LC-60LE940X                                                                                                            |

### ■ Number of Environmental Label Products in Fiscal 2012

| International ENERGY STAR® Program <sup>*15</sup> | LCD TV  |                 | Audio                         |                 | MFP             |  |
|---------------------------------------------------|---------|-----------------|-------------------------------|-----------------|-----------------|--|
|                                                   | 29      |                 | 4                             |                 | 67              |  |
|                                                   | Printer | LCD monitor     | Facsimile                     | Air conditioner |                 |  |
|                                                   | 1       | 12              | 8                             | 4               |                 |  |
| Eco Mark <sup>*16</sup>                           | MFP     | Calculator      | Nordic Swan <sup>*17</sup>    | MFP             |                 |  |
|                                                   | 6       | 17              |                               | 4               |                 |  |
| Blue Angel <sup>*18</sup>                         | MFP     |                 | Hong Kong Energy-Saving Label | MFP             |                 |  |
|                                                   | 3       |                 |                               | 9               |                 |  |
| Thai Green Label                                  | MFP     | Air conditioner | China Environmental Labeling  | MFP             |                 |  |
|                                                   | 5       | 20              |                               | 14              |                 |  |
| Taiwan Green Mark                                 | MFP     |                 | Taiwan Energy-Saving Label    | MFP             | Air conditioner |  |
|                                                   | 7       |                 |                               | 10              | 16              |  |
| Energy Conservation Certification <sup>*19</sup>  | LCD TV  |                 | Projector                     |                 |                 |  |
|                                                   | 7       |                 | 26                            |                 |                 |  |
|                                                   | MFP     |                 | LCD monitor                   |                 |                 |  |
|                                                   | 15      |                 | 5                             |                 |                 |  |

Target countries: \*15 Japan, United States, EU nations, etc. \*16 Japan \*17 Norway, Denmark, Finland, Iceland, Sweden \*18 Germany \*19 China

## Managing Chemical Substances in Products / Green Procurement

### Managing Chemical Substances in Products

Appliances such as refrigerators and TVs are composed of hundreds or thousands of parts, each of which contains a variety of chemicals. In fiscal 1994, Sharp introduced the Chemical-Product Assessment (C-PA) system to evaluate the safety of the chemical substances contained in parts and materials at the development and design stages. In this way, Sharp has been working to ensure the safety of products during use and to reduce the environmental impact at the time of disposal.

Since fiscal 2003, Sharp has been surveying chemical substance content, as stipulated by the Japan Green Procurement Survey Standardization Initiative (JGPSSI)\*1, and has been implementing measures to eliminate RoHS\*2-designated substances. Sharp was in complete compliance with the RoHS Directive for all products for the European market by the end of fiscal 2005. In addition, Sharp constructed a system to comply with registration obligations under the REACH\*3 regulations in fiscal 2008 and completed pre-registration by the end of November 2008. In fiscal 2010, Sharp built a system to comply with notification obligations under the REACH regulations, and it completely fulfilled its notification obligations by June 1, 2011. Because new Substances of Very High Concern (SVHCs) are added to the REACH regulations each year, companies are required to continue conducting surveys on chemical substances contained in procured parts and materials. In fiscal 2012, Sharp collaborated with its suppliers to fulfill notification obligations under the REACH regulations and will continue to do so.

\*1 A council, comprising mainly electronics manufacturers including Sharp Corporation, that aimed to standardize research on chemical substances in parts and materials (dissolved into another organization as of May 31, 2012).

\*2 An EU directive on the "Restriction on the use of certain Hazardous Substances." RoHS restricts the use of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyl (PBB), and polybrominated diphenyl ether (PBDE) in electrical and electronic equipment entering the EU market after July 1, 2006.

\*3 REACH (Registration, Evaluation, Authorisation, and Restriction of Chemicals) is a set of EU regulations covering chemicals produced in and imported into the EU.

### Green Procurement

In fiscal 2000, Sharp established the Green Procurement Guidelines to procure goods with low environmental impact with the cooperation of suppliers, and it has been working to increase environmental consciousness at the level of parts and materials. In fiscal 2011, Sharp revised its Green Procurement Guidelines to incorporate the evaluation of the biodiversity protection efforts of its suppliers.

In fiscal 2010, Sharp began implementing the Global Green Supply Chain (GGSC), a scheme to better oversee the entire supply chain by securing accurate and timely information from suppliers about chemicals and other items. In fiscal 2012, Sharp focused on its Chinese suppliers in regard to the GGSC. Joint training on the GGSC was held a total of 13 times, and individual training was held for each supplier. These efforts have helped Sharp's suppliers to gain a deeper understanding of chemical substance regulations and ensure that the GGSC takes root.



A GGSC training session for suppliers in China

## ■ Expanding the Recycling of Used Products

Sharp recycles products that have reached the end of their service life based on three policies: 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.

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

As a member of the B Group<sup>\*1</sup> for home appliance recycling, Sharp has constructed and is operating a highly efficient recycling system consisting of 18 recycling plants in Japan.

In fiscal 2012, Sharp collected about 1.4 million units of the four types of appliances covered by the Home Appliance Recycling Law—61% of the roughly 2.25 million units collected during the previous fiscal year. This significant decrease reflects the impact of reduced replacement demand due to the end of the Eco-Point system<sup>\*2</sup> on March 31, 2011 and the cessation of analog TV broadcasting in July 2011. In particular, the number of CRT TVs collected was roughly 27% of the amount collected the previous fiscal year. Nevertheless, the recycling rates exceeded the legal standard for all four kinds of appliances.

<sup>\*1</sup>The B Group consists of Sharp Corporation, Sony Corporation, Hitachi Appliances, Inc., Fujitsu General Ltd., Mitsubishi Electric Corporation, and other companies.

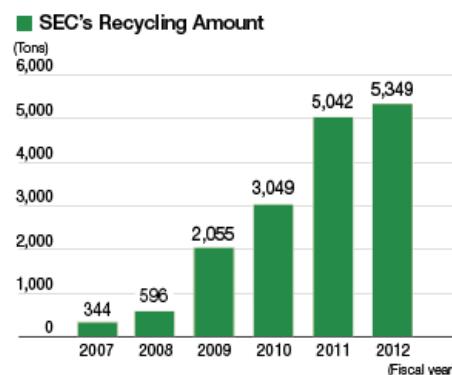
<sup>\*2</sup>Designed to stimulate consumption and promote the use of environmentally friendly products, this Japanese government program allowed buyers of certain types of energy-efficient air conditioners, refrigerators, and TVs to earn "eco points" that could be exchanged at a later time for other goods.

### ■ Sharp Corporation's Processing and Recycling Status for Four Home Appliances in Japan (Fiscal 2012)

|                                                  | Unit           | Air conditioners | CRT TVs | Flat-panel TVs | Refrigerators /freezers | Washing machines /dryers | Total  |
|--------------------------------------------------|----------------|------------------|---------|----------------|-------------------------|--------------------------|--------|
| Units collected from designated collection sites | Thousand units | 197              | 305     | 171            | 374                     | 346                      | 1,393  |
| Processed and recycled units                     | Thousand units | 198              | 328     | 171            | 374                     | 351                      | 1,422  |
| Processed and recycled weight                    | Tons           | 8,150            | 8,601   | 3,269          | 23,702                  | 12,290                   | 56,012 |
| Recycled weight                                  | Tons           | 7,655            | 7,050   | 2,928          | 19,300                  | 11,441                   | 48,374 |
| Recycling rate                                   | %              | 93               | 81      | 89             | 81                      | 93                       | —      |
| Legally required recycling rate                  | %              | 70               | 55      | 50             | 60                      | 65                       | —      |

### Recycling TVs and Other Consumer Electronics in the US

In September 2007, SEC—Sharp's manufacturing and sales subsidiary in New Jersey—established the Electronic Manufacturers Recycling Management Company, LLC (MRM) in cooperation with Panasonic Corporation of North America and Toshiba America Consumer Products, LLC. Tasked with recycling audio-visual products, especially TVs, the MRM program has since expanded nationwide to offer recycling opportunities at approximately 1,800 collection points. MRM holds special events and carries out voluntary activities to promote the recycling of used consumer electronics and complies fully with the laws and regulations of each state. In fiscal 2012, approximately 5,349 tons of used consumer electronics were recycled.



### Reusing and Recycling Copiers in Japan

Sharp is reusing and recycling copiers and MFPs collected both through Sharp distribution channels and through common industry channels. In fiscal 2012, approximately 30,000 used copiers and MFPs were collected for either reuse or recycling. The company is also collecting used toner cartridges and remanufacturing them to the same quality standard of new products, thus assuring that customers will always get the same high quality. Sharp designs its toner cartridges for easy reuse and recycling; this ensures durability and reduces the amount of time needed to reprocess used cartridges.

Sharp will continuously work to increase the number of copier/MFP models and toner cartridge types it recycles, with the goal of expanding reuse and recycling.

## Promoting Solar Power Business

Ever since it started development of solar cells in 1959, Sharp has created and promoted the use of a range of solar power generation systems. As of fiscal 2012, Sharp's total solar cell production volume had reached 6.6 GW. In its efforts to spread the use of solar as a renewable energy source that can contribute to reducing global warming, Sharp is a total solutions provider, involved in every part of the value chain including cell and module development and manufacture, system design, construction of solar power plants, repair and maintenance, and management as an independent power producer.

### Spreading the Use of Solar Power Generation Systems in Japan

In July 2012, the Feed-In Tariff Scheme for Renewable Energy (system for purchase of excess electricity) got underway in Japan. Besides spurring the spread of residential solar power use, this scheme has created new possibilities for the business of solar power generation.

As of April 2012, one million households in Japan had solar power generation systems, and the favorable conditions created by the Feed-In Tariff Scheme helped raise this number to 1.26 million as of March 31, 2013. Of these, 550,000 (about 44%) are Sharp systems. Sharp is also taking orders for the construction of solar power generation plants in Japan; during fiscal 2012, operation began at several such plants, including one in Shinto Village, Gunma Prefecture.

Together with Fuyo General Lease Co., Ltd., Sharp established the company Crystal Clear Solar, which in March 2012 opened three solar power generation plants: the Tanagawa Power Plant (Osaka Prefecture), Yaita Power Plant (Tochigi Prefecture), and Higaimoto Power Plant (Nara Prefecture). The joint venture company had Sharp conduct every aspect of these power plants: planning, construction, repair and maintenance, and power plant operation. The three plants are expected to provide approximately 7.3 MWh a year.



Sharp solar power systems are installed on all 61 homes in this residential district in Chiba Prefecture (completed in 2011)



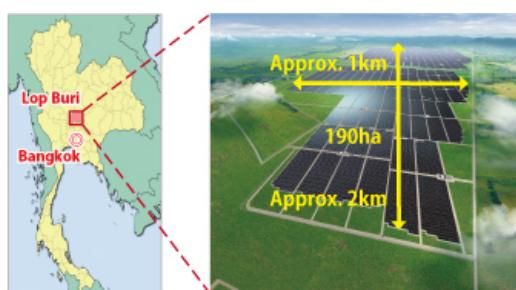
Sharp Tanagawa Power Plant

### Promoting Solar Power Business around the World

Sharp is building a worldwide comprehensive solar power solutions business by using its comprehensive strengths that cover mega-solar power plant proposals, management as an independent power producer, EPC (engineering, procurement, and construction) involving everything from system design to procurement and construction, and repair and maintenance.

Sharp received an order for a mega-solar power plant from NED, an independent power producer in Thailand. Working with local construction partners, Sharp completed a 73.2 MW plant in March 2012 and an adjacent 10.3 MW plant in May 2013. The combined capacity of 84 MW makes it one of the largest solar power plants in Thailand.

Built on a site the size of roughly 300 soccer fields (approximately 2.16 km<sup>2</sup>), the power plant has about 640,000 thin-film silicon solar modules. Stable operation of the plant is assisted by a Sharp subsidiary that carries out maintenance and cleaning.



Mega-solar power plant in Lop Buri Province, Thailand  
(capacity: 73.2 MW)



Employees of SSMA<sup>\*1</sup> clean the solar modules

<sup>\*1</sup> Sharp Solar Maintenance Asia Co., Ltd.: A Sharp subsidiary established in 2011 to carry out repair and maintenance of mega solar power plants in Asia.

**Close-Up****Helping Developing Countries Reduce Global Warming through Sharp's Solar Power Business****Mega Solar Feasibility Study (Indonesia)**

Indonesia's economy is undergoing steady growth, but the country depends on plants powered by coal, thermal power, and natural gas for 80% of its energy supply. To combat global warming and to wean the country off its dependence on petroleum, the Indonesian government has announced a goal of reducing greenhouse gases by 26% compared to BAU<sup>\*2</sup> by 2020, and obtaining 25% of its energy mix from renewable energy by 2025.

Sharp was asked to do a survey related to the Joint Crediting Mechanism<sup>\*3</sup> between the Japanese and Indonesian governments, and the company conducted a feasibility study in Indonesia on building a mega solar power plant using thin-film solar cells. In the study, Sharp selected prospective construction sites, confirmed things like insulation and system configurations, developed a monitoring method for power generated, and estimated how much of a reduction in greenhouse gases a mega solar plant would lead to. In January 2013, Sharp invited representatives of Indonesia's Ministry of Energy and Mineral Resources and engineers from PLN (Indonesia's state electricity company) to Japan to tour solar power facilities and learn more about solar power. At a workshop in Jakarta in February attended by government officials from both countries and representatives from Indonesian companies, Sharp gave a presentation on solar energy and the benefits to be derived from the Joint Crediting Mechanism.

**\*2** BAU: Business As Usual. The amount of emissions that would be generated if emission reduction efforts were not carried out.

**\*3** By providing developing countries with energy-saving technologies, a country can obtain carbon credits equal to the amount of reductions realized by the use of the technologies.



Sharp executives meet with members of Indonesia's Ministry of Energy and Mineral Resources



A tour of Kita-kyushu Smart City in Fukuoka Prefecture, Japan



Training at the mega solar plant in Tochigi Prefecture, Japan

**Words from a Solar System Employee**

Indonesia is composed of about 17,500 islands stretching approximately 4,000 kilometers from east to west. With many areas of the country still without electricity, solar power is a promising source of energy for the country. There are also isolated islands that rely on expensive diesel fuel to provide power.

I believe that Sharp can use its know-how and years of technological expertise to make a meaningful contribution to Indonesian society.



Shoko Fukahori  
Global Solar Business  
Development Department  
Solar Systems Division  
Sharp Corporation

**Project to Spread Use of Water Purification Devices Powered Mainly by Solar Energy (Kenya)**

People in many parts of Kenya get their water from wells. But there are serious water problems such as wells failing to provide safe water or any water at all. Changing climate has resulted in droughts caused by less rain, and some wells have been polluted by fluorine and other substances. And there is still very little electricity outside the cities, with few people being able to enjoy the benefits that electricity can bring.

Sharp received a request from the Japanese government to conduct a feasibility study on providing systems that would use electrolysis to remove pollutants from water and would be powered by solar energy. The study included water usage surveys and water quality tests at seven locations in Kenya, allowing Sharp to confirm the potential applications for such systems, including purification of polluted wells and wastewater from hotels and factories and farmland soil improvement. In February 2013, Sharp presented the findings of this study at a workshop in Nairobi.



Survey of a public water supply station in Kitsui



Visit to the water board in Nakuru



Workshop in Nairobi



### Words from a Solar System Employee

Since this solar-powered water purification system can operate in places with no electricity, it has given the people of Kenya high hopes. By helping spread the use of water supply systems that run on stable solar power, we can make almost limitless contributions to parts of the world with no electricity. The many people around the world who cannot enjoy the benefits of electricity are waiting in earnest for Sharp technologies.



**Chinatsu Fukushi**  
Global Solar Business Development  
Solar Systems Division  
Sharp Corporation

## Promoting an Environmental Management System

Sharp has been operating an environmental management system (based on ISO 14001) at its plants and offices since 1995 in order to strengthen environmental sustainability management and improve the environmental awareness of employees. The company is reviewing and restructuring the underlying framework of this system—including its rules and operational structure—in order to match it to the particular needs of each plant and office and thus improve its efficacy.

### Initiatives at Plants

Sharp has introduced an environmental management system at all its factories and conducts regular audits and training to maintain the system, all in an effort to strengthen environmental sustainability management.

The company also conducts its own environmental safety operations audits, which focus on environmental aspects such as pollution prevention, waste reduction, and global warming prevention, as well as operational safety. Persons in charge of environmental matters conduct audits of other plants, and in turn have their own plants audited. Through these cross-audits, they share information and exchange ideas on how they can solve problems at their own and other plants. These audits also improve their job skills.

In fiscal 2012, these audits were held a total of 13 times in Japan. Overseas, Sharp's Chinese headquarters held audits for factories in China, where Sharp's main factories are located. Sharp plans to expand these audits to more overseas plants.



An audit at SSEC in Shanghai

### Initiatives at Offices

The offices of Sharp sales subsidiaries and service companies have jointly established an environmental management system through which employees, no matter what their company or department, work together to save energy and reduce waste generated.

In fiscal 2012, Sharp revamped the system for collecting and compiling historical data for items such as energy consumption and waste from all bases. Persons in charge at each base took training on this upgraded system. By ensuring the smooth and steady implementation of this system, Sharp can more quickly grasp results and share this information among bases. This will help the company achieve further efficiency in environmental sustainability management.

### Stepping up Environmental Education

Sharp conducts company-wide environmental education in order to foster leaders who can guide others in operating the company's environmental management system. Education programs include internal auditor training for environmental promotion leaders and persons in charge of environmental affairs in each department. Sharp also has a finely tuned education program at every plant and office, and each program includes specialized training for persons in charge of environmental matters and basic environmental training for other employees.

#### Case Studies

##### Dispatch Environmental Education (Mie Plant, Japan)

The Mie Plant (Mie Prefecture) sends persons in charge of environmental affairs to various workplaces throughout the plant to give environmental lectures. In fiscal 2012, a total of 62 lectures were given on topics such as global warming, biodiversity, and past local pollution problems.



A dispatch lecture inside the plant

##### Specialized Environmental Education (SSI, Indonesia)

SSI, Sharp's manufacturing subsidiary in Karawang, Indonesia, is helping its employees broaden their knowledge of environmental issues and boost their skills on environmental protection. In fiscal 2012, SSI held training on waste management and chemical substances a total of eight times each (for a total of 91 persons and 97 persons, respectively). The participants, who work on the frontline of production, were able to deepen their knowledge of how to properly handle waste from production processes and properly manage chemicals.



SSI employees get specialized training

### Environment-Related Accidents or Violations of Laws

In fiscal 2012, the Sharp Group was subject to no environment-related lawsuits or fines. There were also no serious environment-related accidents.

## Raising the Level of Environmental Performance in Factories

Sharp is working to raise the level of environmental performance at its factories through the use of its own assessment and certification system. Although all of its factories around the world have already achieved Green Factory status, Sharp is implementing further environmental performance-boosting initiatives to elevate all of its plants to the level of Super Green Factory.

### Making More Factories Super Green Factories

Factories that meet Sharp's minimum level of environmental performance are classified as "Green Factories" (GF). Sharp's GF Guidelines are based on 10 concepts. The GF Guidelines were introduced at factories in Japan in fiscal 1999 and at factories overseas in fiscal 2001.

With construction in fiscal 2003 of the Kameyama Plant (Mie Prefecture, Japan), Sharp established its own criteria for assessing the environmental friendliness of factories and launched an internal certification system for designating a plant as a GF or an SGF (Super Green Factory). As a result of Sharp factories worldwide strengthening their environmental initiatives, in fiscal 2007 all Sharp plants worldwide achieved GF status and all Sharp Corporation plants SGF.

#### Green Factory Concepts

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

### SGF II—An Initiative to Further Enhance the Environmental Performance of SGF

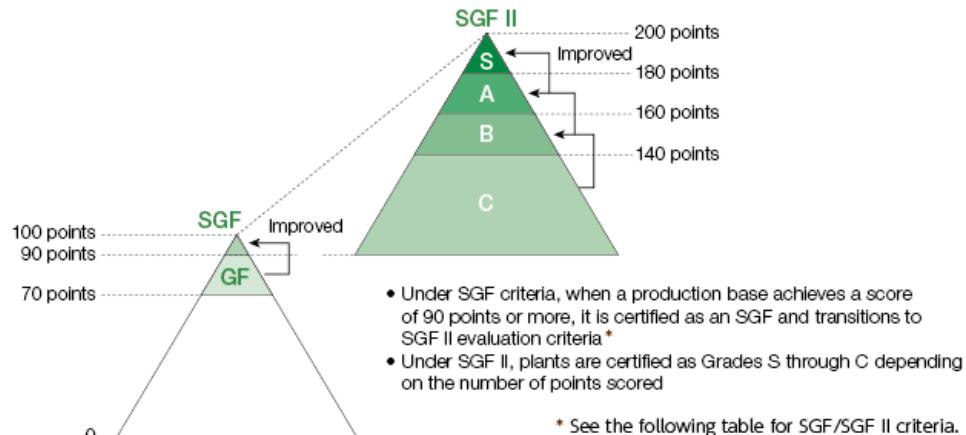
In an effort to achieve an even higher level of environmental friendliness at its factories, beginning in fiscal 2008 Sharp launched SGF II, a new initiative for plants that have attained SGF certification. In addition to prior initiatives that focused on upgrading "hard" aspects, such as introducing high-efficiency equipment and abatement systems, SGF II incorporates "soft" aspects in evaluation points, such as the know-how to maintain and manage environmental equipment to ensure operation at full performance. SGF II has evolved into a mechanism for assessing overall performance on criteria such as emission reductions. Also included in the new evaluation system are assessments of risk preparedness, including operational safety and emergency response measures.

In fiscal 2012, Sharp worked to achieve SGF II Grade S or higher at 11 Sharp Corporation plants. Only 10 of those plants were able to achieve this grade, however, due to a downturn in production efficiency resulting from a decrease in production levels. Sharp had also set a goal of achieving SGF II Grade B or higher at four Sharp Group plants in Japan, but only three of those plants were able to achieve this.

Overseas, all plants achieved Grade A or higher thanks to factors including an improvement in production efficiency. All 15 plants met their objective of achieving SGF II Grade B or higher.

Sharp will continue to improve and maintain these high levels of environmental performance at all its factories.

#### SGF/SGF II System



■ SGF/SGF II Quantified Environmental Performance Criteria

| Environmental performance criteria |                                                                   |                                               |                                                                                                                                                                                                                                                                    | Assessment weighting | Sub total  | Total      |
|------------------------------------|-------------------------------------------------------------------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------|------------|
| SGF II                             | Reduction of environmental impacts and contribution to management | Greenhouse gases                              | • Reductions in CO <sub>2</sub> emissions<br>• Reductions in energy costs                                                                                                                                                                                          | 65 points            | 100 points | 200 points |
|                                    |                                                                   | Waste                                         | • Reductions in waste discharges<br>• Reductions in waste disposal costs                                                                                                                                                                                           |                      |            |            |
|                                    | Safety measures                                                   | Operational safety and emergency preparedness | • Operational safety and emergency preparedness measures                                                                                                                                                                                                           | 25 points            |            |            |
|                                    | Information disclosure and community-based interactions           |                                               | • Measures implemented related to information disclosure, community interaction, and community service activities                                                                                                                                                  | 10 points            |            |            |
| SGF                                | Reductions in greenhouse gas emissions per production unit        |                                               | • Reductions in PFCs gases<br>• Promotion of variable control systems<br>• Recovery and recycling of waste heat<br>• Introduction of high-efficiency equipment<br>• Introduction of new energy sources<br>• Implementation of managerial decision-making standards | 25 points            | 100 points | 200 points |
|                                    | Reductions in the release of chemical substances                  |                                               | • PRTR atmospheric emissions<br>• PRTR water emissions<br>• Sulfoxides produced by combustion<br>• Elimination of all noxious odors                                                                                                                                | 27 points            |            |            |
|                                    | Appropriate disposal of industrial waste                          |                                               | • Zero discharge to landfill<br>• Confirmation of appropriate disposal<br>• Recycling waste as valuable resources                                                                                                                                                  | 18 points            |            |            |
|                                    | Reductions in the consumption of industrial water                 |                                               | • Use of rain and condensate water<br>• Recovery of production rinse water                                                                                                                                                                                         | 10 points            |            |            |
|                                    | Monitoring and safety                                             |                                               | • Disaster and fire prevention measures for hazardous materials<br>• Special safety measures<br>• Adoption of central monitoring measures                                                                                                                          | 20 points            |            |            |

## Curbing Greenhouse Gas Emissions

Sharp is taking active measures to curb greenhouse gas emissions resulting from its business activities. Sharp is reducing CO<sub>2</sub> emissions through the introduction of cogeneration systems and energy-efficient equipment, the installation of solar power generation systems, and the meticulous implementation of energy-saving activities at plants and offices. At the same time, Sharp is also reducing emissions of greenhouse gases such as PFCs<sup>\*1</sup> by installing abatement systems and adopting replacement gases with lower global warming potential.

\*1 HFCs, PFCs, sulfur hexafluoride, nitrogen trifluoride, HCFCs

### Sharp Group Activities to Control Greenhouse Gas Emissions

Total greenhouse gas emissions for the Sharp Group in fiscal 2012 were as follows: CO<sub>2</sub> emissions increased at offices and plants in Japan due to a worsening CO<sub>2</sub> emission coefficient for electricity, while greenhouse gas emissions decreased by 6.2% compared to the previous fiscal year, with decreases being seen in offices and plants overseas and in PFCs (Graph 1).

For the 10 factories of Sharp Corporation<sup>\*2</sup>, Sharp had set a goal of reducing production-based CO<sub>2</sub> emissions to below fiscal 2007 levels and to a level 3% lower than BAU<sup>\*3</sup>. Sharp was able to meet these goals: CO<sub>2</sub> emissions were 29% lower than fiscal 2007 levels (Graph 2) and 4.5% lower than BAU emissions (Graph 3). While these results are due in part to decreased production, they also represent stronger green initiatives on the part of Sharp in its utility, production, and other systems. Additionally, for all 11 Sharp Corporation plants, Sharp had set a goal of reducing its five-year average (from fiscal 2008 to 2012) for production-based CO<sub>2</sub> emissions per adjusted production unit<sup>\*4</sup> by 35% from fiscal 1990 levels and strived to improve production efficiency. As a result, Sharp was able to decrease emissions by 37.9% (average for the five years) (Table 4).

At the same time, CO<sub>2</sub> emissions at production facilities abroad decreased by 5.4% compared to the previous fiscal year, while CO<sub>2</sub> emissions per production unit<sup>\*5</sup> increased by 4.7% compared to the previous fiscal year (Table 5). This increase in CO<sub>2</sub> emissions per production unit is the result of a downturn in production due to drops in product prices and a worsening market situation.

In addition to deploying energy-saving measures, Sharp will continue its efforts to curb greenhouse gas emissions by ensuring the optimal treatment of all PFCs. Sharp will also take steps to reduce greenhouse gas emissions overseas by deploying know-how developed in Japan to overseas production facilities.

\*2 Since the Sakai Plant was not online in fiscal 2007, it was not included among [the 10 plants](#) cited in comparisons with fiscal 2007 figures.

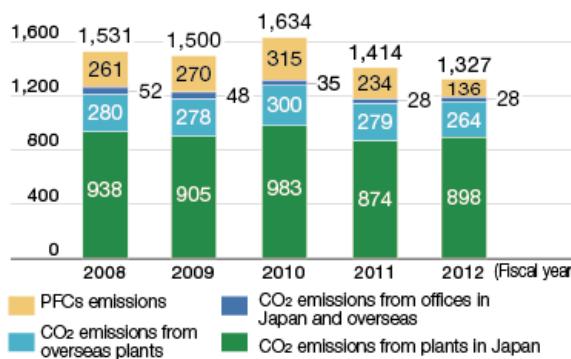
\*3 BAU: Business as usual. The amount of emissions that would be generated if emission reduction efforts were not carried out.

\*4 Per adjusted production unit (tons CO<sub>2</sub> /100 million yen) = CO<sub>2</sub> emissions (tons CO<sub>2</sub>) ÷ [production output (100 million yen) ÷ Japanese corporate goods price index 0.385 determined by the Bank of Japan]

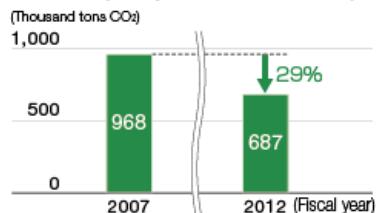
\*5 Per production unit (tons CO<sub>2</sub> /100 million yen) = CO<sub>2</sub> emissions (tons CO<sub>2</sub>) + production output (100 million yen)

#### 1 Amount of Sharp Group's Greenhouse Gas Emissions

(Thousand tons CO<sub>2</sub>)  
2,000



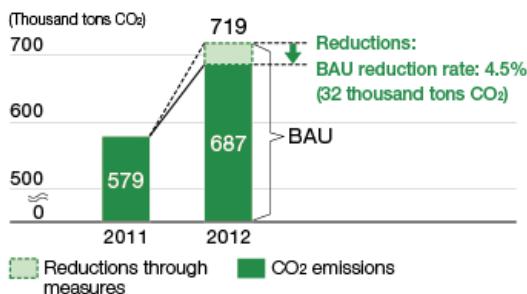
#### 2 Amount of Production-Based CO<sub>2</sub> Emissions for the 10 Sharp Corporation Plants (Compared to Fiscal 2007)



CO<sub>2</sub> emissions for the Sharp Group as a whole, not taking into account inputs from purchases of Green Power Certificates (renewable energy certificates), were 1,329 thousand tons CO<sub>2</sub>; for overseas plants, 265 thousand tons CO<sub>2</sub>; and for offices in Japan and overseas, 31 thousand tons CO<sub>2</sub>.

