TOSHIBA

Leading Innovation

Environmental Report

2012

TOSHIBA eco style

Toshiba Group Business Overview

Company Overview (as of March 31, 2012)

Company name	Toshiba Corporation
Headquarters address	1-1, Shibaura 1-chome, Minato-ku, Tokyo
Founded	July 1875
Paid-in capital	439.9 billion yen
Consolidated net sales	6,100.3 billion yen
Number of employees (consolidated)	209,784

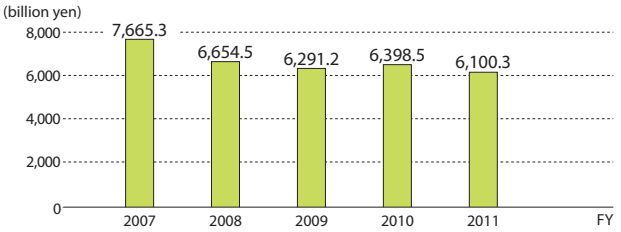
CSR-related international charters/guidelines Toshiba endorses

- United Nations Global Compact
- Global Reporting Initiative (GRI)
- Electronic Industry Code of Conduct (EICC)

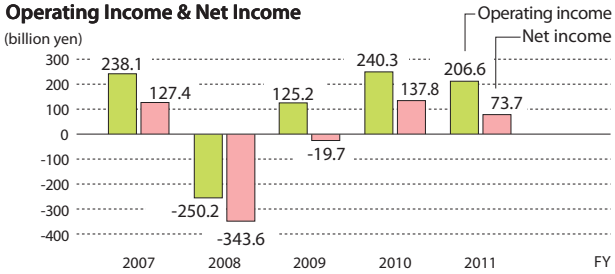
Number of shareholders	457,467
Number of shares issued	4,237,600,000 shares
Number of consolidated subsidiaries	554 (188 in Japan, 366 overseas)
Number of affiliates accounted for by the equity method	196
Stock exchange listings	Tokyo, Osaka, Nagoya, London

Financial Results (Consolidated)

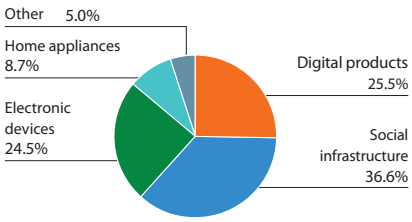
Net Sales



Operating Income & Net Income

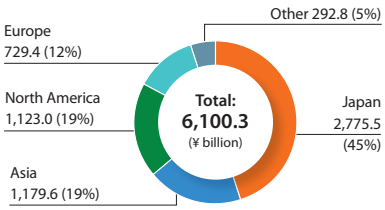


Sales by Business Segment*1 (FY2011)

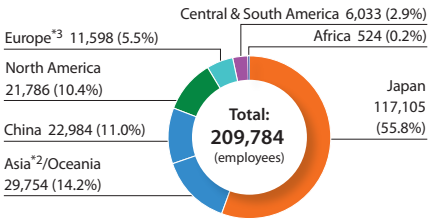


*1 Percentage of sales for each segment to total sales before exclusion of interdivisional sales.

Sales by Region (FY2011)



Number of Employees by Region (as of March 31, 2012)



*2 Excluding Japan and China
*3 Including Russia

Main Products and Services

Digital Products


Ultrabook™


Electronic book reader


LCD TV


REGZA tablet


Blu-ray disk recorder

Social Infrastructure Systems


High-speed, high-resolution CT scanner


©TOKYO-SKYTREE
Elevator for the TOKYO SKYTREE®


Thermal power generation turbine for India


Photovoltaic power generation system

Electronic Devices


NAND flash drive


Storage devices (HDDs and SSDs)

Home Appliances


Refrigerator/freezer


Heat source system with air-cooled heat pumps


LED light


Washing machine with dryer

Please refer to the Toshiba Annual Report 2012 for detailed business and financial information. This information is also available at the following website: http://www.toshiba.co.jp/about/ir/index.htm

Editing Policy

Toshiba Group has published the Environmental Report since FY1998 (From 2004 to 2007, environmental information was provided in the CSR Report). This report is published to put together detailed environmental information on Toshiba Group so that it can be provided to all stakeholders of the Group. The content for this year's edition was expanded to include information on the Fifth Environmental Action Plan, initiatives to mitigate climate change as well as use resources effectively at production sites and product levels, and other undertakings. All information in this report is disclosed on Toshiba's website. Additional information will also be provided there as it becomes available.

■ Providing detailed environmental information
http://www.toshiba.co.jp/env/en/index.htm

Environmental Report 2012 and website for environment

We provide more detailed information on our environmental website. We also plan to add a menu for searching by need in November 2012 to enable users to easily reach the web pages they are looking for.

eco style website
http://www.ecostyle.toshiba.com

■ Providing financial information http://www.toshiba.co.jp/about/ir/index.htm

Annual Report 2012 and website for investor relations

■ Reporting on CSR activities (social and environmental) in general
http://www.toshiba.co.jp/csr/en/index.htm

CSR Report 2012 and website for CSR activities

■ Reporting on Toshiba Group's global corporate citizenship activities
http://www.toshiba.co.jp/social/en/index.htm

Social Contributions Activities Report and website for corporate citizenship activities

Contents

Chapter 1

Chapter 2

Chapter 3

Chapter 4

Chapter 5

●Organizations covered

In principle, this report covers Toshiba Group (Toshiba Corporation and its 554 consolidated subsidiaries in Japan and overseas). In cases where the report covers entities other than Toshiba Group, the individual entities are indicated.
* In this report, "Toshiba" refers to Toshiba Corporation.

●Reporting period

This report focuses on the results of activities in FY2011 (April 1, 2011 to March 31, 2012), but includes some activities continuing from the past and some more recent activities.

●Publication

The current issue was published in October 2012 (The publication of the next issue is scheduled for October 2013; the previous issue was published in October 2011).

●Significant change during the reporting period

As of July 2011, Toshiba acquired the shares of Landis+Gyr AG, a Swiss manufacturer/distributor of smart meters, and converted the company and its subsidiaries into Toshiba consolidated subsidiaries.

Reference guidelines

- Global Reporting Initiative (GRI)
  Sustainability Reporting Guidelines Third Edition (G3)
  Note: The comparative table for GRI guidelines is posted on Toshiba's website.
- Ministry of the Environment of Japan
  Environmental Reporting Guidelines 2012
  Environmental Accounting Guidelines 2005

Ensuring universal design in terms of color vision

We made efforts to ensure the text and charts herein are easy to read for as many readers as possible irrespective of differences in color vision. For details, please visit our environment website.

Disclaimer

This report includes descriptions of Toshiba's future plans and strategies, as well as prospects of its financial results. These descriptions and prospects are based on matters decided and opinions formed using information that is obtainable at this time.

CEO Commitment

In order to become one of the world's foremost eco-companies, we will contribute to realizing a world in which people lead affluent lifestyles in harmony with the Earth through our four Green initiatives.

Norio Sasaki
Director
President and CEO
Toshiba Corporation

Continuing to Support Recovery from the Great East Japan Earthquake

Toshiba Group has channeled extensive resources into supporting recovery from the devastating earthquake and tsunami that hit Tohoku on March 11, 2011. As a developer of nuclear power generation systems, we realize the impact of the accident at the Fukushima Daiichi Nuclear Power Station. At the request of the Japanese government and the Tokyo Electric Power Company, Inc., we have made utmost efforts to implement measures that ensure the integrity of the site. Drawing on our technology and expertise, we developed simplified active water retrieve and recovery system, highly efficient equipment that operates stably to dispose contaminated water, which contributed to the cold shutdowns of the nuclear reactors, as well as the multi radioactive nuclides removal system, which can remove other types of radioactive substances in addition to cesium. We are currently working to install this system in order to improve the efficiency of contaminated water disposal. We have also developed portable water and soil disposal systems and proposed their application to administrative agencies and other entities.

In order to facilitate the recovery of the affected areas, we are working to support the development of new communities that are safe and environmentally conscious. Toshiba is sponsoring Minamisoma Solar Agri-Park project in Fukushima Prefecture. In this project, plans are being made to support children's development through teaching them how photovoltaic power generation is used to provide electricity to plant factories and other facilities and how power is generated as well as through giving them farming experience. We will also support Fukushima Prefecture's Iidate village in realizing its plan for recovery. In an effort to support new community development in cooperation with Miyagi Prefecture's Ishinomaki City and Fukushima Prefecture's Minamisoma City, we are also actively promoting the creation of smart communities that meet local needs through our business activities, thereby making extensive contributions to the restoration of Japan.

Working to Become One of the World's Foremost Eco-companies Based on Integrity

Since my appointment as President and CEO of Toshiba, I have emphasized the need for unshakable integrity both inside and outside our company and have made it a goal to meet our responsibilities to society by ensuring legal compliance and minimizing risks throughout all of our business areas. In addition to supporting the restoration of Japan, we will play an important role in finding solutions to many other issues, such as strengthening energy security and mitigating global climate change. We will do so by providing Toshiba's unique products and services, which span a wide range of areas including digital products, electronic devices and social infrastructure products.

Under our "Toshiba eco style" global brand, Toshiba Group aims to become one of the world's foremost eco-companies in order to realize a world in which people lead affluent lifestyles in harmony with the Earth; this is our vision for 2050.

Promoting Environmental Management through Four Green Initiatives Based on the Fifth Environmental Action Plan

Toshiba Group has developed an Environmental Action Plan to pursue its vision for 2050 and is working to achieve specific goals based on this action plan. Since our first action plan formulated in 1993, we have continued to achieve higher goals, including increasing the number of initiative items and expanding the scope of governance. Having accelerated the schedule for the Fourth Environmental Action Plan, which was initially planned to be completed in 2012, we developed and launched the Fifth Environmental Action Plan in order to enhance our environmental programs.

In our efforts to become one of the world's foremost eco-companies, we added the concept of "Green Management" to the three concepts passed down from the Fourth Environmental Action Plan (Greening of Products, Greening by Technology and Greening of Process). We are promoting environmental management based on these four Green initiatives. At the same time, we are also working to achieve specific goals regarding increasing sales and contributing to environmental improvements, thereby further promoting integration between business and environmental management.

Greening of Products

Greening of Products refers to our initiatives aimed at achieving the highest level of environmental performance for all products that we develop in order to reduce environmental impact throughout product life cycles. We will accelerate the development of localized products to meet the individualized needs of different countries and areas, including developed countries where various energy-saving initiatives have been implemented as well as emerging countries where environmental impact is likely to increase as a result of economic growth. We will thereby further spread the use of Excellent ECPs featuring the highest levels of environmental performance. In 2015, we aim to achieve Excellent ECP sales of 1.8 trillion yen as well as a mitigation in CO_2 emissions of 15 million tons made possible by our products. We will also actively promote measures encouraging the use of recycled materials and reducing the use of specified chemical substances with the aim of mitigating global environmental impact.

Greening by Technology

Greening by Technology refers to our initiatives aimed at providing a stable power supply and mitigating climate change through the use of low-carbon energy technologies. We will enhance our programs to develop renewable energy sources, including solar, hydro, geothermal and wind power. At the same time, we will also promote the improved efficiency in thermal power generation technology and commercialization of carbon dioxide capture and storage (CCS) technology, as well as the development of new thermal power generation cycles designed to capture CO_2 more easily and safer nuclear power generation technologies. In addition, we will develop solutions for smart grids, the next generation power distribution systems that enable effective use of renewable energy and provide a stable power supply. Our aim is to create smart communities—i.e., next-generation communities which realize integrated management and optimal control of infrastructure systems in all areas of social life, including power and water supply, transportation, and medical care. As of May 2012, Toshiba Group participates in 27 experimental and commercial projects both in Japan and overseas with a view to creating smart communities that meet the high-priority needs of individual areas. In FY2015, we aim to achieve energy-related product sales of 1.9 trillion yen and a mitigation in CO_2 emissions of 490 million tons, thereby contributing to the achievement of the optimal mix of energy sources as well as the realization of a sustainable low-carbon society.

Greening of Process

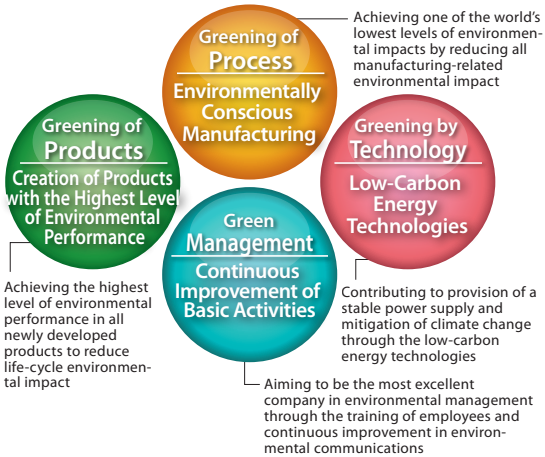
Greening of Process refers to our initiatives aimed at minimizing procurement of materials for production in Japan and overseas, reducing energy consumption in manufacturing, reducing discharge of waste and chemicals, and keeping environmental impact to a minimum even if production increases. As a result of our efforts to reduce power consumption for air conditioning and lighting and restrict the use of electricity by Toshiba Group companies in Japan since immediately after the March 11, 2011 earthquake, we succeeded in reducing power consumption by 11% in FY2011 compared to the previous year. In FY2012, we plan to reduce CO_2 emissions by 30,000 tons through making energy-saving investments of 3.7 billion yen. In the Fifth Environmental Action Plan, we aim to reduce costs as well as environmental impact through high-efficiency manufacturing designed to promote the mitigation of climate change, the effective use of resources, and the management of chemicals. We will strive to increase environmental efficiency to 1.5 times the FY2000 level by FY2015, thereby achieving one of the world's lowest levels of environmental impacts.

Green Management

Green Management refers to our initiatives aimed at training personnel for environmental activities as well as continuing to improve basic activities such as environmental management, environmental communication, and conservation of biodiversity. In our Fifth Environmental Action Plan, we set three new goals. The first is to conserve biodiversity. We will create worldwide ecosystem networks supported by collaboration among the areas around our production sites and promote the preservation of animal and plant ecosystems by making the most of the characteristics of each individual production site. Our second goal is to provide environmental education and train environmental personnel. We will promote the training of Toshiba eco-style leaders for environmental activities and register 2,000 eco-style leaders by FY2015 in order to accelerate environmental activities at our production sites. Our third goal is to facilitate environmental communication. To this end, some 200,000 employees working at Toshiba Group companies around the world will take an active part in developing environmental activities rooted in their local communities, thereby establishing a global environmental communication network that connects people together.

In Conclusion

The philosophy of serving the public with passion and commitment to innovation, which Toshiba Group has carried down for 137 years, is firmly incorporated into our company's DNA. As we accelerate our global business development, we hope to provide our products and services to a greater number of people so that we can realize a world in which all people lead affluent lifestyles in harmony with the Earth. To that end, we will stay true to Toshiba Group's slogan, "Committed to People, Committed to the Future," and will strive to become the most excellent company in environmental management earning the trust of society. As we do so, I hope that we may enjoy your continued support and cooperation.



Toshiba's Initiatives for Reconstruction and Power Saving

Toshiba Group will contribute to rebuilding Japan and saving electricity across a wide range of areas, including the provision of diverse products and services, electricity and energy conservation efforts at production sites and the sharing of power-saving tips with customers.

Products for reconstruction and power-saving

● Support for earthquake recovery and reconstruction

Since the March 11, 2011 earthquake, Toshiba Group has striven with all its resources to ensure the safety of the stricken Fukushima Daiichi Nuclear Power Station (for details, see page 53 of this report and page 12 of the CSR Report 2012) and supported disaster recovery and reconstruction by fully utilizing its wide range of business domains, from social infrastructure systems to household appliances and digital products.

● Contributing to electricity conservation

Toshiba Group provides a wide variety of products and services that contribute to energy and electricity conservation. Among these are TVs, PCs, and electric fans with power peak-shift functions, which switch over to built-in batteries for power when electricity demand peaks; home fuel cells which can be used for power generation at home and that continue to generate power even in the event of a power failure; storage batteries with built-in SCiB™ rechargeable batteries, which are effective in conserving electricity during times of peak power demand; conventional LED lamps; and cloud computing services, which make power consumption visible.

Supporting local governments and other organizations

Toshiba Corp. donated photovoltaic power generation systems, PCs, TVs, air conditioners, and multifunction copy machines to local government offices and their temporary operating facilities in order to assist them in continuing their operations. We also supported and invested in the Minamisoma Solar Agri-Park project implemented by Fukushima Reconstruction Solar Co., Ltd. to rebuild Fukushima Prefecture. This project aims to use solar energy to generate power in Minamisoma City (one of the stricken areas), to supply the power thus generated to plant factories and other facilities in the park, and to encourage children to develop their character and interact with one another by learning about photovoltaic power generation systems and experiencing agriculture firsthand. Power generation is scheduled to begin in the spring of 2013.

Minamisoma Solar Agri-Park project

Rechargeable electric fan for the living room

With its rechargeable batteries, this electric fan can be used even when no electricity is available—for example, in the event of a power failure. In addition, the "peak-shift operation" function enables users to switch the power over from AC to the batteries with a single touch of a button. Together with the DC inverter motor, the dual sensor, which detects room temperature and humidity to automatically adjust airflow, achieves substantial energy conservation compared to its predecessor, keeping power consumption as low as 3 watts.

Reconstruction projects

Toshiba Corp. is working on the construction of smart communities and other projects in Ishinomaki City (Miyagi Prefecture) and Minamisoma City (Fukushima Prefecture) in order to contribute to the reconstruction of the stricken areas. In Ishinomaki, we will draw up plans to build a smart community aimed at realizing a "safe, secure, and environmentally conscious town" in which people can use electricity even when a disaster occurs, an objective to be achieved primarily by developing an energy management system (EMS) for regional energy management and installing photovoltaic power generation systems and storage batteries.*1 In Minamisoma, we are considering formulating plans to construct large photovoltaic power plants with a combined generating capacity of 100,000 kW of electricity*2 and building a smart community.*3

*1 In response to the Ministry of Economy, Trade and Industry's call for applications for projects to promote the introduction of smart communities, Ishinomaki City, Tohoku Electric Power Company, Inc. and Toshiba Corp. jointly made this proposal.
*2 The plans for this project include a 20,000-kW photovoltaic power generation project commissioned by the Ministry of the Environment as part of its urgent request to consider renewable energy projects in fiscal 2011.
*3 Toshiba has entered into an agreement with Minamisoma City to construct large photovoltaic power plants and introduce a smart community.

Residential fuel cell

Fuel cell system for residential (ENE-FARM) is a micro power plant that supplies electricity and heat for homes. It ensures effective use of energy because it generates electricity in homes using city or LP gas and makes use of the waste heat resulting from power generation to produce hot water. Toshiba provides ENE-FARM, its latest residential fuel cell with an overall eco-efficiency of 94%,* the world's highest. This fuel cell is even capable of continuing to generate power even in the event of a power failure. If combined with photovoltaic power generation, this system will contribute to even greater energy conservation and CO_2 emissions reductions.

* Achieved by Toshiba's residential fuel cell cogeneration system (as of December 2011 according to a Toshiba survey)

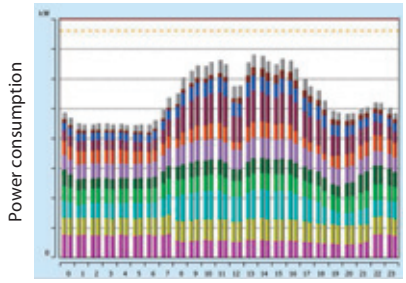
Reducing electricity use at production sites

Since immediately after the earthquake, Toshiba Group has implemented every possible power-saving measure at its production sites, including removing some fluorescent lamps, adjusting the time and set temperature of air conditioners, stopping some elevators, shifting production from daytime to nighttime, and instructing employees to adopt the summer business dress code earlier than usual. Starting in June 2011, in order to reinforce power consumption monitoring, it introduced a real-time power consumption monitoring system at its major operation sites in the areas served by Tokyo Electric Power Company and Tohoku Electric Power Company. Through these initiatives, it reduced peak power consumption in 2011 by 30% and overall power consumption by 11% compared to 2010. In October 2011, the Group started to implement power-saving measures at all its companies in Japan in preparation for possible power shortages in winter. Furthermore, in December 2011, it expanded its power consumption monitoring to cover all its companies nationwide. In the future, Toshiba Group will continue to contribute to electricity and energy conservation by taking similar measures.

Making power consumption visible

Toshiba provides cloud computing services to make power consumption visible by collecting real-time data on the power being consumed at numerous plants and office buildings. In December 2011, Toshiba Group started to manage power consumption at its business and production sites.

Change over time in power consumption by facility

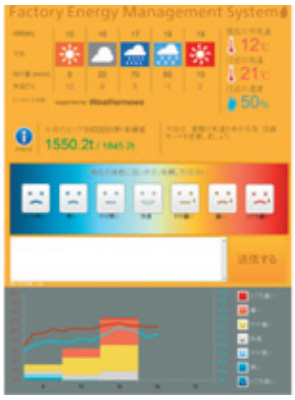


Establishing a system to make power consumption visible through employee participation

Using its Fuchu Complex as a model, Toshiba Corp. is conducting tests to establish a system to make CO_2 emissions visible using cloud computing technology, thus raising awareness of the need for energy conservation among its employees.

Display for making monthly CO_2 emissions visible

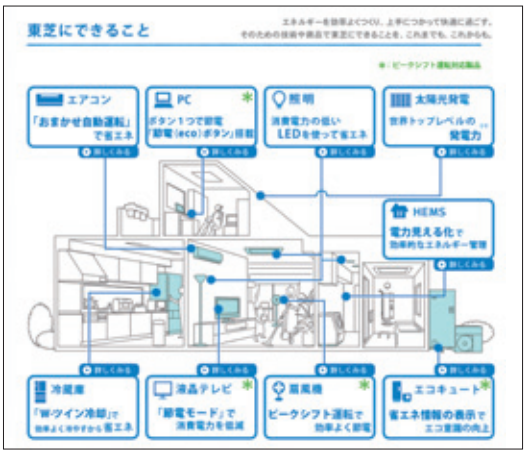
In order to make CO_2 emissions visible, Toshiba collected data on the amounts of electricity, gas, and other utilities used per building to clarify CO_2 emissions and converted these totals to monetary values. To motivate employees to participate in this initiative, Toshiba posted the temperature and humidity at each workplace and the status of CO_2 emissions resulting from power consumption on its internal website, making the work environment visible based on sensory information obtained from employees. This information was classified into one of seven grades such as "comfortable," "hot," or "cold." By analyzing CO_2 emissions and employees' reactions via these experiments, the company will promote energy conservation efforts with a view to achieving operational efficiency and will aim to make effective environmental investments.



Inputs and display of sensory information obtained from employees

Introducing tips for power-saving

Toshiba posts articles on its website which suggest ways of cleverly using the power-saving functions of products primarily designed for home use, such as PCs, TV sets, air conditioning systems, refrigerators, washing machines with dryers, as well as those products and services from Toshiba Group installed and managed by corporate users, such as lighting equipment, air conditioning facilities, and elevators used at production sites, offices, or stores. On the website, it also proposes measures for realizing further power savings and energy conservation.
Examples of power-saving measures introduced on the website include using electricity peak-shift functions and power-saving modes for PCs, making use of TV power-saving functions, adjusting temperatures of air conditioners and using them together with curtains and electric fans, and promoting more efficient and environmentally conscious LEDs.



Visit http://ecostyle.toshiba.co.jp/ (Japanese).

Visions and Strategies

Toward Environmental Vision 2050

Toshiba Group will contribute to society by creating new value through innovation to ensure that all people can lead affluent lifestyles in harmony with the Earth.

Summary of activities in FY2011

Results of the Fourth Environmental Action Plan P09

Improvement in overall eco-efficiency

- Achieved an overall eco-efficiency of 2.50 compared to our target of 2.16

Achievement of the Fourth Environmental Action Plan

- Achieved our goals for 11 out of 16 items

Formulation of the Fifth Environmental Action Plan P11

Formulated the Fifth Environmental Action Plan to conclude in FY2015

- 22 items in total were established for four "Green" initiatives, with Green Management newly added
- Aiming to increase overall eco-efficiency for FY2012 and FY2015 by 2.5 times and 3 times, respectively, compared to the FY2000 level

Overview of Environmental Impacts P13

Making the impact of the whole supply chain on the environment visible

- Calculated environmental impacts throughout the life cycle of our products and services

Realizing a Low-Carbon Society through Smart Communities P15

Toshiba Group's initiatives for smart communities

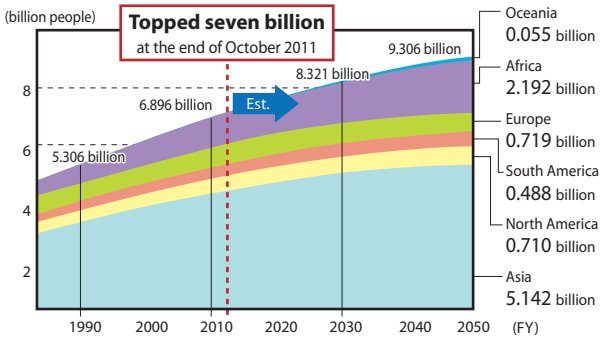
- Participated in pilot projects in various parts of the world, including France, Yokohama, and India

Environmental Vision 2050

The world population topped seven billion in October 2011, and rapid population growth and the urbanization of populations are expected to continue to occur mainly in the emerging countries of Africa, Asia, and other regions. As a result, food, water, and energy shortages; decreases in the consumable resources such as fossil fuels, metals, and minerals that support today's society; climate change; and other problems are having global effects as a result of their complicated, intricate relations with one another. We must address these issues urgently.

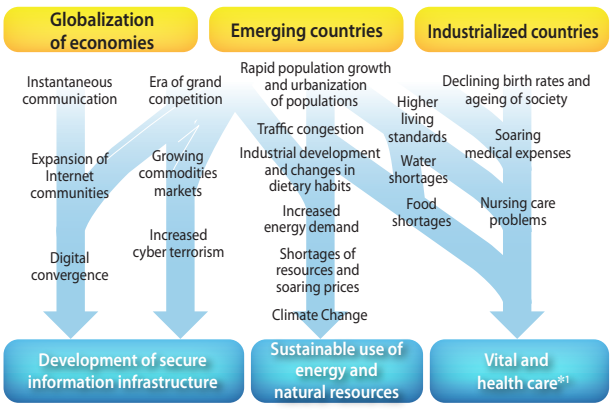
Toshiba Group has developed Environmental Vision 2050, a corporate vision that envisages affluent lifestyles in harmony with the Earth as an ideal situation of mankind in 2050, and will work to realize this vision.

■ Changes in the World Population (Estimates)



Source: U.N. World Population Prospects, the 2010 Revision

■ Mega-trends in Environmental Changes

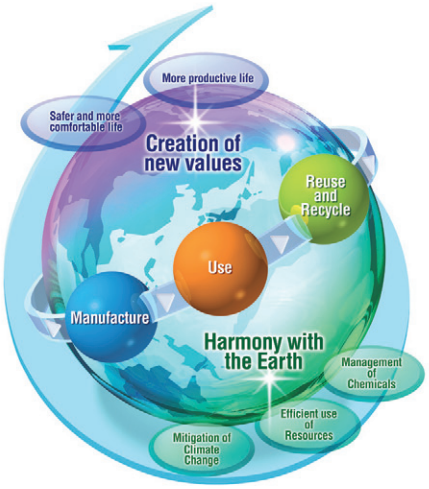


*1 Vital and health care: Securing of life-support elements (water, air, food, etc.) and responding to the ageing of society and promoting health

Throughout the life cycle of products from manufacture and use to recycling and reuse, Toshiba Group will strive to provide safer and more comfortable lifestyles and create enriched value for customers. The Group will also strive for harmony with the Earth by working to mitigate climate change, using resources efficiently, and managing chemicals properly in order to reduce environmental impact.

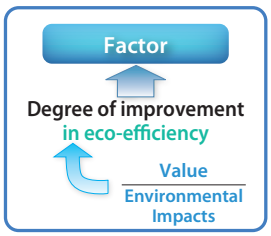
Environmental Vision 2050

Toshiba Group practices environmental management that promotes harmony with the Earth, contributing to the creation of affluent lifestyles for society.



Performance indicators for our Vision

Based on the concept of "eco-efficiency," we have set goals to ensure that all people can lead affluent lifestyles in harmony with the Earth. Eco-efficiency can be expressed as a fraction, with the creation of new value as the numerator and environmental impacts as the denominator. The more enriched value created—or the more environmental impact is reduced and progress made toward coexisting with the Earth—the more eco-efficiency improves. We call the degree of improvement in eco-efficiency the "Factor," and increasing the Factor leads to affluent lifestyles in harmony with the Earth.



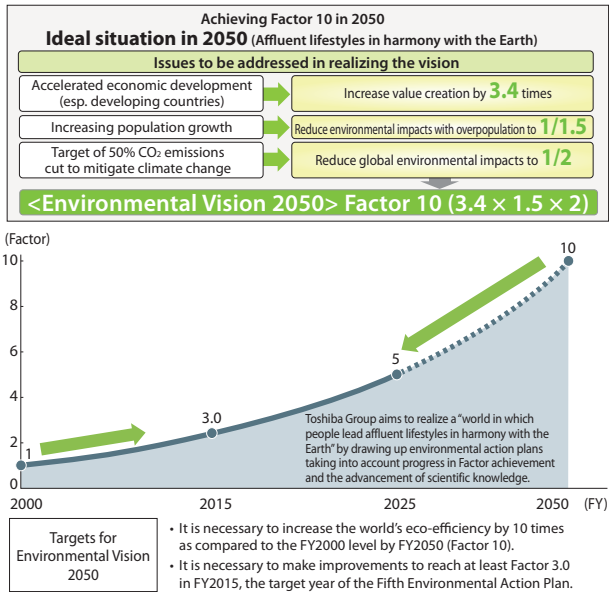
Based on several predictions about the future shapes society may take, we examined how much we need to raise the Factor by 2050.

It is assumed that the gross domestic product (GDP) of a country reflects value that its people can enjoy. According to the Organisation for Economic Co-operation and Development (OECD), the world's average GDP per capita is expected to grow 3.4 times by 2050.

It is also expected that the world population will increase by 1.5 times as compared to 2000 by 2050. In order to reduce environmental impacts as they rise with population growth, it is necessary to increase eco-efficiency by 1.5 times by that year. And at the 15th Conference of the Parties to the U.N. Framework Convention on Climate Change, participants emphasized that it is necessary to reduce greenhouse gas emissions by half by 2050.

If the three points cited above are taken into account, the required degree of improvement in eco-efficiency (Factor) in the world in 2050 is 10.2 (3.4 × 1.5 × 2). As an evaluation indicator, Toshiba Group Environmental Vision 2050 sets the goal of achieving Factor 10 by 2050. (See the graph below.)

In consideration of the above, long-term goals are established by backcasting from the ideal situation in 2050. Toshiba believes that in 2015, the final year of the Fifth Environmental Action Plan which began in FY2012, it is necessary to achieve Factor 3.0, a milestone toward its long-term goal.



"Toshiba eco style"

In order to further accelerate its initiatives for environmental management based on the four "Green" concepts—"Greening of Process," "Greening of Products," "Greening by Technology," and "Green Management"—as it aims to become one of the world's foremost eco-companies and emphasize its approach to environmental issues in the wide spectrum of society, Toshiba Group has established "Toshiba eco style" as its unified global brand for environmental initiatives. It will work to achieve two "eco styles" on a global scale: (1) For individuals, our eco-conscious products create value and help to realize richer, more diverse lifestyles while reducing impacts on the global environment, (2) For society, our advances in power systems, sophisticated transmission networks, and essential infrastructure systems secure new levels of convenience, safety, and security, while contributing to the realization of a eco planet Earth.

http://ecostyle.toshiba.com

"Toshiba eco style," a unified global brand for environmental initiatives

TOSHIBA eco style

Results of the Fourth Environmental Action Plan

Toshiba Group achieved its annual goal for overall eco-efficiency by reaching its eco-efficiency goals in two areas: products and business processes.

Annual goal for overall eco-efficiency achieved

In order to realize an ideal state of environmental management in 2050, Toshiba Group formulates environmental action plans and manages specific environmental activities and their targets in accordance with these plans. Since we formulated our first environmental action plan in FY1993, the Group has expanded its scope of environmental initiatives and governance. In the Fourth Environmental Action Plan, we proposed environmental initiatives for the period from FY2005 to FY2012. The Environmental Vision 2050 requires the Group to increase the degree of improvement in overall eco-efficiency by ten times (Factor 10) by 2050 and by five times (Factor 5) by 2025. In FY2011, taking these requirements into consideration, the Group worked to achieve its goal of increasing the degree by 2.16 times (Factor 2.16). As a result, we increased product eco-efficiency in FY2011 by 2.79 times (target: 2.38 times) compared to the FY2000 level thanks to continued progress in creating value and reducing environmental impact mainly in the area of digital products and devices. We improved business process eco-efficiency by 1.35 times (target: 1.28 times) because of reductions in greenhouse gas emissions through energy conservation and other efforts. Thus, Toshiba Group exceeded its targets in both areas and succeeded in improving overall eco-efficiency, which combine these two types of eco-efficiency, by 2.50 times, more than our target of 2.16 times. The Fourth Environmental Action Plan concluded in FY2011, one year earlier than initially scheduled. From now on, the Group will continue to achieve our eco-efficiency targets by implementing the Fifth Environmental Action Plan, which covers the period from FY2012 to FY2015.

Achieved Status of Fourth Environmental Action Plan

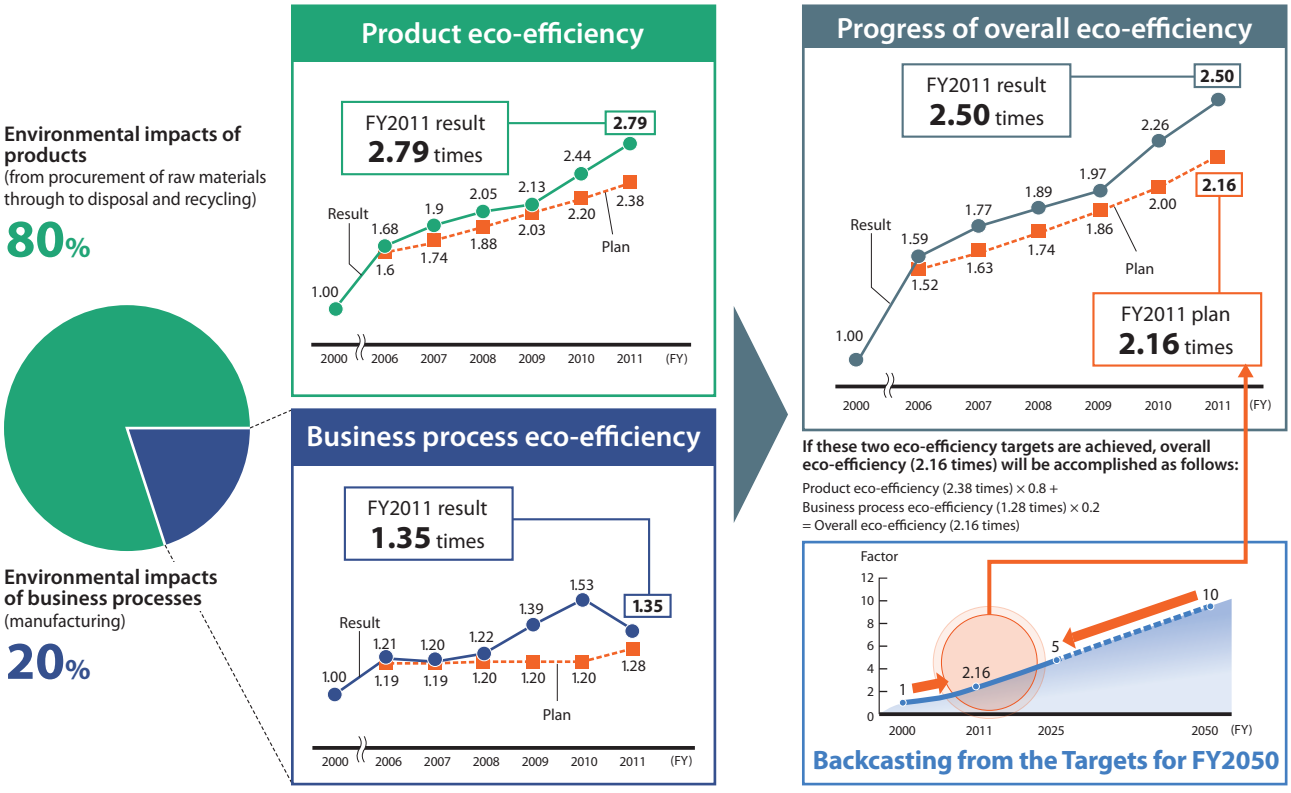
The table on the right summarizes the progress made with regard to the various environmental measures taken in accordance with the Fourth Environmental Action Plan in FY2011. During FY2011, Toshiba Group achieved its goals for 11 of the 16 items in the Plan.

In particular, the Group certified 29 products as "Excellent ECPs" (for details, see page 35), exceeding initial targets. On the other hand, due to a delayed sales recovery after the collapse of Lehman Brothers chiefly in social infrastructure, it failed to achieve its goals in terms of CO_2 emission reduction effects.

In terms of business processes, Toshiba Group achieved its goals to reduce greenhouse gas (other than CO_2) emissions by installing GHG removal equipments in a systematic way. On the other hand, it failed to achieve its goals to reduce energy-derived CO_2 emissions because of a deteriorating CO_2 emissions coefficient for domestic electricity due to the effects of the earthquake in Japan. The Group also saw some of its overseas sites delayed in achieving zero waste emission because recycle-related systems and infrastructure were underdeveloped in the countries where the sites are located. Furthermore, it suffered delays reducing chemical emissions due to delayed capital investments and other factors.