Electricity coefficients: See [Calculation Standards for Environmental Performance Indicators](#)

**3 Reduction Rate of CO<sub>2</sub> Emissions from BAU for the 10 Sharp Corporation Plants**



**4 Production-Based CO<sub>2</sub> Emissions per Adjusted Production Unit for All 11 Sharp Corporation Plants**  
(tons CO<sub>2</sub>/100 million yen)

| Fiscal 1990                                  | Average for fiscal 2008 to 2012              |
|----------------------------------------------|----------------------------------------------|
| 32.2                                         | 20.0 (down 37.9% from fiscal 1990 levels)    |
| <b>(tons CO<sub>2</sub>/100 million yen)</b> |                                              |
| Fiscal 2011                                  | Fiscal 2012                                  |
| 27.8                                         | 29.1 (up 4.7% over the previous fiscal year) |

Reduction rate from BAU (%) = Reductions ÷ BAU × 100

### Promoting Private Power Generation

Sharp is working to provide a stable supply of electric power and reduce CO<sub>2</sub> emissions by generating its own electricity privately through solar power and cogeneration systems (Table 6).

| 6                                                   | Fiscal 2008 | Fiscal 2009 | Fiscal 2010 | Fiscal 2011 | Fiscal 2012 |
|-----------------------------------------------------|-------------|-------------|-------------|-------------|-------------|
| Self-generated electricity output (millions of kWh) | 261         | 285         | 220         | 227         | 264         |

#### Case Study

##### Efficiently Operating Clean Room Air-Conditioning Equipment in Line with Weather Conditions (Sharp Yonago, Japan)

Sharp Yonago Corporation (Tottori Prefecture, Japan) uses a total of five large and small air-conditioning units to keep the temperature and humidity at a constant level in clean rooms used during LCD panel production.

Previously, the number of air-conditioning units in operation on any given day was decided by the person in charge based on his or her past experiences and the day's weather. In order to run the air-conditioning system in a more efficient manner, Sharp Yonago analyzed past weather conditions and the corresponding number of units operated to create a database, in which an index expressed the burden placed on each air-conditioning unit as applied through temperature and humidity adjustments. This database became a tool for determining the optimal operating conditions for the air-conditioning units. Using this tool and the day's weather forecast, Sharp Yonago is able to quickly and logically determine how many of its air-conditioning units to operate. This has resulted in a reduction of roughly 280 tons of CO<sub>2</sub> emissions per year and has allowed the company to curb its power consumption during peak hours.

Sharp Yonago also reviewed the way it uses equipment that consumes a measurable amount of power. Through such methods as lowering the pressure settings of compressors used in the factory to an optimal level, the company succeeded in reducing its CO<sub>2</sub> emissions by approximately 554 tons per year.



Air-conditioning unit



Checking the operational status of air-conditioning units

**Case Study****Switching Factory Lights to LEDs (SSEC, China)**

The Sharp Group is expanding the use of LED lighting in its factories and offices on a worldwide basis. SSEC, a manufacturing subsidiary in Shanghai, China, switched its approximately 1,200 fluorescent office lights to LEDs in fiscal 2011. As a follow-up, SSEC switched 7,500 lights in its production lines and about 70 streetlights on its premises to LEDs in fiscal 2012.

This has resulted in SSEC reducing its CO<sub>2</sub> emissions by at least 100 tons per year and has earned the company recognition by the Shanghai municipal government as an outstanding organization in terms of energy-saving efforts. In fiscal 2013, SSEC is focusing on switching its factory ceiling lights to LEDs.



LED lighting installed above production lines



Certificate declaring SSEC an outstanding energy-saving organization

## Minimizing and Recycling Waste

Sharp has been working to bring down the total amount of waste discharged and to recycle as much waste as possible. Sharp plants in Japan have continuously achieved zero discharge to landfill<sup>\*1</sup> since fiscal 2001. And the percentage of valuable resources recovered<sup>\*2</sup> has also been significantly increasing compared to the baseline fiscal 2007 levels. Sharp will continue its efforts to make the most effective use of resources at its worldwide production facilities.

<sup>\*1</sup> Sharp defines "zero discharge to landfill" as a final landfill disposal rate of less than 0.5%. Final landfill disposal rate (%) = Amount of landfill disposal ÷ amount of waste, etc. discharged (amount of waste discharged + amount of valuable resources recovered) × 100.

<sup>\*2</sup> Percentage of valuable resources recovered (%) = Amount of valuable resources recovered ÷ amount of waste, etc. discharged × 100

### Curbing the Amount of Waste, etc. Discharged by the Sharp Group

In fiscal 2012, the total amount of waste, etc. (waste and valuable resources recovered from waste)<sup>\*3</sup> discharged by the Sharp Group in Japan and overseas decreased by 26.8% compared to the previous fiscal year (Graph 1).

The 10 Sharp Corporation plants<sup>\*4</sup> in Japan had set a goal of reducing the amount of waste discharged to below fiscal 2007 levels, and they successfully reduced waste discharge by 76.5% compared to fiscal 2007 (Graph 2). These reductions were due in part to decreased production. And as a result of efforts to recycle solid and liquid waste and to recover valuable resources, in fiscal 2012 Sharp production plants in Japan achieved zero discharge to landfill (Graph 3) for the 12th consecutive year. In addition, waste discharges were reduced by 14.9% compared to baseline levels (BAU<sup>\*5</sup> emissions), which was significantly better than the goal of reducing discharges by 6% of baseline (BAU emissions) each year, taking fiscal 2007 as the peak year for such discharges (Graph 4).

At overseas production facilities, waste, etc. discharged was down 9.4% compared to the previous fiscal year. Sharp had a goal of reducing waste, etc. discharged per production unit<sup>\*6</sup> by 2% compared to the previous fiscal year, but this figure remained unchanged as a result of factors including decreased production (Table 5).

Sharp will continue to curb emissions and strive for the effective utilization of resources.

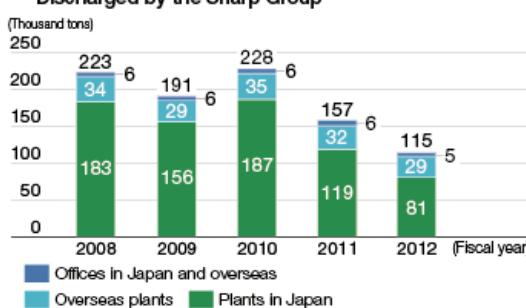
<sup>\*3</sup> Amount of waste, etc. discharged = Waste discharged + valuable resources recovered

<sup>\*4</sup> Since the Sakai Plant was not online in fiscal 2007, it was not included among the 10 plants cited in comparisons with fiscal 2007 figures.

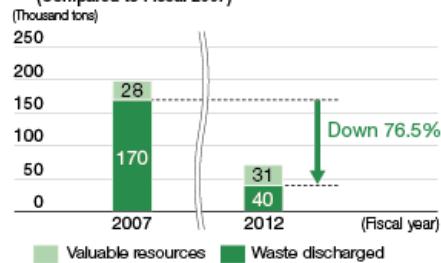
<sup>\*5</sup> BAU: Business as usual. The amount of emissions that would be generated if emission reduction efforts were not carried out.

<sup>\*6</sup> Per production unit (tons/100 million yen) = Amount of waste, etc. discharged (tons) ÷ production output (100 million yen)

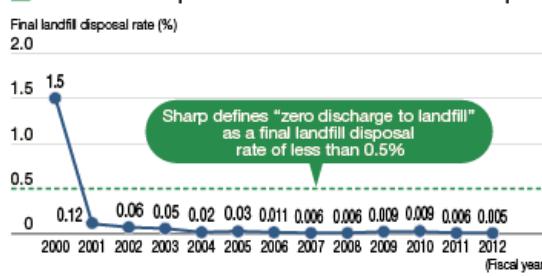
**1 Amount of Waste, etc. (Including Valuable Resources) Discharged by the Sharp Group**



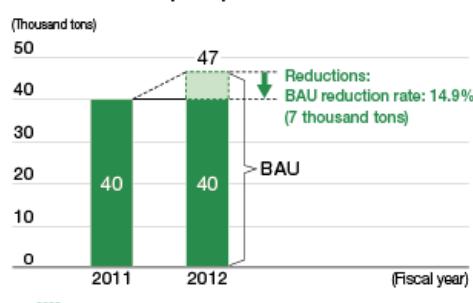
**2 Amount of Waste Discharged and Valuable Resources Recovered at the 10 Sharp Corporation Plants (Compared to Fiscal 2007)**



**3 Final Landfill Disposal Rate of Waste from Plants in Japan**



**4 Reduction Rate of Waste Discharge from BAU for the 10 Sharp Corporation Plants<sup>\*7</sup>**



**5 Waste, etc. Discharged per Production Unit at Overseas Plants**

| Fiscal 2011 | Fiscal 2012                                      |
|-------------|--------------------------------------------------|
| 3.2         | 3.2 (± 0 % compared to the previous fiscal year) |

<sup>\*7</sup> Reduction rate from BAU (%) = Reductions ÷ BAU × 100

### Appropriate Storage and Treatment of PCB Wastes in Japan

Each Sharp plant properly manages and stores waste PCB (polychlorinated biphenyls) and fulfills reporting requirements to the government. In addition, Sharp has registered with the appropriate disposal certification authority and is on track to finish treating PCB waste to make it harmless by the March 31, 2027 deadline set by the government. Sharp currently uses no PCBs, with the exception of a certain amount present in high-voltage transformers.

## Topics

### 3 Sharp Corporation Plants in Japan Receive Reduce, Reuse, Recycle Promotion Achievement Awards<sup>\*8</sup>

Three Sharp Corporation plants in Japan were each awarded a Reduce, Reuse, Recycle Promotion Association Chairman's Prize.

<sup>\*8</sup> An award system sponsored by the Reduce, Reuse, Recycle Promotion Association in Japan to recognize organizations whose ongoing efforts have brought outstanding results in the 3Rs.



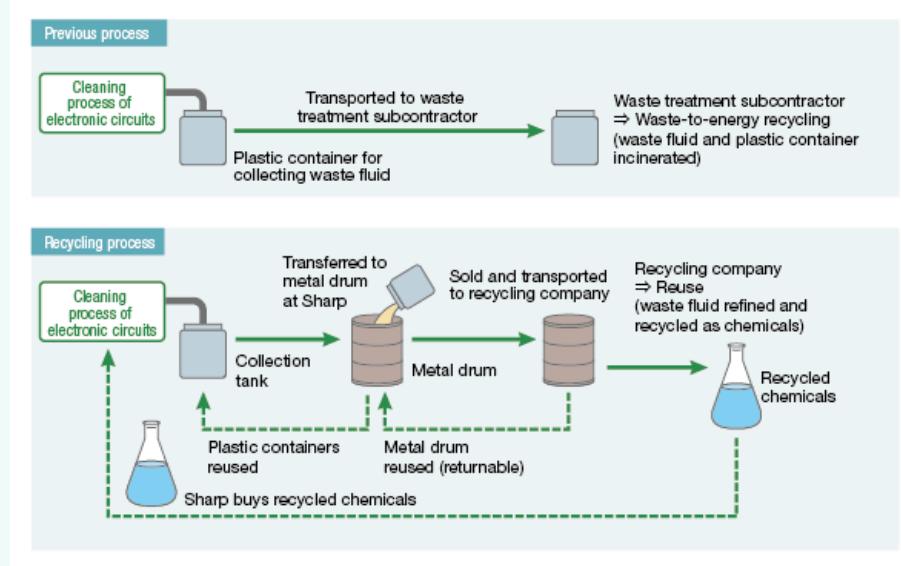
#### Award-Winning Sharp Initiatives

- |                                              |                                                                                                                 |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Fukuyama Plant (Hiroshima Prefecture, Japan) | : Rather than recycle, pursue high-quality reuse                                                                |
| Kameyama Plant (Mie Prefecture, Japan)       | : Reduce waste (sludge, condensed salts) in factory effluents; recover phosphoric acid from effluents for reuse |
| Mie Plant (Mie Prefecture, Japan):           | : Reduce the amount of waste generated through 3R initiatives                                                   |

#### Initiatives at the Fukuyama Plant

Previously at the Fukuyama Plant, the waste chemical fluid resulting from the cleaning process of electronic circuits was given to a waste treatment subcontractor to undergo waste-to-energy recycling. The plant now sells this waste fluid to a recycling company under a new recycling scheme. The recycling company refines and recycles the waste fluid into reusable chemicals. The Fukuyama Plant then purchases this recycled chemical fluid and uses it in the production process. As well, the waste fluid had previously been transported in plastic containers, which were disposed of along with the waste fluid. But the Fukuyama Plant now transports waste fluid in reusable metal drums.

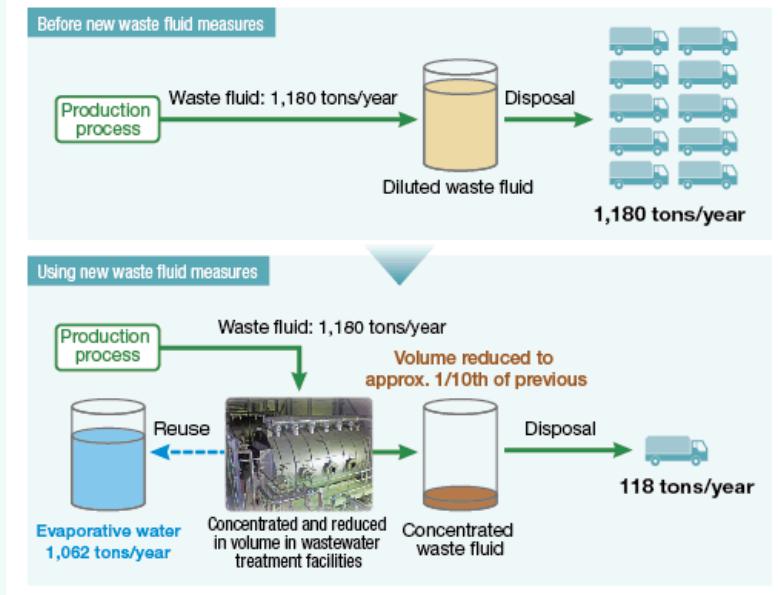
#### ■ Recycling Waste Fluid, Reusing Containers



#### Initiatives at the Kameyama Plant

Of the waste fluid discharged from production processes, the waste fluid that used to be disposed of as waste has been transferred to existing wastewater treatment facilities where it is concentrated and reduced in volume. This has reduced the amount of waste discharged to just one-tenth of previous. As a result, annual waste reductions are approximately 1,060 tons, while evaporative water is being recovered and reused in production processes.

### Concentrating Waste Fluid, Reducing Its Volume



### Initiatives at the Mie Plant

As a result of efforts such as reducing waste from production processes, recovering valuable resources, and changing the chemical solutions used, the Mie Plant reduced the amount of waste year-on-year by 6% for four consecutive years starting in fiscal 2008. As well, the plant is composting kitchen waste from the cafeteria, recycling used copier paper into toilet paper, and recovering bottle caps in efforts to reduce as much waste as possible from work-related sources. The Mie Plant is also asking employees to bring in things like appliances and bicycles they no longer use at home so that these can be given to local university students. The plant thus connects with the community in efforts to make effective use of resources.



Toilet paper made from recycled copier paper



Appliances no longer needed at employee homes are donated to local university students

### Case Study

#### Working with Suppliers in Using Returnable Containers (NSEC, China)

NSEC, a manufacturing subsidiary in Nanjing, China, used to have LCD TV parts, such as the back cabinet and stand, delivered from suppliers in cardboard boxes. But starting in the second half of fiscal 2012, it teamed up with four suppliers to introduce plastic returnable containers for the transport of these parts. This resulted in a reduction of over 53 tons of cardboard waste (equivalent to about 20,000 cardboard boxes) in just half a year.



Cardboard boxes were replaced by returnable plastic containers



## Effectively Using Water Resources

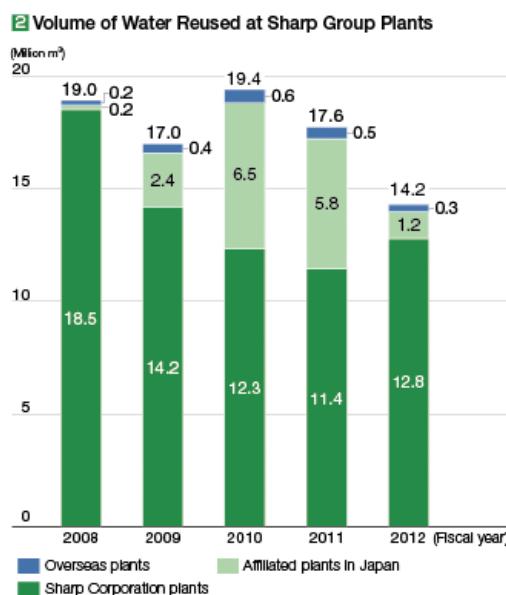
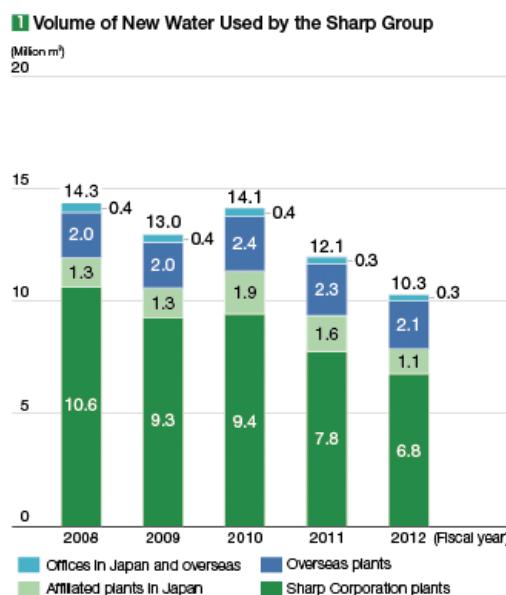
Sharp is striving to make effective use of water resources by reducing the amount of new water (i.e., water from the water supply system) it uses and by expanding the use of recycled water. In addition, it saves energy and conserves valuable water resources by reducing the volume of water used in production.

### Effectively Using Water Resources

Sharp is striving to make effective use of water resources by reducing the amount of new water (i.e., water from the water supply system) it uses and by expanding the use of recycled water. At the Kameyama Plant (Mie Prefecture, Japan) and the Mie Plant (Mie Prefecture, Japan), which both require a large amount of cleansing water in the production process for LCD panels, Sharp has adopted a closed-loop water recycling system that recovers and reuses all the water discharged from the production process. This is one of the ways that Sharp is making effective use of water resources and minimizing environmental impact.

The volume of new water used by the Sharp Group in fiscal 2012 decreased by 14.9% (Graph 1); the volume of recycled water also decreased (by 19.3%) compared to the previous fiscal year (Graph 2).

Sharp will continue its efforts to reduce the volume of water it uses.



### Case Study

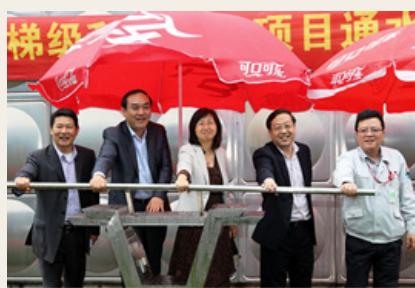
#### Using Wastewater Recycled by Another Company (SSEC, China)

SSEC, a manufacturing subsidiary in Shanghai, China, uses wastewater from a nearby beverage company for its own plant processes.

This effort is the first phase of a Shanghai Water Authority and Jinqiao Export Processing Zone<sup>\*1</sup> project to make effective use of water resources. SSEC and the beverage company began working together on this project in 2011. A drainpipe to connect the two companies was completed in April 2013, and in June, SSEC began using water treated at the beverage company as air conditioning coolant and for other applications at the plant.

The initial amount of recycled water used in June was 95 m<sup>3</sup> a day, but this will be increased to 135 m<sup>3</sup> a day, which will reduce the amount of clean water that SSEC uses annually by about 30,000 m<sup>3</sup>.

\*1 A state-level development area in the middle of Shanghai's Pudong New Area, it is home to about 380 foreign companies.



Ceremony to officially open the drainpipe



Environmental representatives of SSEC (left) and the beverage company at the ceremony

## Effectively Managing Chemicals Used in Factories

Sharp meticulously controls chemical substances used at its plants and manages their safety through preliminary audits based on the process assessment system\*1, daily operational safety activities, and emergency response training that simulates accidents.

### Effective Management of Chemical Substances

When introducing new chemical substances, and when bringing in new handling equipment and upgrading existing equipment, Sharp conducts rigorous preliminary audits based on the process assessment system\*1 to ensure employees' safety and health and to decrease environmental impact.

Sharp strives for effective management of chemical substances: employees handling these go through regular education and drills to prevent accidents, and checks are carried out through an environmental safety operations audit system\*2.

Of the chemical substances covered by the PRTR\*3 Law, 17 were handled in Japan and 10 overseas in quantities of 500 kg or more by one or more plants during fiscal 2012.

\*1 A system for conducting preliminary safety assessments of chemical substance handling equipment.

\*2 A system for assessing the activities of the division in charge of environmental management at factories.

\*3 PRTR: Pollutant Release and Transfer Register. A system to collect and disseminate information, such as the amount of harmful chemicals discharged and transferred.

### Fiscal 2012 PRTR Data (Japan)

(Unit: kg)

| PRTR No. | Chemical                                           | Amount handled | Amount discharged |                        | Amount transferred |                  | Amount consumed       |           | Amount removed |
|----------|----------------------------------------------------|----------------|-------------------|------------------------|--------------------|------------------|-----------------------|-----------|----------------|
|          |                                                    |                | Into atmosphere   | Into public water area | Into sewage        | Into waste, etc. | Contained in products | Recycled  |                |
| 20       | 2-Aminoethanol                                     | 5,636,414      | 1,061             | 232                    | 0                  | 166,946          | 0                     | 4,668,931 | 799,244        |
| 31       | Antimony and its compounds                         | 1,224          | 0                 | 0                      | 0                  | 61               | 1,162                 | 0         | 0              |
| 44       | Indium and its compounds                           | 20,796         | 0                 | 0                      | 0                  | 5,254            | 623                   | 14,918    | 0              |
| 71       | Ferric chloride                                    | 130,236        | 0                 | 0                      | 0                  | 0                | 0                     | 95,852    | 34,384         |
| 82       | Silver and its water-soluble compounds             | 9,185          | 0                 | 0                      | 0                  | 0                | 6,785                 | 2,399     | 0              |
| 232      | N, N-dimethyl-formamide (DMF)                      | 6,762          | 0                 | 0                      | 0                  | 0                | 0                     | 0         | 6,762          |
| 272      | Copper salts (water-soluble, except complex salts) | 13,706         | 0                 | 0                      | 0                  | 13,629           | 0                     | 0         | 77             |
| 332      | Arsenic and its inorganic compounds                | 1,637          | 0                 | 0                      | 0                  | 1,600            | 8                     | 29        | 0              |
| 343      | Pyrocatechol (also known as catechol)              | 2,882          | 0                 | 0                      | 0                  | 2,882            | 0                     | 0         | 0              |
| 355      | Bis (2-ethylhexyl) phthalate                       | 558            | 0                 | 0                      | 0                  | 558              | 0                     | 0         | 0              |
| 368      | 4-Tertiary butylphenol                             | 2,183          | 38                | 0                      | 0                  | 2,145            | 0                     | 0         | 0              |
| 374      | Hydrogen fluoride and its water-soluble salts      | 711,398        | 3,026             | 0                      | 10                 | 498,193          | 0                     | 43,992    | 166,179        |
| 405      | Boron compounds                                    | 2,498          | 14                | 0                      | 0                  | 1,945            | 476                   | 62        | 0              |
| 407      | Polyoxyethylene alkyl ether                        | 1,530          | 0                 | 12                     | 0                  | 1,128            | 0                     | 0         | 390            |
| 412      | Manganese and its compounds                        | 23,040         | 0                 | 0                      | 0                  | 0                | 22,975                | 65        | 0              |
| 438      | Methylnaphthalene                                  | 10,892         | 55                | 0                      | 0                  | 0                | 0                     | 0         | 10,837         |
| 453      | Molybdenum and its compounds                       | 31,557         | 0                 | 0                      | 0                  | 8,106            | 947                   | 22,505    | 0              |
|          | Total                                              | 6,606,498      | 4,194             | 244                    | 10                 | 702,447          | 32,976                | 4,848,753 | 1,017,873      |

### ■ Fiscal 2012 PRTR Data (Overseas)

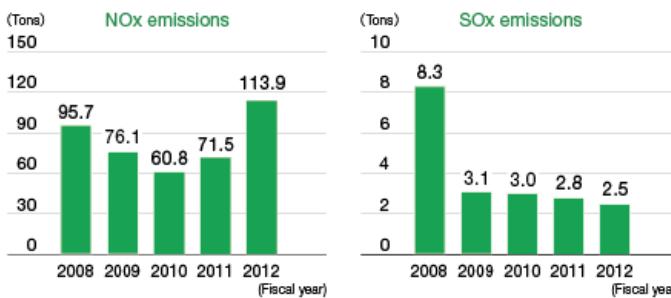
(Unit: kg)

| PRTR No. | Chemical                                                           | Amount handled | Amount discharged |                        | Amount transferred |                  | Amount consumed       |          | Amount removed |
|----------|--------------------------------------------------------------------|----------------|-------------------|------------------------|--------------------|------------------|-----------------------|----------|----------------|
|          |                                                                    |                | Into atmosphere   | Into public water area | Into sewage        | Into waste, etc. | Contained in products | Recycled |                |
| 31       | Antimony and its compounds                                         | 4,584          | 0                 | 0                      | 0                  | 46               | 3,228                 | 1,310    | 0              |
| 71       | Ferric chloride                                                    | 18,475         | 0                 | 0                      | 0                  | 18,475           | 0                     | 0        | 0              |
| 104      | Chlorodifluoromethane (HCFC-22)                                    | 245,169        | 78                | 0                      | 0                  | 0                | 245,091               | 0        | 0              |
| 291      | 1,3,5-tris (2,3-epoxypropyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione | 4,345          | 0                 | 0                      | 0                  | 43               | 3,060                 | 1,241    | 0              |
| 300      | Toluene                                                            | 1,654          | 1,654             | 0                      | 0                  | 0                | 0                     | 0        | 0              |
| 304      | Lead                                                               | 2,221          | 0                 | 0                      | 0                  | 0                | 2,221                 | 0        | 0              |
| 355      | Bis (2-ethylhexyl) phthalate                                       | 25,200         | 0                 | 0                      | 0                  | 22,330           | 0                     | 2,870    | 0              |
| 384      | 1-bromopropane                                                     | 2,075          | 0                 | 0                      | 0                  | 21               | 707                   | 1,348    | 0              |
| 392      | n-hexane                                                           | 673            | 449               | 0                      | 0                  | 0                | 0                     | 0        | 224            |
| 413      | Phthalic anhydride                                                 | 5,511          | 0                 | 0                      | 0                  | 55               | 3,881                 | 1,574    | 0              |
|          | Total                                                              | 309,907        | 2,181             | 0                      | 0                  | 40,970           | 258,188               | 8,343    | 224            |

### Managing Air and Water Pollutants

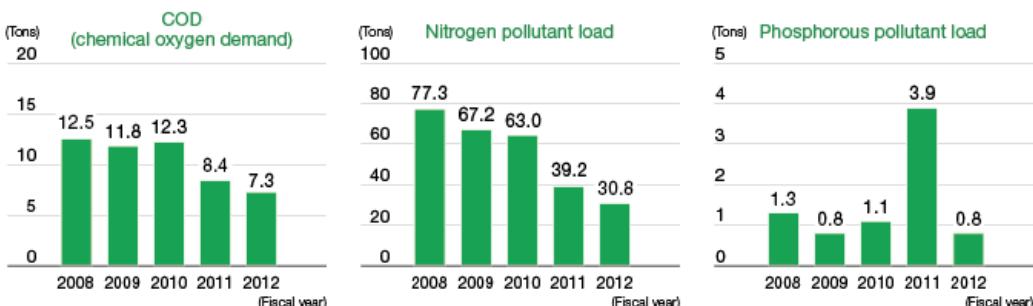
Sharp properly manages pollutants that affect air and water quality by determining their concentration and discharge amount. Each Sharp plant ensures proper management by establishing voluntary standards that are stricter than those set forth in laws and regulations and than those agreed upon with local communities.

#### ■ Atmospheric Emissions in Japan



- Results for fiscal 2012 show an increase in NOx emissions. This is due to measures to make up for electricity shortages such as raising the operating rate of cogeneration systems.

#### ■ Pollutant Loads of Public Water Areas in Japan



- Results for fiscal 2011 show an increase in the phosphorous pollutant load due to a change in production chemicals at Sharp Yonago Corporation; however, it is still below the maximum level allowed by law.

## Reducing Environmental Impact in Distribution and Packaging

In cooperation with shipping contractors, Sharp is working to reduce environmental impact in distribution; for example, by improving transport methods, transport routes, and load efficiency. In packaging, Sharp is working to save resources by reducing the use of packaging materials.