As for the items the Group failed to achieve its targets for under the Fourth Environmental Action Plan, which was scheduled to end in FY2012, the Group aims to continue its efforts and achieve new targets set for said items under the Fifth Environmental Action Plan by taking measures such as marketing products with higher energy-saving performance globally, stepping up energy conservation in Japan, implementing systematic measures focusing on processes that emit large amounts of chemical substances, and searching for waste recyclers in overseas markets.

■ Progress of overall eco-efficiency



Toshiba Group's Fourth Environmental Action Plan

Degree of improvement for overall eco-efficiency	FY2011		
	Goal	Result	Evaluation
	2.16	2.50	+0.34 (Achieved)

Improvement of product eco-efficiency		Indicator	FY2011		
			Goal	Result	Evaluation
		Factor for products	2.38	2.79	+0.41 (Achieved)
Creation of environmentally conscious products (ECPs)	Creation of ECPs	Percentage of ECPs to total sales	70%	72%	+2% (Achieved)
			The goal was achieved because the percentage of ECPs in the area of social infrastructure in proportion to total sales increased.		
		Number of Excellent ECPs created	20 products	29 products	+9 products (Achieved)
			The goal was far exceeded mainly by expanding LED and home appliance lineups and offering more Excellent ECPs in the field of social infrastructure systems (particularly elevators and generators).		
	Mitigation of climate change through products	CO_2 emission reductions through eco products	6.8 million tons	4.7 million tons	−2.1 million tons (Not achieved)
			The goal was not achieved because of decreases in sales of eco products due to rapid changes in the world economy after 2008. Still, Toshiba Group was able to exceed its initial plan in terms of the range of improvement from the previous year by promoting the development of products with the highest level of environmental performance. In the future, the Group will continue efforts to achieve the goal under the Fifth Environmental Action Plan.		
	Abolition of use of all specified chemicals	15 specified chemicals contained in products*1 (all use has been discontinued)	Abolition of use of all these substances	Abolition of use of all these substances	(Achieved)
			Total discontinuation of the use of specified chemicals was achieved for all products.		

Innovation in business processes		Indicator	FY2011		
			Goal	Result	Evaluation
		Factor for the entire business processes	1.28	1.35	+0.07 (Achieved)
Mitigation of climate change	Reduction in energy-derived CO_2 emissions*2	Total emissions per unit production*3	44% reduction	43% reduction	−1% (Not achieved)
		Domestic production sites	44% reduction	39% reduction	−5% (Not achieved)
			The goal was not achieved because of a deteriorating CO_2 emissions coefficient for domestic electricity due to the effects of the earthquake (If the effects of the earthquake are excluded, the goal was achieved with energy-derived CO_2 emissions reduced by 53%). These effects will linger in the future, but Toshiba Group will continue to make utmost energy conservation efforts under the Fifth Environmental Action Plan.		
	Reduction in greenhouse gas emissions (other than CO_2)	Total emissions	37% reduction	78% reduction	+41% (Achieved)
			Substantial reductions in total emissions were achieved through the collection of SF_6 gas, promotion of recycling and systematic installation of greenhouse gas removal equipment.		
	Reduction in CO_2 emissions resulting from product logistics in Japan	Total emissions per unit production	42% reduction	56% reduction	+14% (Achieved)
			The goal was achieved by reviewing the transport distance to distribution centers and proactively using railways.		
Efficient use of resources	Reduction in the total volume of waste generated	Total volume of waste generated per unit production	22% reduction	30% reduction	+8% (Achieved)
			The total volume was reduced mainly due to reductions in the amount of materials used as a result of improved manufacturing and treatment processes		
	Reduction in final waste disposal volumes	Percentage of final waste disposal (sites that achieved zero waste emission*4)	100%	83%	−17% (Not achieved)
			Overseas sites with underdeveloped recycling infrastructures caused delays in progress. The overall percentage of waste for which Toshiba Group handled final disposal was 2.0%, a reduction of 0.4% from the previous year. In the future, the Group will continue its efforts under the Fifth Environmental Action Plan. Specifically, it will raise awareness of the need for waste recycling at overseas bases, thus increasing the recycling rate.		
	Product reuse and recycling	Rate of increase in the volume of end-of-life products recycled*5	170% increase	260% increase	+90% (Achieved)
			In Japan, the amount of four end-of-life home appliances collected fell upon the termination of the eco-point system, but the amount of such appliances collected in Europe and North America rose, enabling the Group to achieve the goal.		
	Reduction in the volume of water received	Volume of water received per unit production	9.5% reduction	25% reduction	+15.5% (Achieved)
			Progress was made in reducing the volume of water received mainly by reusing water through the introduction of waste water treatment and collection systems into operation sites that consumed much water.		
Management of Chemicals	Reduction in the amount of chemicals discharged into the atmosphere and hydrosphere	Total emissions	52% reduction	43% reduction	−9% (Not achieved)
			The goal was not achieved for reasons such as delays in capital investments. In the future, efforts will continue under the Fifth Environmental Action Plan. Specifically, the Group will take systematic measures mainly for processes that emit large amounts of chemical substances.		

*1 Fifteen specified chemical substances: see page 43.
*2 In this table, the CO_2 emission coefficient for electricity in Japan is 4.76 t-CO_2/10,000 kWh. Overseas electricity is based on GHG Protocol.
*3 FY1990 baseline.
*4 Toshiba Group defines "zero emission" as reducing the portion of waste materials resulting from business operations that is disposed of to landfills after they undergo various types of treatment to less than 0.5% for manufacturing sites and to less than 0.1% for non-manufacturing sites (excluding sites subject to legal restrictions, administrative guidance, and other factors).
*5 FY2001 baseline, when the Act on Recycling of Specified Kinds of Home Appliances was enforced.
FY2000 baseline, unless otherwise specified. Applicable to production and non-production sites in Japan and abroad. As an indicator that enables appropriate assessment of reduction in greenhouse gas emissions, volume-based real outputs are used for basic-unit goals.
Real output = [Nominal domestic output] / [Ratio of the domestic corporate goods price index (CGPI) for each year (CGPI for 1990 is 1), based on CGPI (electric equipment) published by the Bank of Japan] + [Nominal overseas output]

Formulation of the Fifth Environmental Action Plan

Toshiba Group has formulated an action plan for the period up to FY2015. Under this plan, it aims to establish its position as one of the world's foremost eco-companies by integrating business operations with environmental management.

Stepping up environmental management by introducing product sales management and total environmental impact controls

Toshiba Group completed its Fourth Environmental Action Plan (details on page 9), which was scheduled to end in FY2012, one year ahead of schedule and so formulated the Fifth Environmental Action Plan to cover the four years from FY2012 to FY2015. During this time, the Group will step up and expand its environmental initiatives. The Action Plan inherits the three "Green" concepts—"Greening of Products," "Greening by Technology," and "Greening of Process"—from its predecessor and adds "Green Management" to the trio. At the same time, the Group will set specific goals to contribute to both overall sales and environmental performance and strive to achieve such goals in order to achieve greater integration between business operations and environmental management.

● **Greening of Products (Creation of products with the highest level of environmental performance)**

We reviewed our performance indicators; now, environmental performance is managed via sales of Excellent ECPs rather than the percentage and number of such products as we did previously. We will strive to create more products with the highest level of environmental performance in order to increase sales of Excellent ECPs to 1.8 trillion yen in FY2015, approximately six-fold compared to the FY2011 level.

● **Greening by Technology (Low-carbon energy technologies)**

We added two new performance indicators: "sales" and "reduced CO_2 emissions." In FY2015, Toshiba Group will increase sales of energy-related products concerning various types of power generation (e.g., thermal and wind power) to 1.9 trillion yen, about 1.5 times the FY2011 level. The Group will also offer advanced low-carbon technology to the global market with the aim of reducing CO_2 emissions by 490 million tons.

● **Greening of Process (Environmentally conscious manufacturing)**

We reviewed our performance indicators; now, environmental performance is managed on both a "per unit production" and "total amount" basis rather than on a "per unit production" basis alone as we did previously. Over the four years leading up to FY2015, we aim to achieve the world's lowest level of environmental impact through high-efficiency manufacturing, in which we simultaneously reduce costs and environmental impacts (greenhouse gases, waste materials, chemical substances, wastewater discharged from plants, etc.).

● **Green Management (Continuous improvement of basic activities)**

We established three new performance indicators: "conservation of biodiversity," "environmental education and human resource development," and "environmental communication." We will ensure that each and every one of our employees becomes aware of the need to participate in environmental management, and in FY2015, we plan to promote "Simultaneous Environmental Actions" with the participation of all Toshiba employees worldwide.

Through these initiatives, Toshiba aims to establish its position as one of the world's foremost eco-companies by 2015 by achieving greater integration between business operations and environmental management.

Implementing various measures based on the four "Green" concepts

Greening of Products

Create products with the highest level of environmental performance

Increasing sales by achieving eco-targets and offering popular content

Increasing sales of Excellent ECPs to 1.8 trillion yen in 2015

Universal Smart X heat source system

Power device

Greening by Technology

Developing advanced low-carbon technology on a global scale

Realizing the best mix of energy sources and an energy-saving society

Increasing sales of energy-related products to 1.9 trillion yen in 2015

Mega solar system

Hydrogen-cooled, high-efficiency turbine generator

Greening of Process

Pursuing the world's lowest level of environmental impacts

Reducing costs and power consumption through high-efficiency manufacturing

Cutting CO_2 emissions by 30,000 tons by investing 3.7 billion yen in energy conservation

Increasing eco-efficiency by 1.5 times compared to the FY2000 level in 2015

High-efficiency semiconductor factory

High-efficiency freezer

Green Management

Promoting "Simultaneous Environmental Action" by all employees worldwide

Carrying out this initiative with an employee participation website

Aiming to become the most excellent company in environmental management

Employee participation website

Earth Hour

Aiming to establish its position as one of the world's foremost eco-companies

Toshiba Group's Fifth Environmental Action Plan

Eco-efficiency	FY2012 plan	FY2015 plan
Improvement of overall eco-efficiency (compared to FY2000 level)	2.5 times	3.0 times
Improvement of product eco-efficiency (compared to FY2000 level)	2.8 times	3.4 times
Improvement of business process eco-efficiency (compared to FY2000 level)	1.35 times	1.5 times

Greening of Products (Creation of products with the highest level of environmental performance)/ Greening by Technology (Low-carbon energy technologies)		FY2012 plan	FY2015 plan
Overall	Increasing sales amounts of Excellent ECPs (Greening of Products)	0.5 trillion yen	1.8 trillion yen
	Increasing sales amounts of energy-related products (Greening by Technology)	1.36 trillion yen	1.9 trillion yen
Mitigation of climate change	Reduction of CO_2 emissions through eco-products*1 (Greening of Products)	6 million tons	15 million tons
	Reduction of CO_2 emissions through energy-related products*2 (Greening by Technology)	450 million tons	490 million tons
Efficient use of resources	Increasing the percentage of resource savings for products*3	33%	50%
	Increasing the percentage of use of recycled plastics for products*4	2.6%	3.0%
Management of chemicals	Reduction of specified chemical substances contained in products (reduction of PVC*5/BFRs*5)	20 product groups*6	Total 80 product groups*6

Greening of Process (Environmentally conscious manufacturing)*10		FY2012 plan	FY2015 plan
Mitigation of climate change	Reduction in total greenhouse gas emissions*7 (compared to the FY1990 levels)	3.45 million tons <51%>	4.39 million tons <65%>
	Improvement of total energy-derived CO_2 emissions per unit production*7 (compared to the FY2010 levels)	96%	90%
	Improvement of total CO_2 emissions resulting from product logistics per unit production (compared to the FY2010 levels)	98%	95%
Efficient use of resources	Reduction in waste emissions*8 (compared to the FY2000 levels)	107,000 tons <65%>	117,000 tons <71%>
	Improvement of the total volume of waste generated per unit production (compared to the FY2010 levels)	100%	90%
	Reduction in the percentage of final waste disposal*9 (relative to Toshiba Group total emissions)	1.8%	0.5%
	Improvement of the volume of water received per unit production (compared to the FY2010 levels)	96%	90%
Management of chemicals	Reduction in the total emissions of chemicals discharged (compared to the FY2000 levels)	1,694 tons <66%>	1,967 tons <77%>
	Improvement in the chemical substance handling amounts per unit production (compared to the FY2010 levels)	100%	95%

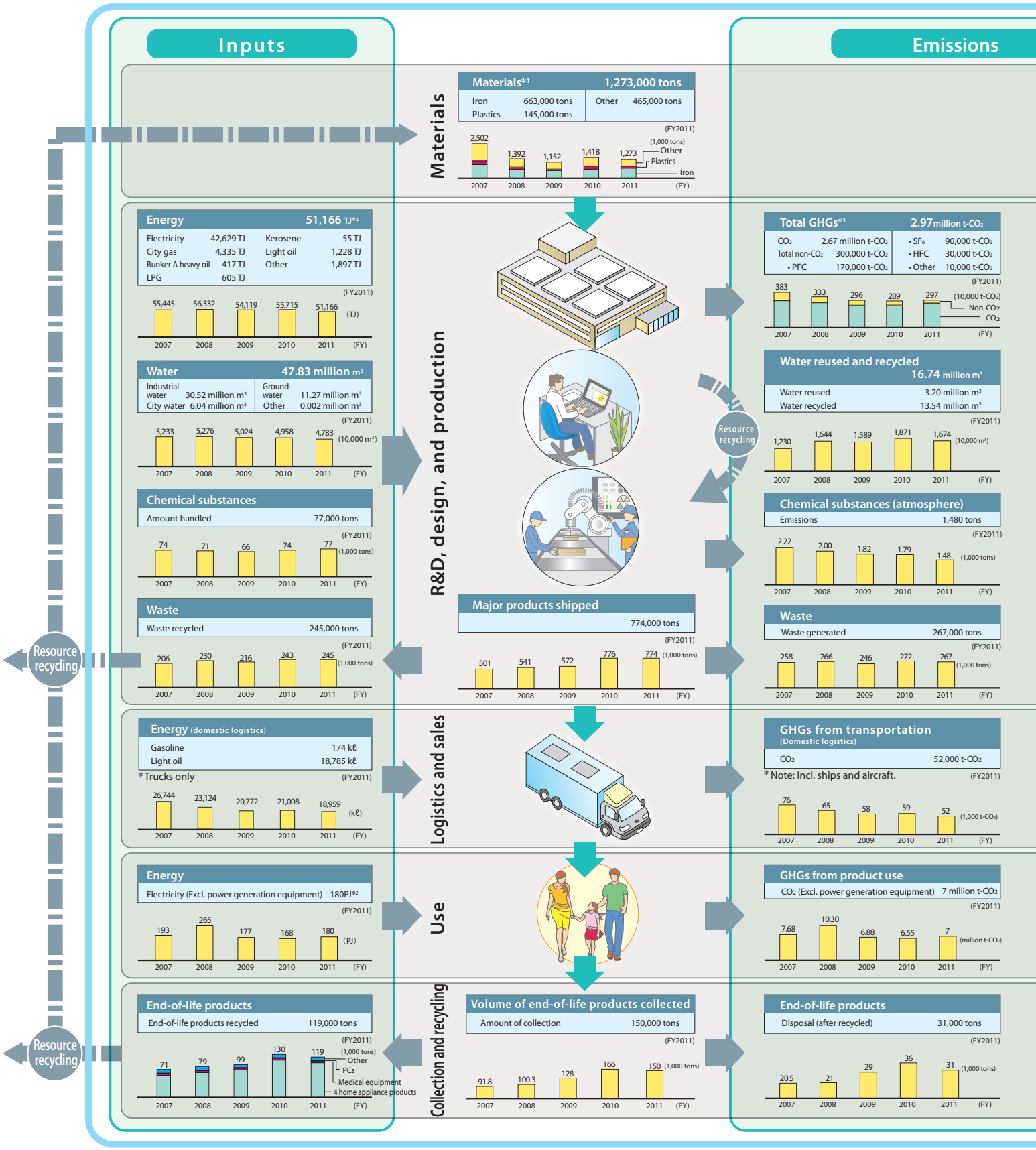
Green Management (Continuous improvement of core activities)		FY2012 plan	FY2015 plan
Conservation of biodiversity	Developing ecosystem networks with production sites playing a central role in collaboration with local communities	Percentage of major production sites at which the biodiversity survey was conducted: 50%	Measures implemented to improve biodiversity
Environmental education/ Human resources development	Development of Toshiba eco-style leaders	Development of 200 leaders	Development of 2,000 leaders
Environmental communication	Expanding environmental communication to connect people around the world	Creating an employee community to raise ecoawareness	Promotion of "Simultaneous Environmental Actions" to cope with global environmental issues

Notes: Covers operation sites (manufacturing and non-manufacturing sites) worldwide.
Unit basis targets, specifically product quantity-base indices, which have real output as the denominator, were used to facilitate evaluation of environmental activities.
Real production = [Nominal output in Japan] / [corporate goods price index (for electrical equipment) announced by the Bank of Japan for the year (compared to 1990 levels, where 1990 is represented as 1)] + [nominal output outside Japan]

*1 [CO_2 emissions of assumed substitute products] – [CO_2 emissions of shipped products] (Compares annual emissions during the usage stage and cumulates emissions for half the product life.)
*2 Compared with CO_2 emissions (rate to net production output) for average thermal power of the same fuel type; for nuclear power/renewable energy, compared with CO_2 emissions (rate to net production output) for average thermal power of all types
*3 [Increase in the amount of resources saved] / [increase in product total by weight] × 100
*4 [Amount of recyclable plastics] / [amount of plastics used for products] × 100
*5 PVC: Polyvinyl chloride is one of the most common plastics and is used in a wide range of products. However, there is concern over the generation of hazardous substances due to inappropriate treatment at disposal, as well as the toxicity of certain plasticizers (e.g., phthalate esters) added to PVCs. BFRs: Brominated flame retardants are used in plastics. Some BFRs are raising health concerns while others persist in the environment or are bioaccumulative. There is also concern over the generation of hazardous substances due to inappropriate treatment at disposal.
*6 Abolished except special uses.
*7 3.50 t-CO_2/10-thousand kWh is used for the power factor in Japan, and GHG Protocol data is used overseas.
*8 Obtained by deducting the volume of objects with value from the total volume of waste generated (excluding business and production sites engaged in waste treatment and power generation)
*9 Toshiba Group's definition of "zero emissions" of waste is that the amount of landfill waste after treatment is equivalent to less than 0.5% for manufacturing sites and 1.0% for nonmanufacturing sites of the total amount of by-products and other items generated (total amount of waste discharged) as a result of business activities (excluding the sites with restrictions under laws and administrative guidance).
*10 Figures for benchmark years indicate performance data in the boundary set on April 1, 2012.

Overview of Environmental Impacts

Toshiba Group handles a wide range of products and services from household appliances and information/communications equipment to semiconductors, electronic components and power generation facilities. The Group considers it important to strive to grasp the overall impact of these business activities on the environment and work to reduce these impacts.