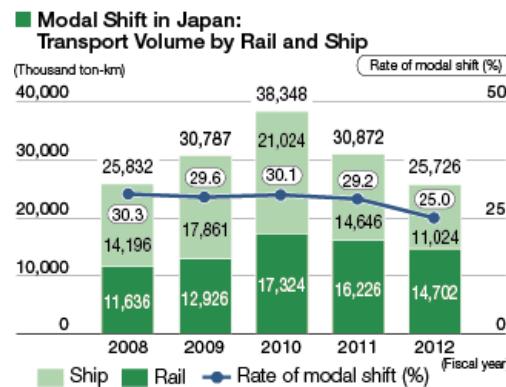
### Reducing the Environmental Impact of Distribution in Japan

Sharp observes a rule set forth in the Japanese Law Concerning the Rational Use of Energy (Energy Conservation Law) that requires specified shippers to reduce CO<sub>2</sub> emissions per shipping volume by 1% or greater per year. All Sharp Group companies in Japan are working to steadily reduce environmental impact and costs associated with distribution by improving transport and load efficiencies and by shifting to environmentally friendly modes of transport (modal shift).

In fiscal 2012, Sharp Group CO<sub>2</sub> emissions from shipping activities in Japan were 29 thousand tons CO<sub>2</sub> (down 21% from the previous fiscal year). Emissions per shipping volume were 0.2 tons CO<sub>2</sub>/thousand ton-km, an average annual reduction of 3% for the most recent five years.

In Japan, in an effort to reduce environmental impact, Sharp is steadily shifting from conventional trucking to more environmentally friendly modes of transport, such as rail and shipping (modal shift). In fiscal 2012, the volume transported by rail or shipping decreased compared to the previous fiscal year. In spite of this, Sharp was again certified as an Eco Rail Mark<sup>\*1</sup> authorized company by the Ministry of Land, Infrastructure, Transport and Tourism and the Railway Freight Association.

<sup>\*1</sup> Products or companies that use a certain amount of rail transport for freight are given Eco Rail Mark certification. Products or companies use the mark to provide consumers a criterion for choosing products.



### Case Studies

#### Outstanding Company under Green Logistics Partnership Program

Sharp's efforts in joint shipping of products bound for retailers in Kyushu (Japan) has been commended at the fiscal 2012 Green Logistics Partnership Conference<sup>\*2</sup>. At this event, awards were given under the Excellent Green Logistics Commendation Program, and Sharp Corporation, Mitsui-Soko Logistics Co., Ltd., and Fujitsu Personal System Ltd. received the MLIT Director-General for Policy Planning Award. The award recognizes the fact that these three companies joined forces to efficiently load cargo on joint shipments that resulted in lower costs and fewer greenhouse gases from distribution.



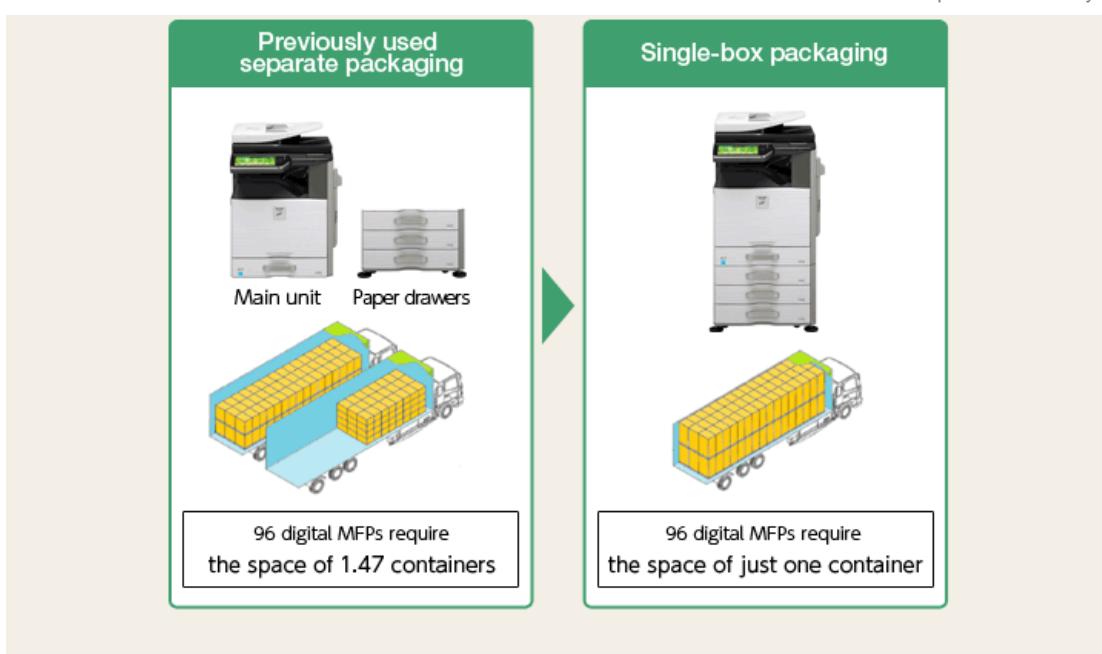
Logistics award for Sharp and its distribution partners

<sup>\*2</sup> Green Logistics Partnership Conference: Organized by the Japan Institute of Logistics Systems, the Ministry of Economy, Trade and Industry (METI), the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), and other organizations, the conference strives to encourage shippers and logistics operators to cooperate on reducing CO<sub>2</sub> emissions from distribution.

#### Revamping Transportation Systems in Japan to Improve Delivery Efficiency

In the past, Sharp's digital MFPs for convenience stores were packaged in two sections: the main unit and the paper drawers. Sharp switched to a different system in which everything is shipped in one box from the factory. The result is a lower volume of packaging and approximately 30% more efficient loading of the products onto delivery trucks. Packaging material has also been reduced by about 30%.

As well, at numerous intermediate logistics stations around Japan, products are opened for delivery to nearby convenience stores. This makes for more efficient collection of packaging material and contributes to a 100% recycling rate.



### Reducing the Environmental Impact of International Distribution

Sharp has a wide range of initiatives to reduce the amount of CO<sub>2</sub> that is emitted as a result of international and intraregional shipping. The company is reducing airfreight volume as it switches to environmentally friendly modes of transport and is also improving load efficiency. It is also reviewing shipping routes and is switching to harbors that are closer to the final destinations for products. Sharp is also switching to suppliers located closer to its factories.

In fiscal 2012, the CO<sub>2</sub> emissions from internationally transporting products and devices that were produced by Sharp Group production companies and shipped to Sharp Group companies outside Japan came to approximately 104 thousand tons CO<sub>2</sub>. This shows that Sharp has been steadily making progress in reducing CO<sub>2</sub> emissions since fiscal 2010, the year it started gathering CO<sub>2</sub> emission statistics in international distribution.

#### Case Study

##### Shortening Shipping Route to Reduce CO<sub>2</sub> Emissions (SER, Russia)

SER, a sales subsidiary in Moscow, Russia, used to have products made in Thailand delivered first to Germany and then transported by truck to Moscow. One of the reasons for this was that freezing of parts of the Baltic Sea during winter hindered cargo ships.

Starting in October 2012, the company began using ships that could navigate the sea ice. Now, products go from Thailand to St. Petersburg, from where the trip by truck to Moscow is much shorter—two-thirds shorter, in fact. This makes it possible to cut approximately 1,100 tons of CO<sub>2</sub> emissions a year.



Cargo ship in the Baltic Sea in winter

## ■ Protecting Biodiversity

Under the Sharp Group Policy on the Sustainable Support of Biodiversity, the Sharp Group carries out a multifaceted approach in which it protects biodiversity through business activities and social action programs at all worldwide bases.

### Biodiversity Protection through Business and Social Action Programs

Biodiversity refers to the existence of a variety of ecosystems, species, and genes. With the modern world's environmental pollution, more and more species are becoming extinct and ecosystems are in danger.

While Sharp's business activities impact biodiversity, the company also benefits from the resources that biodiversity provides. That is why Sharp is promoting activities to protect biodiversity and use it sustainably.

Based on the Sharp Group Policy on the Sustainable Support of Biodiversity, Sharp formulated the Sharp Biodiversity Initiative in November 2009, which details concrete measures for business activities and social action programs that take biodiversity into account. In fiscal 2012, Sharp continued to implement various measures based on the Sharp Biodiversity Initiative, while each Sharp base conducted various activities geared to its own situation.

### ■ Sharp Group Policy on the Sustainable Support of Biodiversity

#### 1. Basic Concept

Based on the company-wide policy, conduct business activities and social action programs while protecting biodiversity and using it in a sustainable manner.

#### 2. Objective: Understand the Link with Biodiversity

Understand the link between business activities and biodiversity (how Sharp business activities affect and benefit from biodiversity).

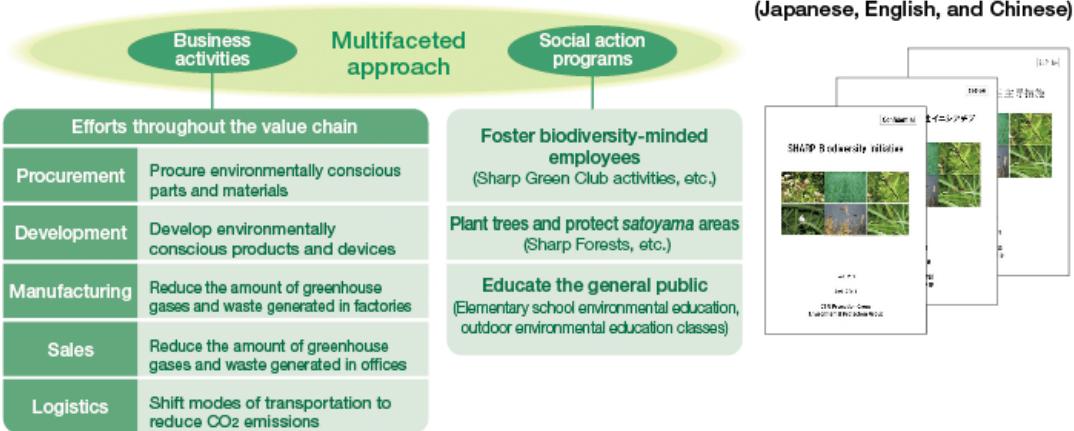
#### 3. Objective: Reduce Impact on Biodiversity

Try to reduce the negative impact of business activities on biodiversity so as to protect biodiversity and use it in a sustainable manner.

#### 4. Promotion Structure

Sharp divisions in charge of environmental protection and social contribution are responsible for company-wide activities pertaining to biodiversity.

### ■ Sharp's Efforts for Protecting Biodiversity



▶ [Related information: Efforts in the environmental field](#)

## Case Study

### Biotope on Factory Premises (Kameyama Plant, Japan)

The Kameyama Plant (Kameyama City, Mie Prefecture) has been creating biotopes that recreate rich ecosystems on its premises since fiscal 2010. These biotopes are home to local flora and fauna: small fish that live in a nearby stream have been released in a man-made pond, and employees have planted acorn seedlings. A path has also been created so that employees can take a relaxing stroll through nature. For fiscal 2012, employees planted Japanese irises, the official flower of Kameyama City.



A man-made pond on factory premises



Japanese Iris

### Protecting Sea Turtles (SOEM, Malaysia)

In April 2012, SOEM, a manufacturing subsidiary in Kedah, Malaysia, celebrated Sharp's 100th anniversary with a sea turtle protection activity. Approximately 80 employees planted *scaevola taccada* (beach cabbage), an evergreen shrub that protects turtle eggs along the sandy beaches. They also collected eggs they found on the beach and buried them in a safe place. Two months later, the employees returned to the same spot to watch the baby turtles—about 100 of them—hatch and return to the ocean.



SOEM employees watch the newborn turtles return to the sea

## Promoting Environmental Communication

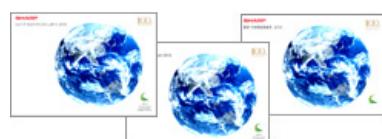
To communicate Sharp's environmental efforts to its wide range of stakeholders around the world, the company discloses environmental information through its website and various other media. Sharp plants in Japan and overseas also communicate closely with local communities through site reports and factory tours.

### Sustainability Report, Website, and Site Reports

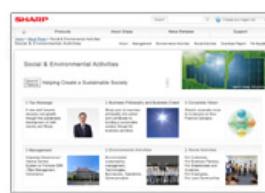
Every year, Sharp issues the Sharp Sustainability Report and discloses, in plain language, its policies, objectives, achievements, challenges, and future plans pertaining to CSR.

Sharp's website features those sustainability reports and is regularly updated with information on the environmental/social action programs being actively undertaken at Sharp bases worldwide as well as other detailed information. Sharp also communicates through social networking services like Facebook and Twitter.

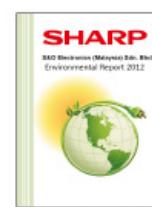
In addition, site reports have been issued at plants in Japan and overseas. Copies of these reports are distributed to local residents and to visitors to Sharp facilities in order to deepen their understanding of the environmental protection initiatives being undertaken.



Sharp Sustainability Report 2012  
(Japanese, English, and Chinese editions)



Website for Sharp's social  
and environmental activities



Site report from SOEM, a Sharp  
manufacturing subsidiary in Malaysia

### Factory Tours and Community Exchanges

To enhance information disclosure and communication with its wide range of stakeholders, Sharp conducts factory tours and community-exchange conferences and participates in local environmental events.

The Tenri Plant (Advanced Development and Planning Center) in Japan took part—as a co-sponsor along with the city of Tenri—in an event called the Tenri Environmental Forum, hosted by a local environmental NPO. At the forum, Sharp introduced its environmental technologies and its measures to protect biodiversity.

SEID—Sharp's manufacturing and sales subsidiary in Jakarta, Indonesia—supplied solar-powered Sharp AQUOS LCD TVs for the main venue of Jakarta's Earth Hour<sup>\*1</sup> event held in March 2013. At the event, SEID also hosted a hands-on class covering renewable energy and the mechanism behind solar cells.

<sup>\*1</sup>Earth Hour is a worldwide event organized by the World Wide Fund for Nature (WWF) to raise awareness on the need to take action on climate change.



Participating in the Tenri Environmental Forum  
(Tenri Plant)



Children learn how solar cells work  
at Earth Hour 2013 (SEID)

**Close-Up****Using Stakeholder Dialogs to Gather Hints on Cooperating with and Contributing to Local Communities (Mie Plant, Japan)**

In May 2012, the Mie Plant (Taki District, Mie Prefecture) held a meeting in cooperation with M Bridge<sup>\*2</sup>, a local NPO, to gather feedback on the Mie Plant's Environment and Social Contribution Activities Report (Mie Plant Site Report). Local residents, local administrative staff members, persons from the CSR departments of local companies, and students were among the 18 people who came together.

After hearing an explanation on the Mie Plant's environmental protection efforts, the participants broke up into small groups to discuss the report and what factories and local communities can do together to contribute to society. The lively, friendly atmosphere made for a fruitful dialog, and Sharp was able to gather some unique and valuable ideas. Among them were a proposal to supply the Mie Plant's employee cafeteria with vegetables grown at a local high school and a hope to see further revitalization of the local community through regular factory tours.

A report of the day's proceedings was written up into a newsletter, which was then distributed to all homes (approximately 5,500) in Taki Town, where the Mie Plant is located.

Not only were these efforts to deepen mutual understanding with the local community well received, but the Mie Plant's Environment and Social Contribution Activities Report 2012 was also awarded an Encouragement Prize at the Environmental Communication Awards sponsored by the Japanese Ministry of the Environment.

<sup>\*2</sup> An NPO based in Matsusaka City, Mie Prefecture that carries out various projects to revitalize local communities.



Introducing the plant's environmental protection efforts



Participants' lively discussions



Posing with the award certificate

**Words from a Participant**

I live in a housing complex in front of the factory. I was concerned about effluent from the factory but am now relieved to know that it is being properly processed. I am grateful for this opportunity to learn about such things.



Hiromi Ueda  
Resident of Taki Town

**Words from a Sharp Manager**

We held this meeting because we wanted to speak directly with the local residents and deepen their understanding of the Mie Plant. We were able to explain in detail what Sharp is doing to protect the environment. The valuable feedback gained is already being reflected in our activities, such as a collaboration with a local high school.

We would like to maintain this precious dialog with the local community.



Rieko Yamamoto  
Supervisor  
Mie Environmental &  
Industrial Safety Center  
Display Device Strategy Division  
Sharp Corporation

 **Boundary of Environmental Performance Data,  
Calculation Standards for Environmental Performance Indicators**

The Environmental Performance Data (actual) found in the pages of the Environmental Activities are calculated based on the following boundary and calculation standards.

**Boundary of Environmental Performance Data**

- [1] Period covered: April 1, 2012 to March 31, 2013
- [2] Organizations covered: Sharp Corporation and consolidated subsidiaries
- [3] Plants: 32 plants/22 companies (16 plants/6 companies in Japan, 16 plants/16 companies overseas)
- [4] Offices: 39 offices/32 companies (15 offices/8 companies in Japan<sup>\*1</sup>, 24 offices/24 companies overseas)

Japan

|                 |                                                  |                                                                                          |
|-----------------|--------------------------------------------------|------------------------------------------------------------------------------------------|
| Plants          | Sharp Corporation                                | Tochigi Plant                                                                            |
|                 |                                                  | Yao Plant                                                                                |
|                 |                                                  | Hiroshima Plant                                                                          |
|                 |                                                  | Nara Plant                                                                               |
|                 |                                                  | Katsuragi Plant (including Toyama Plant performance)                                     |
|                 |                                                  | Fukuyama Plant                                                                           |
|                 |                                                  | Mie Plant                                                                                |
|                 |                                                  | Tenri Plant (including Advanced Materials & Energy Engineering Laboratories performance) |
|                 |                                                  | Mihara Plant                                                                             |
|                 |                                                  | Kameyama Plant                                                                           |
| Offices         | Sakai Plant (GREEN FRONT SAKAI solar cell plant) |                                                                                          |
|                 | Sharp Manufacturing Systems Corporation          |                                                                                          |
|                 | Sharp Niigata Electronics Corporation            |                                                                                          |
|                 | Sharp Mie Corporation                            |                                                                                          |
|                 | Sharp Yonago Corporation                         |                                                                                          |
|                 | Sharp Display Products Corporation <sup>*2</sup> |                                                                                          |
|                 | Sharp Corporation                                |                                                                                          |
| Recycling Plant | Sharp Electronics Marketing Corporation          |                                                                                          |
|                 | Sharp System Products Co., Ltd.                  |                                                                                          |
|                 | Sharp-Engineering Corporation                    |                                                                                          |
|                 | Sharp Document Systems Corporation               |                                                                                          |
|                 | Sharp Amenity Systems Corporation                |                                                                                          |
|                 | Sharp Trading Corporation                        |                                                                                          |
|                 | Sharp Business Computer Software Inc.            |                                                                                          |
| Recycling Plant | Kansai Recycling Systems Co., Ltd.               |                                                                                          |

<sup>\*1</sup> Head Office/Tanabe Building, Hirano Building, Kami Building, Hannan Building, Shibaura Building, Makuhari Building, Sapporo Building, Hiroshima Building, Ebisu Building, Nagoya Building, Sendai Building, Sharp Business Computer Software Inc., Fukuoka Building, Okinawa Building

<sup>\*2</sup> Included until June 2012 (as it became a non-consolidated subsidiary in August 2012).

North America

|        |                                                             |        |
|--------|-------------------------------------------------------------|--------|
| Plants | Sharp Manufacturing Company of America (SMCA) <sup>*3</sup> | US     |
|        | Sharp Electrónica Mexico S.A. de C.V. (SEMEX)               | Mexico |

|         |                                               |    |
|---------|-----------------------------------------------|----|
| Offices | Sharp Electronics Corporation (SEC)           | US |
|         | Sharp Laboratories of America, Inc. (SLA)     |    |
|         | Sharp Electronics of Canada Ltd. (SECL)       |    |
|         | Sharp Corporation Mexico S.A. de C.V. (SCMEX) |    |

\*3 Manufacturing division of SEC

#### Europe

|         |                                              |             |
|---------|----------------------------------------------|-------------|
| Plants  | Sharp Manufacturing Company of U.K. (SUKM)*4 | UK          |
|         | Sharp Manufacturing France S.A. (SMF)        | France      |
|         | Sharp Manufacturing Poland Sp. zo.o. (SMPL)  | Poland      |
| Offices | Sharp Electronics (Europe) GmbH (SEEG)       | Germany     |
|         | Sharp Electronics (U.K.) Ltd. (SUK)          | UK          |
|         | Sharp Laboratories of Europe, Ltd. (SLE)     |             |
|         | Sharp Electronics France S.A. (SEF)          | France      |
|         | Sharp Electronics (Italia) S.p.A. (SEIS)     | Italy       |
|         | Sharp Electronics (Schweiz) AG (SEZ)         | Switzerland |
|         | Sharp Electronics (Nordic) AB (SEN)          | Sweden      |
|         | Sharp Electronics Benelux B.V. (SEB)         | Netherlands |
|         | Sharp Electrónica España S.A. (SEES)         | Spain       |
|         | Sharp Electronics Russia LLC (SER)           | Russia      |

\*4 Manufacturing division of SUK

#### Asia, Middle East, Oceania

|         |                                                         |             |
|---------|---------------------------------------------------------|-------------|
| Plants  | Shanghai Sharp Electronics Co., Ltd. (SSEC)             | China       |
|         | Sharp Office Equipments (Changshu) Co., Ltd. (SOCC)     |             |
|         | Wuxi Sharp Electronic Components Co., Ltd. (WSEC)       |             |
|         | Sharp Technical Components (Wuxi) Co., Ltd. (STW)       |             |
|         | Nanjing Sharp Electronics Co., Ltd. (NSEC)              |             |
|         | Sharp Appliances (Thailand) Ltd. (SATL)                 | Thailand    |
|         | Sharp Manufacturing (Thailand) Co., Ltd. (SMTL)         |             |
|         | Sharp Manufacturing Corporation (M) Sdn. Bhd. (SMM)     | Malaysia    |
|         | Sharp (Phils.) Corporation (SPC)                        | Philippines |
|         | PT. Sharp Semiconductor Indonesia (SSI)                 | Indonesia   |
|         | PT. Sharp Electronics Indonesia (SEID)                  |             |
| Offices | Sharp Electronics (Shanghai) Co., Ltd. (SES)            | China       |
|         | Sharp Electronics Sales (China) Co., Ltd. (SESC)        |             |
|         | Sharp Electronic Components (Taiwan) Corporation (SECT) | Taiwan      |
|         | Sharp Electronics (Malaysia) Sdn. Bhd. (SEM)            | Malaysia    |
|         | Sharp-Roxy Sales (Singapore) Pte., Ltd. (SRS)           | Singapore   |
|         | Sharp Electronics (Singapore) Pte., Ltd. (SESL)         |             |
|         | Sharp Software Development India Pvt. Ltd. (SSDI)       | India       |
|         | Sharp Middle East Free Zone Establishment (SMEF)        | UAE         |
|         | Sharp Corporation of Australia Pty. Ltd. (SCA)          | Australia   |
|         | Sharp Corporation of New Zealand Ltd. (SCNZ)            | New Zealand |

## Calculation Standards for Environmental Performance Indicators

[1] Period covered: April 1, 2012 to March 31, 2013

[2] Organizations covered: Sharp Corporation and consolidated subsidiaries

[3] Calculation method: Environmental Reporting Guidelines (2012 Version) published by the Japanese Ministry of the Environment were used as reference.

| Environmental performance indicators                                                                                                                       |                                                                                                                                                                                                                                                                                        | Unit             | Calculation method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------|
| Manufacture                                                                                                                                                | Energy consumption                                                                                                                                                                                                                                                                     | TJ               | $\sum \{(\text{Electricity purchased annually} + \text{alternative energy}) \times \text{heat input per unit}^{*1} + \sum (\text{Annual consumption of each fuel} \times \text{heat value per unit}^{*2})\}$ <p>*1 Based on regulations of the Law Concerning the Rational Use of Energy (enforced April 1, 2006);<br/> • Daytime electricity 9.97 MJ/kWh • Nighttime electricity 9.28 MJ/kWh</p> <p>*2 Based on the heat value per unit per energy source used by the Agency for Natural Resources and Energy (February 2002);<br/> • City gas</p> <table border="1"> <tr> <td style="vertical-align: top; padding-right: 10px;">Japan</td> <td>Figure individually confirmed for each gas provider:<br/> • Tokyo Gas/Osaka Gas: 45.0 GJ/thousand m<sup>3</sup><br/> • Fukuyama Gas: 46.0 GJ/thousand m<sup>3</sup><br/> • Toho Gas/Hiroshima Gas: 46.04655 GJ/thousand m<sup>3</sup><br/> • Hokkaido Gas: 46.05 GJ/thousand m<sup>3</sup></td> </tr> <tr> <td style="vertical-align: top; padding-right: 10px;">Overseas</td> <td>Highest figure from among those known in Japan:<br/> • 46.05 GJ/thousand m<sup>3</sup></td> </tr> </table> <p>• LPG: 50.8 GJ/t • Heavy oil: 39.1 GJ/tl • Kerosene: 36.7 GJ/tl<br/> • Gas oil: 37.7 GJ/tl • Gasoline: 34.6 GJ/tl<br/> • Steam: (SSEC) 2.817 GJ/t, (WSEC) 3.771 GJ/t, (NSEC) 3.782 GJ/t<br/> • Heating/cooling: Figure individually confirmed for each gas provider (Makuhari: 0.834 GJ/GJ)</p> | Japan | Figure individually confirmed for each gas provider:<br>• Tokyo Gas/Osaka Gas: 45.0 GJ/thousand m <sup>3</sup><br>• Fukuyama Gas: 46.0 GJ/thousand m <sup>3</sup><br>• Toho Gas/Hiroshima Gas: 46.04655 GJ/thousand m <sup>3</sup><br>• Hokkaido Gas: 46.05 GJ/thousand m <sup>3</sup> | Overseas | Highest figure from among those known in Japan:<br>• 46.05 GJ/thousand m <sup>3</sup> |
| Japan                                                                                                                                                      | Figure individually confirmed for each gas provider:<br>• Tokyo Gas/Osaka Gas: 45.0 GJ/thousand m <sup>3</sup><br>• Fukuyama Gas: 46.0 GJ/thousand m <sup>3</sup><br>• Toho Gas/Hiroshima Gas: 46.04655 GJ/thousand m <sup>3</sup><br>• Hokkaido Gas: 46.05 GJ/thousand m <sup>3</sup> |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
| Overseas                                                                                                                                                   | Highest figure from among those known in Japan:<br>• 46.05 GJ/thousand m <sup>3</sup>                                                                                                                                                                                                  |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
| Electricity purchased annually                                                                                                                             |                                                                                                                                                                                                                                                                                        |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
| City gas purchased annually                                                                                                                                |                                                                                                                                                                                                                                                                                        |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
| LPG purchased annually                                                                                                                                     |                                                                                                                                                                                                                                                                                        |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
| Fuel oil purchased annually                                                                                                                                |                                                                                                                                                                                                                                                                                        |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
| PFCs (HFCs, PFCs, sulfur hexafluoride, nitrogen trifluoride, and HFCs) purchased annually                                                                  |                                                                                                                                                                                                                                                                                        |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
| Among the substances covered under the PRTR Law <sup>*3</sup> , the total amount of substances handled in quantities 500 kg or more annually at each plant |                                                                                                                                                                                                                                                                                        |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
| <sup>*3</sup> Law Concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management |                                                                                                                                                                                                                                                                                        |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
| Annual consumption of water supply, well water, and water for industrial use                                                                               |                                                                                                                                                                                                                                                                                        |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
| Total weight of products in the 13 major categories <sup>*4</sup> sold in fiscal 2012 (estimate), plus waste, etc. generated                               |                                                                                                                                                                                                                                                                                        |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
| Logistics                                                                                                                                                  | Resources consumed                                                                                                                                                                                                                                                                     | Thousand tons    | <sup>*4</sup> TVs, air conditioners, refrigerators, washing machines, air purifiers, microwave ovens, LED lights, DVD/Blu-ray Disc recorders, mobile phones, facsimiles, LCD monitors, MFPs, solar cells                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
|                                                                                                                                                            |                                                                                                                                                                                                                                                                                        |                  | Packaging materials consumed annually                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
|                                                                                                                                                            |                                                                                                                                                                                                                                                                                        |                  | Revised ton-km method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
|                                                                                                                                                            |                                                                                                                                                                                                                                                                                        |                  | Estimate of annual energy used by products in the 13 major categories <sup>*4</sup> sold in fiscal 2012.<br>Calculation based on each product's annual energy consumption rate (using a heat input per unit of 9.97 MJ/kWh).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
| Product use                                                                                                                                                | Energy consumption                                                                                                                                                                                                                                                                     | TJ (million kWh) | Amount of used home appliances (four kinds) recycled into new home appliances                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
|                                                                                                                                                            |                                                                                                                                                                                                                                                                                        |                  | Amount of recycled copiers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
|                                                                                                                                                            |                                                                                                                                                                                                                                                                                        |                  | Amount of recycled PCs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
|                                                                                                                                                            |                                                                                                                                                                                                                                                                                        |                  | Amount of closed-loop material recycling of plastics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
| Recycling                                                                                                                                                  | Home appliances (four kinds)                                                                                                                                                                                                                                                           | Tons             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
|                                                                                                                                                            | Copiers                                                                                                                                                                                                                                                                                |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
|                                                                                                                                                            | PCs                                                                                                                                                                                                                                                                                    |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |
|                                                                                                                                                            | Amount of closed-loop material recycling of plastics                                                                                                                                                                                                                                   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |                                                                                                                                                                                                                                                                                        |          |                                                                                       |

| Environmental performance indicators                | Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Calculation method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|-------|------|-------|------|---------------------|------|---------------------|------|---------------------|------|---------------------|------|---------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p><math>\Sigma \{(\text{Electricity purchased annually} \times \text{CO}_2 \text{ emission coefficient}) + \Sigma (\text{annual consumption of each fuel} \times \text{CO}_2 \text{ emission coefficient for each})\}</math></p> <p>CO<sub>2</sub> emission coefficient</p> <ul style="list-style-type: none"> <li>• Electricity</li> </ul> <table border="1"> <thead> <tr> <th></th> <th>Fiscal year</th> <th>CO<sub>2</sub> emission coefficient (tons CO<sub>2</sub>/MWh)</th> </tr> </thead> <tbody> <tr> <td rowspan="6">Japan</td> <td>2007</td> <td>0.453</td> </tr> <tr> <td>2008</td> <td>0.373<sup>*5</sup></td> </tr> <tr> <td>2009</td> <td>0.351<sup>*5</sup></td> </tr> <tr> <td>2010</td> <td>0.351<sup>*5</sup></td> </tr> <tr> <td>2011</td> <td>0.350<sup>*5</sup></td> </tr> <tr> <td>2012</td> <td>0.476<sup>*5</sup></td> </tr> </tbody> </table> <p>Overseas GHG Protocol calculation tools<br/>(GHG emissions from purchased electricity ver. 4.4, August 2012)<br/>However, 0.539 tons CO<sub>2</sub>/MWh was used for SUKM and 0.541 tons CO<sub>2</sub>/MWh was used for SUK and SLE.</p> <p><sup>*5</sup> Based on the values officially announced by the Federation of Electric Power Companies of Japan (after reflecting the Kyoto Mechanism credit).</p> <ul style="list-style-type: none"> <li>• City gas</li> </ul> <table border="1"> <tbody> <tr> <td rowspan="6">Japan</td> <td>Calculated by multiplying the standard calorific value (GJ/thousand m<sup>3</sup>) individually confirmed for each gas provider × carbon conversion factor (0.0136 tons C) × 44/12 (tons CO<sub>2</sub>/ton C)           <ul style="list-style-type: none"> <li>• Tokyo Gas/Osaka Gas: 2.244 tons CO<sub>2</sub>/thousand m<sup>3</sup></li> <li>• Fukuyama Gas: 2.294 tons CO<sub>2</sub>/thousand m<sup>3</sup></li> <li>• Toho Gas/Hiroshima Gas/Hokkaido Gas: 2.296 tons CO<sub>2</sub>/thousand m<sup>3</sup></li> </ul> </td> </tr> <tr> <td rowspan="6">Overseas</td> <td>Highest figure from among those known in Japan:<br/> <ul style="list-style-type: none"> <li>• 2.296 tons CO<sub>2</sub>/thousand m<sup>3</sup></li> </ul> </td> </tr> </tbody> </table> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Fiscal year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CO <sub>2</sub> emission coefficient (tons CO <sub>2</sub> /MWh) | Japan | 2007 | 0.453 | 2008 | 0.373 <sup>*5</sup> | 2009 | 0.351 <sup>*5</sup> | 2010 | 0.351 <sup>*5</sup> | 2011 | 0.350 <sup>*5</sup> | 2012 | 0.476 <sup>*5</sup> | Japan | Calculated by multiplying the standard calorific value (GJ/thousand m <sup>3</sup> ) individually confirmed for each gas provider × carbon conversion factor (0.0136 tons C) × 44/12 (tons CO <sub>2</sub> /ton C) <ul style="list-style-type: none"> <li>• Tokyo Gas/Osaka Gas: 2.244 tons CO<sub>2</sub>/thousand m<sup>3</sup></li> <li>• Fukuyama Gas: 2.294 tons CO<sub>2</sub>/thousand m<sup>3</sup></li> <li>• Toho Gas/Hiroshima Gas/Hokkaido Gas: 2.296 tons CO<sub>2</sub>/thousand m<sup>3</sup></li> </ul> | Overseas | Highest figure from among those known in Japan:<br><ul style="list-style-type: none"> <li>• 2.296 tons CO<sub>2</sub>/thousand m<sup>3</sup></li> </ul> |
|                                                     | Fiscal year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | CO <sub>2</sub> emission coefficient (tons CO <sub>2</sub> /MWh)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
| Japan                                               | 2007                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.453                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
|                                                     | 2008                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.373 <sup>*5</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
|                                                     | 2009                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.351 <sup>*5</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
|                                                     | 2010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.351 <sup>*5</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
|                                                     | 2011                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.350 <sup>*5</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
|                                                     | 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.476 <sup>*5</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
| Japan                                               | Calculated by multiplying the standard calorific value (GJ/thousand m <sup>3</sup> ) individually confirmed for each gas provider × carbon conversion factor (0.0136 tons C) × 44/12 (tons CO <sub>2</sub> /ton C) <ul style="list-style-type: none"> <li>• Tokyo Gas/Osaka Gas: 2.244 tons CO<sub>2</sub>/thousand m<sup>3</sup></li> <li>• Fukuyama Gas: 2.294 tons CO<sub>2</sub>/thousand m<sup>3</sup></li> <li>• Toho Gas/Hiroshima Gas/Hokkaido Gas: 2.296 tons CO<sub>2</sub>/thousand m<sup>3</sup></li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
|                                                     | Overseas                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Highest figure from among those known in Japan:<br><ul style="list-style-type: none"> <li>• 2.296 tons CO<sub>2</sub>/thousand m<sup>3</sup></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | CO <sub>2</sub> emissions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Thousand tons CO <sub>2</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p>Values taken from the guidelines for calculating, reporting, and announcing greenhouse gas emissions, Article 3 of the Act on Promotion of Global Warming Countermeasures published by the Ministry of the Environment, Japan:</p> <ul style="list-style-type: none"> <li>• LPG: 2.999 tons CO<sub>2</sub>/ton</li> <li>• Heavy oil: 2.710 tons CO<sub>2</sub>/kl</li> <li>• Kerosene: 2.489 tons CO<sub>2</sub>/kl</li> <li>• Gasoline: 2.322 tons CO<sub>2</sub>/kl</li> <li>• Gas oil: 2.585 tons CO<sub>2</sub>/kl</li> <li>• Steam: (SSEC) 0.166 tons CO<sub>2</sub>/ton, (WSEC) 0.158 tons CO<sub>2</sub>/ton, (NSEC) 0.159 tons CO<sub>2</sub>/ton</li> <li>• Heating/cooling: Figure individually confirmed for each gas provider (Makuhari: 0.040 tons CO<sub>2</sub>/GJ)</li> </ul> |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | PFCs emissions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Tons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Annual PFCs emissions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Thousand tons CO <sub>2</sub> e                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | $\Sigma [ \text{Annual emissions of each PFC gas}^{*6} (\text{tons}) \times \text{global warming potential}^{*7} \text{ of each PFC gas} ]$ <p><sup>*6</sup> HFCs, PFCs, sulfur hexafluoride, nitrogen trifluoride, HCFCs</p> <p><sup>*7</sup> Based on the IPCC's Third Assessment Report: • Sulfur hexafluoride: 22,200<br/>• The coefficient corresponding to segmentalized gas is used for HFC and PFC</p>                                                                                                                                                                                                                                                                                                                                                                                   |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | SOx emissions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Tons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <p>(1) When a gaseous fuel is burnt:<br/>Handled as if there are no emissions because it is assumed that the fuel contains no sulfur.</p> <p>(2) When a liquid fuel is burnt:<br/>Amount of sulfur contained in fuel (kg/year)/32(kilograms S) × (32+16×2) (kilograms SO<sub>2</sub>)/1,000</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
| NOx emissions                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Tons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>(1) When a gaseous fuel is burnt:<br/>Fuel consumption per year (Nm<sup>3</sup>/year) × dry base combustion gas (Nm<sup>3</sup>/Nm<sup>3</sup>) × concentration of released NOx (ppm) × 10<sup>-6</sup> × (14+16×2) (kilograms NO<sub>2</sub>) / 22.4 (Nm<sup>3</sup>)/1,000</p> <p>(2) When a liquid fuel is burnt:<br/>Fuel consumption per year (liters/year) × fuel specific gravity (kg/liter) × dry base combustion gas (Nm<sup>3</sup>/kg) × concentration of released NOx (ppm) × 10<sup>-6</sup> × (14+16×2) (kilograms NO<sub>2</sub>) / 22.4 (Nm<sup>3</sup>)/1,000</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
| Drainage                                            | Thousand m <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Annual drainage into public body of water and sewer system                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
| COD (chemical oxygen demand)                        | Tons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | COD concentration (mg/l) × drainage into public body of water (m <sup>3</sup> ) × 10 <sup>-6</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
| Nitrogen pollutant load                             | Tons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Nitrogen concentration (mg/l) × drainage into public body of water (m <sup>3</sup> ) × 10 <sup>-6</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
| Phosphorus pollutant load                           | Tons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Phosphorus concentration (mg/l) × drainage into public body of water (m <sup>3</sup> ) × 10 <sup>-6</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
| Final landfill disposal                             | Tons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Final landfill disposal of industrial waste + final landfill disposal of general waste discharged from business activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
| Chemical substances (PRTR) released and transferred | Tons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Among the substances covered under the PRTR Law, the amount of substances, which are handled in quantities 500 kg or more annually at one or more plant, released and transferred                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |
| Product shipments                                   | Thousand tons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Total weight of products in the 13 major categories <sup>*8</sup> sold in fiscal 2012 (estimate)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                  |       |      |       |      |                     |      |                     |      |                     |      |                     |      |                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |                                                                                                                                                         |

|             |                                                                                 |                   |                                                                                                                                                                                                       |
|-------------|---------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Logistics   | CO2 emissions                                                                   | Thousand tons CO2 | Revised ton-km method                                                                                                                                                                                 |
|             | Transport volume                                                                | Million ton-km    | Revised ton-km method                                                                                                                                                                                 |
| Product use | CO2 emissions                                                                   | Thousand tons CO2 | Estimate of annual energy used and amount of CO2 emitted by products in the 13 major categories <sup>a</sup> sold in fiscal 2012. Calculation based on each product's annual energy consumption rate. |
|             | Avoided CO2 emissions                                                           | Thousand tons CO2 | Amount of electricity generated annually by Sharp solar cells shipped in fiscal 2012, plus avoided CO2 emissions                                                                                      |
| Recycling   | Weight of that which was not recycled into new products or materials, or reused | Tons              | Weight of four kinds of home appliances, PCs, and copiers collected – Weight recycled into new products or materials, or reused                                                                       |

## Objectives and Achievements in the Social Dimension of CSR

On the basis of its business philosophy, its business creed, the Sharp Group Charter of Corporate Behavior, and the Sharp Code of Conduct, Sharp sets major social themes and targets for each type of stakeholder within the framework of CSR and promotes activities following those themes—all in order to continue being a company that has the trust of people and society.

### Promoting CSR Efforts in the Social Dimension

The Sharp business philosophy states: "Our future prosperity is directly linked to the prosperity of our customers, dealers and shareholders ...indeed the entire Sharp family." To put this business philosophy into practice, Sharp makes efforts to communicate with its various stakeholders and promotes CSR activities accordingly.

Regarding these objectives and measures, Sharp implements them as part of its CSR management system by regularly assessing their progress, identifying emerging problems, and making further improvements.

### Overall Results of CSR Efforts in Fiscal 2012

In fiscal 2012, as in the previous fiscal year, Sharp after-sales service received high ratings for new activities to improve customer satisfaction. Sharp was also active and productive in other areas, such as in developing global personnel and conducting social action programs at the local level in Japan and abroad. Furthermore, a wide variety of efforts were carried out in each field, such as new educational support activities for challenged children.

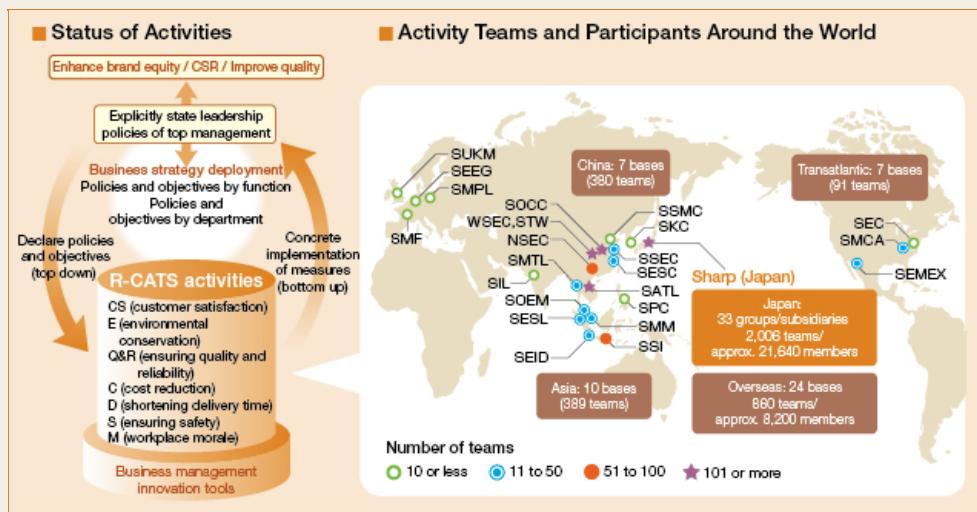
The results of these and other unique efforts by Sharp in fiscal 2012 can be seen in the Topics and Close-Up sections on pages categorized by type of stakeholder.

## R-CATS\* Small-Group Activities with a CSR Perspective

To offer products and services that deliver satisfaction and peace of mind to stakeholders, particularly customers, all Sharp employees in Japan and overseas belong to small groups called R-CATS. Through group activities, these teams confront the challenges of improving the quality of their work, and build new systems and methods to carry out job-related tasks from the perspective of stakeholders.

In fiscal 2012, approximately 30,000 employees worldwide participated in R-CATS activities and carried out activities to solve job-related problems and achieve goals.

\* R-CATS: Revolution-Creative Action Teams



Achievements are presented by selected teams from Japan and overseas during the All-Sharp R-CATS Convention, and case studies on successful improvements are shared throughout the company. To create an environment in which excellent examples can be studied at any time, the case studies are posted on Sharp's intranet.



All-Sharp R-CATS Convention



Selected as champion during the All-Sharp R-CATS Convention, the New-DAT team from Sharp Corporation's Health and Environment Systems Division receives its award from Sharp's president

## ■ Objectives and Achievements for Fiscal 2012

Self Evaluation ○: Results exceeded objectives ○: Results met objectives △: Certain results were accomplished

| Field<br>(Stakeholders)        | Important<br>Themes                                          | Objectives for Fiscal 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Achievements for Fiscal 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Self<br>Evaluation |
|--------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| For Customers                  | <u>Secure quality and safety</u>                             | <ul style="list-style-type: none"> <li>Implement various measures for improving global quality and customer satisfaction           <ul style="list-style-type: none"> <li>Expand global knowledge system at overseas bases</li> <li>Extend global quality human resource education system to all overseas bases</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Implemented global knowledge system at call centers in overseas bases (Australia) and started operations</li> <li>Established new global quality education system, implemented it at 9 bases in China, and conducted quality mindset training sessions (total of 472 participants); also started implementing this system in ASEAN region</li> </ul>                                                                                                                                                                                                               | ○                  |
|                                | <u>Create products that are easier to use</u>                | <ul style="list-style-type: none"> <li>Improve products by taking on customer's point of view           <ul style="list-style-type: none"> <li>Further develop and continue activities to improve products by taking on customer's point of view</li> <li>Continue expanding the VOC (Voice of the Customer) program throughout overseas bases</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>Accelerated product improvement activities by designating contact persons for the VOC program in each product division</li> <li>Conducted VOC training for call center managers in Indonesia, Thailand, Singapore, and Australia and promoted activities to firmly establish the VOC program</li> </ul>                                                                                                                                                                                                                                                            | ○                  |
|                                | <u>Improve customer satisfaction</u>                         | <ul style="list-style-type: none"> <li>Increase customer satisfaction by strengthening service system           <ul style="list-style-type: none"> <li>Increase service capabilities at overseas bases</li> <li>Provide training to improve customer response skills</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>Dispatched Japanese service specialists to LCD TV Maintenance Center in China to boost service capabilities and provide management and operations guidance</li> <li>Conducted quality management training for service managers at sales subsidiaries in Malaysia and started deploying it locally</li> </ul>                                                                                                                                                                                                                                                       | ○                  |
| For Business Partners          | <u>Promote CSR across entire supply chain</u>                | <ul style="list-style-type: none"> <li>Train auditors and conduct audits using CSR auditing tools</li> <li>Extend revised Basic Parts Purchase Agreement to overseas suppliers</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>Decided on policies for establishing internal audit structure and optimized CSR auditing tools for internal auditors</li> <li>Started creating overseas version of revised Basic Parts Purchase Agreement</li> </ul>                                                                                                                                                                                                                                                                                                                                               | △                  |
| For Shareholders and Investors | <u>Improve communication with shareholders and investors</u> | <ul style="list-style-type: none"> <li>Continue improving information disclosure to shareholders and investors and hold various IR events in order to improve communication</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Improved website contents</li> <li>Participated in securities-company-sponsored conferences for domestic and overseas investors</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                         | ○                  |
| For Employees                  | <u>Expand efforts related to human rights</u>                | <ul style="list-style-type: none"> <li>Continue strengthening human rights awareness activities           <ul style="list-style-type: none"> <li>Continue human rights training sessions at business sites and affiliates in Japan</li> <li>Hold human rights training sessions at overseas bases</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>Held approximately 20 human rights training sessions at business sites and affiliates in Japan</li> <li>At overseas bases, thoroughly implemented activities to support human rights measures</li> </ul>                                                                                                                                                                                                                                                                                                                                                           | ○                  |
|                                | <u>Strengthen human resource development</u>                 | <ul style="list-style-type: none"> <li>Continue training to support development of global business           <ul style="list-style-type: none"> <li>Bolster employees' negotiation skills and ability to acclimate to different cultures through 4G training system</li> <li>Implement technical e-learning and manufacturing leader training at overseas bases</li> <li>Implement e-learning for thorough understanding of Sharp business philosophy and business creed at overseas bases</li> <li>Implement project creation and process management training at overseas bases to foster local sales managers</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>Conducted training to strengthen cultural adaptability of employees scheduled for overseas assignment (approximately 230 participants)</li> <li>Deployed technical e-learning to China/Asia region (approximately 200 participants) and conducted global manufacturing leader training for manufacturing personnel (26 participants)</li> <li>In Japan, conducted e-learning for thorough understanding of Sharp business philosophy and business creed</li> <li>Conducted sales training sessions for local managers in ASEAN region (40 participants)</li> </ul> | ○                  |
|                                | <u>Developing Company-Wide Diversity Management</u>          | <ul style="list-style-type: none"> <li>Develop new diversity programs           <ul style="list-style-type: none"> <li>Implement Corporate Affirmative Action for Women Strategy Program II</li> <li>Implement Corporate Affirmative Action for Non-Japanese Employees in Japan Program</li> </ul> </li> <li>Improve environment for diversity and inclusion</li> </ul>                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>Diversity programs resulted in appointment of 6 more female managers and 1 new non-Japanese female manager</li> <li>Increased employment rate of the physically or mentally challenged to 2.29% through continuous promotion of diversity and inclusion</li> </ul>                                                                                                                                                                                                                                                                                                 | △                  |
|                                | <u>Promote occupational safety and health</u>                | <ul style="list-style-type: none"> <li>Continue strengthening global safety and health management and activities to reduce and remove industrial accident risks           <ul style="list-style-type: none"> <li>Implement in-house occupational safety and health management system covering non-production sites and affiliates</li> <li>Uniformly increase the level of occupational safety and health management systems at production sites</li> <li>Systematically introduce occupational safety and health management system at overseas production sites</li> </ul> </li> </ul>                                                | <ul style="list-style-type: none"> <li>Started trial operation of system for preventing workplace accident risks at non-production sites and affiliates in Japan</li> <li>Conducted measures to reduce and remove industrial accident risks at production sites in Japan by continuously operating occupational safety and health management system</li> <li>At overseas production sites, 1 site (SUKM) implemented occupational safety and health management system, and 3 sites have announced their timeline for implementation</li> </ul>                                                            | ○                  |

|                       |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |   |
|-----------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|                       |                                                            | <ul style="list-style-type: none"> <li>• Enhance comprehensive mental health measures for primary, secondary, and tertiary prevention of mental illness           <ul style="list-style-type: none"> <li>• Improve knowledge of mental health-related issues by mental health group work training and encouraging acquisition of third-party certification in mental health management</li> <li>• Enhance support for each mental illness case by improving support system for employees returning from medical leave</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Improved mental health-related knowledge of employees by encouraging acquisition of third-party course certification (in fiscal 2012, approximately 700 employees passed the exam for levels II and III of the Mental Health Management certification program)</li> <li>• Continuously implemented measures for early detection, such as providing mental stress checkups at the same time as regular physical checkups and screening employees who meet certain criteria</li> <li>• Reviewed an approach that had been directed at specific Sharp sites and had involved cooperation with external medical organizations</li> </ul> | △ |
|                       |                                                            | <ul style="list-style-type: none"> <li>• As part of efforts to improve health and one event to celebrate the 100th year of Sharp's founding, hold company-wide sports festivals with futsal, softball, and bowling competitions to further improve communication among employees</li> <li>• Enhance measures to prevent lifestyle diseases through active promotion of checkups and health guidance focused on metabolic syndrome</li> </ul>                                                                                                 | <ul style="list-style-type: none"> <li>• Held sports festivals with futsal, softball, and bowling competitions at sites in Japan (approximately 5,500 people participated)</li> <li>• Achieved checkup participation rate of 99.9% and actively provided health guidance to those with symptoms</li> </ul>                                                                                                                                                                                                                                                                                                                                                                    | ○ |
| For Local Communities | <u>Expand and diversify social contribution activities</u> | <ul style="list-style-type: none"> <li>• Actively expand and enhance environmental and biodiversity protection activities in Sharp Forests and Ramsar Convention wetlands</li> </ul>                                                                                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>• Had approximately 1,200 employees participate in Sharp Forest activities and 340 employees in Ramsar Convention wetland activities</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ○ |
|                       |                                                            | <ul style="list-style-type: none"> <li>• Continue environmental education at 500 elementary schools</li> <li>• Expand and enhance educational support activities for persons with disabilities; expand the range of participants</li> </ul>                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>• Provided environmental education at 491 elementary schools</li> <li>• Conducted educational support activities for approximately 2,100 people, including expanding workplace tours and work experience training at special Sharp subsidiary for employing persons with disabilities and starting career education classes at special-needs schools for the hearing-impaired, with a disabled employee as lecturer</li> </ul>                                                                                                                                                                                                         | △ |
|                       |                                                            | <ul style="list-style-type: none"> <li>• Continue craftsmanship education at 100 elementary schools; continue educational programs that combine factory tours and visits to Sharp Technology Hall</li> </ul>                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Provided craftsmanship education at a total of 103 elementary schools; continued educational programs that combine factory tours and visits to Sharp Technology Hall</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ○ |
|                       |                                                            | <ul style="list-style-type: none"> <li>• Carry out local social contribution activities at all sales and service bases centered around the month Sharp was founded (September)</li> <li>• Encourage volunteering among employees (55,000 participants from all Sharp Group companies including overseas subsidiaries)</li> </ul>                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>• Carried out social contribution activities (194 times) centered around September, the month Sharp was founded</li> <li>• Had approximately 49,900 employees volunteer in Japan and overseas</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                               | △ |
|                       |                                                            | <ul style="list-style-type: none"> <li>• Continue activities centered on Sharp Charity Foundation in China</li> <li>• Continue expanding educational support activities, such as environmental education in overseas regions</li> <li>• Continue promoting environmental and biodiversity protection activities and other social action programs in overseas regions</li> </ul>                                                                                                                                                              | <ul style="list-style-type: none"> <li>• In China, donated air purifiers, provided scholarships, carried out environmental campaigns in areas near Sharp bases, and conducted other activities</li> <li>• Continuously conducted various social action programs in other overseas regions</li> </ul>                                                                                                                                                                                                                                                                                                                                                                          | ○ |

## ■ Objectives for Fiscal 2013

| Field<br>(Stakeholders)        | Important Themes                                                                     | Objectives for Fiscal 2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| For Customers                  | <a href="#"><u>Secure quality and safety</u></a>                                     | <ul style="list-style-type: none"> <li>• Implement measures for improving global quality and customer satisfaction           <ul style="list-style-type: none"> <li>• Expand global knowledge system to overseas bases</li> <li>• Implement global quality human resource education system at ASEAN bases</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                              |
|                                | <a href="#"><u>Create products that are easier to use</u></a>                        | <ul style="list-style-type: none"> <li>• Improve quality and service activities from customer's point of view           <ul style="list-style-type: none"> <li>• Innovate consultation system in Japan and improve response levels</li> <li>• Promote development of global quality and service personnel</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                              |
|                                | <a href="#"><u>Improve customer satisfaction</u></a>                                 | <ul style="list-style-type: none"> <li>• Increase customer satisfaction by enhancing service capabilities and customer response skills           <ul style="list-style-type: none"> <li>• Strengthen service management capabilities in ASEAN region</li> <li>• Increase service capabilities of employees dispatched overseas</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                         |
| For Business Partners          | <a href="#"><u>Promote CSR across entire supply chain</u></a>                        | <ul style="list-style-type: none"> <li>• Train auditors using CSR auditing tools and transfer the management of audit systems to each division</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| For Shareholders and Investors | <a href="#"><u>Improve communication</u></a>                                         | <ul style="list-style-type: none"> <li>• Continue improving information disclosure and strengthen information transmission for shareholders and investors</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| For Employees                  | <a href="#"><u>Restructure human resource development program</u></a>                | <ul style="list-style-type: none"> <li>• Restructure to create globally competitive HR development program that aligns with business portfolios           <ul style="list-style-type: none"> <li>• Train management personnel who can support growth for the next generation</li> <li>• Strategically nurture professionals to carry out future business</li> <li>• Conduct activities to invigorate young employees</li> </ul> </li> </ul>                                                                                                                                                                                   |
|                                | <a href="#"><u>Develop diversity management</u></a>                                  | <ul style="list-style-type: none"> <li>• Improve environment for diversity inclusion (acceptance of diversity)           <ul style="list-style-type: none"> <li>• Maintain 2.2% employment rate for the physically or mentally challenged</li> <li>• Increase employment of female employees; surpass previous year's percentage of female employees</li> </ul> </li> </ul>                                                                                                                                                                                                                                                   |
|                                | <a href="#"><u>Promote occupational safety and health</u></a>                        | <ul style="list-style-type: none"> <li>• Create a safe and healthy workplace           <ul style="list-style-type: none"> <li>• Improve occupational safety and health management systems at production sites in Japan; fully implement Sharp's own occupational safety and health management system covering non-production sites and affiliates in Japan</li> <li>• Systematically introduce occupational safety and health management system at overseas production sites</li> <li>• Enhance comprehensive mental health measures for primary, secondary, and tertiary prevention of mental illness</li> </ul> </li> </ul> |
| For Local Communities          | <a href="#"><u>Continue educational support activities</u></a>                       | <ul style="list-style-type: none"> <li>• Continue educational support activities that enlighten children on global environmental issues and increase their interest in science</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                | <a href="#"><u>Continue environmental and biodiversity protection activities</u></a> | <ul style="list-style-type: none"> <li>• Continue local social action programs, including efforts to protect the environment and biodiversity</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                | <a href="#"><u>Continue activities to support persons with disabilities</u></a>      | <ul style="list-style-type: none"> <li>• Continue activities that help persons with disabilities achieve self-sufficiency and participate in society</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## <For Customers> Offering Products and Services That Deliver Peace of Mind and Satisfaction

Constantly thinking from the customer's point of view in order to develop and provide products and services that customers find useful is one of Sharp's fundamental values. Sharp is also applying customer feedback toward making better products that customers can rely on for years and is striving to improve sales and after-sales service. Sharp seeks to satisfy customers so that they choose Sharp now, next time, and every time.

### Ensuring Quality and Safety

#### Basic Stance and Vision on Customer Satisfaction (CS) and Quality

To gain customer trust and improve customer satisfaction, the Sharp Group meets customer needs and demands and offers high-quality products and services that are safe, reliable, and environmentally friendly.

#### Quality Philosophy

To respond to society's needs and make products that satisfy our customers, we keep the slogan "Quality First" in mind at all times.

Building a relationship of trust through quality and service so that customers choose Sharp now, next time, and every time.