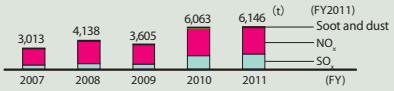
*1 Material inputs are calculated based on the Estimation Method for Material Inputs Using Input-Output Table (EMIOT), a method independently developed by Toshiba Group. EMIOT uses ratios of resources used per unit production, which are prepared based on the Input-Output Table, to calculate total material inputs. One distinctive feature of the method is that input-output analysis is applied only to the flow of resources from upstream to downstream. Another is that the volume of such resources by industrial sector is stored in a database. Using this method, it is possible to calculate weights of input resources by resource type from the data on procurement (monetary value) by resource category, which are gathered by materials procurement divisions. Therefore, data can be gathered not only on direct materials, but also indirect materials. Previously, it was difficult to clarify the amounts of resources in parts made of composite materials or the amounts of resources associated with services. EMIOT has enabled clarification of the amounts of resource inputs by resource type for such materials.

As shown in the material flow chart below, Toshiba Group strives to grasp and analyze all environmental impacts in each stage of the life cycle of products and services, from the procurement of materials, production and logistics to use by customers, collection and recycling. The Group also uses the Life-cycle Impact assessment Method based on Endpoint modeling (LIME) to assess the overall impact of resource and energy inputs and emissions of greenhouse gases, chemicals and other substances on the environment (for details see page 46). Examined by life-cycle stage, the largest environmental impacts were during the procurement of materials, use by consumers, and production, in that order. In FY2011, the impacts of materials, their procurement, and manufacturing on the environment decreased compared to the previous year due to the effects of the earthquake in Japan and as a result of production decreases caused by floods in Thailand. As described above, Toshiba Group considers it important to work effectively to reduce overall environmental impact based on quantitative analyses of environmental impacts at each stage of the life cycle of products and services. This data was collected from 554 Toshiba Group companies (actual results for FY2011).

Emissions

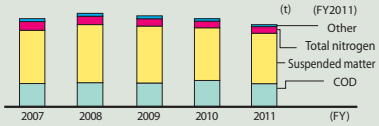
Emissions to atmosphere

SO_x	2,145 tons
NO_x	3,854 tons
Soot and dust	150 tons



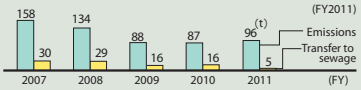
Emissions to hydrosphere

Total wastewater	39.56 million m³	Suspended matter	1,575 tons
BOD	252 tons	Total nitrogen	206 tons
COD	711 tons	Other	62 tons



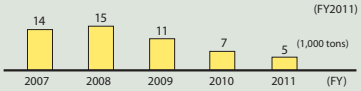
Chemical substances*4 (hydrosphere)

Emissions	96 tons
Transfer to sewage	5 tons



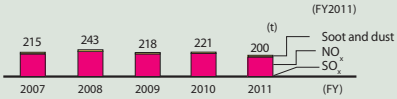
Waste

Final disposal	5,000 tons

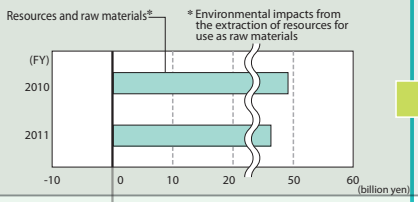


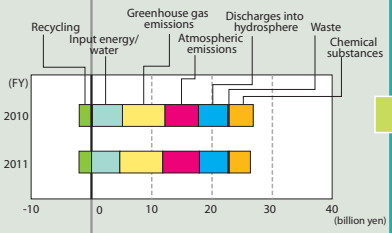
Emissions to atmosphere during transport

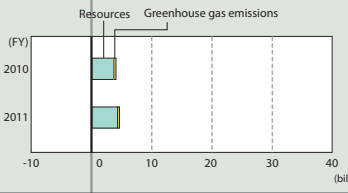
SO_x	0.3 tons
NO_x	189 tons
Soot and dust	11 tons

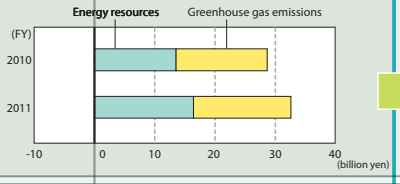


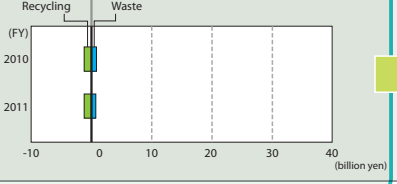
Environmental impacts (overall evaluation)











Major initiatives

- Effective use of resources for products ····· P40
- Promotion of eco procurement ····· P43
- Reduction in energy-derived CO_2 emissions ····· P21
- Reduction in greenhouse gas emissions ····· P21
- Reduction in the total volume of waste generated and final waste disposal volumes ····· P25
- Reduction in the volume of water received ····· P26
- Reduction in and management of emissions of chemical substances into the atmosphere and hydrosphere ····· P27
- Responses to environmental risks ····· P29
- Reduction in CO_2 emissions resulting from product transportation ····· P22
- 3R initiatives for packaging material ····· P41
- Reduction in CO_2 emissions through eco products ····· P37
- Increase in the volume of end-of-life products recycled ····· P31

*2 The joule is a unit of energy measuring mechanical work, heat, and electricity. One joule equals about 0.239 calories. 1 TJ = 10^{12} J; 1 PJ = 10^{15} J

*3 In this table, the CO_2 emission coefficient for electricity in Japan is 3.50 t-CO_2/10,000 kWh in FY2010 and 4.76 t-CO_2/10,000 kWh in FY2011.

*4 The volume of hydrogen fluoride and its water-soluble salt emitted into hydrosphere in FY2009 was zero because hydrogen fluoride used became non-water-soluble salt through post-use treatment.

Realizing a Low-Carbon Society through Smart Communities

In 2011, the world population exceeded seven billion as populations grew rapidly, mainly in emerging economies. Populations are concentrating in urban areas, and demand for energy and water resources is surging. Realizing a sustainable, low-carbon society is becoming a serious issue which needs to be addressed on a global scale. One promising solution is "smart communities."

Energy solutions

Consideration for the environment

Creating energy

Promoting high-efficiency power generation and low-carbon emission power sources


Mega solar system


Hydroelectric power generation


Geothermal power generation


Wind power generation


High-efficiency thermal power generation


CCS


Nuclear power generation

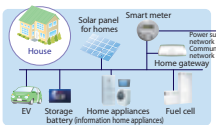
- Promotion of low-carbon power sources that do not emit CO_2 when generating power such as sunlight, geothermal energy, and wind power
- Improving the efficiency of thermal power generation, which supports 70% of all electricity generated worldwide, and promoting carbon dioxide capture and storage (CCS)

Comfortable and convenient

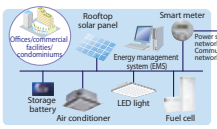
Using energy

Encouraging widespread use of eco-products and promoting total energy management for homes, buildings, factories, and local communities


Energy-saving home appliances



HEMS

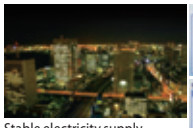


BEMS

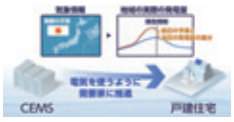

CEMS

- Promoting development and widespread use of eco-products
- Promoting development and widespread use of systems that monitor and control energy consumption for homes (HEMS), buildings (BEMS), factories (FEMS), and communities (CEMS)

Ensuring comfortable, convenient, and environmentally conscious lifestyles in which electricity is supplied stably


Stable electricity supply


Home energy management system (HEMS)



Energy lending within a local community (CEMS)

- Enabling networked home appliances to be switched on and off even when away from home
- Realizing cost savings through a combination of three initiatives: creating energy using photovoltaic and other types of power generation, storing energy using secondary batteries, and conserving energy through optimal control of consumption

Water solutions

Consideration for the environment

Using water resources effectively with water treatment and environmental systems


UV disinfection system


Non-chemical feed filtration system


System to produce fuel from sewage sludge


Pilot plant for the wastewater treatment system without aeration (※ Japan Sewage Works Agency's Research & Technology Development Experiment Center)

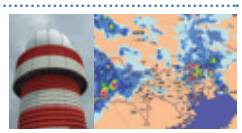
- Promoting development and widespread use of products and technologies to reduce environmental impacts, such as those for water purification, collection of specified substances from wastewater, and production of fuel from sewage sludge

Comfortable and convenient

Ensuring provision of safe and secure tap water and comfortable urban life supported by disaster-prevention measures

- Promoting development and widespread use of systems to monitor and control water and sewage plants
- Enabling efficient drainage control during torrential rainstorms by predicting localized downpours


Water and sewage treatment plant monitoring and control system


Rainwater drainage system

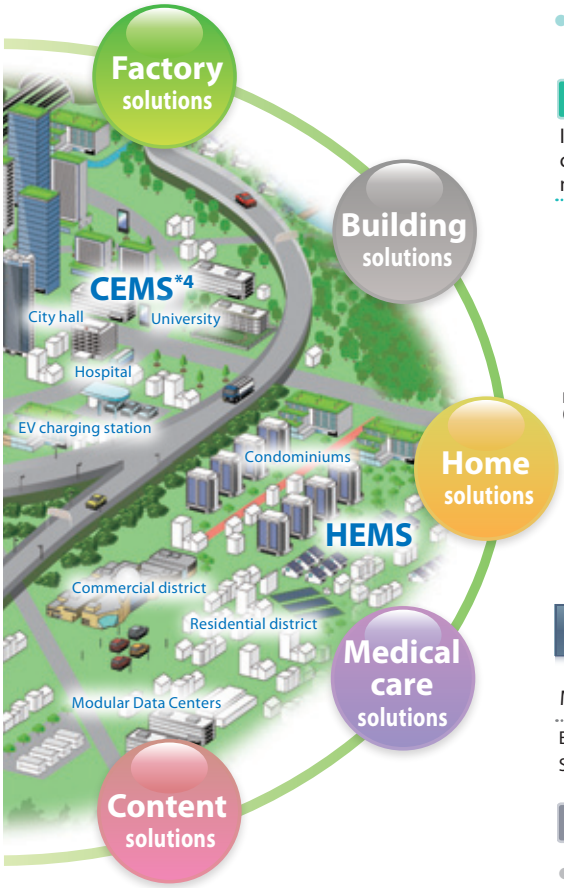
Toshiba's com-

Ensuring both the comfortable
the sustainability of

From its establishment until the present day, Toshiba Group has expanded its operations into a wide range of areas, from social infrastructure systems (such as those for energy, transport, and water) to health care and home appliances. Toshiba aims to realize smart communities that ensure both the comfortable lives of individuals and the sustainability of their communities by using cloud computing technology to integrate the diverse technologies and solutions the Group has developed in these areas over the years.

munity solutions

lives of individuals and their communities



Transport solutions

Consideration for the environment

Ensuring the mobility of people through a wide range of technologies, systems, and products and minding the environment when developing transport infrastructure

Hybrid locomotive

Light rail new transportation systems

EV/Hybrid vehicle system

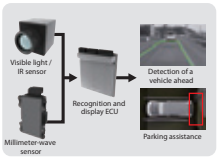
- Promoting development and widespread use of key products and systems such as SCiB™ rechargeable batteries, high-efficiency motors, and inverters
- Promoting development and widespread use of systems for making use of regenerative energy when decelerating

Comfortable and convenient

In a smart community, railways and automobiles cause little delay and suffer little congestion and few accidents, making travel comfortable. Automobiles are basically moving batteries and can receive a wide range of information even while being driven.

Rechargeable batteries (SCiB™)

Traffic control system
Courtesy of Metropolitan Expressway Co., Ltd.



Driving assistance system

Rail operation management system

- Promoting development and widespread use of systems that ensure the smooth operation of railways and manage their safety as well as monitor and control automobile traffic
- Providing system components that ensure the safety, security, and comfort of drivers using image recognition and sensing technologies

Social infrastructure clouds

Making social infrastructure speedy, flexible, and smart

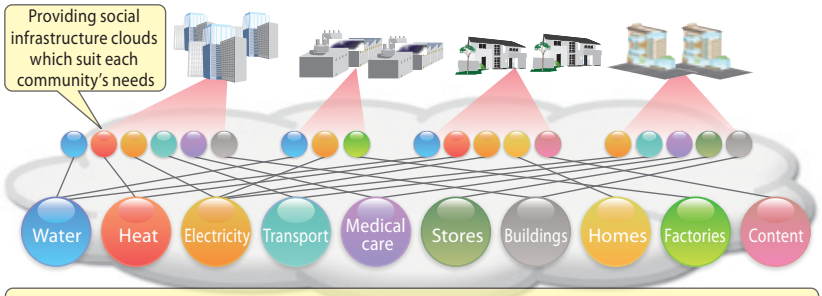
Emerging economies and industrialized countries have different social infrastructure needs.
Social infrastructure clouds provide services meeting each country's respective needs.

Consideration for the environment

- In industrialized countries, Toshiba's community solutions both mind the environment and ensure the comfortable lives of individuals while making the most of existing systems.

Comfortable and convenient

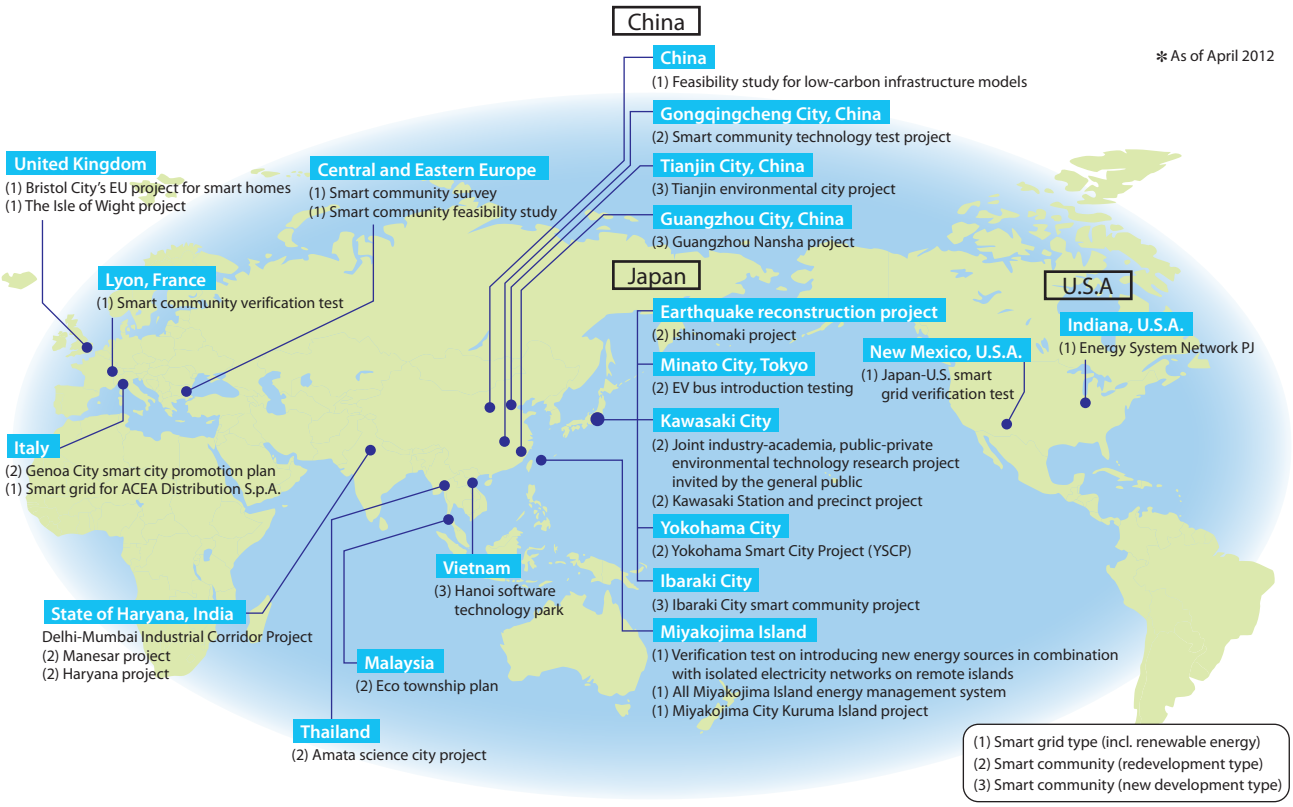
- In emerging economies, Toshiba's community solutions provide scalable social infrastructure to facilitate introduction of social infrastructure at low costs and to respond to future economic development.



*1 BEMS: Building Energy Management System
*2 HEMS: Home Energy Management System
*3 FEMS: Factory Energy Management System
*4 CEMS: Community Energy Management System

Toshiba Group's Initiatives for Smart Communities

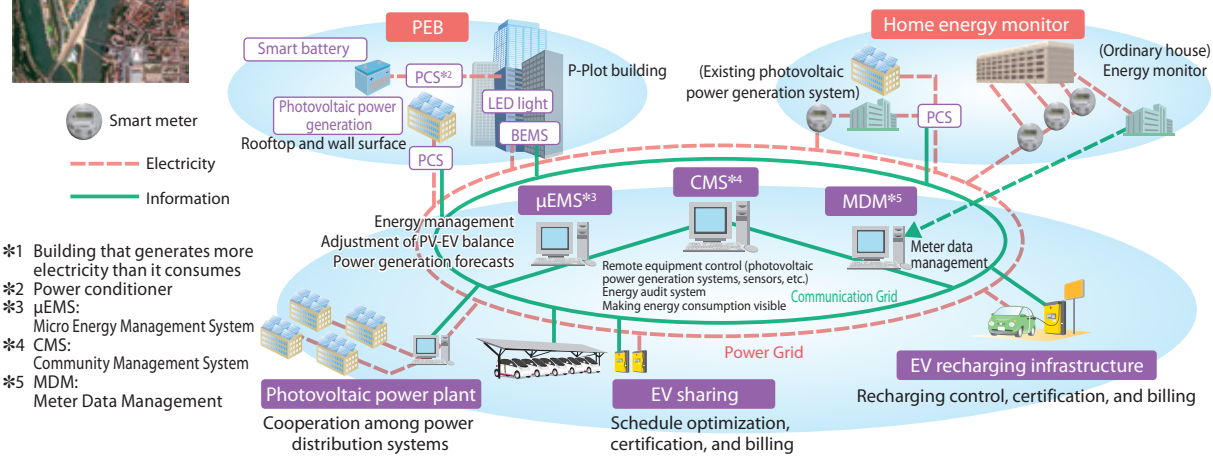
Toshiba Group has participated in many experiments and commercial projects for smart communities in various countries around the world. In each project, the Group tests the effects of a wide range of solutions for standardization.
In order to realize smart communities, it is necessary to solve energy and environmental issues on a global scale while simultaneously addressing the problems that face each individual region.
Toshiba Group is striving to realize smart communities that meet regional characteristics by providing a combination of various solutions it has developed through product participation.



✻As of April 2012

Verification Test in Lyon, France

The City of Lyon is often called the second capital of France. In January 2012, an experiment was launched to introduce renewable energy to and spread the use of electric vehicles (EVs) in the Redevelopment District Confluence, a 150-hectare area that stretches from the meeting point of the Rhone and Saône Rivers.
In this project, Toshiba Group will test the effects of three initiatives: promoting positive energy buildings (PEBs)*1 using renewable energy and making energy use more efficient, encouraging EV sharing using renewable energy as an energy source, and making the community's energy consumption visible.