CS slogan

**品質第一 私たちの心です**  
*Quality First in Heart and Mind*

Quality slogan

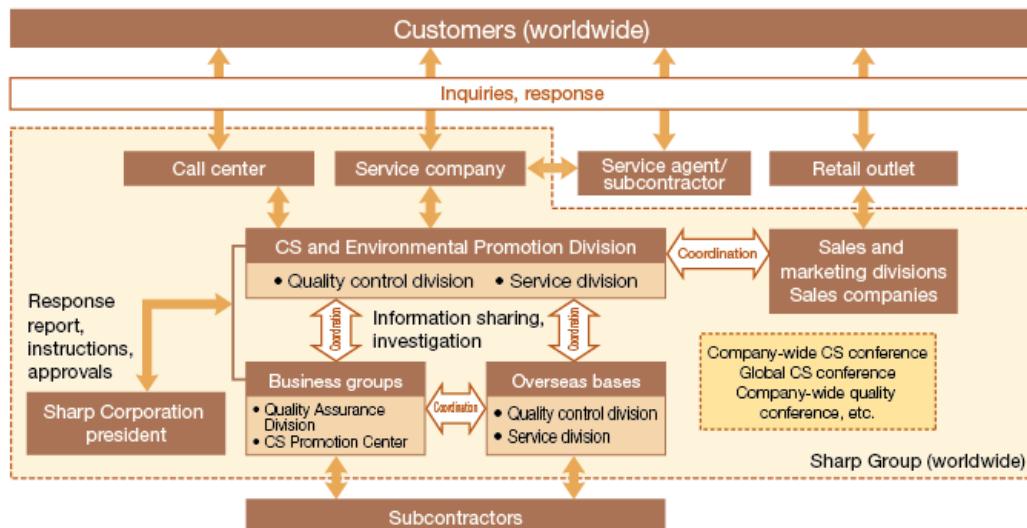
#### Customer Satisfaction and Quality Promotion System

Sharp undertakes all its business activities from product development through sales and service based on management from the customer's point of view and has established the CS and Environmental Promotion Division as a company-wide promotion organization to further boost product quality and safety as well as customer satisfaction.

Sharp has established a CS Promotion Center and a Quality Assurance Department that undertake product service and quality control in each business division. The Sharp Group, including overseas bases and subcontractors, has also established a system for building relations of trust with customers by providing safe, high-quality products and service.

In fiscal 2012, a new global quality education program was established to promote overseas quality and service personnel training. This was implemented at nine bases in China, and quality mindset training sessions were provided to a total of 472 participants. Furthermore, in order to strengthen personnel training, a quality and service management training program was established for local service managers.

#### ■ Quality and CS System



## Quality Assurance System

Sharp specifies the quality levels it provides to customers, thus ensuring that all employees in product planning, design, production, sales, and after-sales service aim for the same targets in their ongoing pursuit of quality improvement. All Sharp Corporation business divisions and all production sites of consolidated subsidiaries in Japan and abroad have obtained the international ISO 9001 certification of quality management.

They have also adopted the SHARP Corporation Standards—the Sharp Group's proprietary quality assurance standards—and conduct various quality assurance activities in each stage of the product-making process—from planning, design, and manufacture to testing/evaluation and marketing.



### ISO 9001-certified sites

## Efforts to Ensure Product Safety

At Sharp, product safety is based on adherence to the safety standards, laws, and regulations of every country. In addition, Sharp has its own technical safety standards, which are applied to all products. Through these standards, Sharp aims to ensure product safety even when rare and unexpected problems arise, especially concerning issues such as incombustible material usage and abnormal motion detection. To ensure an even higher level of safety, Sharp revises the standards whenever the need arises. Also, Sharp has built a system for ensuring product safety so that unexpected product problems can be dealt with more swiftly and precisely.

Along with responding in a timely manner to changes in the social situation and revisions to laws pertaining to product safety, Sharp will continue to increase its efforts at offering products that customers can use with peace of mind.

## Educational Activities in Japan for the Safe Use of Products

Through its website and pamphlets, Sharp is enlightening customers on the safe use of its products.

To prevent customers from experiencing any unexpected disadvantage from unsuitable methods of use or installation locations, Sharp posts advice for safe usage on its website and actively provides information.



Web page showing advice for safe usage

## Disclosure of Information When Quality Problems Arise

In the event that a Sharp product is found to be responsible for injury to customers or for damage to property, Sharp will disclose relevant information immediately in newspapers and via its website, or through other methods. Sharp also has contact points to directly receive inquiries from customers and is striving to keep quality problems to an absolute minimum.

During fiscal 2012, Sharp notified customers as below, providing free-of-charge inspection, repair, and product recovery.

Based on the Sharp Voluntary Product Safety Action Policy, Sharp also releases on its website details of serious accidents that are suspected to be or have been judged to be caused by a Sharp product and that have been reported to the Consumer Affairs Agency and the Ministry of Economy, Trade and Industry in Japan.

## Free-of-Charge Inspection and Repair

### •Refrigerator/Freezer for Japan (April 2012)

In response to the risk of smoke generation or ignition in some products due to an overheating problem in the starting relay (electric component for starting up the system), Sharp conducted free inspections and parts replacement.


**<For Customers> Offering Products and Services That Deliver Peace of Mind and Satisfaction**
**ISO 9001-Certified Sites****Business Divisions and Subsidiaries in Japan**

As of August 2013

| Certified Sites (Companies)                                                                                                                           | Locations                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Digital Information Appliance Division                                                                                                                | Yaita, Tochigi<br>Kameyama, Mie                                                            |
| Communication Systems Division                                                                                                                        | Higashi-hiroshima, Hiroshima                                                               |
| Health and Environment Business<br>• Health and Environment Systems Division<br>• Plasmacluster and LED Lighting Equipment Development Division       | Yao, Osaka                                                                                 |
| Business Solutions<br>• Document Solutions Division<br>• Business Solutions Promotion Division<br>• Business Solutions Development Division           | Yamato-koriyama, Nara                                                                      |
| Solar Systems Division                                                                                                                                | Katsuragi, Nara<br>Yao, Osaka<br>Toyama, Toyama<br>Sakai, Osaka                            |
| Electronic Components and Devices Division                                                                                                            | Osaka, Osaka<br>Katsuragi, Nara<br>Tenri, Nara<br>Mihara, Hiroshima<br>Fukuyama, Hiroshima |
| Display Device Business<br>• Display Device Business Division<br>• Display Device Assembly Business Division<br>• Display Device Development Division | Kameyama, Mie<br>Taki, Mie<br>Tenri, Nara<br>Minato-ku, Tokyo                              |
| Sharp Manufacturing Systems Corporation                                                                                                               | Yao, Osaka                                                                                 |
| Sharp Engineering Corporation                                                                                                                         | Osaka, Osaka<br>Yaita, Tochigi<br>Sakura, Tochigi                                          |
| Sharp Niigata Electronics Corporation                                                                                                                 | Niigata, Niigata                                                                           |
| Sharp Yonago Corporation                                                                                                                              | Yonago, Tottori                                                                            |
| Sharp Tokusen Industry Co.                                                                                                                            | Osaka, Osaka                                                                               |

## Overseas Production Sites

| Certified Sites (Companies) |                                                         | Country/Region |
|-----------------------------|---------------------------------------------------------|----------------|
| SMCA                        | Sharp Manufacturing Company of America                  | USA            |
| SEMEX                       | Sharp Electrónica Mexico S.A. de C.V.                   | Mexico         |
| SUKM                        | Sharp Manufacturing Company of U.K.                     | UK             |
| SMF                         | Sharp Manufacturing France S.A.                         | France         |
| SMPL                        | Sharp Manufacturing Poland Sp. z o.o.                   | Poland         |
| SEES                        | Sharp Electronics (Europe) Limited Sucursal en España   | Spain          |
| SSEC                        | Shanghai Sharp Electronics Co., Ltd.                    | China          |
| NSEC                        | Nanjing Sharp Electronics Co., Ltd.                     | China          |
| SOCC                        | Sharp Office Equipments (Changshu) Co., Ltd.            | China          |
| WSEC                        | Wuxi Sharp Electronic Components Co., Ltd.              | China          |
| SSMC                        | Shanghai Sharp Mold and Manufacturing Systems Co., Ltd. | China          |
| SKC                         | Sharp Korea Corporation                                 | Korea          |
| SPC                         | Sharp (Phils.) Corporation                              | Philippines    |
| SMM                         | Sharp Manufacturing Corporation (M) Sdn. Bhd.           | Malaysia       |
| SOEM                        | S & O Electronics (Malaysia) Sdn. Bhd.                  | Malaysia       |
| SATL                        | Sharp Appliances (Thailand) Ltd.                        | Thailand       |
| SMTL                        | Sharp Manufacturing (Thailand) Co., Ltd.                | Thailand       |
| SEID                        | PT. Sharp Electronics Indonesia                         | Indonesia      |
| SSI                         | PT. Sharp Semiconductor Indonesia                       | Indonesia      |
| SIL                         | Sharp India Limited                                     | India          |

 <For Customers> Offering Products and Services That Deliver Peace of Mind and Satisfaction

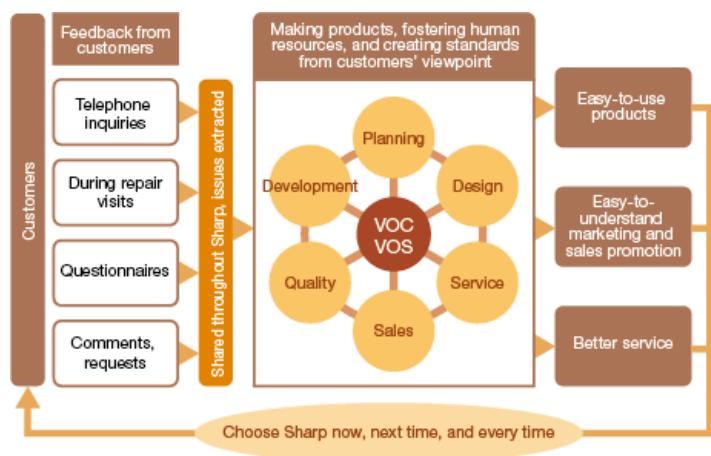
## Making Easier-to-Use Products

### Applying Customer Feedback to the Making of Products

In order to deliver products that customers find easy to use, Sharp is implementing VOCS (Voice of the Customer & Service Staff) activities so that customer evaluations and opinions are put to use when products are made. Feedback received from customers during telephone assistance at the Customer Assistance Center, during repair service visits, and in Web-based questionnaires is shared throughout the company while protecting the anonymity of the customer. The feedback is used to extract challenges from the user's point of view in planning, design, development, quality, sales, service, and other areas.

With a focus on issues extracted through customer feedback, the customer service departments and the development, quality, and sales departments work together to consider ideas for improvement and exchange opinions in order to create products that are even more appealing and easier to use and even better services.

In addition to activities to improve products, Sharp also actively fosters human resources through training and creates assessment standards for supporting manufacturing from the user's point of view in order to conduct user-oriented manufacturing, sales, and service.

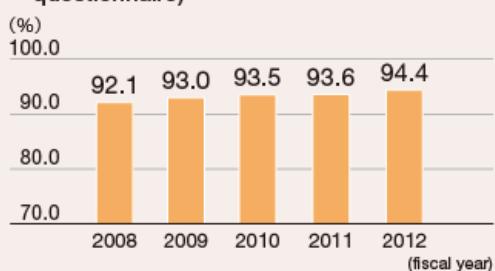


## Topics

### Customer Questionnaires

In Japan, Sharp customers who receive repair visits are administered questionnaires that ask for feedback on all steps of the assistance from reception to repair completion. In one year, Sharp receives approximately 300,000 invaluable responses from customers. The opinions and requests received are passed on as feedback to the staff members involved in the repair and are also subjected to detailed analysis for use in manufacturing and service policies.

### Percentage of "Good" Ratings for Service Personnel (based on replies to customer questionnaire)



## Investigating Customers' Latent Dissatisfaction and Needs Pertaining to Usability and Reflecting Them in Product Design

Based on the concept of user-centered design (UCD), as outlined in the international ISO 9241-210 standard, Sharp investigates customers' latent dissatisfaction and needs as part of its product development process and reflects those findings in the specifications and design of its products.

In addition to getting feedback from its Customer Assistance Center in Japan, Sharp uses field research, surveys, and usability tests (observing how customers actually use Sharp products) to collect information on how customers interact with products. That information is compiled and analyzed to create products that are appealing from three perspectives: products that customers want to use, products that are easy to use, and products that customers will want to continue using for a long time.

Sharp also promotes the manufacture of products that take into consideration universal design, so many more customers can comfortably use its products. As of December 2012, 102 models of 16 Sharp products had been recognized as universal design home appliances by the Association for Electric Home Appliances in Japan. Through activities such as these, Sharp is raising the appeal of its products.

### ■ Usability Tests



A customer tries out a product



Developers observe how customers (located in a different room) actually use products

 <For Customers> Offering Products and Services That Deliver Peace of Mind and Satisfaction

## Product Improvement Case Studies

### Product Improvement Case Studies: Japan

#### Humidifying Air Purifier (KI-BX85/70/50)



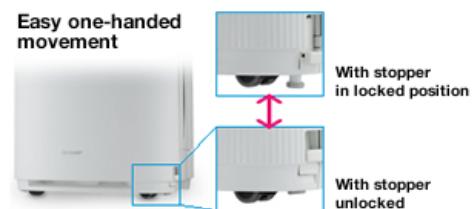
KI-BX70

##### ■ Easy-to-fill, easy-to-clean water tank



##### ■ Wheels with stoppers enable easy movement during housecleaning

##### Easy one-handed movement



(KI-BX70 image)

#### AQUOS LCD TV (G7/GL7/XL9 Series: 40- to 80-inch models)



LC-60G7

##### ■ Remote control with large buttons

Sharp enlarged frequently used buttons such as the numeric/channel selection/volume buttons. It also adopted easy-to-recognize colors for color keys that control frequently used interactive digital broadcasting functions, earning Sharp the CUD mark\*.



\* Indicates certification by the Color Universal Design Organization, an NPO in Japan.

##### ■ Visual Motion Guide

Displaying TV program information and online programs together on one screen makes it easy for viewers to select information.

This Visual Motion Guide received the 2012 Good Design Award in Japan.



**AQUOS City**  
Sharp further enhanced usability by displaying various Internet content according to genre.  
Note: The service screen shown above is an image and may change.

## Product Improvement Case Studies: Overseas

Deployment of Products That Suit Local Preferences in Indonesia

### Refrigerator with Large Vegetable Compartment and a Cosmetics Box (Kirei Series)



### Fully Automatic Washing Machine with a Thorough Hard Wash Cycle



### Price-Sensitive Rice Cooker with a Design That Suits Local Preferences



 <For Customers> Offering Products and Services That Deliver Peace of Mind and Satisfaction

## Boosting Customer Satisfaction

### Customer Service That Exceeds Expectations

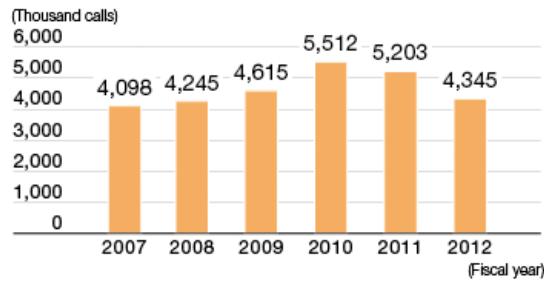
From the moment a customer first considers buying a Sharp product, Sharp's Customer Assistance Center in Japan always aims to meet or exceed customer expectations.

All Customer Assistance Center agents (operators) are periodically monitored by a response-quality manager. Based on those results, agents undergo training to improve their responsiveness in terms of providing assistance that matches the customer inquiry as well as their methods of speaking and listening. This enables the agents to maintain a high level of response skills while also boosting their awareness of customer satisfaction.

In fiscal 2012, Sharp enhanced the support section of its website so that customers can solve problems without calling the Customer Assistance Center. The website provides enhanced customer-oriented services that include Fault Diagnosis Navigation, where customers themselves diagnose the symptoms and solve problems by following instructions on the screen. In fiscal 2012, the number of product categories covered (such as LCD TVs, Blu-ray Disc recorders, washing machines, air conditioners, and refrigerators) was increased to nine. There's also the new Visual Guide, which employs video images to explain how to maintain products—something that can be difficult to explain with just words and illustrations. In addition, customers can use the website to request a repair visit and to select the date for that visit.

The Customer Assistance Center has a toll-free number that gives automated responses to help callers solve the most common issues. This is extremely convenient since customers can phone, for example, late at night when no agents are available and get their problems solved.

■ Number of Calls Received at the Customer Assistance Center (Japan)



The number of inquiries to the Customer Assistance Center went down after peaking in 2010. This reduction can be attributed in part to the termination of the Japanese government's Eco-Point system, a system that fueled product demand, and to the end of terrestrial analog broadcasting. The ability of customers to solve problems by themselves using the previously mentioned online support and toll-free number was also a contributing factor.

Sharp will continue to enhance its support services to help customers solve problems anytime and with ease.

## Visual Guide (in Japanese)



For inquiries that are difficult to answer with just words, an explanation is provided via serial photographs (i.e. a simple video). The contents of the guide will be expanded to further assist customers in solving problems.

## Improving the Web-Based Repair Request Function in Japan

Improvements made to online support functions allow customers to select their preferred repair date when using the Sharp website to request a repair visit. Customer convenience was also improved by providing a repair-visit cancel function on the same web page.

Web page showing repair request

**Topics****No. 1 in After-Sales Service Satisfaction in 4 Product Categories for 4 Years Running**

Sharp was selected as the top brand in four product categories—flat-screen TV, DVD/HDD recorder, washing machine/dryer, and air conditioner—in the 2012 After-Sales Service Satisfaction Ranking survey published in the July 30, 2012 issue of the *Nikkei Business* magazine, marking Sharp's fourth consecutive year as No. 1.

In fiscal 2012, Sharp was recognized for its active and continuous implementation of new initiatives for which all departments involved with after-sales service, including service companies, the Customer Assistance Center, and parts supply centers, worked together to increase customer satisfaction. These initiatives include a “time concierge” service in which service staff visit the customer and complete the repairs at the requested time, strengthening of the system to allow immediate advance orders of parts required for the repair, and use of tablet terminals to provide easy-to-understand explanations to customers on the content of the repairs.

Sharp will continue to improve the communication and technical skills of employees involved in after-sales service to retain its top-brand status. Sharp will also continue to provide the kind of high-quality service that increases the loyalty of customers so they will choose Sharp again.

**Words from a Service Employee**

Sharp has achieved the No. 1 position for the fourth year in a row. As a service professional, I feel we must strive further in our daily service activities. In order to provide customers with service that exceeds their expectations and pleases them, we must continue offering prompt and reliable after-sales services that bring customers peace of mind.



Kolchi Mori  
Supervisor  
Higashi Yamaguchi SB  
West Japan Chugoku/  
Shikoku CS Department  
Sharp Engineering Corporation

**Activities to Improve Frontline Service Response in Japan**

Sharp believes that, to improve customer satisfaction, it is essential that not only service technicians who conduct repair visits but also call center agents and frontline service staff members who meet directly with customers need to respond with courtesy. For this reason, Sharp promotes a wide array of activities for staff members working at the frontline of customer service in Japan. Those activities include encouraging employees to acquire a level 3 telephone communication certification (as of May 2013: 211 employees out of 283 had obtained this certification), participating in telephone communication competitions (fiscal 2012: 2 employees participated in the national event), and training frontline leaders.

Scores on a survey for Sharp's frontline service response have increased each year since the survey began in 2009. By strengthening such activities in the future and raising the motivation of frontline staff, Sharp will improve its response quality and will strive to increase customer satisfaction.

## Global Customer Support System

Sharp is improving customer satisfaction in major overseas regions by making its call centers there the control towers for all service activities, as they are in Japan.

And by deploying overseas the repair and response know-how accumulated in Japan and promptly carrying out services that are locally rooted, sincere, and assuring, Sharp will continue to bring peace of mind to customers around the world through trusted service that satisfies their needs.

### ■ Sharp Call Centers around the World



| No. | Region        | Call center locations (country and city)                           | No. of calls handled (fiscal 2012) |
|-----|---------------|--------------------------------------------------------------------|------------------------------------|
| 1   | North America | US (Chicago), Jamaica (Kingston)                                   | 960,000                            |
| 2   | Europe        | Germany (Dortmund), The Netherlands (Maastricht), France (Orleans) | 100,000                            |
| 3   | China         | China (Shanghai, Hong Kong)                                        | 1,540,000                          |
| 4   | Indonesia     | Indonesia (Jakarta)                                                | 380,000                            |
| 5   | Malaysia      | Malaysia (Kuala Lumpur)                                            | 90,000                             |
| 6   | India         | India (Chennai)                                                    | 370,000                            |
| 7   | Australia     | Australia (Sydney)                                                 | 30,000                             |

SEC: Sharp Electronics Corporation (sales subsidiary in the US) / SEG: Sharp Electronics GmbH (sales subsidiary in Germany) / SESC: Sharp Electronics Sales (China) Co., Ltd. (sales subsidiary in China) / SRH: Sharp-Roxy (Hong Kong) Ltd. (sales subsidiary in Hong Kong) / SEID: P.T. Sharp Electronics Indonesia (sales and manufacturing subsidiary in Indonesia) / SRSSC: Sharp-Roxy Sales & Service Company (M) Sdn. Bhd. (sales subsidiary in Malaysia) / SBI: Sharp Business Systems (India) Ltd. (sales subsidiary in India) / SCA: Sharp Corporation of Australia Pty. Ltd. (sales subsidiary in Australia)

### Overseas Deployment of the CS (Customer Satisfaction) Logo

Globally unify the CS logo, deploy the logo throughout the world, and strive to be No. 1 in CS

In order to promote after-sales service activities overseas and improve the mindset of service staff, Sharp has globally unified its CS logo. Although unique service activities have been carried out in every country where Sharp does business, Sharp is now striving to become No. 1 in after-sales service in each region. And Sharp will achieve this by unifying its service identity through this logo, helping customers understand Sharp after-sales service activities, increasing all service staff members' awareness of the need for CS improvement, and providing prompt and accurate services.\*1

\*1 Being deployed in Indonesia, the Philippines, Singapore, UAE, Saudi Arabia, Nigeria, Egypt, and China.



CS logo : The logo sports a friendly design representing the image of a happy customer. The letters C and S form the customer's eyes and nose, and the phrase "We're all around\*2" creates the image of a smiling mouth.

\*2 Meaning: Sharp is everywhere, so you can depend on us.

|                                  |              |
|----------------------------------|--------------|
| <b>Indonesia</b><br><br><br><br> | <br><br><br> |
| <br>                             | <br><br>     |

## Topics

**SPC Serves Flood-Stricken Sharp Customers (Philippines)**

Sharp offers its services in times of natural disasters. From the end of July through the second week of August 2012, a typhoon and heavy rain caused flooding in the Philippines that severely damaged Luzon Island and other regions.



SPC staff members come to the aid of flood victims

The Service Department of SPC, Sharp's manufacturing and sales subsidiary in the Philippines, set up a temporary outdoor repair center in the affected area to help flood victims. There, SPC supported the environmental health of flood victims by offering free product repairs for TV sets and washing machines that had been damaged by the flood. SPC also installed washing machines in the center to provide free laundry service. While waiting for their laundry to be done, customers could entertain themselves with karaoke machines.

By quickly providing services to help victims in their reconstruction efforts—rendering both psychological and material support—SPC was able to put smiles back on the faces of local customers.



SPC's free services bring hearty smiles to people's faces (left: product repair, right: laundry service)

## <For Business Partners> Mutual Prosperity with Suppliers and Dealers

Through close communication with all business partners and through activities that deepen mutual understanding, Sharp is promoting CSR activities across the supply chain.

### Fair and Impartial Procurement Activities

#### Determining Procurement from the Standpoint of Providing Equal Opportunity and Fair Evaluation

Sharp has production activities around the world and chooses who it will procure local parts, materials, and equipment from by providing all Japanese and overseas suppliers with an equal opportunity to do business with Sharp. This opportunity includes a fair evaluation of whether a supplier meets Sharp's requirements for quality, standards, and performance.

Sharp has also formulated and is observing Basic Purchasing Principles that contribute to a prosperous coexistence with business partners. The Principles stipulate impartiality and fairness in all purchasing activities and the creation of a relationship of cooperation and trust with suppliers.

### Close Communication and Mutual Understanding

To ensure continued mutual growth and prosperity and to achieve sustainable development with its suppliers, Sharp is going beyond initiatives related to the quality, price, and delivery of parts and materials. Through CSR initiatives across the supply chain, Sharp is also seeking to fulfill its social responsibilities over a wide range of areas that include product safety, environmental protection, human rights and labor, and health and safety.

In both the Basic Purchasing Principles and the Sharp Supply-Chain CSR Deployment Guidebook, which summarizes Sharp's basic concept on supply-chain CSR promotion based on the Basic Purchasing Principles, Sharp clearly declares the implementation of CSR initiatives—such as complying with all laws, regulations, and social standards, and protecting the environment—as one of its procurement policies. Examples include prohibition of child/forced labor and discrimination and compliance with labor-related laws, such as those dealing with employees' right to organize and right to collective bargaining. Sharp also asks its business partners to actively promote such activities.

To deepen the understanding between Sharp and its business partners, Sharp business divisions and overseas production bases have been holding regular roundtables and meetings for their suppliers. In addition, Sharp exchanges information with supplier sales representatives on a daily basis.

### Basic Purchasing Principles 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

- Compliance with laws related to manufacture and distribution of material
- Compliance with laws related to labor
- Compliance with laws related to health and safety and arrangement of proper labor environment
- Prohibition of child and forced labor
- Prohibition of discrimination based on race and sex and respect for the dignity of each employee
- Compliance with environmental laws
- Prohibition of bribery and unfair act

## Promoting CSR across the Supply Chain

### Promoting CSR Measures Throughout the Supply Chain

In 2007, to help its suppliers gain an understanding of Sharp's CSR philosophy and promote CSR-related measures among suppliers, Sharp created its own Sharp Supply-Chain CSR Deployment Guidebook and distributed it to major suppliers. It was also made available on the Sharp website.

This guidebook conforms to the Supply-Chain CSR Deployment Guidebook produced and distributed by the Japan Electronics and Information Technology Industries Association (JEITA). Through this initiative, Sharp is advancing CSR efforts throughout the supply chain by requesting that suppliers around the world step up their efforts in areas related to CSR.

Since fiscal 2007, Sharp has been increasing common understanding about CSR in the supply chain by having its suppliers fill out CSR procurement surveys based on this guidebook. Furthermore, in 2011, Sharp amended the Basic Parts Purchase Agreement signed with partners in Japan to add an article on CSR initiatives that requests adherence to the policies stipulated in the guidebook and is now steadily working to reenter these agreements. In the future, Sharp plans to deploy these activities for its overseas suppliers.

### Contents of the Sharp Supply-Chain CSR Deployment Guidebook

#### I. Human Rights and Labor

- Prohibit forced labor • Prohibit inhumane treatment and infringements of human rights • Prohibit child labor • Prohibit discrimination • Pay appropriate wages • Regulate working hours • Respect the right to freedom of association

#### II. Occupational Health and Safety

- Apply safety measures for equipment and instruments • Promote safe activities in the workplace • Promote hygiene in the workplace • Apply appropriate measures for occupational injuries and illnesses • Properly manage disasters and accidents
- Be careful about physically demanding work • Promote safety and hygiene in all company facilities • Promote health maintenance programs for employees

#### III. Environment

- Establish and apply an environmental management system • Control hazardous chemicals in products • Control hazardous chemicals in manufacturing • Minimize environmental pollution (water, soil, air) • Obtain environmental permits • Promote resource and energy saving by reusing, reducing, and recycling (3R) • Promote greenhouse gas reduction • Promote waste reduction • Disclose environmental preservation activities

#### IV. Fair Trading

- Prohibit corruption and bribery • Prohibit abuse of a superior position • Prohibit the offering and receiving of inappropriate profit and advantage • Prohibit impediments to free competition • Provide accurate information on products and services • Respect intellectual property • Use appropriate export procedures • Disclose appropriate company information • Detect injustice promptly

#### V. Product Quality and Safety

- Establish and apply a quality management system
- Ensure product safety

#### VI. Information Security

- Secure computer networks against threats
- Prevent the leakage of personal information
- Prevent the leakage of customer and third-party confidential information

#### VII. Contribution to Society

- Contribute to society and community



Sharp Supply-Chain CSR Deployment Guidebook  
(Japanese, English, and Chinese editions)

### ➤ Sharp Supply-Chain CSR Deployment Guidebook

### CSR Procurement Survey Status

Since fiscal 2007, Sharp has been implementing globally a CSR procurement survey using an online response system to enable suppliers to use the Internet to enter answers to self-checks based on the Sharp Supply-Chain CSR Deployment Guidebook.

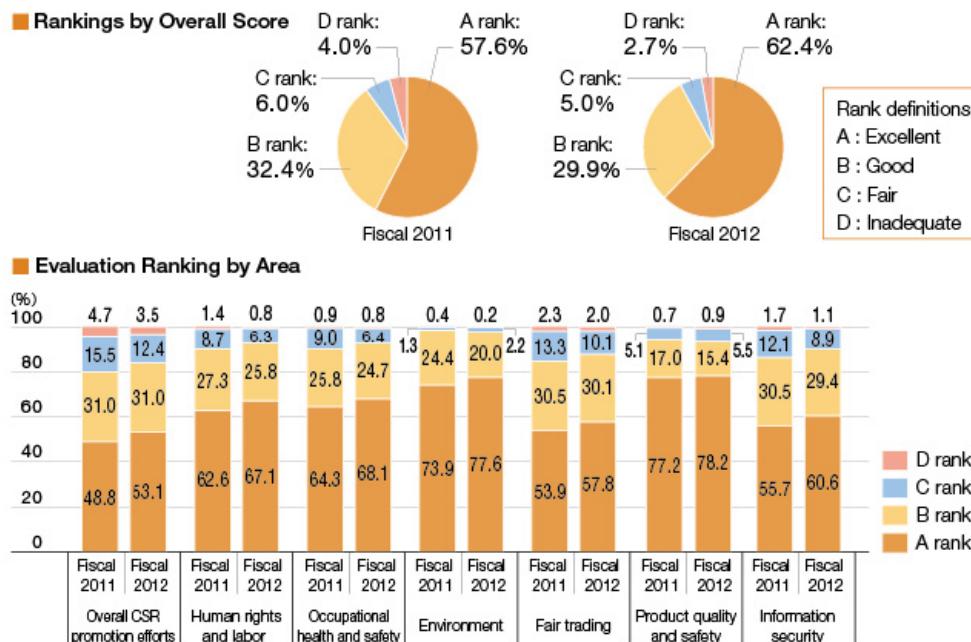
Sharp requests improvement of CSR initiatives from suppliers who have ranked D in their results for a particular survey area—or who have ranked C or below for two years in a row—by having them prepare and submit a corrective action plan.