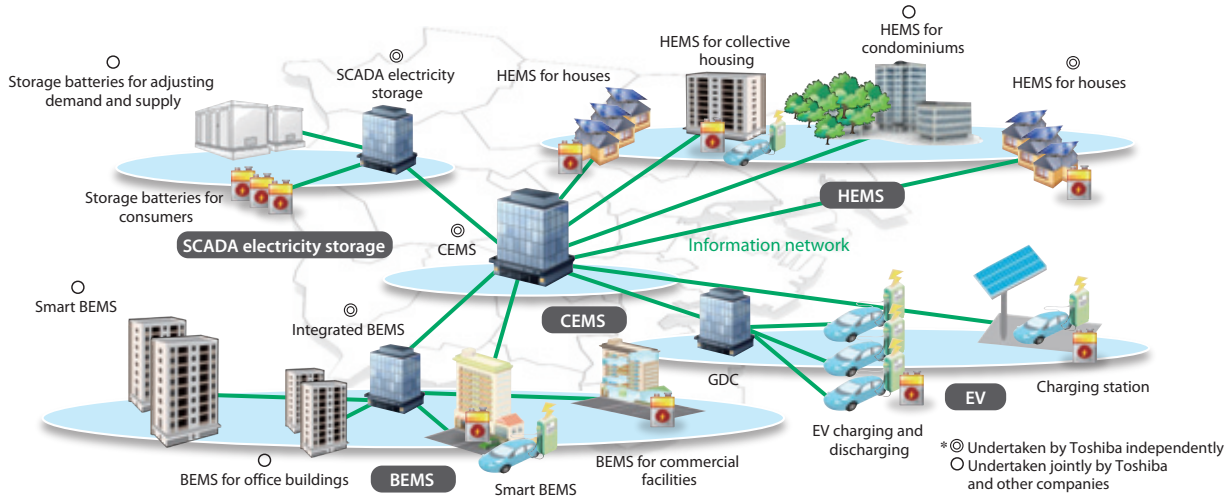


*1 Building that generates more electricity than it consumes
*2 Power conditioner
*3 μEMS: Micro Energy Management System
*4 CMS: Community Management System
*5 MDM: Meter Data Management

Generate more energy than consumed

The Yokohama Smart City Project

The Yokohama Smart City Project aims to establish comfortable eco-lifestyles and build systems that use energy effectively on a community-wide scale in order to cope with climate change and break away from dependence on fossil fuels in order to reduce CO_2 emissions. Photovoltaic power generation systems, storage batteries, electric vehicles (EVs), and energy management systems (EMS) will be introduced into three areas with different characteristics: the Minato Mirai district, Kohoku New Town, and Kanazawa Green Valley. This project is characterized by its ambitious goals of introducing 2,000 EVs into these areas and installing home energy management systems (HEMS) in 4,000 households. Toshiba Group is responsible for developing energy management systems for communities (CEMS), buildings (BEMS), and homes (HEMS) as well as testing demand response (supply-demand control) and other systems. (Programs carried out with the participation of Toshiba are marked with ◎ and ○ in the following diagram.*)

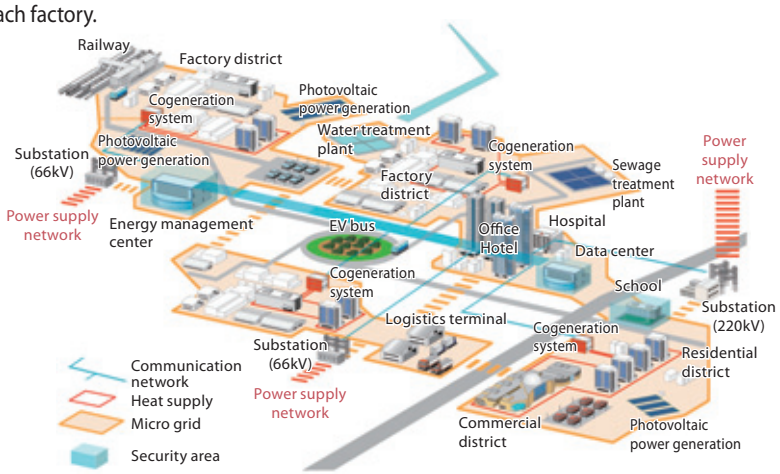


Establishing social systems aimed at reducing CO_2 emissions by 30% compared to the FY2004 level

Manesar industrial park project in the Indian state of Haryana

As part of the Delhi-Mumbai Industrial Corridor Project, which is being implemented jointly by the Indian and Japanese governments, a smart community is being built for the Manesar industrial park, located in the state of Haryana near the Indian capital of Delhi.
As one of Toshiba Group's smart community projects for industrial areas in emerging economies, the company is conducting a feasibility study on making the industrial park low-carbon, improving electricity supply reliability, and achieving greater economic efficiency by introducing cogeneration systems (supplying both heat and electricity) as alternatives to supplying electricity via distribution systems and installing private power generation equipment at each factory.

President Sasaki signing the memorandum of understanding (MOU)



Aiming to reduce CO_2 emissions by 60% through the introduction of cogeneration systems

Greening of Process
Environmentally Conscious Manufacturing

We are pursuing the world's lowest level of environmental impacts in manufacturing.

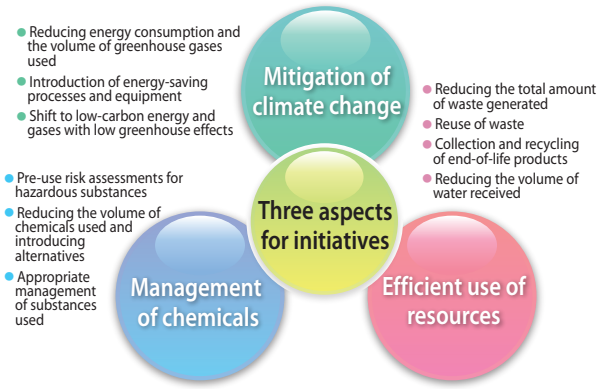
Summary of activities in FY2011

Initiatives for Greening of Process

"Greening of Process" means paying attention to the environment in manufacturing activities. Toshiba Group is continuously working to reduce environmental impacts by making factory infrastructure and production processes more efficient from three perspectives: mitigation of climate change, management of chemical substances, and effective use of resources.

In terms of climate change, the CO_2 emission coefficient for electricity in Japan has deteriorated considerably due to the effects of the March 11, 2011 Great East Japan Earthquake, and indications are that this is greatly affecting Toshiba Group, where electricity-derived CO_2 emissions account for a majority of total GHG emissions. With the possibility of sharp rises in electricity rates in the future, Toshiba Group is taking active energy-saving measures on a company-wide scale and will thus reduce the growth in CO_2 emissions to the maximum possible extent. In FY2012, the Group plans to reduce CO_2 emissions by approximately 30,000 tons by concentrating its efforts on semiconductor plants, which account for nearly half of its total GHG emissions. In terms of effective use of resources, we will continue to make maximum use of our ingenuity in reducing the total volume of waste generated and final waste disposal volumes. It will also proactively promote high-quality recycling and strive to use valuable water resources effectively. As for the management of chemicals, the Group will make efforts to discontinue the use of substances targeted for reduction mainly through the introduction of alternative substances and process improvements.

■ Initiatives to reduce environmental impacts



Pursuing the world's lowest level of environmental impacts

The impact of human activities on the environment has exceeded the Earth's capacity to cope, plunging the planet into three crises related to climate change, wasteful use of resources, and endangered ecosystems. Toshiba Group considers it important to contribute to the realization of a sustainable society by addressing these crises from the perspective of manufacturing which aims for a low-carbon, sound material-cycle, and symbiotic society.

At all its production sites, Toshiba Group minimizes resource inputs (such as energy, materials and consumables, chemicals, and industrial water), eliminates waste in manufacturing processes, and reduces the amount of industrial waste discharged into the air and waters to the maximum possible extent. In terms of electricity conservation, the Group collects data on energy consumption in real time (visualization), analyzes such data (easy-to-understand presentation), and uses the analysis results for corrective actions (motivation). In the future, it will also strive to achieve high-efficiency manufacturing to contribute to enhancing the competitiveness of its business by pushing forward with process innovation for sustainable manufacturing based on the previous process improvements and pursuing the world's lowest level of environmental impacts.

Toshiba Group aims to increase business process eco-efficiency to 1.5 times in FY2015.

Toshiba Group, which comprehensively assesses the effects of environmental impacts in its business operations, views business process eco-efficiency as an important indicator of high-efficiency manufacturing and is working to reduce environmental impacts in manufacturing processes.

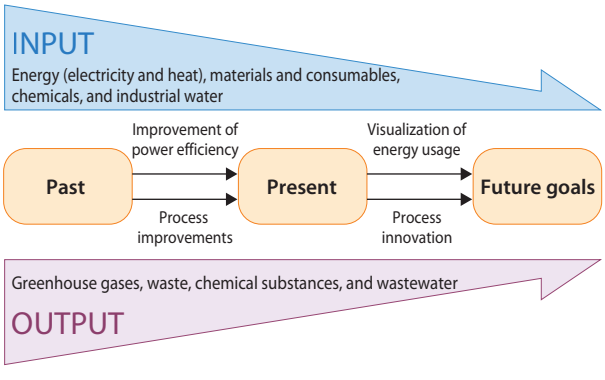
● Results of FY2011

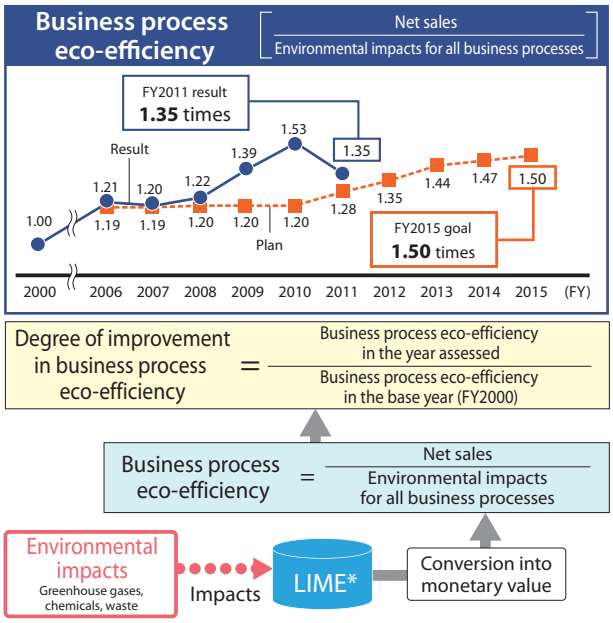
In FY2011, the amount of end-of-life products recycled decreased substantially because of sluggish replacement demand due to the termination of the eco-point system, leaving business process eco-efficiency to deteriorate compared to the previous year, at 1.35. But reductions in greenhouse gas emissions through energy conservation efforts and other factors contributed to exceeding the goal of 1.28 times.

● Future initiatives

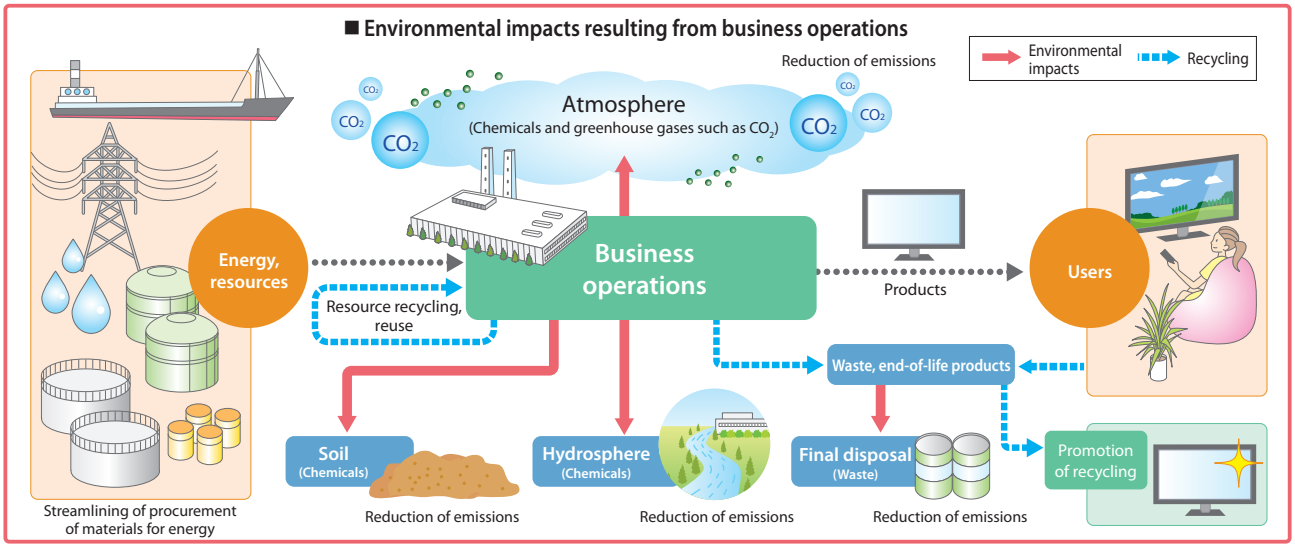
The goal of the Fifth Environmental Action Plan is to increase the business process eco-efficiency to 1.5 times compared to the FY2000 level in FY2015. In the future, in order to achieve this goal, Toshiba Group will work to reduce environmental impacts by setting nine specific targets (details on page 12).

■ Concept of Greening of Process





* **LIME** One of the leading environmental assessment methods in Japan, LIME (Life-cycle Impact assessment Method based on Endpoint modeling) was developed by the National Institute of Advanced Industrial Science and Technology, an independent administrative institution (details on page 46).



Mitigation of Climate Change

In order to contribute to the mitigation of climate change, Toshiba Group strives to reduce greenhouse gas (GHG) emissions, curb CO_2 emissions resulting from product logistics, and take other measures as well as to analyze CO_2 emissions throughout the entire supply chain.

Reducing total GHG emissions

Toshiba Group proactively installed systems to collect and/or remove sulfur hexafluoride (SF_6), which is used to insulate heavy electric machinery, and perfluorocarbons (PFCs), which are used to produce semiconductors. As a result, in FY2000, the Group nearly halved the total amount of GHG gases emitted* compared to the FY1990 level, and in subsequent years, GHG gas emissions continued to decrease as the Group steadily took measures to improve its production processes. Meanwhile, energy-derived CO_2 emissions resulting from the use of electricity, which peaked in FY2007, when production reached its highest level, have been reduced since FY2008 by taking energy conservation measures at all business and production sites, including ones overseas, restructuring production sites, and introducing renewable energy proactively.

● Results of FY2011

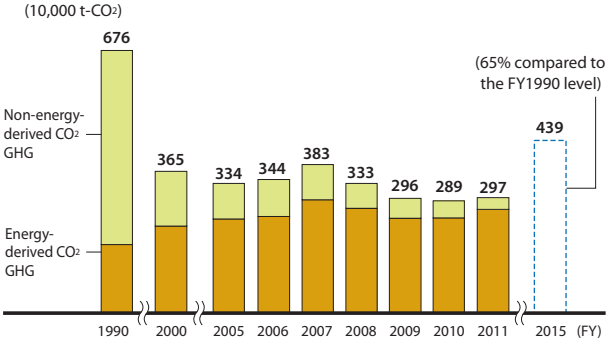
In FY2011, Toshiba Group reduced GHG emissions other than energy-derived CO_2 by 79% compared to the FY2000 level mainly by installing GHG removal equipments in a systematic way. Meanwhile, electricity consumption decreased compared to FY2010 due to proactive electricity conservation measures, including capital investments, but energy-derived CO_2 emissions increased substantially because of a deteriorating CO_2 emission coefficient for electricity due to the effects of the Great East Japan Earthquake (for details see the graph to the right).

* Six type of greenhouse gases targeted for reduction in the Kyoto Protocol: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)

● Future initiatives

The CO_2 emissions coefficient for electricity is expected to deteriorate in the future, but Toshiba Group will work to reduce total GHG emissions by investing proactively in high-efficiency equipment. In the Fifth Environmental Action Plan, Toshiba Group is adding the absolute amount of total GHG emissions as a new target indicator. Under this plan, the goal is to reduce total GHG emissions to 4.39 million tons or less (65% compared to the FY1990 level) by FY2015.

■ Changes in total GHG emissions



* The CO_2 emission coefficient for electricity on the user is used to calculate energy-derived CO_2 emissions (3.50 t-CO_2/10,000 kWh in FY2010 and 4.76 t-CO_2/10,000 kWh in FY2011). Overseas electricity is based on GHG Protocol.

Reducing energy-derived CO_2 emissions

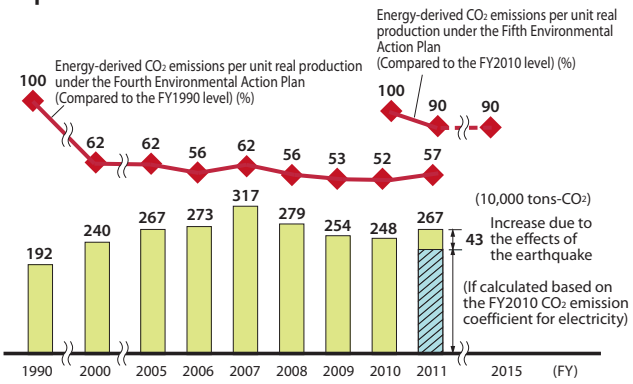
● Results of FY2011

In FY2011, Toshiba Group expected to reduce energy-derived CO_2 emissions by 240,000 tons compared to the previous year through electricity consumption reduction effects due to proactive electricity conservation (if calculated based on the CO_2 emission coefficient for electricity in FY2010), but affected greatly by the deterioration of CO_2 emission coefficient for electricity due to the earthquake, energy-derived CO_2 emissions increased substantially to 2.67 million tons (190,000-ton increase compared to the previous year). As a result, the Group reduced energy-derived CO_2 emissions per unit production by only 43% compared to the FY1990 level, lower than the FY2011 goal under the Fourth Environmental Action Plan.

● Future initiatives

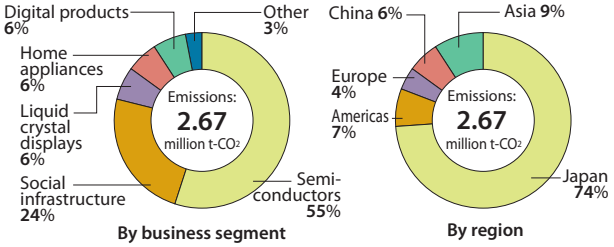
In the future, energy-derived CO_2 emissions are expected to rise due to the deterioration of CO_2 emission coefficient for electricity. Therefore, under the Fifth Environmental Action Plan, Toshiba Group plans to assess the status of improvement by fixing CO_2 emission coefficient for electricity in order to accurately show the results of CO_2 reduction activities consisting mainly of electricity conservation measures (FY2010 coefficient). In FY2012, it expects to reduce energy-derived CO_2 emissions by about 30,000 tons by making capital investments worth 3.7 billion yen. It aims to reduce energy-derived CO_2 emissions per unit production by 10% compared to the FY2010 level by FY2015.

■ Changes in energy-derived CO_2 emissions per unit production



* The CO_2 emission coefficient for electricity on the receiving side is used to calculate CO_2 emissions (3.50 t-CO_2/10,000 kWh in FY2010 and 4.76 t-CO_2/10,000 kWh in FY2011). Overseas electricity is based on GHG Protocol data.

■ Breakdown of energy-derived CO_2 emissions (FY2011)



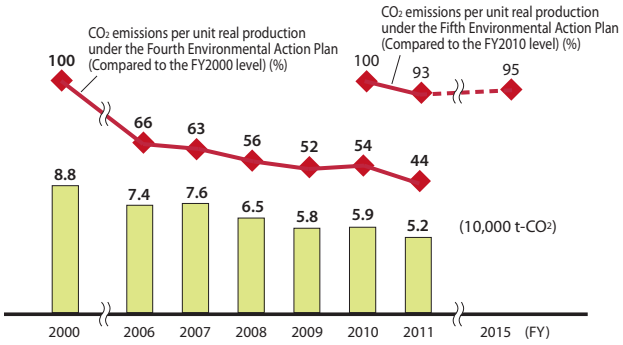
Reducing CO_2 emissions associated with product logistics

Each company of Toshiba Group is working to save energy during product logistics in collaboration with Toshiba Logistics Corp.

● **Results for FY2011**

In FY2011, Toshiba Group strove to reduce energy consumption during product logistics by taking various measures, including improving load factors when transporting products, applying modal shifts to a wider range of products, and shortening the transport distance by restructuring distribution centers. Furthermore, the Group avoided the roads that became impassable due to the earthquake and temporarily replaced truck transport by ship transport, which used different routes from the usual ones. As a result, it reduced CO_2 emissions per unit production by 56% compared to the FY2000 level, exceeding the initial target for FY2011 by 14%.

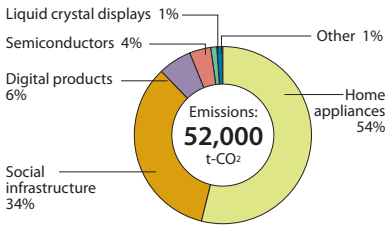
■Reduction in CO_2 emissions associated with product logistics in Japan



● **Future initiatives**

In the future, in the Fifth Environmental Action Plan, Toshiba Group will continue working to reduce CO_2 emissions per unit production by 5% compared to the FY2010 level by 2015.

■Breakdown of CO_2 emissions associated with product logistics in Japan in FY2011



By business segment

■CO_2 emissions associated with overseas and international logistics (approximate figures)

Toshiba Group collects data on overseas and international logistics for the group and calculates approximate CO_2 emissions associated with such logistics.

■ Total: 517,000 t-CO_2 (FY2011)
(Breakdown) Logistics in overseas countries: 26,000 t-CO_2
International logistics: 491,000 t-CO_2

Analysis of CO_2 emissions from employees' business travel

Toshiba Group is working to analyze CO_2 emissions resulting from employees' business travel. The table below indicates CO_2 emissions from employees' business travel by air in FY2010 and FY2011.

	FY2010	FY2011
Overseas business travel (t-CO_2)*	34,317	39,101
Domestic business travel (t-CO_2)*	12,104	11,964

*CO_2 emissions per unit passenger transport × Distance of travel × Seat class coefficient (overseas business trip only) (from the Japanese Ministry of the Environment's guidelines)

In FY2011, CO_2 emissions increased due to a larger number of employees traveling to the United States on a business trip to ensure the safety of nuclear power stations and to launch new businesses.

Use of renewable energy

Toshiba Group is continuously striving to use renewable energy for a wider range of its operations. In FY2011, the Group used 35,695 MWh's worth of renewable energy. This means that the Group reduced about 17,000 tons* of CO_2 emissions. Toshiba Corp. has used a green power system since January 2005 and has since been purchasing two million kWh of electricity under a green power certificate annually.

*Calculated based on 4.76 t-CO_2/10,000 kWh

TOPICS Introducing electric vehicles at Toshiba Group's business and production sites

As part of its measures to cope with climate change, Toshiba Group is actively using electric vehicles in its fleet of company cars. Unlike conventional cars, electric vehicles do not require gasoline, thereby keeping running costs low and contributing greatly to reducing CO_2 emissions mainly because they use electricity for power and thus do not emit exhaust gases while running. Toshiba Corp. continued to introduce electric vehicles manufactured by Mitsubishi Motors Corp., which use the Group's SCiB™ rechargeable batteries, at its branch offices, production sites, and affiliated companies as company cars. As a result, Toshiba Group as a whole owned 35 Mitsubishi electric vehicles by the start of July 2012. The Group will continue to actively introduce these vehicles into its fleet of company cars going forward.

Mitigation of Climate Change

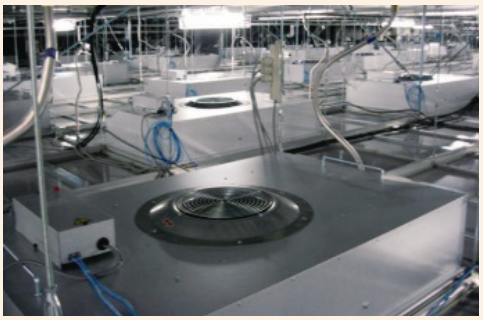
TOPICS A semiconductor plant for which environmentally conscious measures were taken starting from the planning stage

A NAND flash memory production plant for which measures to mitigate climate change were taken starting from the planning stage was completed.

Production Building No. 5 at Toshiba Corp.'s Yokkaichi Operations

Examples of measures to reduce CO_2 emissions

Improved air conditioning efficiency



LED lighting

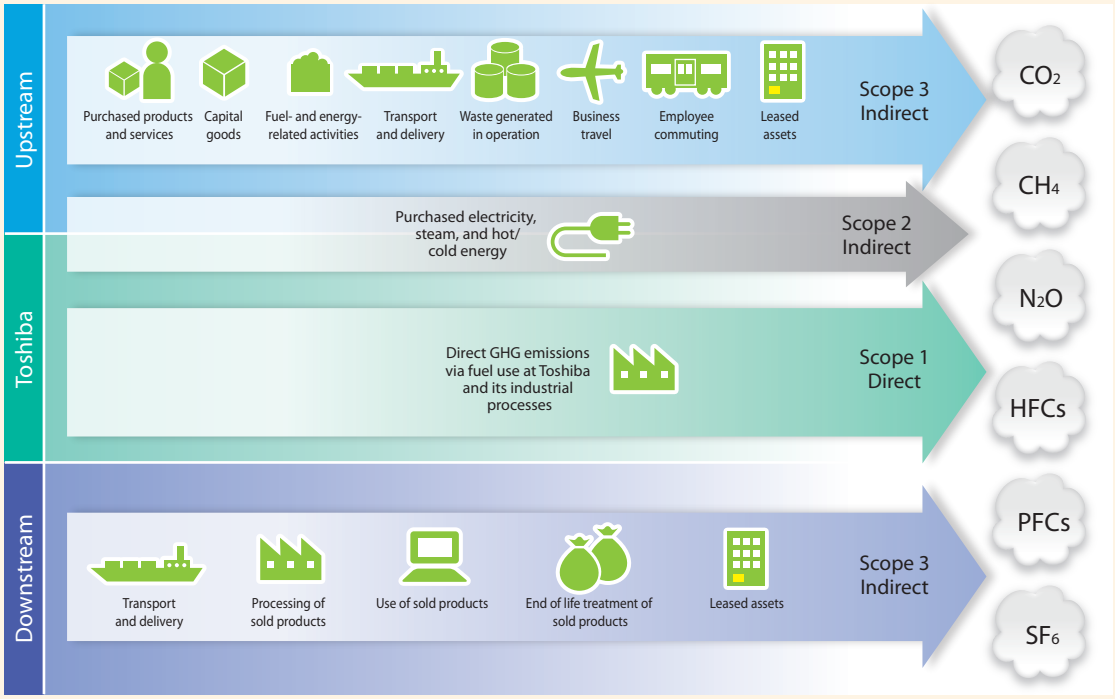
The first phase of construction work for a flash memory production plant featuring the latest energy-saving equipment was completed.

In 2010, Toshiba Corp. started to build a manufacturing plant to increase its capacity to produce NAND flash memory chips. This manufacturing plant aimed to actively adopt energy-saving equipment and take environmentally conscious measures starting from the planning stage. For production equipment, the designers worked with manufacturers of energy-saving equipment, parts, and systems to consider drastically energy-saving specifications in order to reduce power consumption for such equipment. In order to improve air conditioning efficiency, they strove for energy conservation by using such schemes as relaxing temperature and humidity control values and reducing the number of times air is circulated. In addition, they used LED lamps for clean rooms and other areas that needed to be lit constantly. By taking these energy-saving measures, Toshiba reduced CO_2 emissions by 12% compared to its existing production buildings.

TOPICS Making CO_2 emissions in the supply chain visible

Toshiba Group is working to calculate and analyze CO_2 emissions throughout its entire supply chain. In FY2011, the Group calculated such emissions using calculation methods based on the Ministry of the Environment's guidelines*. By stage of the supply chain, CO_2 emissions during the use of sold products were largest, accounting for about 88% of the total, followed by the purchased products and services and indirect energy-derived CO_2 emissions. Toshiba Group believes that it is important to make effective efforts by analyzing CO_2 emissions for each stage in quantitative terms.

* Basic guidelines regarding the calculation of greenhouse gas emissions throughout the supply chain



Classification		Categories covered by calculations	Calculation results (10,000 t-CO_2)	Remarks
Upstream	1	Purchased products and services	742 (8.1%)	
	2	Capital goods	79 (0.9%)	
	3	Fuel- and energy-related activities not included in Scope 1 and 2	17 (0.2%)	
	4	Transport and delivery (Upstream)	6 (0.1%)	
	5	Waste generated in operation	4 (0.0%)	
	6	Business travel	5 (0.1%)	Business travel by air only
	7	Employee commuting	—	Calculation method under consideration
	8	Leased assets (Upstream)	—	Not covered
Toshiba	9	Direct GHG emissions (Scope 1)	82 (0.9%)	
	10	Indirect emissions associated with energy-derived emissions (Scope 2)	215 (2.3%)	
Downstream	11	Transport and delivery (Downstream)	—	Calculation method under consideration
	12	Processing of sold products	—	Calculation method under consideration
	13	Use of sold products	8,051 (87.7%)	Not including power supply equipment
	14	End of life treatment of sold products	−24 (−0.3%)	Including product recycling
	15	Leased assets (Downstream)	—	Not covered
	16	Franchises	—	Not covered
	17	Investments	—	Not covered
Total			9,177 (100%)	

Efficient Use of Resources

In order to help build a sound material-cycle, sustainable society, Toshiba Group works to reduce the volume of raw materials and water resources used for its business operations and to use them effectively, striving to reduce the volume of waste generated and finally disposed of.

Reducing the total waste volume

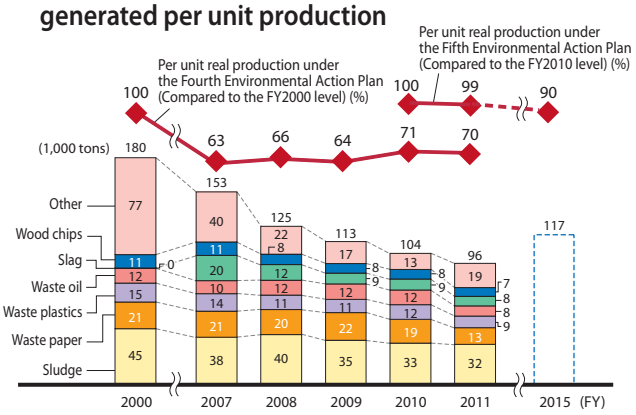
● **Results of FY2011**

Toshiba Group aims to reduce the total volume of waste generated per unit real production in its business processes, including production. In FY2011, the volume of waste generated per unit production was 70% of the FY2000 level, representing a 30% reduction, eight percentage points higher than the initial reduction target.

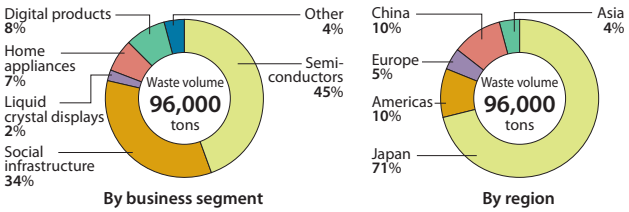
● **Future initiatives**

In the Fifth Environmental Action Plan, Toshiba Group aims to reduce the total volume of waste generated per unit production by 10% compared to the FY2010 in FY2015. Furthermore, it adds a new indicator: the volume of waste obtained by deducting that of objects with value from the total volume of waste generated. The volume of waste in FY2011 was 96,000 tons. This volume is expected to rise as production increases, but the Group plans to reduce the figure to 117,000 tons in FY2015.

■Waste volume and total volume of waste generated per unit production



■Breakdown of the total volume of waste generated (FY2011)



Reducing the final disposal volume

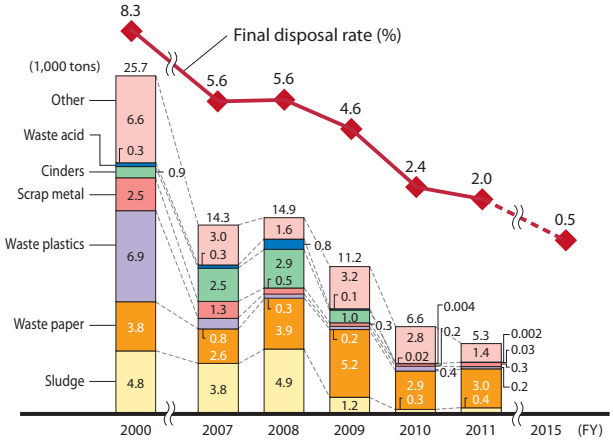
● **Results of FY2011**

Toshiba Group is working to achieve zero waste emission (see note 4 on page 10 for the definition)—an initiative of reducing final landfills to zero by reusing and recycling waste generated at plants and other business and production sites as much as possible. In FY2011, the percentage of sites that achieved zero waste emission to all Toshiba Group sites was 83%, falling short of the goal of achieving zero emission at all sites.

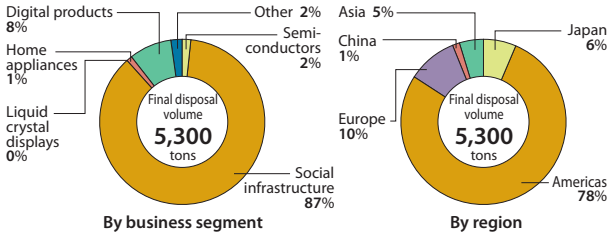
● **Future initiatives**

One goal of the Fifth Environmental Action Plan is to reduce the percentage of final landfills to total volume of wasted generated by Toshiba Group to 0.5% in FY2015. All Toshiba Group companies will make united efforts to achieve this goal by, for example, providing examples of successful reuse and recycling as well as information on useful recyclers, par-

■Final waste disposal volume and the final disposal rate



■Breakdown of the final waste disposal volume (FY2011)

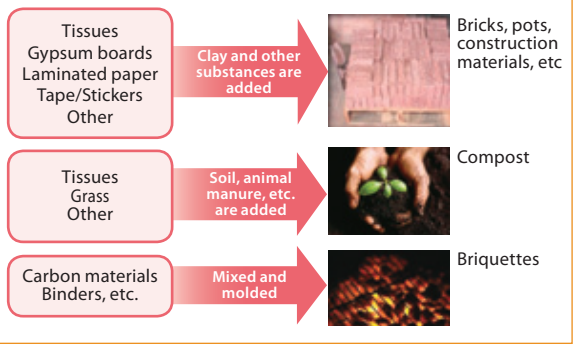


Example 1 Aiming to achieve zero waste emission at overseas production sites

Toshiba Information Equipment (Philippines), Inc.

Toshiba Information Equipment (Philippines), Inc., which produces hard disk drives, investigated its waste disposal process, which had theretofore not allowed for the recycling of waste, in detail, and implemented measures to recycle waste in closer cooperation with local administrative agencies and recyclers. Previously, much of waste was sent to landfills due to stringent controls over incineration. The company enabled itself to recycle such waste into bricks, compost, briquettes, and other products, and as a result, it achieved zero waste emission with a final disposal rate of less than 0.5%.

■Examples of waste being converted into useful resources

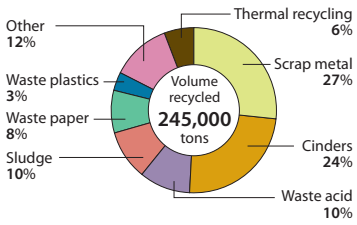


ticularly to overseas sites with high reduction potential.
The final disposal volume for the entire Toshiba Group for FY2011 was 5,300 tons, 1,300 tons less than the FY2010 level of 6,600 tons. The final disposal rate of 2.0% was a 0.4 percentage point improvement over FY2010. Going forward, Toshiba Group will sort waste more thoroughly and explore a wider range of applications for recycled waste.

● **Promoting recycling**

In FY2011, Toshiba Group recycled 245,000 tons of resources, 20,000 tons more than in FY2010. 92% of the waste generated was reused effectively as various resources. The recycled resources consisted mainly of scrap metal and cinders, and 94% of them were used effectively for material recycling (recycled into materials for products), and the remaining 6% for thermal recycling (heat recovery). In the future, Toshiba Group will continue to increase the total volume of resources recycled and at the same time will strive for higher quality recycling chiefly by increasing the percentage of resources recycled into materials.

■ Breakdown of the volume recycled (FY2011)



Efficient use of water resources

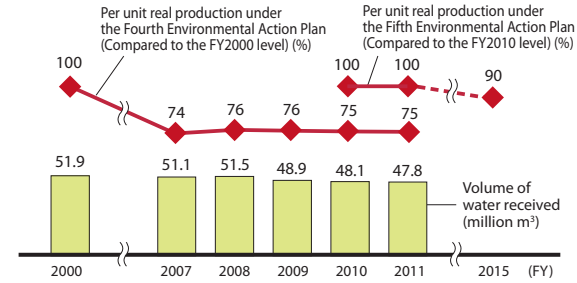
● **Results of FY2011**

As part of its measures to cope with global water shortages, Toshiba Group strives to reduce water consumption at all its business and production sites. The volume of water received per unit production in FY2011 was 75% of the FY2000 level, a 25% reduction compared to the initial reduction target of 9.5%. The volume of water received was about 47.8 million m³, about 0.3 million m³ less than in the previous year.

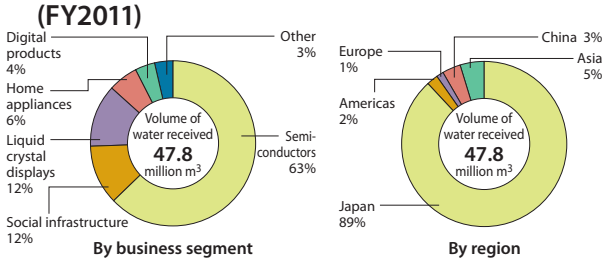
● **Future initiatives**

By business segment, the semiconductor business received more than half of the water. Therefore, Toshiba Group is pushing forward with initiatives for reducing water consumption in this segment.
By region, Japan accounts for about 90% of the total amount of water received. In particular, Toshiba Group is stepping up water management at business and production sites located in the world's water stress areas where supply-demand relations in water resources are tight. Business and production sites located in countries where the amount of water resources per person is 1,700 m³ or less annually or in watersheds where over 60% of water is taken from rivers represent about 1% of the total amount of water received by the Group. Under the Fifth Environmental Action Plan, Toshiba Group aims to reduce the amount of water received per unit real production by 10% compared to the FY2010 level in FY2015.