In fiscal 2012, Sharp conducted a fifth survey of suppliers in Japan, a fourth survey of suppliers in China and Malaysia, and a third survey of suppliers throughout the Asian region, as well as in Europe and North America. To date, the surveys have been completed by approximately 2,400 suppliers (approximately 4,600 sites) worldwide.

As a result of surveys carried out to date and requests for improved initiatives, the number of A-ranked suppliers is increasing each year. Moving forward, Sharp will continue administering surveys once a year, in principle. By requesting improvements as needed and providing supportive measures, Sharp will use these surveys as an opportunity to improve communication with suppliers, thereby continuously raising the level of CSR initiatives throughout the supply chain.

In fiscal 2012, to further deepen suppliers' understanding of voluntary CSR activities, Sharp began providing feedback on evaluation results to both respondent and supplier managers.

## Status of Supplier Self-Evaluations in the CSR Procurement Survey\*1



\*1 Status of suppliers serving Sharp production bases in Japan and overseas that completed the CSR Procurement Survey in fiscal 2011 and fiscal 2012.

### Dealing with the Conflict Mineral Issue

In the Democratic Republic of the Congo (DRC), the environmental destruction and inhumane acts against local residents perpetrated by armed anti-government militia forces have become a major international issue.

Minerals such as tantalum, tin, gold, and tungsten mined illegally in the DRC and adjoining countries have become a source of financing for the militias, and hence, these minerals are called “conflict minerals.” With the establishment of the conflict minerals provision of the Dodd-Frank Wall Street Reform and Consumer Protection Act in the US in July 2010 and the declaration of the Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas by the OECD, companies that use these minerals for the manufacture or functionality of their products are being strongly urged to conduct their activities appropriately in an effort to cut off funding to such armed forces.

For some time, Sharp has been requesting that its suppliers put initiatives into practice to fulfill their social responsibility in areas such as human rights, labor, and the environment, based on Sharp’s Basic Purchasing Principles and the Sharp Supply-Chain CSR Deployment Guidebook.

Tin, gold, tantalum, and tungsten are also used in Sharp products; tin, for example, is a component of solder. Recognizing that resolving the conflict mineral issue is one of the key elements of supply chain CSR, Sharp—as a member of the global community—has instituted a basic policy and is working to ensure that its activities are carried out appropriately. That policy reads: “For the purpose of not being complicit in the human rights abuses and environmental disruptions, etc. associated with conflicts in the Democratic Republic of the Congo, any raw materials, parts, products, etc. which include any conflict minerals mined illegally in the Democratic Republic of the Congo or an adjoining country shall neither be procured nor used. In addition, appropriate measures, etc. to that effect shall be taken.”

Starting in January 2011, Sharp sent its suppliers a questionnaire that uses an original format to ascertain whether or not the four minerals in question are contained in products and materials supplied to Sharp, and, if so, to confirm their country and mine of origin. Replies have been received from over 90% of its suppliers. Over 80% of suppliers from whom Sharp purchases parts and products that contain the minerals in question responded that they do not use minerals from the DRC or an adjoining country. For suppliers that responded that they are uncertain whether or not they are using minerals from such countries, Sharp is continuing to request that they refrain from using illegally mined minerals.

In fiscal 2012, by participating in the Responsible Minerals Trade Working Group of the Japan Electronics and Information Technology Industries Association (JEITA) as well as through other forums, Sharp began adapting its survey activities to EICC/GeSI, the Japanese automotive industry, and related industries. Sharp then started using the industrial-standard EICC/GeSI reporting template to monitor usage of conflict minerals and smelters, beginning with suppliers related to the device business.

In fiscal 2013, Sharp has revised the Sharp Supply-Chain CSR Deployment Guidebook to add an article on the “Coordinated Response to the Conflict Minerals Issue” and has requested that suppliers further cooperate in these activities. Sharp will take swift and appropriate action against the conflict minerals issue while cooperating with related industries within Japan and abroad and always taking into account the latest circumstances.

**Close-Up****Working with Suppliers to Further Improve Their CSR Efforts**

With the globalization of its business activities, Sharp's value chain—from design to development, procurement, production, sales/marketing, and service—has spread around the world. At the same time, there is a need to address an ever-diversifying range of complex social challenges related to the supply chain. These challenges include solving issues pertaining to human rights and labor standards in the supply chain as well as ensuring compliance with laws governing the control and management of chemical substances (e.g. the European REACH regulations<sup>\*2</sup>).

In this light, Sharp is committed to implementing measures on a global basis to fulfill its corporate social responsibility, working in collaboration with suppliers, based on the Sharp Supply-Chain CSR Deployment Guidebook and Green Procurement Guidelines.

Sharp is constructing a CSR auditing framework under which company representatives visit the production sites of suppliers and verify their performance in relation to answers submitted on suppliers' self-administered CSR procurement surveys. Starting in fiscal 2010, Sharp suppliers in Japan and China have undergone CSR procurement audits on a trial basis.

In fiscal 2012, Sharp established internal auditing framework policies in line with the company's organizational structure and based on trial audits conducted in fiscal 2010 and 2011. Sharp also conducted activities to optimize the auditing tools for internal auditors, such as the audit manual and checklists that it had revised in fiscal 2011. For fiscal 2013, Sharp plans to move forward on preparations for full implementation of the CSR procurement audit, mainly through such methods as training CSR procurement auditors in the use of auditing tools.

Through mechanisms such as ongoing CSR procurement surveys and audits, Sharp will be working continuously with suppliers to improve the level of their CSR efforts, with the aim of making even greater contributions to the global community throughout the supply chain.

**\*2** REACH (Registration, Evaluation, Authorisation, and Restriction of Chemicals) is a set of regulations legislated by the European Union to advance safety assessments of existing chemical substances. These regulations were adopted in December 2006 and went into effect in June 2007.

» [Related information: Managing Chemical Substances in Products / Green Procurement](#)

**■ Production and Procurement Bases That Conducted CSR Procurement Surveys and Audits in and before Fiscal 2012**

North America

1 SMCA (US)      2 SEMEX (Mexico)

Europe

3 SUKM (UK)  
5 SEES (Spain)  
4 SMF (France)  
6 SMPL (Poland)

Asia

7 SIL (India)  
9 SMTL (Thailand)  
11 SOEM (Malaysia)  
13 SEID (Indonesia)  
15 SPC (Philippines)  
8 SATL (Thailand)  
10 SEM (Malaysia)  
12 SMM (Malaysia)  
14 SSI (Indonesia)  
16 SKC (Korea)

China

18 SSEC (Shanghai)  
21 STW (Wuxi)  
19 SOCC (Changhsu)  
22 NSEC (Nanjing)  
20 WSEC (Wuxi)  
23 SEM Hong Kong Branch (Hong Kong)

● Bases that conducted CSR audits for some of their suppliers and that conducted CSR procurement surveys



 Case Studies**Audits and Education to Ensure Full Compliance with the Subcontract Act**

To comply with the Subcontract Act (Act Against Delay in Payment of Subcontract Proceeds, etc. to Subcontractors) in Japan, Sharp Corporation and its affiliated companies implement compliance checks and in-house education on an ongoing basis.

Regarding compliance checks, in fiscal 2009, to encourage internal voluntary reporting of compliance issues and further strengthen precautionary measures to prevent recurrence of problems, the material purchase and subcontractor supervision departments of all business groups, as well as Head Office groups and affiliated companies, began self-audits in which they check how well they are complying with the Subcontract Act.

In fiscal 2012, Sharp's Legal Unit and Corporate Procurement Unit conducted audits on business groups to check on their compliance with the Subcontract Act. This allowed Sharp to confirm the company's status regarding compliance with the Subcontract Act and ensured thorough compliance.

At Sharp's affiliated companies in Japan, training on the Subcontract Act was held at each company, with the persons in charge of Subcontract Act compliance acting as lecturers and using teaching materials customized to match each companies' business transactions and operations.

**Working Together with Dealers to Promote Appealing, Environmentally Friendly Products**

Sharp's sales and marketing divisions in Japan are helping with the CSR activities of dealers. Through workshops and study sessions, and as part of routine sales activities, individual sales representatives are communicating information to employees of dealers on topics ranging from environmental issues on the global level to actions they can take in everyday life to protect the environment.

In turn, dealers are offering customers proposals for environmentally friendly products and ways of using them. And the dealers themselves are aiming to build environmentally friendly stores by making the most of efforts to conserve energy and save electricity in their own business.

In Sharp's solutions business, in which Sharp works with corporate customers to create solutions for businesses, the company is fusing its technologies with the products of its corporate customers in an effort to develop environmentally friendly products.

In proposing these initiatives, Sharp sales representatives are taking full advantage of knowledge gained through taking the Eco Test, which is promoted as a way of helping employees acquire knowledge about environmental issues.

Sharp, working together with dealers, is engaging in business activities that can contribute to the environment while encouraging employees to further improve their skills.

## <For Shareholders and Investors> Appropriate Information Disclosure

Through general shareholders' meetings and IR (investor relations) activities that respond to diversifying needs, Sharp is promoting communication with shareholders and investors and is applying the valuable feedback from these stakeholders toward management improvements.

### Communication with Shareholders and Investors

#### IR Disclosure Policy

Sharp discloses information to shareholders and investors in a fair and timely manner, in order to increase trust in its IR activities and to ensure a proper assessment of Sharp's corporate value in capital markets.

Sharp discloses information designated under the laws and regulations of Japan, and it also actively discloses other information, such as business development, management policy, and strategy.

▶ [Related information: IR disclosure policy](#)

#### Holding Open General Shareholders' Meetings

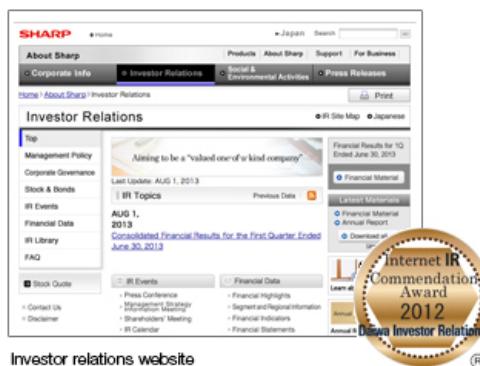
Sharp holds ordinary general shareholders' meetings earlier than most Japanese companies and sends out early notices of the meetings. It also strives to create an environment that enables shareholders to easily exercise their voting rights. Efforts include allowing shareholders to exercise voting rights by computers and mobile phones, participating in an electronic voting platform for institutional investors, and posting English notices about the meetings on its website. In addition, Sharp is working to further enhance information disclosure, such as by posting video of the shareholders' meeting on the website the day after the meeting for a certain period of time.

#### IR Activities Designed to Meet the Diversifying Needs of Investors

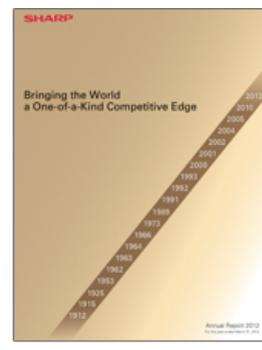
Sharp is striving to disclose a wide range of information in a timely and accurate manner, while proactively engaging in communication with shareholders and investors through domestic and overseas IR activities. It also provides investors with easy-to-understand information on company performance, such as consolidated financial releases and presentation materials.

In addition to updating and expanding information on the IR website, Sharp has improved the site's search capability and viewability. Sharp also strives to provide information needed by investors in a timely manner, including financial materials and reports given at briefings. There is also a site for individual investors, where they can easily access relevant information presented in an easy-to-understand format that employs layman's language, charts, graphs, and figures.

Sharp is continuing to go beyond its legal obligations to supply certain designated information by actively disclosing additional information about its businesses, as well as its management policies and strategies.



Investor relations website



2012 Annual Report

▶ [Investor relations](#)

▶ [Annual report](#)

## Communication with Shareholders and Investors

Major activities in fiscal 2012 included holding individual interviews and meetings with institutional investors and analysts at the Osaka and Tokyo offices upon request, as well as hosting briefings on quarterly financial results and business strategies.

Sharp also participated in securities company-sponsored conferences for domestic and overseas investors, where Sharp outlined its financial highlights and explained the progress of its management improvement measures, such as those designed to strengthen Sharp's financial standing.

Through future IR activities, Sharp will continue to make sure a broad range of investors fully understand the condition of the company's business and its business strategies.

### SRI (Socially Responsible Investment)\*

As of March 2013, the following SRI ratings agencies had given Sharp a favorable CSR rating or included Sharp in their SRI indices.

- FTSE4Good Global Index (UK)
- MSCI Global Climate Index (US)
- Morningstar Socially Responsible Investment Index (Japan)



\* Investment in companies that fulfill not only their financial obligations but their environmental and social responsibilities as well.

## ■ <For Employees> Creating a Fair, Positive, and Progressive Workplace

Sharp stresses the importance of basic human rights and personal dignity, provides enthusiastic employees with opportunities for growth, and strives to realize a human resource system and workplace conducive to a diverse range of people using their individual talents to the fullest. It also has systems for helping employees maintain a healthy balance between their work and home lives, and it strives to create a workplace that offers employees mental and physical well-being.

### Efforts Related to Human Rights

#### Respect for Basic Human Rights and Personal Dignity

Sharp participates in the United Nations Global Compact as part of its worldwide efforts to abide by international standards for human rights and labor.

The Sharp Group Charter of Corporate Behavior and the Sharp Code of Conduct stipulate the guiding principles on human rights for all executives and employees in terms of observing basic human rights and personal dignity, prohibiting discrimination and human rights violations, and prohibiting both child and forced labor.

In Japan, Sharp continuously carries out human rights education activities, such as annually conducting human rights training at each site (a total of approximately 20 sessions in fiscal 2012). Sharp also gives newly appointed heads of overseas bases booklets covering such topics as respect for human rights. Overseas, Sharp strives to prevent human rights violations in line with local laws and promotes human rights protection at each site.

#### Good Labor-Management Relationship through Dialogue

Sharp respects employees' right to organize and the right of collective bargaining based on the laws in each country and region and works to strengthen trusting relationships with labor unions.

In Japan, Sharp holds monthly meetings of labor-management heads: these include the Central Labor-Management Council, which involves top executives from both sides, and local labor-management meetings at each site and affiliate, where opinions are exchanged on business conditions and on labor-management issues pertaining to the work environment.

In Europe, Sharp holds European Works Council meetings every year to review managerial issues throughout Europe. In China, under the Employment Contract Law enacted in 2008, companies are obligated to hold meetings with employee representative assemblies to decide on issues like employee working conditions. In line with this law, Sharp strives to build a cooperative labor-management relationship as an even better partner.

 <For Employees> Creating a Fair, Positive, and Progressive Workplace

## Human Resource Development

### Personnel, Education, and Training Systems That Respect Employee Initiative and Diversity

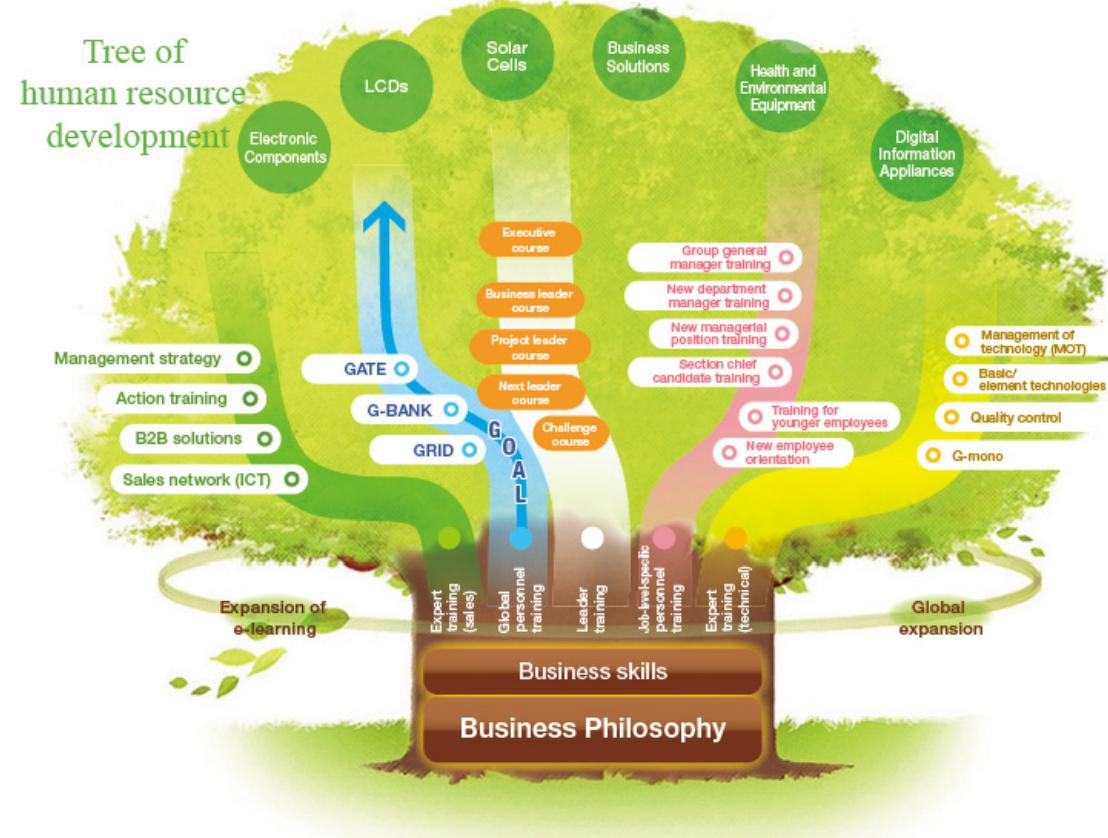
Based on the belief that human resources are the most important asset for a corporation, Sharp has implemented a variety of personnel, education, and training systems that respect initiative and diversity and that are designed to develop the character, motivation, and creativity of each employee. While Sharp strives to expand its business in rapidly emerging markets, it is focusing efforts on developing personnel that can play an active role in the global field.

### Next-Generation Human Resource Development Systems

#### Next-Generation Executive Management Personnel and Expert Training; Job-Level-Specific Personnel Training

The Sharp Leadership Program targets younger employees in semi-managerial or supervisory positions, with the objective of systematically nurturing executive management personnel. The Challenge Course, for younger employees in semi-managerial positions, is intended to enable early promotion of younger personnel.

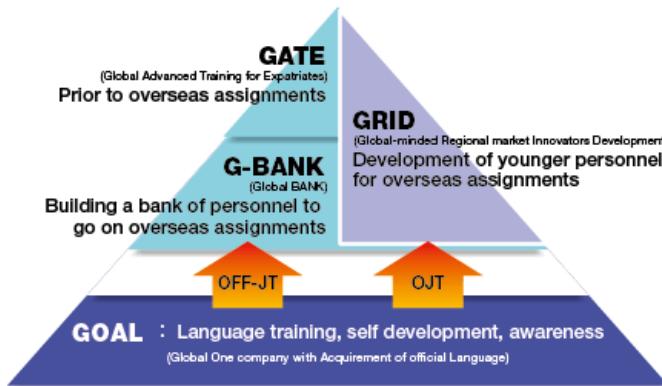
In addition to Global Manufacturing Leader Training to develop manufacturing personnel throughout the globe, Sharp also provides Expert Training to develop technical and sales experts and Job-Level-Specific Personnel Training to give systematic training in the knowledge, skills, and management techniques required at each stage after joining the company.



## Global Human Resource Development

As management becomes more globalized, it becomes increasingly necessary to foster personnel that can actively communicate with people of different cultures and values as well as make use of those differences. In an effort to develop personnel that can work actively in the global field while making the most of diversity, Sharp has established a human resource and education system based on the 4Gs (Global formation)—GATE, G-BANK, GRID, and GOAL.

### Sharp's Global Human Resource Development System



| Name of System | Details of Activities                                                                                                                                                                                                                                                                                                                                        |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GATE           | Enables employees scheduled for immediate overseas assignment to systematically acquire the knowledge and practical communication skills required to carry out duties smoothly overseas.<br>• The total number of employees involved since fiscal 2008 is approximately 700.                                                                                 |
| G-BANK         | Enables employees scheduled for overseas assignments within three years to acquire the basic knowledge and language proficiency required for working in a global setting and fosters personnel for future overseas assignments.<br>• The total number of employees involved since fiscal 2008 is approximately 650.                                          |
| GRID           | Designed for young employees who will be involved in developing Sharp's future overseas business, this program fosters personnel that can be strategically dispatched to newly emerging economies and work actively in those countries and regions.<br>• The program started in fiscal 2011. Plans call for approximately 200 participants over three years. |
| GOAL           | A program open to all employees to help them improve their foreign-language competency, a basic skill required for pursuing global business.                                                                                                                                                                                                                 |

### Talent Development and Motivation-Boosting Programs

#### Open Recruitment System

Sharp implements the Open Recruitment System in Japan to solicit applicants—once every quarter—from among all employees company-wide, inviting them to take newly available positions in critically important areas, such as expanding business in newly emerging economies, pioneering new business, and developing new technologies and products. In fiscal 2012, jobs were offered in approximately 70 topic areas, and about 90 employees were assigned a new position.

#### Personnel Declaration/Career Development System, Career Development Rotation

Once a year, under Sharp's Personnel Declaration/Career Development System, all employees in Japan submit a career development plan along with a self-assessment of their job aptitude. Sharp then uses the information to develop skills and organize job rotations. Sharp also implements a Career Development Rotation to give mainly young employees in Japan the opportunity to experience multiple types of jobs. The aim is to systematically foster personnel who balance a high degree of expertise and a wide intellectual horizon.

#### Step-Up Campaign (Qualification Acquisition Encouragement Plan)

To support employee self-development, Sharp offers monetary rewards to employees who have acquired qualifications, with the amount depending on the difficulty in acquiring the qualification. This plan covers 249 qualifications, including some for field-specific techniques and skills, some directly related to daily duties, and some for language skills—essential in the development of global employees.

#### Award System

Sharp annually honors domestic and overseas employees and divisions/departments that have achieved outstanding performance. In fiscal 2012, approximately 100 awards were presented to about 4,200 employees.

**Topics****Global Deployment of Manufacturing Instructors (G-Mono Instructors) Training**

Manufacturing Instructors training, which was held in China during fiscal 2011, was deployed to Asia in fiscal 2012.

A total of 26 employees participated from five countries and eight subsidiaries in Indonesia, the Philippines, Malaysia, Thailand, and India. Going forward, these newly trained instructors will lead activities to train manufacturing leaders who can provide guidance on how to improve production efficiency at overseas production sites.



G-Mono Instructors training

**Topics****Global Sales Training in the ASEAN Region**

In order to enhance key activities in regions where Sharp can exert its strengths, G-S<sup>3</sup> (GS Cubic\*) training was held in 2012 for sales managers in the ASEAN region, as a global deployment of sales training. In March of that year, 20 employees received training in Indonesia. In September, 20 employees underwent training in Malaysia.

\* G-S<sup>3</sup> = Global Sales, Strategy, Solution

G-S<sup>3</sup> training in Indonesia

 <For Employees> Creating a Fair, Positive, and Progressive Workplace

## Communication with Employees

### Direct Communication between Top Management and Employees —Reflecting the Opinions of Frontline Employees in Activities

The president of Sharp visits each site in Japan to confirm the frontline status of factories and offices and to hold frank and direct communications with employees working on the frontlines.

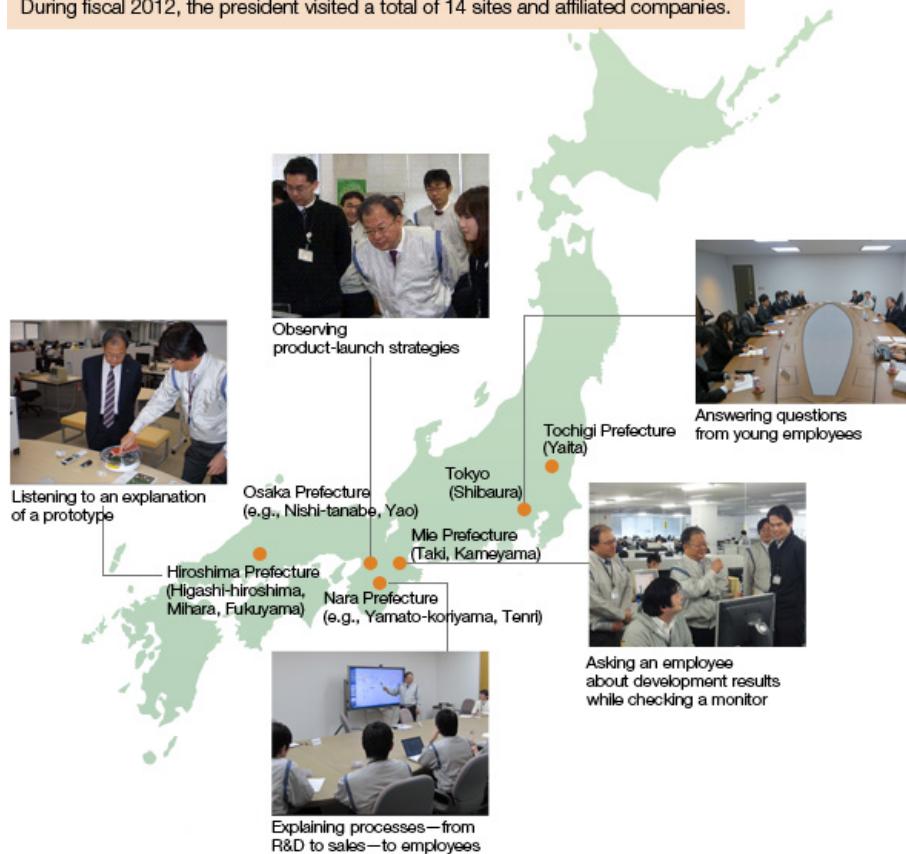
In fiscal 2012, such visits were conducted at a total of 14 sites and affiliated companies. By allowing employees to communicate their thoughts and opinions on everyday operations to the president and giving the president a chance to offer mindful advice, these visits provided significant opportunities for strengthening solidarity at Sharp and for raising employee motivation.

Furthermore, suggestions made during such direct communications were conveyed to related departments and actively incorporated into various activities. And in the interest of information sharing, the content of these direct communications were disclosed as needed to all workplaces via the company intranet.

Going forward, these activities will be continued in order to strengthen unity within the company.

#### ■ Visits by Sharp's President (at the time; currently Sharp's chairman)

During fiscal 2012, the president visited a total of 14 sites and affiliated companies.



## The “San” Campaign in Japan

To create a corporate culture characterized by a good flow of communication, Sharp is promoting a “san” campaign in Japan, encouraging the use of the Japanese honorific suffix san when addressing employees, regardless of rank. This helps create a corporate culture that brings members of different positions and generations closer and creates an atmosphere in which frank and unrestricted communication can take place.

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## Developing Company-Wide Diversity Management

### Efforts Towards Diversity

Sharp's approach to diversity is based on its business philosophy, which states, "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." By respecting each other's differences, Sharp aims to generate new value, develop products that can create future new lifestyles for customers, and propose new services.

In 2004, Sharp established a special department called the Corporate Equal Partnership Project Team. From the very start, Sharp saw this as a business strategy for maximizing the abilities of each employee, not simply as a way to give preferential treatment to women and other minorities. In 2009, the team was expanded to become the Diversity Development Team, responsible for promoting total diversity management,\*1 including training and utilization of non-Japanese employees working in Japan, recruitment of people with disabilities, and re-employment of retirees.

\*1 Diversity management (strategy for utilizing diverse employees) accepts the ideas and values of employees with diverse backgrounds (with regard to gender, age, or nationality) without being influenced by previous corporate or social standards. It is a strategy for promoting company growth and the personal satisfaction of employees by responding rapidly and flexibly to changes in the business environment. (Taken from the report by the Diversity Work Rule Study Group of the Japan Federation of Employers' Associations.)

### Concepts Underlying the Diversity Program

1. Diversity management is a human resources strategy for utilizing a diverse range of employees; it is also a business strategy.
2. Diversity is part of Sharp's business philosophy.
3. Based on the unique individual attributes of women, non-Japanese employees in Japan, the physically or mentally challenged, and retirees, formulate and promote programs aimed at promoting their active participation.
4. Consistently promote diversity.
5. As a foundation for promoting diversity, strive to ensure that systems supporting the balance between work and family are established and become widespread.
6. Work to build a corporate environment that accepts diversity.



### Promoting Activities of Female Employees (Corporate Affirmative Action for Women Strategy Program)

Since fiscal 2005, based on its Corporate Affirmative Action for Women Strategy Program, Sharp has been promoting such measures as a female leader candidate-development program and has been stepping up its training of female managers. In fiscal 2011 and 2013, Sharp's first-ever female executive officer and female director were appointed, respectively. Sharp will continue to actively promote the increase of female managers.