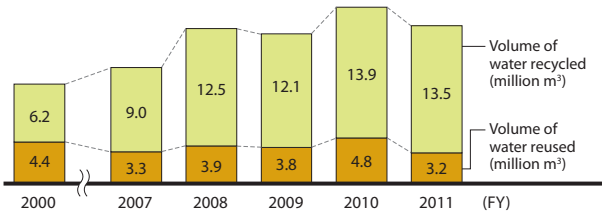
■ Volume of water received and that per unit production



■ Breakdown of the volume of water received (FY2011)



■ Volume of water recycled (FY2011)



Example 2 Continuous initiatives for water-saving at Chinese business and production sites

Toshiba Information Equipment (Hangzhou) Co., Ltd.

Toshiba Information Equipment (Hangzhou) Co., Ltd. is working continuously to reduce the volume of water received. In 2008 and 2010, the City of Hangzhou certified the company as a business that excelled in water-saving, as did the Province of Zhejiang in 2009. The company is taking various measures such as the use of faucets which include a sensor, water pressure controls, and secondary use of cleansing water.


Conserving tap water by controlling water pressure at the faucet carefully


Well-closed cooling tower that takes water-saving needs into consideration


Installation of a bulletin board to educate employees on the need for water conservation


Installation of a water meter to control water consumption

Certified by the Province of Zhejiang as a water-saving company in 2009

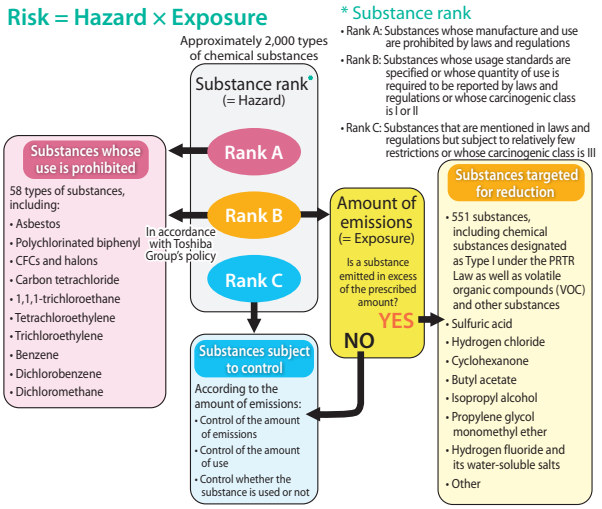
Management of Chemicals

Toshiba Group is striving to manage chemical substances appropriately in the processes of its business operations. Using alternatives, improving processes, and taking other measures, the Group is reducing emissions of the targeted substances.

Managing chemical substances

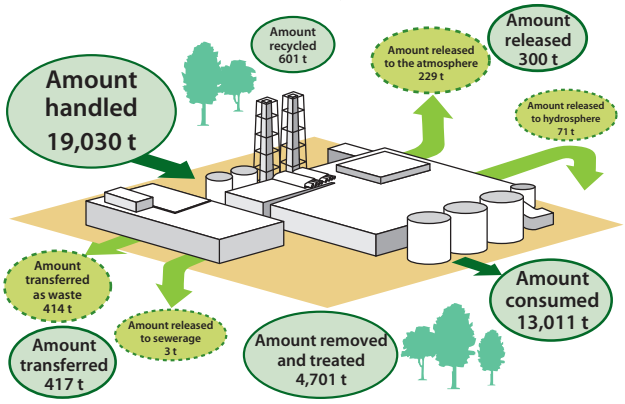
Toshiba Group classifies standards for the handling of chemical substances into the three categories of prohibition, reduction, and control, and manages chemical substances according to the regulations for each category. The relationship between substance ranking and management classifications, which shows the concept underlying this initiative, is indicated in the figure below. Approximately 2,000 types of chemical substances are classified into three ranks (hazard level A, B, and C) based on the regulatory levels set by environmental legislation, data on carcinogenic chemicals, and other factors. The classifications of prohibition, reduction, and control are determined by judging risks for each chemical substance using the product of the ranking of the substance and emissions equivalent to exposure to the substance.

■ Substance ranking and management classifications



■ PRTR-based material balance

The balance of Toshiba Group's total material volume based on the PRTR Law.
http://www.toshiba.co.jp/env/en/industry/prtr.htm



- The amount consumed refers to the amount of substances covered by PRTR that are changed into other substances by chemical reaction or transferred outside along with products whether they are contained therein or accompany them.
- The amount of removed and treated refers to the amount of substances covered by PRTR that undergo such processes as incineration, neutralization, decomposition, reaction treatment and are changed into other substances inside operation sites.
- Landfills at operation sites (stable, controlled, or isolated) are equivalent to the amount emitted. The amount released to public sewerage is categorized as the amount transferred.
- The difference between the amounts transferred and recycled is determined based on whether fees are charged for recycling of the materials. Accordingly, waste is included in the amount transferred if Toshiba Group asks contractors to dispose of it and pay for the service even if the purpose is to recycle it.

Reducing emissions of substances

Toshiba Group strives to reduce the consumption of substances by designating substances that have large direct impacts on the environment as those targeted for reduction. By business segment, semiconductors, home appliances and social infrastructure systems account for over 90% of the total emissions of such substances, and by region, 70% of such emissions originate from Japan.

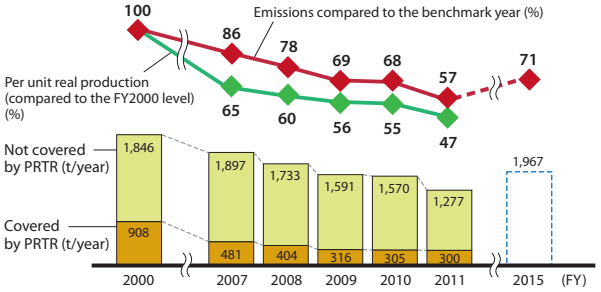
● Results of FY2011

In FY2011, Toshiba Group gave priority to taking measures for substances contained in cleaning solvents, which ranked high among such emissions, and promoted such initiatives as using alternative substances for the cleaning process, improving processes and introducing collection and recycling equipment. The Group reduced emissions of substances targeted for reduction by 43% compared to the FY2000 level, failing to achieve its target of 52% for FY2011. However, since making capital investments for the existing manufacturing lines of its semiconductor plants and running the removal equipment, the Group reduced such emissions by 16% (approximately 300 tons) compared to the previous year.

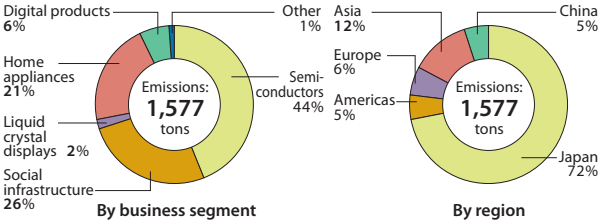
● Future initiatives

In the Fifth Environmental Action Plan, the Group aims to reduce the emissions of substances in FY2015 to 1,967 tons. It plans to use alternative substances and improve processes as an upstream countermeasure and introduce emission removal equipment as a downstream countermeasure.

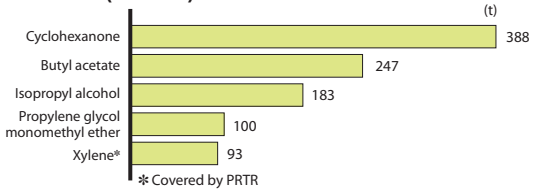
■ Emissions of substances targeted for reduction



■ Breakdown of emissions of substances targeted for reduction (FY2011)



■ Emissions of top five substances targeted for reduction (FY2011)

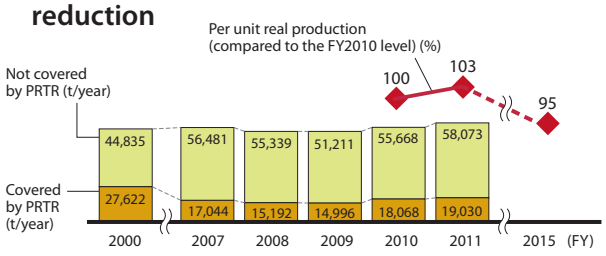


Reduction in the amount handled

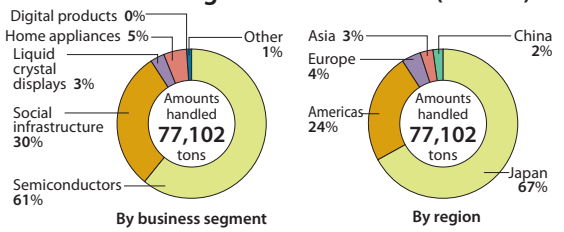
● Results of FY2011 and future initiatives

In FY2011, semiconductors and social infrastructure systems accounted for over 90% of the total amount of chemicals handled, with substances used for chemical reactions and wastewater treatment ranking high among chemicals. The material balance for PRTR-covered chemicals indicates that 25% of them are removed through neutralization and absorption and 68% are consumed together with the products that contain them, which taken together represent the majority of the chemicals handled. It also indicates that only about 2% of the chemicals used are discharged into the atmosphere or hydrosphere. But under the Fifth Environmental Action Plan, in order to use even fewer chemicals in manufacturing than before, the Group is adding the amount of chemicals handled per unit production as a new target indicator, thereby aiming to reduce the amount by 5% compared to the FY2010 level in FY2015.

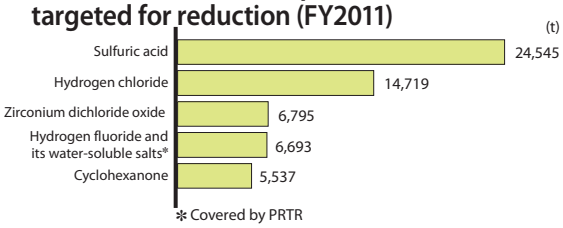
■ Amounts handled of substances targeted for reduction



■ Breakdown of the amounts handled of substances targeted for reduction (FY2011)



■ Amounts handled of top five substances targeted for reduction (FY2011)



Management of substances that have impacts on the atmosphere and hydrosphere

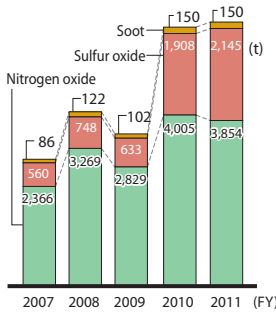
Toshiba Group is working to grasp the extent of emissions of sulfur oxides (SO_x) and nitrogen oxides (NO_x), both of which are major causes of air pollution, as well as water pollutants and ensure appropriate management of such emissions. Each production site voluntarily sets the maximum permissible levels of concentrations for these substances and complies with these prescribed standards, but total emissions fluctuate as production volumes increase or decrease.

Production sites in Europe and North America have already applied to wastewater the environmental impact risk assessment method (whole effluent toxicity (WET) method), which uses biological indicators. Those in Japan have also started to consider using it as a new indicator of wastewater management.

* Whole Effluent Toxicity

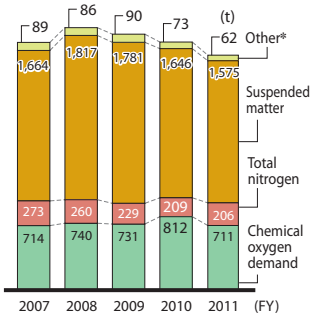
■ Impacts on the atmosphere

Amount of impact = concentration of each substance × amount of substance emitted (based on the Air Pollution Control Act)



■ Impacts on the hydrosphere

Amount of impact = concentration of each substance × amount of substance discharged (based on the Water Pollution Control Act)



Starting FY2007, data include those for Sigma Power Ariake and Sigma Power Tsuchiura.

* N-hexane extracts, phenols, copper, zinc, soluble iron, soluble manganese, total chromium, total phosphorus, and nickel

Management of ozone-depleting substances

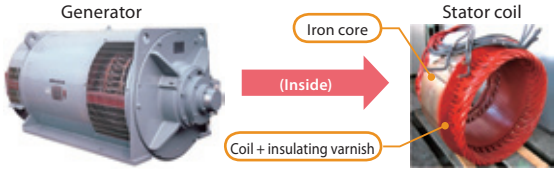
Previously, Toshiba Group used chlorofluorocarbons (CFCs), trichloroethane, and other ozone-depleting substances as coolants for refrigerators as well as for the cleaning of parts, the dry-etching of semiconductors, and for the forming of heat insulators. Of these, the use of specified CFCs for cleaning was completely discontinued in 1993, and that for inclusion in products in 1995.

On the other hand, Toshiba Group manages air conditioning systems, fire-extinguishing equipment, and other products that include CFCs and halons by affixing stickers to them stating that they include the substances. CFCs and halons are collected and treated appropriately when the products are no longer used.

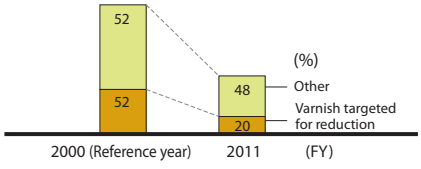
Example 1 Development of low environmental impact varnish for generators anad motors

Nishishiba Electric Co., Ltd.

Insulating varnish, a mixture of synthetic resins and a diluent, is used in the process of manufacturing coils for generators and motors. The previous varnish caused a problem in which toluene, a VOC that was contained as a diluent, was discharged in large amounts. Nishishiba Electric Co., Ltd. developed low environmental impact insulating varnish in collaboration with a varnish manufacturer. The newly developed varnish ensures work efficiency comparable to that provided by the previous one, and is so resistant to high humidity and damage caused by salt that it can be used for ships. By commercializing low environmental impact insulating varnish, the company has successfully helped halve the amount of chemicals discharged. Taking measures at the raw materials stage made it unnecessary to install a system to render discharged chemicals harmless by treating them.



■ Changes in the amount of the substance targeted for reduction and discharged at Nishishiba Electric



Response to Environmental Risks

Toshiba Group is working to purify contaminated soil and groundwater by ascertaining the present condition of soil and groundwater at its production sites. The Group's basic policy is to prevent chemical substances from contaminating soil and groundwater and identify environmental liabilities such as PCB-containing equipment and dispose of such equipment in a systematic way.

Soil and groundwater purification

Toshiba Group is working to purify contaminated soil and groundwater by ascertaining the present condition of soil and groundwater at its production sites. The Group is also taking safety measures for environment-related equipment to prevent contamination with chemicals and reduce environmental risks. A survey of all production sites confirmed contamination at 15 sites, where soil and groundwater contamination with volatile organic compounds (VOCs) has been purified, and the results are being monitored. VOCs in groundwater are collected and eliminated mainly using the water pumping method.

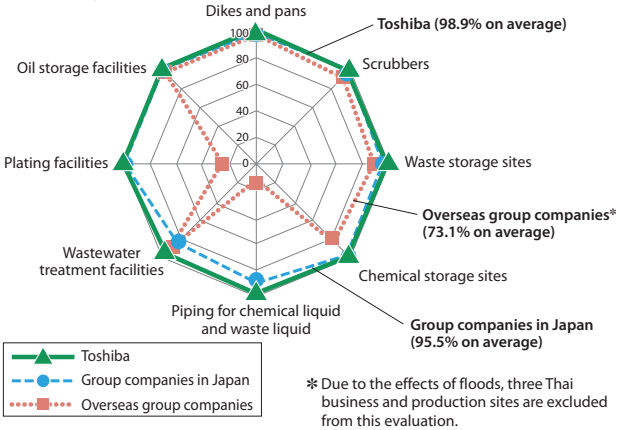
Toshiba Group uses the water pumping method to purify soil and groundwater mainly in areas with high concentrations of VOCs, but if the VOC concentration in such areas is lowered due to progress in purification, the Group takes such measures as stepping up water pumping efforts in other areas with relatively high VOC concentrations. In FY2011, the Group collected 775 kg of VOCs. The amount collected was about 40% less compared to the previous year, but this is chiefly because the amount of VOCs collected per liter of water pumped is gradually decreasing due to the progress made in purification through drastic measures that make the most of the opportunity presented by land modifications, methodological changes (from water pumping to in-situ purification), and declines in relative concentrations of VOCs as a result of purification. In the future, Toshiba Group will continue to advance soil and groundwater purification using appropriate methods, taking into account world trends in the progress of purification technology. At the same time, it will strive to ensure full communication with local governments and residents in neighboring areas through tours of purification facilities and other public relations activities.

Preventing contamination and reducing contamination risks

In order to prevent contamination with chemical substances and reduce contamination risks, Toshiba Group independently established the Structural Design Guidelines to prevent leaks of chemicals at its eight types of environment-related facilities such as wastewater treatment plants, and its overseas sites are also promoting continuous improvements in this area. In FY2011, Toshiba Group achieved a compliance rate of 98.9% for all of Toshiba's sites and 95.5% for all of its group companies' sites in Japan.

In its overseas operations, at the time of establishing a new business or relocating a business, Toshiba Group also assesses contamination risks by investigating land use and contamination histories. Assessments are made in accordance with laws and regulations in each country, and Toshiba Group's own rigorous standards are applied in countries without relevant legislation.

■ Rate of compliance with the Structural Design Guidelines (FY2011)



* Due to the effects of floods, three Thai business and production sites are excluded from this evaluation.

■ Purification of soil and groundwater contaminated with volatile organic compounds

Business and production site	Location	Progress in purification	Purification method*1	Amount collected*2 (kg)
Fukaya Complex, Toshiba Corp.	Fukaya, Saitama Prefecture	Being monitored*3	A	—
Former site of Asia Electronics Inc.'s Yokohama Operation Center	Yokohama, Kanagawa Prefecture	Being monitored	A, E, G	—
Komukai Complex, Toshiba Corp.	Kawasaki, Kanagawa Prefecture	Purification in progress	A, G	99.3
Himeji Operations (Semiconductors), Toshiba Corp.	Taishi Town, Ibo County, Hyogo Prefecture	Being monitored (North district)	D, F, G	—
		Purification in progress	A	276.1
Himeji Operations, Toshiba Corp.	Himeji, Hyogo Prefecture	Work in progress that will allow purification measures to be taken	C, E, F	—
Oita Operations, Toshiba Corp.	Oita, Oita Prefecture	Purification in progress	A	0.5
Fuji Operation Center, Toshiba Carrier Corp.	Fuji, Shizuoka Prefecture	Purification in progress	A, B	175.8
Tsuyama Operation Center, Toshiba Carrier Corp.	Tsuyama, Okayama Prefecture	Purification in progress	A, B	1.4
Former site of Toshiba Components Co., Ltd.'s Yokohama Works	Yokohama, Kanagawa Prefecture	Being monitored	A	—
Kawamata Seiki Co., Ltd.	Kawamata Town, Date County, Fukushima Prefecture	Purification in progress	A	0.1
Kitashiba Electric Co., Ltd.	Fukushima, Fukushima Prefecture	Purification in progress	A	0.1
Former site of Toshiba Shomei Precision Corp.'s Kawasaki Works	Kawasaki, Kanagawa Prefecture	Being monitored	A, B, F	—
Former site of Toshiba Lighting & Technology Corp.'s Iwase Works	Sakuragawa, Ibaraki Prefecture	Purification in progress	A	0.1
Ibaraki Plant, Lighting Device & Fixture Corp.	Joso, Ibaraki Prefecture	Being monitored	A	—
Kimitsu Operation Center, Toshiba Components Co., Ltd.	Kimitsu, Chiba Prefecture	Purification in progress	A, B	221.6

*1 Purification method: (A) groundwater pumping, (B) soil gas suction, (C) reduction decomposition, (D) oxidation decomposition, (E) interception containment, (F) removal by excavating soil, and (G) bio-activation.
*2 Amount collected: Amount collected from April 2011 to March 2012.
*3 Monitoring: Monitoring to confirm how things develop after work that will allow measures to be taken or purification is completed.