\*2 Sharp Corporation only

\*3 Corporate Affirmative Action for Women Strategy Program started in 2005

\*4 Managers at Sharp Corporation in Japan, including personnel posted to domestic affiliates

## Expanding Opportunities for Non-Japanese Employees in Japan

With the globalization of business, Sharp is working globally to secure and systematically train human resources who match the needs of each workplace. In recent years, Sharp has promoted greater employment of international students and people of other nationalities residing in Japan. Currently, there are approximately 100 non-Japanese employees from 20 countries; a non-Japanese female manager was appointed in April.



### Words from a Non-Japanese Female Manager Working at the Sharp Head Office

I am presently in charge of expanding sales of Plasmacluster and kitchen appliance products in overseas markets (sales and marketing).

I joined the Sharp Group by entering its sales subsidiary in Hong Kong (SRH) in 2000 and later worked at Sharp sales subsidiaries in Singapore (SRS) and the Middle East (SMEF) for several years. I started working at the Sharp Head Office in Japan two years ago.

Before coming to Japan, I had the impression that female employees in Japan are in a relatively weak position in the business world. I got this idea from watching Japanese TV dramas, which often show the women working in offices serving coffee or cleaning desks. When I started working at Sharp Corporation in Japan in the autumn of 2011, I was surprised to learn that female and non-Japanese employees have equal opportunity in the workplace. Everyone can express their opinions and suggestions and can hold discussions. I think it is a really nice workplace for female and non-Japanese employees.

When I was working at SMEF, I felt that in some situations the business climate in parts of the Middle East was tough on female employees: only male employees were able to become managers, and female employees rarely had the opportunity to give speeches. When I had to speak on stage during presentations and dealer conventions in Middle Eastern countries, most attendees were initially surprised to see an Asian woman making a presentation. However, I have learned that as long as you give a sincere and creative presentation, attendees will be impressed with the presentation and will eventually become fans of Sharp regardless of the gender or nationality of the presenter.

I would like to continue working in concert with my colleagues from the global Sharp Group to promote Sharp's health and environmental products around the world.



Tong Emmy Chihung  
Manager  
Global Sales & Marketing Department  
Health and Environment Systems Division  
Sharp Corporation  
(Promoted to section chief in April 2013)

### Sharp Corporation Personnel Composition (As of April 1, 2013)

|                                         |                                           | Male       | Female     | Total (persons) |
|-----------------------------------------|-------------------------------------------|------------|------------|-----------------|
| Directors, executive officers, auditors |                                           | 28         | 1          | 29              |
| Employees                               | Managers                                  | 2,639      | 76         | 2,715           |
|                                         | Sub-managers                              | 6,799      | 560        | 7,359           |
|                                         | General staff (fiscal 2012 new employees) | 6,811 (72) | 1,079 (17) | 7,890 (89)      |
|                                         | Subtotal                                  | 16,249     | 1,715      | 17,964          |
| Total                                   |                                           | 16,277     | 1,716      | 17,993          |
| Ratio (%)                               |                                           | 90.5       | 9.5        | 100.0           |

■ Personnel by Gender at Major Overseas Subsidiaries (As of March 31, 2013)

| Base              |                     | Directors/managers |           | Non-supervisory employees<br>(permanent employees) |           | Total   |           |
|-------------------|---------------------|--------------------|-----------|----------------------------------------------------|-----------|---------|-----------|
|                   |                     | Male(%)            | Female(%) | Male(%)                                            | Female(%) | Male(%) | Female(%) |
| SEC (US)          | Sales               | 79.6               | 20.4      | 64.9                                               | 35.1      | 68.5    | 31.5      |
| SMCA (US)         | Manufacturing       | 84.6               | 15.4      | 41.3                                               | 58.7      | 45.0    | 55.0      |
| SEMEX (Mexico)    | Manufacturing       | 83.1               | 16.9      | 57.0                                               | 43.0      | 58.2    | 41.8      |
| SEEG (Germany)    | Sales               | 88.9               | 11.1      | 65.4                                               | 34.6      | 70.2    | 29.8      |
| SUK (UK)          | Sales               | 80.0               | 20.0      | 72.6                                               | 27.4      | 74.8    | 25.2      |
| SUKM (UK)         | Manufacturing       | 95.8               | 4.2       | 64.6                                               | 35.4      | 66.4    | 33.6      |
| SMPL (Poland)     | Manufacturing       | 88.9               | 11.1      | 29.5                                               | 70.5      | 30.5    | 69.5      |
| SEID (Indonesia)) | Manufacturing/sales | 88.0               | 12.0      | 64.6                                               | 35.4      | 66.2    | 33.8      |
| SATL (Thailand)   | Manufacturing       | 78.8               | 21.2      | 36.6                                               | 63.4      | 38.6    | 61.4      |
| SMM (Malaysia)    | Manufacturing       | 71.5               | 28.5      | 37.2                                               | 62.8      | 42.5    | 57.5      |
| SESC (China)      | Sales               | 80.1               | 19.9      | 58.6                                               | 41.4      | 60.8    | 39.2      |
| SOCC (China)      | Manufacturing       | 91.3               | 8.7       | 29.5                                               | 70.5      | 31.9    | 68.1      |
| NSEC (China)      | Manufacturing       | 65.5               | 34.5      | 62.5                                               | 37.5      | 62.8    | 37.2      |
| WSEC (China)      | Manufacturing       | 64.5               | 35.5      | 40.5                                               | 59.5      | 42.4    | 57.6      |

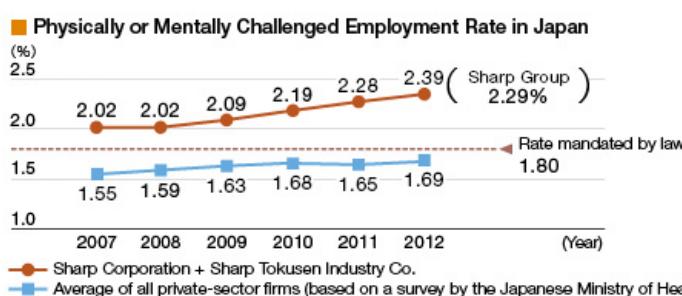
### Promoting Employment of the Physically or Mentally Challenged

Ever since Sharp founder Tokuji Hayakawa established the “accumulation of community service” as one of “Five Accumulations of Competency” in Sharp’s business principle, Sharp has been actively involved in social service and welfare. The entire Sharp Group makes efforts to promote the employment of the physically or mentally challenged and to create a better work environment for these employees.

Specifically, Sharp launched a website addressing the employment of physically or mentally challenged people; the website contains information on initiatives to hire such individuals into the Sharp Group. Sharp is also striving to make the company an easier place to work through the use of support measures such as PC note-taking, a method for conveying audio information by entering it into the keyboard of a PC, during training sessions attended by hearing-impaired participants.

What's more, in order to facilitate efforts on the operations side, grasp the current level of support, and solicit requests to the company, Sharp has conducted questionnaires directed at its employees with physical or mental disabilities.

The percentage of physically or mentally challenged employees in the Sharp Group (including affiliated companies) is 2.29%, exceeding the 2.0% rate mandated by law (as stated in the Act for Employment Promotion etc., of Persons with Disabilities).



Sharp Tokusen Industry's current office building

## Efforts of Sharp Tokusen Industry Co.

The precursor of Sharp Tokusen Industry Co. was the Hayakawa Branch Factory, a pressing factory that employed blind WWII veterans. That factory sprang from the determination of Sharp founder Tokuji Hayakawa to repay persons with disabilities for opening up his life path. In 1977, Sharp Tokusen Industry was the first company in Japan to be certified as a special subsidiary for employing the physically or mentally challenged. Later, it changed its operations to fit the development of Sharp Corporation's electronics business and contributed to the expansion of business as a member of the Sharp Group.

In fiscal 2012, external activities of Sharp Tokusen Industry—as a member of the Sharp Group—received high acclaim and earned it an award from an external public organization.

Going forward, Sharp will further promote social contribution through its activities for the employment of the physically or mentally challenged and through its educational support activities.

» [Close-Up: Expanding and Enhancing Educational Support Activities for Children with Disabilities](#)



### Words from a Disabled Employee Working at Sharp Tokusen Industry

I was posted to the Career Education Support Group of the New Business Development Department in December 2012. My main responsibilities are related to social contribution activities: including (1) making workplace accommodations for trainees, (2) holding dispatched classes on career education at special schools for the hearing-impaired, and (3) guiding visitors around the company. Such career education support activities are provided to non-employed disabled persons and students. I myself am disabled and find my job worthwhile, especially when I can speak to trainees and visitors based on my past experiences.

There are many employees with different disabilities working at this company, and the tasks that they can or can't do well differ according to their disabilities. Some are excellent workers when their jobs match the tasks that they are good at. At my workplace, we hold study sessions to become familiar with the disabilities of each employee, helping us to better understand each other and develop our own skills.

Since the percentage of physically or mentally challenged employees mandated by Japanese law was set at 2% effective April 2013, I believe that employment of the physically or mentally challenged will be further promoted. I would like to help create a workplace in which it is easy for disabled people to work and where there is no segregation between non-disabled and disabled persons. I wish to do this while holding pride as a member of the Sharp Group and while helping improve our presence.



**Kenji Tamatani**  
Sharp Tokusen Industry Co.  
(Higher cerebral dysfunction;  
disability in upper limbs)

## Reemployment of Retirees

In response to the fact that public pension in Japan is not paid until a retiree is 65 years of age, Sharp basically reemploys interested employees who have reached the mandatory retirement age of 60 until they are 65. This is not only in response to a legal requirement but also stems from the company's stance on promoting the utilization of senior employees who have a strong work ethic. It also takes into consideration employees who wish to give back to society via their skills and knowledge accumulated over many years.

## ■ <For Employees> Creating a Fair, Positive, and Progressive Workplace

### Activities to Support Work-Life Balance

In line with its promotion of diversity, Sharp supports its employees by creating a rewarding, safe, and healthy workplace. Sharp gives employees a choice of work styles—allowing them to select the style that best suits them at various stages in their lives—thereby helping them achieve a work-life balance that will enable them to lead rich lives both at work and at home.

Specifically, Sharp is expanding support programs focusing on childcare and nursing care and distributing guidebooks and providing other information to promote use of the programs. In addition, to help employees realize an efficient working style that offers satisfaction both at the company and at home, Sharp labor and management continuously work together to change the way people work, through initiatives like No Overtime Day and by encouraging employees to plan for and take their annual paid vacation days.

These efforts have earned high appraisal from outside the company, with Sharp receiving certification from the Japanese Ministry of Health, Labour and Welfare based on the Act on Advancement of Measures to Support Raising Next-Generation Children.



Work-Life Balance Guidebook  
and Nursing Care Guidebook



The Next-Generation  
Certification mark  
(nicknamed Kurumin)  
shows that the  
company is certified by  
the Ministry of Health,  
Labour and Welfare

### ■ Work-Life Balance Support Programs (Main Programs and Participation at Sharp Corporation)

| Program Name                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Participation (year and no. of persons) |              |              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|--------------|--------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Fiscal 2010                             | Fiscal 2011  | Fiscal 2012  |
| Childcare Leave                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p>Allows a leave of any length until the last day of March following the child's first birthday or until the child is 18 months old.<br/>(In 2010–2011, 98.9% of those who took childcare leave returned to work.)</p> <p>Childcare assistance grants:</p> <ol style="list-style-type: none"> <li>1) The 10-day period beginning at the start of the childcare leave period is treated as a period with pay.</li> <li>2) An allowance of 56,000 yen a month is provided during the leave period (excluding the 10-day period when salary is paid).</li> </ol> | 288<br>( ): Men<br>(211)                | 334<br>(273) | 262<br>(205) |
| Reduced-Hours Employment During Childbearing/Childcare                                                                                                                                                                                                                                                                                                                                                                                                       | A system by which an employee can reduce work time for a maximum of three hours per day in units of 30 minutes during pregnancy. Also allows a female/male employee the same reduced-hours employment system until the last day of March after her/his child has reached the sixth year of elementary school.                                                                                                                                                                                                                                                  | 62                                      | 58           | 38           |
| Childcare Support Work Program                                                                                                                                                                                                                                                                                                                                                                                                                               | Allows flexible work schedules (work day start and end times) until the last day of March after the child has reached the sixth year of elementary school. Allows an employee to shorten working hours up to an average of three hours per day in one-hour units.                                                                                                                                                                                                                                                                                              | 428                                     | 449          | 433          |
| Nursing Care Leave                                                                                                                                                                                                                                                                                                                                                                                                                                           | Allows an employee to take leave to care for a family member requiring nursing care for a total of two years (can be divided up).                                                                                                                                                                                                                                                                                                                                                                                                                              | 9                                       | 12           | 7            |
| Nursing Care Support Work Program                                                                                                                                                                                                                                                                                                                                                                                                                            | Allows flexible work schedules (work day start and end times) for nursing care, as needed. Employee can shorten working hours in one-hour units up to an average of three hours per day.                                                                                                                                                                                                                                                                                                                                                                       | 9                                       | 6            | 3            |
| Other Programs                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         |              |              |
| Reduced-Hours Employment for Nursing Care, Guaranteed Reemployment after Childbearing/Childcare, Paternity Leave, Daycare Adaptation Leave, Reduced Weekly Working Days for Nursing Care, Home Helper Expense Subsidies, Volunteer Leave, Multipurpose Leave, Leave of Absence/Increasing Half-Day Use of Annual Paid Holidays for Fertility Treatment, Fertility Treatment Financing System, Multipurpose Leave Taken in One-Hour Units (or half-day units) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         |              |              |

 <For Employees> Creating a Fair, Positive, and Progressive Workplace

## Promoting Occupational Safety and Health

### Basic Policies on Safety and Health

#### Basic Philosophy

The Sharp Group regards protecting the safety, security, and health of employees all over the world as indispensable to its business activities, and is dedicating appropriate management resources in a spirit of Sincerity and Creativity, in order to achieve a safe and pleasant working environment.

#### Basic Policy

##### 1. Legislative Compliance

In addition to strict compliance with legislation related to safety and health in each country and region, all Group companies must comply with in-house standards established in line with the standard Group policy, with the aim of improving levels of safety and health.

##### 2. Establishment of Management Organization

The Sharp Group has established a management organization to deal with safety and health, with clearly delineated roles, authority, and responsibilities, and is promoting activities at the structural level.

##### 3. Establishment and Operation of Management System

The Sharp Group has established an occupational safety and health management system, and is engaged in continuous evaluation and improvement of its activities, with a view to eliminating potential hazards and risks to safety and health in the workplace.

##### 4. Implementation of Education and Training

The Sharp Group is endeavoring to raise awareness of safety and health and to promote voluntary activities by implementing for all employees the education and training required to improve safety and health.

##### 5. Setting Targets and Full Employee Participation in Practical Activities

The Sharp Group sets targets for preventing accidents and improving employees' health, and is striving to meet these targets by means of practical activities in which all employees participate.

### Aiming for a Secure, Safe, and Healthy Workplace

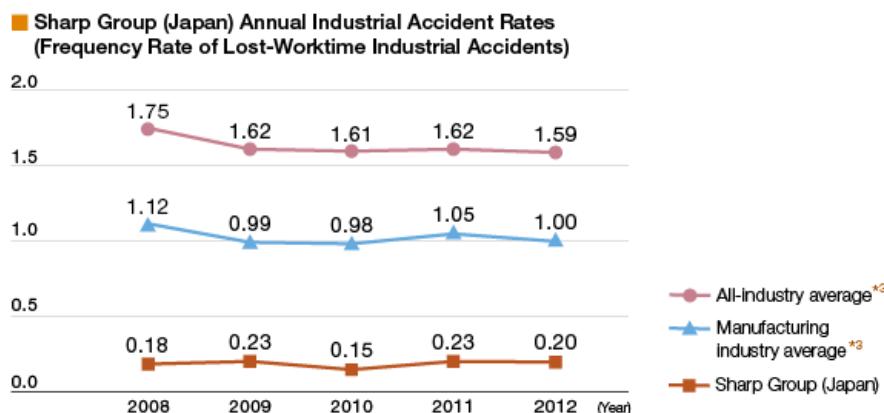
Sharp Corporation holds periodic Central Safety and Health Committee Meetings that bring the company and the labor union together to confirm the status of company-wide safety and health efforts and share valuable information. It has also organized a team consisting of Central Safety and Health Committee members to conduct safety and health inspections at each site.

Moreover, a Safety and Health Committee consisting of labor and management representatives at each business location holds a monthly meeting to report and discuss safety and health activities and decide on improvement measures. A Safety and Health Council at each business location holds meetings in which subcontractors who are permanently stationed within Sharp sites also take part. Participants discuss liaison and coordination among related work projects and share information in an attempt to improve the safety and health management system for the entire business location.

The result of these continuing measures is that the Sharp Group's<sup>\*1</sup> industrial accident rate (frequency rate of lost-worktime industrial accidents<sup>\*2</sup>) in Japan in 2012 was 0.20. This rate is consistently below the national average for the manufacturing industry.

<sup>\*1</sup> Sharp Group in Japan: Sharp Corporation, SEMC, SEO, SESJ, SBS, SEK, SMS, STC, iDeep Solutions (SDP, SFC, OSS, and SOR are not included in 2012)

<sup>\*2</sup> Indicator that represents the incidence of industrial accidents per million work hours (one day or more of suspended operations)



## Promoting the Introduction of the Occupational Safety and Health Management System

Sharp is promoting the introduction of an occupational safety and health management system in an effort to further address the potential risk of accidents in the workplace and to firmly set in motion proactive safety activities that prevent or reduce risks. As of the end of fiscal 2012, 10 of Sharp Corporation's domestic production sites had acquired OHSAS 18001 certification\*4.

In order to implement preventive safety measures in line with those employed at Sharp Corporation's production sites, the company's non-production sites and affiliates are formulating standards for an original occupational safety and health management system.

In addition, to raise the standard of its occupational safety and health management globally, Sharp is also making continued efforts to acquire OHSAS 18001 or certification for occupational safety and health management system standards in each country\*5 for its overseas manufacturing bases.

\*4 One of the occupational safety and health management system certification standards; it is the most widely used standard around the world today.

\*5 For example, Sharp Appliances (Thailand) Ltd. (SATL) acquired TIS 18001 Thai occupational safety and health certification in August 2007.

### OHSAS 18001-Certified Sites and Overseas Bases

|          |                                                                                  |
|----------|----------------------------------------------------------------------------------|
| Japan    | Tochigi, Kameyama, Mie, Yao, Sakai, Nara, Katsuragi, Mihara, Fukuyama, Hiroshima |
| Overseas | SMPL (Poland), SSI (Indonesia), WSEC (China), SUKM (UK)                          |

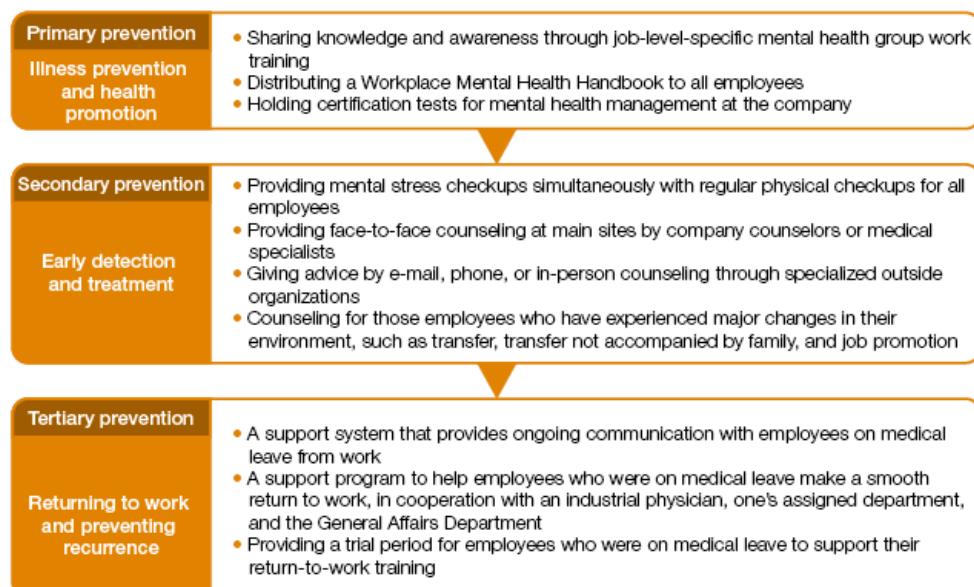
## Enhancing Mental Health Care and Expanding the Support System for Employees Taking or Returning from Medical Leave

In order to help employees prevent mental illnesses or deal with them at an early stage and to support employees on medical leave in making a smooth return to work, Sharp in Japan has a counseling system in which medical specialists or industrial counselors are stationed at main offices and plants. The company also conducts various training and educational activities to deepen employees' knowledge of mental health care and to have them acquire methods for dealing with mental health.

Also, as part of periodic health checkups, Sharp carries out mental stress checkups on all employees by self-diagnosis (98.7% participation rate in fiscal 2012). For employees who are diagnosed with high stress levels, Sharp gives one-on-one counseling through industrial physicians or counselors.

In fiscal 2012, Sharp strengthened cooperation among its staff (General Affairs Department, industrial physicians, Healthcare Division, union chapters, counselors, etc.) at Sharp sites and affiliates. It also (1) examined a method of solutions that included the use of external medical organizations and that were directed at specific Sharp sites, (2) raised knowledge of mental health-related issues by encouraging employees to acquire third-party certification in mental health management, and (3) encouraged the use of counseling resources both inside and outside the company. Sharp will continue to expand and improve measures such as these to enhance mental health care.

### Programs for Mental Health Care



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## Getting and Keeping Employees in Shape

### Active Promotion of Ways to Get and Keep Employees in Shape

Sharp considers the health of its employees to be a corporate value and, in order to realize a vibrant company in which all employees can work in a healthy and emotionally enriched state, Sharp promotes health management as a management issue.

The company supports health maintenance by deploying a company-wide Get Healthy campaign that helps employees get in shape by preventing lifestyle diseases and metabolic syndrome and by enhancing employee health awareness.

As part of those activities, Sharp strives to improve employees' lifestyles by actively providing one-on-one health guidance to employees whose health checkups have identified health issues. In addition, Sharp holds health-consultation events that bring healthcare professionals to workplaces in Japan and promotes lifestyle-improvement checklist activities, a population approach<sup>\*1</sup> that leads to improved health by checking participants' everyday lifestyle choices and giving successful participants healthcare goods as incentives.

Various other measures include using an original Sharp mascot to convey health-related information and heighten employees' health awareness, health-education workshops held at the workplace, no-smoking campaigns (e.g. a one-day ban on smoking and selling cigarettes in company stores), and events to improve eating habits, oral hygiene, and exercise habits.



Company-wide Get Healthy campaign  
(logo and mascot)

<sup>\*1</sup> This approach works to prevent lifestyle diseases and reduce health risks in all of Sharp by helping individual employees exercise regularly and eat properly.

## Topics

### Award from the Physical Fitness National Conference in Japan

In 2012, Sharp received the Physical Fitness National Conference Chair Award<sup>\*2</sup> from the Physical Fitness National Conference<sup>\*3</sup> in Japan. The award recognizes Sharp as an excellent organization for its promotion of employee fitness through activities for getting in shape and creating exercise habits.

Team walking events in which approximately 12,500 employees participated last year, classes to create fitness habits, other walking events, and company-wide sports events were among the Sharp activities that received high acclaim as ways to increase health awareness in every employee and to support lifestyle improvement through voluntary exercise.



<sup>\*2</sup> Minister of Education, Culture, Sports, Science and Technology Awards and Physical Fitness National Conference Chair Awards are given annually to organizations with outstanding achievements in health- and fitness-related activities carried out in the workplace and the local community. In fiscal 2012, three organizations received a Minister of Education, Culture, Sports, Science and Technology Award, and 10 organizations received a Physical Fitness National Conference Chair Award.

<sup>\*3</sup> Fitness activities officially got their start in Japan after the 1964 Tokyo Olympics when the Japanese government decided on measures for improving the health and physical strength of its citizens. The Physical Fitness National Conference was established to promote the widespread implementation of such activities and to thoroughly implement measures for ensuring their efficacy. It presently comprises eight ministries and 226 organizations. The secretariat is based in the Sports and Youth Bureau of the Ministry of Education, Culture, Sports, Science and Technology.

## <For Local Communities> Social Contribution Activities as a Corporate Citizen

In line with its business philosophy, Sharp, as a corporate citizen, undertakes social contribution activities that meet global and local needs, aiming through these activities to coexist harmoniously with society and maintain the trust of society.

### Promoting Social Contribution Activities

#### Fundamental View of Social Contribution Activities

Sharp promotes social contribution activities based on the business philosophy "to contribute to the culture, benefits and welfare of people throughout the world." Sharp focuses on social challenges from a global viewpoint and uses its own resources to conduct community-based activities that contribute to society in Japan and in areas around the world.

Sharp recognizes the environment, education, and social welfare as priority fields for these activities, has created structures and systems for these activities, and voluntarily and continuously tackles these areas.

#### Three Important Fields of Social Contribution Activities



#### Structures and Systems for Promoting Social Contribution Activities

Sharp Corporation's Head Office has a unit that specializes in the planning and promotion of all domestic and overseas social contribution activities. This unit plans social action measures and builds structures and systems for implementing social contribution activities.

For its educational support programs in Japan, Sharp continues to develop human resources, including training employees to serve as instructors in regions throughout Japan and registering those employees as in-house-qualified personnel. Sharp also encourages employees to acquire a skill—like sign language—that would enable them to contribute to society.

Sharp also works to foster a corporate climate conducive to volunteering and to enhance employees' social awareness by providing the systems and the type of environment that make it easier for its employees in Japan to participate in social contribution activities. Sharp provides employees with opportunities to volunteer and has a volunteer leave system, whereby employees can take up to a one-year leave from work to engage in volunteer activities, and a multipurpose leave system, whereby employees can receive eight days of extra paid leave per year to engage in socially valuable activities.

In a unique initiative, Sharp and its labor union in Japan jointly established the Sharp Green Club (SGC) to carry out such activities as local cleanup campaigns and forest preservation activities.

#### Progress in Social Contribution Activities

In fiscal 2012, Sharp continued carrying out global and local community-based social contribution activities centered on the three fields of the environment, education, and social welfare.

To mark reaching its 100th anniversary, Sharp increased its social welfare field activities in fiscal 2012, carrying on the sentiment of gratitude held by its founder. Sharp made a full-fledged start of career educational support activities for the physically or mentally challenged, with a disabled employee of Sharp Tokusen Industry Co., a special subsidiary, serving as instructor. Such support activities for the physically or mentally challenged have received high acclaim and earned Sharp prestigious awards from official governmental agencies.

▶ [Related information: Close-Up: Expanding and Improving Educational Support Activities for Children with Disabilities](#)

In fiscal 2013, along with the kinds of activities described here, Sharp will continue to carry out and enhance its community-based social contribution activities, such as cleanup campaigns.

## ■ <For Local Communities> Social Contribution Activities as a Corporate Citizen

### Environmental Activities

As a corporate citizen, Sharp undertakes activities to protect biodiversity, as well as other environmental conservation activities, and contributes to the global environment through its business activities. All of these efforts are based on Sharp's Basic Environmental Philosophy for "Creating an Environmentally Conscious Company with Sincerity and Creativity."

Sharp also carries out activities led by the joint labor-management organization Sharp Green Club (SGC) in Japan. These activities include Sharp Forest work, Ramsar Convention wetland protection activities, cleanup campaigns, and greening activities at all production sites and sales and service bases.

The planting and nurturing of trees, biodiversity protection campaigns, and other environmental conservation activities are also conducted continuously at bases outside Japan, in a manner rooted in local lifestyles and social climates.

» [Related information: Protecting Biodiversity](#)

### Environmental Conservation Activities in Japan

To protect biodiversity and regenerate *satoyama* (areas that lie between the foot of a mountain and arable land), Sharp is developing 12 Sharp Forests. In addition, the company is planning and/or carrying out conservation activities in a total of 10 Ramsar Convention\* wetlands. More specifically, Sharp launched a new initiative in fiscal 2011 under the Sharp Forests banner to enrich Sharp Forests so that owls can live there and extended it to three locations in fiscal 2012. The aim of the initiative is to promote forests with even richer ecosystems.

In areas and communities near its production sites and offices throughout Japan, Sharp promotes cleanup campaigns, greening activities, and other biodiversity protection activities as community-based activities.

In fiscal 2012, a total of approximately 18,300 Sharp employees, business partner employees, and their family members participated in approximately 740 campaigns. Sharp will continue to expand its community-based activities and contribute to local communities.

\* A convention to protect internationally important wetlands as a habitat for waterfowl and to protect the wildlife inhabiting those wetlands.



**Enriching Sharp Forests  
So That Owls Can Live There**

The initiative to enrich Sharp Forests so that owls can live there began in fiscal 2011 with Sharp Forests in Kishiwada and Shijonawate, both in Osaka Prefecture. In fiscal 2012, the initiative was extended to one more Sharp Forest in Marugame in Kagawa Prefecture, for a total of three locations.

Employees and their family members have been carrying out preservation activities that include periodically thinning out trees and installing nesting boxes to enrich forests so that owls—a symbol of rich biodiversity—can live there.



**Cleanup Campaign  
at Ramsar Convention Wetlands**

In October 2012, employees and their family members participated in a cleanup campaign in Aichi Prefecture's Fujimae Tidal Flat, one of Japan's largest stopovers for migratory birds.

Home to large numbers of the shellfish and small fish that form the diet of migratory birds, the tidal flat is a vital rest area and feeding ground for the birds. To preserve this precious resource, Sharp employees participate in periodic cleanup campaigns there.



### Words from a Civil Servant

The activities being carried out in Konoyama Sharp Forest are activities to protect biodiversity, symbolized by the owl. Not only do participants cut grass, thin out trees, and prune, but they also install handmade benches and tables. I think these activities are great, as I imagine that all the participants enjoy their work.

I hope activities such as these, which help keep people, plants, and animals vibrant, will continue to be carried out for a long time.



**Takahiro Iwasa**  
In charge of environmental policies  
Environmental Preservation Division  
Environmental Department  
Kishiwada City



### Words from the Chairman of Sharp Shayukai

Sharp Shayukai, an organization made up of retired Sharp employees, started full-fledged community services two years ago. Our initiatives include preservation activities in Sharp Forests at various locations in Japan.

In the Kansai area, younger employees and Shayukai members work together to cut grass and prune trees in Konoyama Sharp Forest (Osaka Prefecture) and Asukamura Sharp Forest (Nara Prefecture) in order to beautifully maintain the *satoyama* areas.

I look forward to meeting younger employees of Sharp during the annual Wakakusayama greening activities.



**Akira Mitarai**  
Chairman  
Sharp Shayukai

### Overseas Environmental Conservation Activities

As a corporate citizen, Sharp is proactively undertaking environmental conservation activities—such as planting and nurturing trees and releasing juvenile fish into water areas—that lead to biodiversity protection. Through such efforts that target various environmental social issues at local bases around the world, Sharp aims to develop environmental awareness among its employees, while at the same time contributing to the global environment.

Sharp will continue developing community-based environmental conservation activities, while further cooperating with local organizations.



#### Tree Planting in Canada and Lessons on Biodiversity

In May 2012, 32 employees of Canada-based sales subsidiary SECL planted 300 native shrubs and trees along a local river and took part in a biodiversity lesson.



#### Tree Planting in China

During a May 2012 tree-planting activity held in a China-Japan Friendship Forest located in the Hohhot area of Inner Mongolia, employees of Sharp China Group planted 11,000 tree seedlings.

## <For Local Communities> Social Contribution Activities as a Corporate Citizen

### Educational Activities

Sharp is undertaking educational support activities directed at children, on whose shoulders the future will rest, to increase their awareness of global environmental issues and their interest in science and to get them thinking about future careers. Sharp has been gradually increasing its programs in Japan to include: environmental education activities at elementary schools from fiscal 2006, elementary school craftsmanship education from fiscal 2009, and factory tours and environmental/craftsmanship classes from fiscal 2010. From fiscal 2012, Sharp started offering career education activities for special-needs schools<sup>\*1</sup> and similar organizations. Sharp also conducts overseas educational support activities that help solve the environmental issues of each region, such as China, ASEAN countries, North America, and Europe.

<sup>\*1</sup> Schools designed to provide elementary, junior high, and high school education to the visually impaired, hearing impaired, and mentally challenged. These schools help learners with special needs to overcome difficulties in learning and in daily life, and to obtain necessary knowledge and skills to achieve a higher level of personal self-sufficiency.

### Educational Support Activities in Japan

Since October 2006, Sharp has been conducting environmental education activities at elementary schools. The aim of the classes is to foster concern for the global environment in children by explaining the global warming problem to them in easy-to-understand lessons that encourage them to save power, practice the 3Rs<sup>\*2</sup>, and carry out other specific eco-friendly actions. Another aim is to increase children's interest in science through experiments and other methods.

By January 2013, Sharp had collaborated with the NPO Weathercaster Network (WCN) to conduct activities such as these in a total of 3,000 schools. Based on advice and requests received from teachers at the schools while implementing these programs, the fields and range of participants are being expanded to include environmental education for hearing-impaired children and for children overseas. In addition, Sharp has been developing activities such as craftsmanship education, factory tours, and environmental/craftsmanship classes that can lead to solving various social issues in the future.

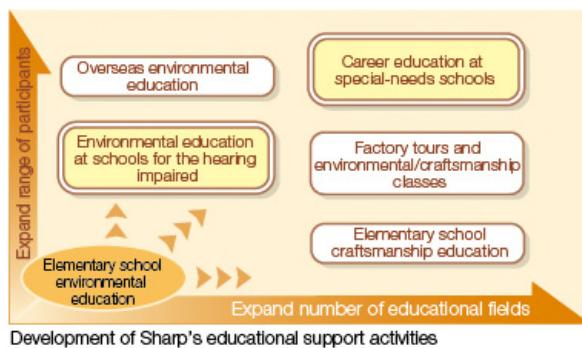
In fiscal 2012, Sharp expanded and improved its educational support activities for children with disabilities and started career education activities for special-needs schools and similar organizations.

▶ [Related information: Social Welfare Activities: Efforts for Employment of the Disabled](#)

▶ [Related information: Close-Up: Expanding and Improving Educational Support Activities for Children with Disabilities](#)

As a way to inspire elementary school children in the aftermath of the Great East Japan Earthquake, Sharp held environmental education programs in 2012 at a total of 36 schools in Iwate Prefecture, Miyagi Prefecture, and Fukushima Prefecture. In addition, Sharp provided elementary school craftsmanship education during a forum on collaborative education between schools and the local community in the city of Ishinomaki (Miyagi Prefecture).

\*2 3Rs: Reduce (reduce garbage), Reuse (use again), Recycle (recycle resources)



### Words from an Educator

In fiscal 2011, the Ishinomaki City Board of Education launched 'Build the Future of the Children of Ishinomaki,' a program aimed at improving students' academic skills and strengthening their desire to take on future challenges.

As part of those programs, a Sharp employee gave a presentation last fiscal year (fiscal 2012). I believe that the state-of-the-art technologies and philosophies of companies like Sharp will surely provide dreams and hopes for students and will greatly affect how they live in the future and the jobs they choose.

Hiroshi Ito  
Education Supervisor  
Guidance Group  
School Planning Department  
Ishinomaki City Board of Education



### Words from an Elementary School Environmental Education Instructor

When teaching in disaster-affected areas, I made sure to make my classes fun. I held classes based on my desire to teach, through environmental education, how important new energy sources and recycling are. I also tried to alleviate the mental stress that the children felt in the aftermath of the disaster.



**Seiji Fukuchi**  
Supervisor  
Tohoku Sales Division  
Sharp Energy Solutions Corporation

### Overseas Environmental Education

Sharp's overseas environmental education program began in fiscal 2008 and has since expanded to China, ASEAN countries, North America, and Europe. In fiscal 2012, approximately 4,000 students in 50 schools overseas learned about regional environmental issues, such as global warming and protection of the ecosystem.



Classes at China-based manufacturing subsidiary SOCC



Classes at Malaysia-based manufacturing subsidiary SOEM



Classes at Canada-based sales subsidiary SECL



Factory tour and classes at UK-based manufacturing subsidiary SUKM

## ■ <For Local Communities> Social Contribution Activities as a Corporate Citizen

### Social Welfare Activities

In the field of social welfare, Sharp focuses on providing support for the physically or mentally challenged. Activities include employment for disabled persons at a special Sharp subsidiary; job assistance for the physically or mentally challenged in the form of sales opportunities provided to vocational training centers for the disabled; and environmental education classes for children with disabilities in Japan. Sharp also undertakes support activities overseas, such as donations to welfare facilities and charities, to combat various social issues in an effort to improve the social welfare of local communities.

### Social Welfare Activities in Japan

#### Efforts for Employment of the Disabled

Since fiscal 2012, as part of its career education support activities for special-needs schools and similar organizations, Sharp Tokusen Industry Co. has been dispatching disabled employees to special-needs schools to provide classes and has been actively providing workplace tours and work experience training to the physically or mentally challenged. Through these activities, the physically or mentally challenged participants have cultivated a view of career and work that has helped them to achieve a higher level of personal self-sufficiency.

▶ [Related information: Close-Up: Expanding and Improving Educational Support Activities for Children with Disabilities](#)



A disabled employee of Sharp Tokusen Industry conducts a career education support activity

#### Providing Sales Opportunities for Vocational Training Center Products

In a joint labor/management effort, Sharp works with local governments and non-profit organizations to provide opportunities on its premises for the sale of handmade products, such as bread and cookies, from vocational training centers for the disabled. This includes centers located in communities near Sharp facilities and centers in the earthquake-devastated Tohoku region of Japan. In fiscal 2012, such sales took place at 15 locations throughout Japan. Sharp will continue to support the physically or mentally challenged by providing these kinds of sales opportunities.



A sale of handmade products from a vocational training center for the disabled



#### Words from a Staff Member of a Vocational Training Center for the Disabled

We have been selling our bread at Sharp Tokusen Industry since January 2011 and at the Head Office and Tanabe buildings since August 2011. During our first sales opportunity, many people were interested in our products, and sales exceeded our expectations.

Sharp employees actively talked to the members of our group, asking them, for example, "What do you recommend?" The disabled participants from our facility that were in charge of sales were left with a positive impression, having enjoyed the experience and already looking forward to their next sales opportunity. Two years have passed since our first sales, and now that we have regular customers, our disabled participants can communicate confidently with them.

Going forward, we are considering introducing new seasonal menus. Thank you for your continued support.



Disabled participants make bread at the vocational training center

Akihisa Wada  
Work supporter  
NPO Domani Workspace March



### Words from a Cooperating Support Group Manager

Providing vocational training centers for the disabled with sales opportunities at companies gives physically or mentally challenged participants an important chance to communicate with various people. Watching the bread and cookies that they made being bought builds confidence in challenged people. It also motivates them and helps them advance one step towards self-sufficiency.

As the organizers of an aid project to increase disabled people's wages in Osaka Prefecture, we serve as bridges between companies and vocational training centers for the disabled and support the physically or mentally challenged in their will to work as members of society.



**Yoshiko Nishibane**  
Sales Order Manager  
L-Challenge Welfare  
Promotion Association

### Overseas Social Welfare Activities

As a corporate citizen, Sharp is targeting priority issues in social welfare even at local bases around the world. The company focuses on undertaking donation and charity activities for schools and facilities for the physically or mentally challenged and the elderly. These activities lead to an improved social awareness in Sharp employees, while at the same time contributing to local society. Sharp will continue actively developing community-based social action programs.



#### Sponsoring a Charity Event in Poland

In May 2012, Poland-based manufacturing subsidiary SMPL sponsored a charity sports event for local children.



#### Donating to a Local Fire Station in Malaysia

In February 2013, Malaysia-based sales subsidiary SRSSC donated a refrigerator to a local fire station.

### Topics

#### Support Campaign to Protect the Lives and Health of Children in the ASEAN Region

To commemorate Sharp's 100-year anniversary, nine sales subsidiaries in the ASEAN, Oceania, and Middle East regions participated in the 100-day 'My Sharp Our Future' campaign from June 7 to September 15, 2012, with the latter date marking the month and day that Sharp was founded 100 years ago. For each purchase of products, such as LCD TVs and Plasmacluster Ion generators, enough money to pay for one vaccination was donated to organizations that protect the life and health of children.

Many customers gave their support to this activity, and Sharp donated approximately 20 million yen (from a fund it had contributed to whenever a targeted product was sold) to organizations in each country and region.



Donation ceremony in Indonesia,  
where Sharp made a donation  
to a humanitarian assistance NPO

**Topics**

### **Sharp Charity Foundation in China Actively Helps the Community in Fiscal 2012 through Air Purifier Donations, Scholarships, and Other Measures**

Every year, the Sharp Charity Foundation (SCF), established in 2006, continues its social contribution activities, such as donating Sharp products, granting scholarships, cleaning and tree-planting activities, and conducting environmental education.

In fiscal 2012, Sharp donated 29 humidifying air purifiers to four hospitals and four welfare facilities and provided scholarships to about 110 students at 11 universities.



Donating to the Shanghai Charity Foundation,  
the organization that runs the SCF (September 2012)



Scholarships were given to 18 students  
at Jiangnan University (January 2013)

**Close-Up**

### **Expanding and Improving Educational Support Activities for Children with Disabilities**

Sharp Tokusen Industry Co., Japan's first special subsidiary\*, was established in 1950 in line with the desire of Sharp's founder to give back to society. In addition to helping the physically or mentally challenged participate in society, the company also actively conducts educational support activities for disabled children.

Since fiscal 2010, Sharp Corporation and its domestic affiliates have provided environmental education for elementary classes at special-needs schools for the hearing-impaired throughout Japan.

In fiscal 2012, Sharp Corporation and Sharp Tokusen Industry started career education activities for special-needs schools and similar organizations. Sharp Tokusen Industry provides work experience training and tours of workplaces where disabled persons do their jobs, and its disabled employees conduct classes for junior and senior high school students at special-needs schools for the hearing-impaired throughout Japan.

By having a disabled employee of Sharp Tokusen Industry talk about the importance of participating in society based on his or her own experience, disabled children can cultivate a view of career and work that helps them to achieve a higher level of self-sufficiency.

These activities received high acclaim and earned Sharp Corporation and Sharp Tokusen Industry two prestigious awards in fiscal 2012. Going forward, these educational support activities for disabled children will be continued as a way of carrying out the wishes of Sharp's founder.

\* A subsidiary that has made special efforts supporting the employment of challenged people, as defined in the Act on Employment Promotion, etc. of Persons with Disabilities (e.g. improvement of the facilities where the physically or mentally challenged work) in Japan.



Sharp Corporation receives the First Award for Excellence  
(Ministry of Economy, Trade and Industry Minister's Award)  
at the 3rd Career Education Awards



Sharp Tokusen Industry receives the Heartful Company  
Vocational Education Contribution Award (Governor's Award)  
in the 2012 Osaka Prefecture Heartful Company Award Program  
(for companies that have contributed to promoting employment  
of disabled persons)



### Words from an Educator

My students have received training from Sharp Tokusen Industry, and some have also been hired by that company. I am grateful for all of the efforts made by Sharp Tokusen Industry.

Last fiscal year (fiscal 2012), Sharp Tokusen Industry held two classes on career education for our regular-course students and specialized-course students. By experiencing the same work that they do at the company, students were able to understand how important knowledge, creativity, efforts, and teamwork are in the workplace.

By having a hearing-impaired adult explain what is required of members of society and how important it is to greet people, students were able to once again realize what it will take for them to be a working member of society. In addition, just observing the instructor gave them a future goal and direction.

I sincerely appreciate these activities and wish Sharp success in its future business endeavors.



Hideo Izumi  
Principal  
Osaka Prefectural Daisen  
Special School for the Hearing-Impaired



### Words from an Instructor on Career Education at Special-Needs Schools

During classes, students were enthusiastic and very attentive. I hope students found the class meaningful.

The class included group work related to packaging. Active communication took place, and the teamwork was great. I was pleased to see the students' lively expressions while they enjoyed the group work.

I would like to grow as a lecturer and give even better career education classes.



Koji Nakagawa  
Sharp Tokusen Industry Co.

 <For Local Communities> Social Contribution Activities as a Corporate Citizen

### Employee Volunteer Activities

In an effort to pass on the gratitude of its founder, Sharp actively encourages its employees to take part in volunteer activities that give back to local communities. These locally rooted activities, carried out in response to social issues, lead to greater social awareness in employees and foster a volunteer spirit at the company.

#### Employee Volunteers

Based on the three points listed below, Sharp works to create an environment where each and every employee can actively participate in community-based social action programs and volunteer activities:

- (1) Developing volunteer leave and other company systems
- (2) Developing the volunteer organization Sharp Green Club (SGC) as a joint effort between labor and management
- (3) Providing employees opportunities to participate in volunteer activities together with NPOs and other third-party organizations

By providing opportunities to participate in community-based volunteer activities and in reconstruction efforts to help areas devastated by the Great East Japan Earthquake that still require support, Sharp is fostering a volunteer spirit at the company and enhancing social awareness among its employees.



As one of its community service activities, Sharp volunteers at marathon events held near its business sites



Employees increase their understanding of persons with disabilities by taking part in volunteer activities that support the physically or mentally challenged



#### Environmental Volunteer Activities Held Jointly by Labor and Management

The volunteer organization Sharp Green Club (SGC) is a joint effort between labor and management that was launched in June 2003. The aim of this project is to foster awareness of environmental protection among employees and give back to local communities by having each and every employee take part in community-based social action programs.

Sharp carried out environmental and biodiversity protection activities in fiscal 2012 as well. Included were such activities as community cleanup campaigns, tree planting, forest cultivating activities, and efforts to protect rare flora and fauna. About 18,300 Sharp employees, family members, and business partners were among those who took part in these volunteer activities.

In fiscal 2013, SGC made an action plan to "contribute to local communities by earnestly continuing environmental protection activities." We will continue to further our collaboration with local governments and NPOs to undertake community-based activities.



Shulchi Tsuda  
SGC Vice Chairman  
(Sharp Workers Union Chairman)

## Outline of the Sharp Group

Sharp's business activities comprise "Consumer/Information Products" (i.e., end-user consumer electronics and information products) and "Electronic Components" (i.e., key components of electronic products). By undertaking the development both of key devices based on proprietary technologies and of products in which these devices and technologies are applied, Sharp aims to inspire and impress its customers. The company is working actively to develop its business by pioneering new markets and by bringing forth never-before-seen, uniquely featured products and devices.

### Corporate Profile (as of June 28, 2013)

|                            |                                                                                                                                                                                                                                      |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Name</b>                | Sharp Corporation                                                                                                                                                                                                                    |
| <b>Head Office</b>         | 22-22, Nagaike-cho, Abeno-ku, Osaka 545-8522, Japan                                                                                                                                                                                  |
| <b>Representative</b>      | Kozo Takahashi, President                                                                                                                                                                                                            |
| <b>Founded</b>             | September 15, 1912                                                                                                                                                                                                                   |
| <b>Operations</b>          | Manufacture and sales of consumer/information products (audio-visual and communication equipment, health and environmental equipment, information equipment) and electronic components (LCDs, solar cells, other electronic devices) |
| <b>Capital Stock</b>       | 52,978 million yen (rounded down to the nearest million)                                                                                                                                                                             |
| <b>Number of Employees</b> | Consolidated: 50,647 (24,758 in Japan; 25,889 overseas)<br>Entire Sharp Group: 59,262 (27,486 in Japan; 31,776 overseas)                                                                                                             |

### Main Products



LCD color TVs, color TVs, projectors, Blu-ray Disc recorders, Blu-ray Disc players, mobile phones, tablets, electronic dictionaries, calculators, facsimiles, telephones, others



Refrigerators, superheated steam ovens, microwave ovens, small cooking appliances, air conditioners, washing machines, vacuum cleaners, air purifiers, electric fans, dehumidifiers, humidifiers, Plasmacluster Ion generators, electric heaters, beauty appliances, LED lights, solar-powered LED lights, network control units, others



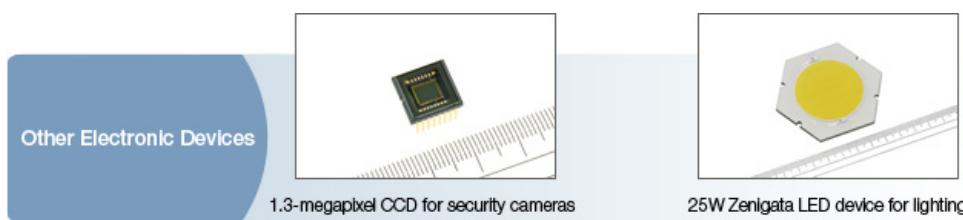
POS systems, handy data terminals, electronic cash registers, information displays, digital MFPs (multifunction printers), options and consumables, software, FA equipment, ultrasonic cleaners, others



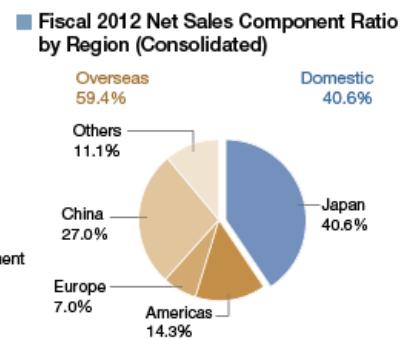
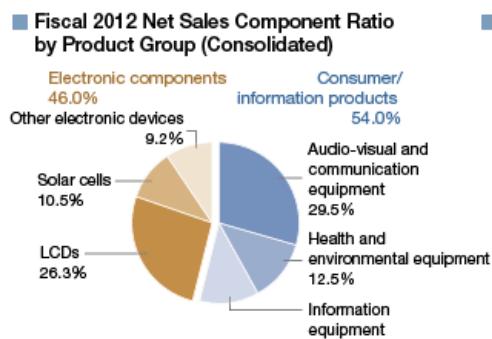
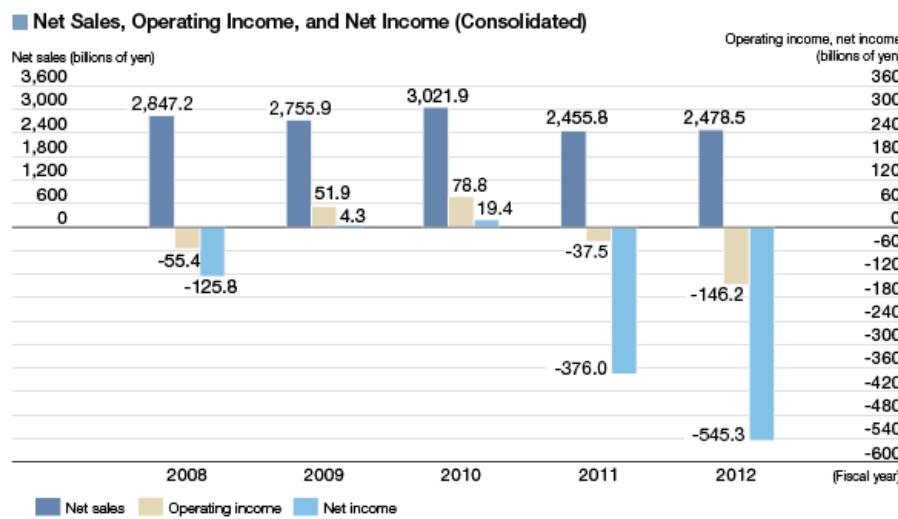
Amorphous silicon LCD modules, IGZO LCD modules, Continuous Grain Silicon LCD modules, others

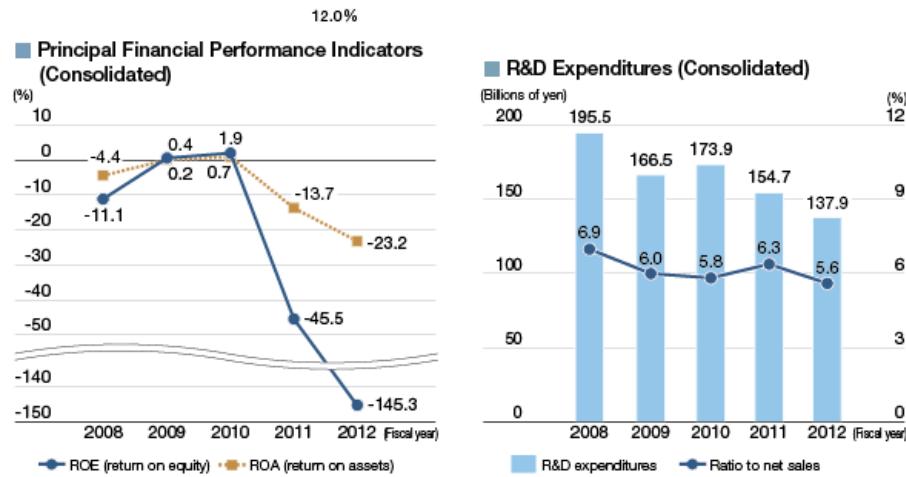


Crystalline solar cells, thin-film solar cells, others



CCD/CMOS imagers, LSIs for LCDs, microprocessors, flash memory, analog ICs, components for satellite broadcasting, terrestrial digital tuners, RF modules, network components, laser diodes, LEDs, optical pickups, optical sensors, components for optical communications, regulators, switching power supplies, others





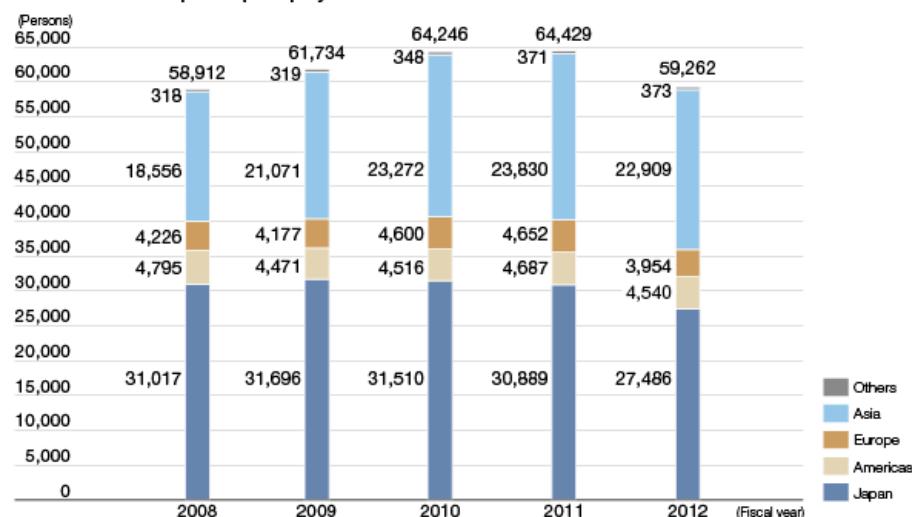
### The Sharp Group at a Glance (as of March 31, 2013)

- Consolidated subsidiaries: 82 (16 in Japan, 66 overseas)

- Overseas structure



### Number of Sharp Group Employees



Note: Sharp Group comprises Sharp Corporation, its consolidated subsidiaries, affiliated companies accounted for by the equity method, and other affiliated companies. Figures as of the end of each fiscal year (March 31).

## Third-Party Opinion and Response

### Sharp Sustainability Report 2013 Third-Party Opinion

#### Sustainability Management with a Clear Strategy

It's often said in Europe and North America that Japanese companies' sustainability reports don't make corporate strategy very clear. Sharp's report, however, makes a clear link with business philosophy. At the report's outset, Sharp states that it will fulfill its social responsibility, abiding by the core principles of its business philosophy and business creed. It also states that it aims to be the kind of company that society needs, another strategic indication that it strives to pursue business and CSR in an integrated manner. This is an extremely important point and one that deserves praise. I hope that in the future Sharp reaps even more positive outcomes from sustainability management by aligning its CSR activities with its medium-term management plan.

#### From "Eco-Positive Company" to "Increasing Green Shared Value"

Sharp has so far funneled its energies into its policy of becoming an "Eco-Positive Company"—a policy I believe has brought Sharp many successes. As the next step, the company has established a new policy of "Increasing Green Shared Value," under which it aims to achieve environmental protection throughout the supply chain. Sharp is responding to a growing worldwide trend in which the focus of environmental management is shifting from a single company to its supply chain. It should be mentioned that with this new policy Sharp has developed a new assessment index called GSV (Green Shared Value). GSV does not just measure results; it is also a good way to break down the targets for each and every activity and initiative. I look forward to seeing Sharp grow by making the most of GSV as a KPI (key performance indicator) of its sustainability management.



**Katsuhiko Kokubu**  
Professor  
Graduate School of  
Business Administration  
Kobe University

#### Career Overview

- Specialized fields: Social and environmental accounting, environmental management, CSR management
- Director, IEMA (Institute for Environmental Management Accounting); Chairman, MFCA (Material Flow Cost Accounting) Forum Japan; Chairman, MFCA's ISO/TC207/WG8
- Has been on numerous committees under Japan's Ministry of Economy, Trade and Industry and Ministry of the Environment.
- Books authored:  
*Material Flow Cost Accounting*, Nikkei Publishing Inc.  
*Environmental Management and Accounting*, Yuhikaku Publishing Co., Ltd.

#### Towards Creation of Social Value

Be it responding to employee needs, creating a work-life balance, being a good corporate citizen, or contributing to the community, Sharp works earnestly to make our society a better place in many ways and in many places around the world. It would be good to see Sharp integrate these various socially oriented activities and set even higher targets such as creating value for society. I think that by not just contributing through its products but also by contributing to community development, Sharp could be a company that society truly needs. To this end, the company must actively communicate with stakeholders through a variety of media, which in turn would help energize society. I would also like to see Sharp make the methods used for its key social activities into models for other companies to follow.

#### Sharp's Response



**Akinori Shibuya**  
Unit General Manager  
CSR Promotion Unit  
Corporate Management Group  
Sharp Corporation

In his third-party opinion column, Professor Kokubu lauded Sharp's CSR philosophy for being clear in its strategy and for enabling Sharp to fulfill CSR in tandem with its business. He also spoke highly of the depth of Sharp's new environmental policy, "Increasing Green Shared Value," and expressed high expectations for its future development. Sharp is moving ahead with its activities with an increasingly strengthened affirmation in the direction it is taking.

Professor Kokubu's suggestions involve setting even higher targets—such as creating value for society—and facilitating the achievement of those targets by contributing to community development and actively communicating with stakeholders. These are important guidelines to doing business today, and we hope to incorporate them into Sharp's activities.

Professor Kokubu's advice gives us renewed impetus to be a company that society truly needs.

August 2013



The logo consists of the word "SHARP" in a bold, sans-serif font, colored red.

## SHARP CORPORATION

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Published September 2013