In order to ensure effective prevention of groundwater contamination, an act revising part of the Water Pollution Control Act was promulgated on June 22, 2011 and came into force on June 1, 2012. To prevent groundwater from becoming contaminated with hazardous substances*4, new provisions have been added that require those who install facilities where hazardous substances are used, stored, or otherwise handled to comply with structural, equipment, and usage standards to block hazardous substances from entering the ground and to record and maintain records of periodic inspection results. As early as 1990, Toshiba Group established the Structural Design Guidelines, an initiative that anticipated the purpose of these revisions to the Act, and has since taken actions in accordance with the Guidelines.

*4 As stipulated in Article 2 of the Order for Enforcement of the Water Pollution Control Act, the 28 hazardous substances subject to regulation include cadmium, lead, and trichloroethylene (as of June 2012).

Example 1 Measures to prevent leaks of chemicals at environment-related facilities

Dikes

Chemical tank

Scrubbers

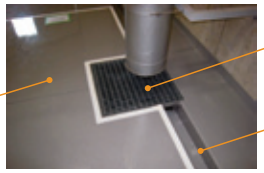
Structure that makes it easy to detect leaks

Inside of the dike (chemical-resistant)

Waste storage and chemical warehouse

Recycling center

Chemical storage sites



Identical inside specifications

Piping

Double flange joint
(Making the results of leak inspections visible)

Identifying environmental liabilities

With the enforcement of the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes, keepers of PCB waste are required to dispose of PCB waste appropriately by July 2016. At March 2012, Toshiba Group reported environmental liabilities of approximately 9.0 billion yen as expenses for the outsourcing of disposing of PCB waste by making it harmless. These expenses cover the disposal of such items as PCB-containing products stored and managed at production sites nationwide. The Westinghouse Electric Company group, a consolidated subsidiary of Toshiba Corp., complies with U.S. federal, state, and other local legislation concerning the discharge of pollutants, disposal of hazardous waste, and other activities that lead to environmental pollution. These have affected and are expected to affect Toshiba Group in the future, but the status of legislation and regulations, the ability to identify sites that require removal of contamination, waste disposal capacity, and other conditions are uncertain, and therefore, it is difficult to accurately estimate final costs incurred by, and the time required for, future decontamination. Of those costs, approximately 6.5 billion yen in environmental liabilities was reported as a loss that could reasonably be estimated in March 2012. The amount of environmental liabilities will be revised according to the progress in environmental assessments and purification work, technological innovation, and the new demands of legislation. These do not have serious effects on the financial condition and business performance of Toshiba Group, but the Group will continue to identify and disclose its environmental liabilities properly in the future.

Information such as financial statements
http://www.toshiba.co.jp/about/ir/jp/library/sr/sr2011.htm

Storage and management of PCB

Since 1972, when the manufacture of products using polychlorinated biphenyl (PCB) was discontinued in Japan, Toshiba Group has kept PCB and PCB-containing products under strict surveillance, controlled them, and reported their storage to the relevant authorities in accordance with the Waste Management and Public Cleansing Act and the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes. In addition to meeting the prescribed storage standards, the Group makes doubly sure through the installation of dikes and double containers and other measures that they are stored appropriately.

In order to treat PCB and PCB-containing products safely and as swiftly as possible, Toshiba, along with group companies, has registered some 7,400 transformers and condensers with Japan Environmental Safety Corporation (JESCO), which started to provide wide-area PCB treatment services in FY2005. In FY2011 about 273 transformers and large condensers were treated. In the future, Toshiba Group will continue to treat PCB and PCB-containing products properly in accordance with JESCO's treatment plans.

PCB-containing equipment being transported to Japan Environmental Safety Corp.

Recycling of End-of-Life Products

Toshiba Group is expanding the recycling of end-of-life products globally. In Japan, too, the Group is actively promoting the recycling of end-of-life products centered on waste home appliances and personal computers.

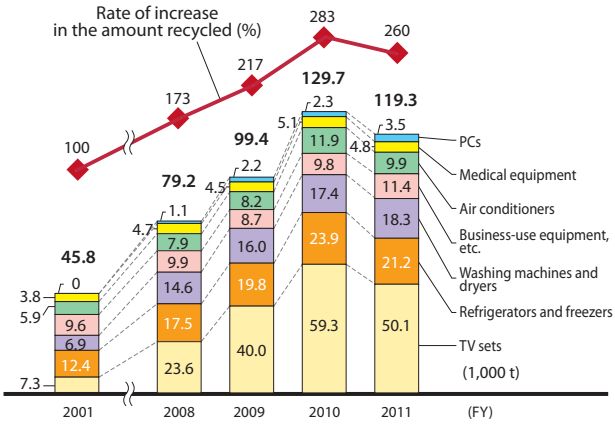
Recycling end-of-life products globally

In order to ensure efficient use of resources and appropriate treatment of hazardous substances, in accordance with recycling regulations in each country and territory of the world, Toshiba Group is promoting the collection and recycling of products that customers have discontinued use of. The Group promotes collection and recycling of end-of-life products while striving to minimize collection and recycling costs as it complies with each country's recycling scheme. In Japan, in addition to products covered by the Act on the Recycling of Specified Kinds of Home Appliances, the Act on the Promotion of Effective Utilization of Resources, and other relevant laws, it has established a unique scheme to collect medical equipment, elevators, MFP/POS systems, and other products. Toshiba Group also responds appropriately to the Directive on Waste Electric and Electronic Equipment (WEEE) in Europe*1 and state laws in the United States. Furthermore, it is preparing to respond appropriately to recycling-related laws enacted in China, India, and Australia and those expected to be enacted in the future by governments in Asia, Central and South America, and other regions.

● Results of FY2011

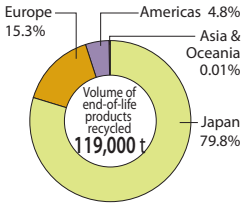
In FY2011, in Japan and abroad, Toshiba Group collected about 150,000 tons of end-of-life products, of which it recycled about 119,000 tons. Although the volume of four types of waste home appliances collected in Japan fell compared to the previous year due to the termination of the eco-point system, the Group increased the weight of end-of-life products recycled by 260%, achieving the goal for FY2011,*2 since increased volume of end-of-life products was collected in Europe and North America. In the future, Toshiba Group will continue to increase the volume of end-of-life products collected and recycled in Japan and establish a collection scheme in a wider range of its overseas locations.

■ Volume of end-of-life products recycled (global)



■ Breakdown of the volume of end-of-life products recycled (FY2011)

Looking at the volume of end-of-life products recycled by region, in Japan 80% of the total volume is recycled, with four types of home appliances accounting for the bulk of this. Major items collected and recycled in Europe, which has the next highest recycling ratio after Japan, include TV sets, PCs, multifunctional peripherals (MFPs), and medical equipment. In the U.S., major items include TV sets and PCs. Maintaining the volume of end-of-life products collected in China and other Asian countries as well as preparing to respond to recycling-related laws that are expected to be enacted in other areas are issues to be addressed in the future.



By region

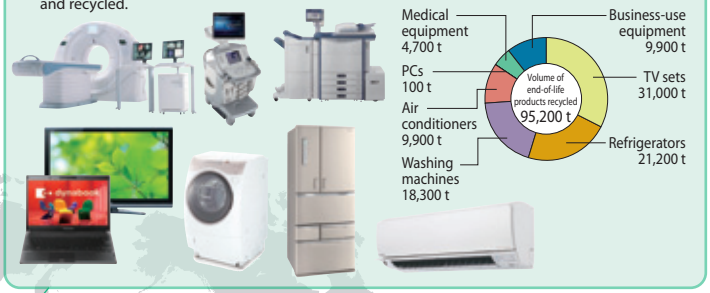
■ Volume of end-of-life products recycled by region (FY2011)

● Europe: 18,300 tons

In accordance with the WEEE Directive, Toshiba Group is collecting and recycling end-of-life products throughout Europe.

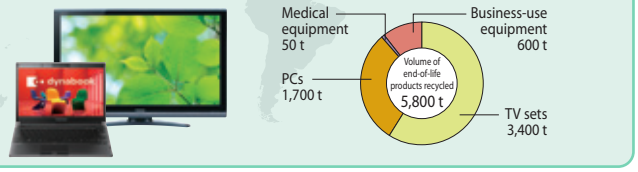
● Japan: 95,200 tons

In addition to the four types of home appliances and PCs, business equipment is also collected and recycled.



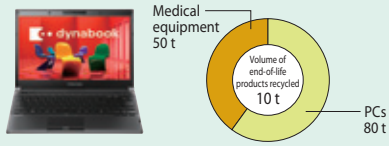
● Americas: 5,800 tons

Toshiba Group is collecting and recycling end-of-life products such as TV sets and PCs through MRM,*3 a recycler.



● Asia and Oceania: 10 tons

Toshiba Group is expanding its PC recycling program globally. In countries in Asia and Oceania, including Singapore, Thailand, Malaysia, and New Zealand, the Group has voluntarily implemented a PC recycling program.



*1 The WEEE Directive is a directive of the European Union concerning waste electrical and electronic equipment.
*2 The FY2011 goal was to increase the weight of end-of-life products recycled by 170% compared to the FY2001 level.
*3 Electronic Manufacturers Recycling Management Company, LLC (MRM) is a recycling management firm established jointly with Panasonic Corp. and Sharp Corp. in September 2007. For more details visit its website: http://www.mrmrecycling.com/

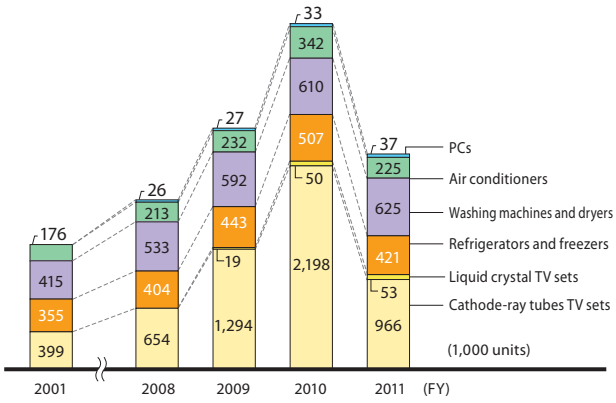
Recycling of end-of-life products in Japan

In Japan, Toshiba Group is collecting and recycling end-of-life products in accordance with the Act on the Recycling of Specified Kinds of Home Appliances and the Act on the Promotion of Effective Utilization of Resources.

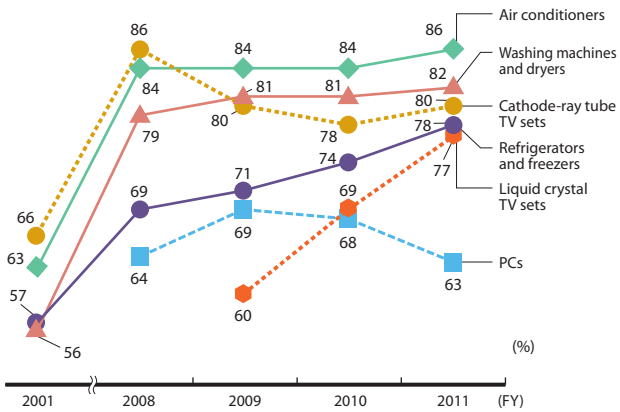
● **Results of FY2011**

The number of four types of home appliances collected in FY2011 was approximately 2.3 million. Toshiba Group promoted the recycling of these end-of-life products with the cooperation of customers and other relevant parties, but due to the termination of the eco-point system, the volume recycled was 62% less compared to a year earlier. The number of these appliances collected by Toshiba Group represented about approximately 14% of the total of all such appliances collected in Japan, remaining at nearly same level as FY2010. A total of 37,000 end-of-life PCs, a 111% increase compared to the previous year, were collected from businesses and homes for recycling. Toshiba Group will continue to contribute to resource recycling by recycling the four types of home appliances and PCs.

■ Number of four types of home appliances and PCs collected in Japan



■ Percentage of four types of home appliances and PCs recycled in Japan



Examples of recycling initiatives

In order to properly treat hazardous substances and effectively collect and recycle valuables, Toshiba Group is working to develop and apply recycling technology and promoting recycling in cooperation with local communities and governments.

Example 1 Participation in the "WEEE Can Do" project in Thailand

Toshiba Thailand Co., Ltd.
and Toshiba Group companies in Thailand

Toshiba Thailand Co., Ltd. participated in the "WEEE Can Do" project, a campaign aimed at collecting and recycling end-of-life electric and electronic equipment that was carried out under the sponsorship of the Thai government. The company installed recycling boxes at each Toshiba Group company in Thailand, and its employees collected equipment placed inside these boxes. During the campaign (June 2011 to February 2012), Toshiba Thailand collected approximately 1.1 tons of end-of-life products, thus contributing to the success of the project.

Scene from the collection campaign

Example 2 Recycling of toner cartridges in Singapore

Toshiba Asia Pacific Pte., Ltd./Toshiba Data Dynamics Pte., Ltd./
Toshiba Singapore Pte., Ltd.

Toshiba Asia Pacific Pte., Ltd. is implementing a program to recycle end-of-life toner cartridges in cooperation with local recyclers. The company launched the recycling program in 2009; to date, it has collected 10.2 tons of toner cartridges and recycled them into plastic and other products. For these activities, it received the Singapore Packaging Agreement 3R Packaging Awards 2011 from Singapore's National Environment Agency. In the future, Toshiba Asia Pacific will continue to operate this program to reduce waste and use resources effectively.

Collection of toner cartridges

Scene from the awards ceremony

Greening of Products
Creation of Products with the Highest Level of Environmental Performance

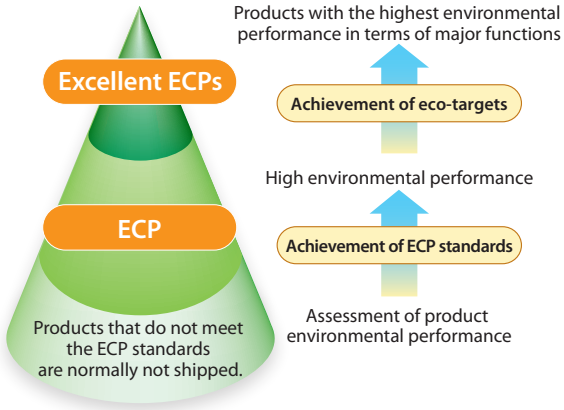
Aiming to achieve the highest level of environmental performance, we strive to promote the creation and widespread use of Excellent ECPs.

Summary of activities in FY2011

Aiming to achieve the highest level of environmental performance for all products

Toshiba Group is making every effort to achieve the highest level of performance for all products that it develops and is promoting "Greening of Products" initiatives aimed at minimizing the environmental impact of its products throughout their entire life cycles. To do so, we operate in accordance with the following procedures. In the business strategy formulation and product planning stages, we set "eco-targets" to develop products with the highest level of environmental performance. Then, in the product development and design stages, we make environmental assessments of the products to ensure that they meet the Toshiba environmental standards. During the environmental assessments, we check whether the products comply with laws and regulations as well as meet the ECP*1 standards (the Toshiba environmental standards) in all three aspects*2 throughout all stages of their life cycles. In the product approval stage, we check the level of achievement of the eco-targets and whether the products are in compliance with the ECP standards, certifying those products with the highest level of environmental performance.

■ Basic Policy for the Greening of Products

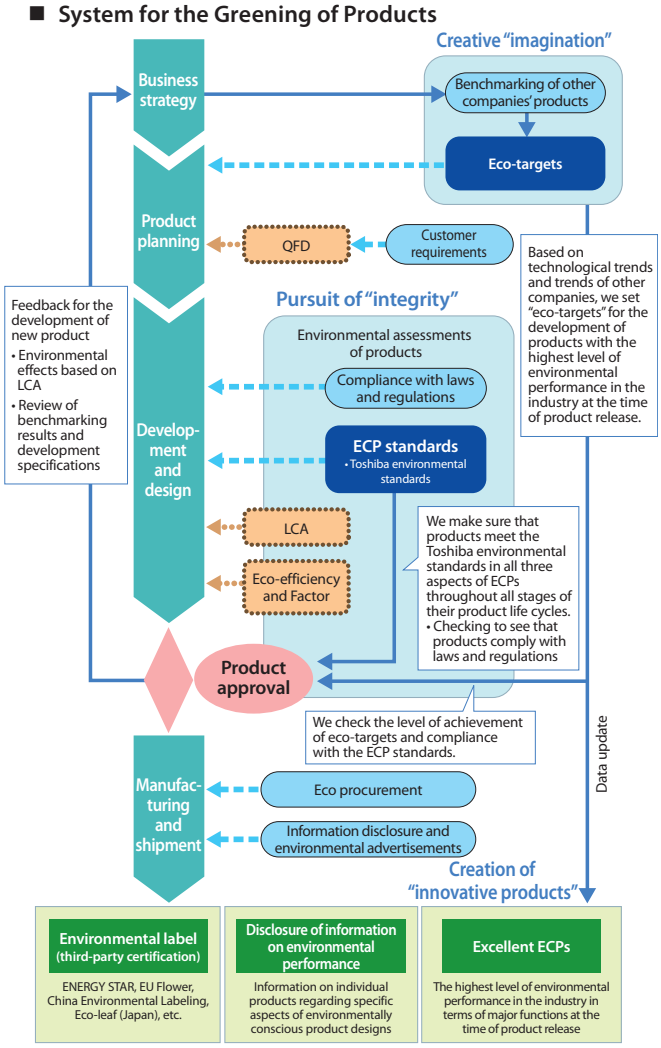


*1 Environmentally Conscious Products (ECPs) are designed to minimize environmental impact throughout all stages of their life cycle, including during procurement of materials, manufacture, distribution, use, disposal and recycling.

*2 Overview of the three elements of ECPs

Mitigation of climate change	Efficient use of resources	Management of Chemicals
• Reductions in power consumption • Reductions in standby electricity consumption • Visualization of power consumption • Energy-saving mode • Shipment mode, etc.	• Reductions in the use of raw materials • Use of recycled materials • Easy to disassemble • Reductions in the use of packaging materials • Reductions in the use of supplies • Upgrades, longer useful lives, etc.	• Reductions in the use of specified hazardous substances • Eco procurement • Distribution of information on chemicals • Compliance with chemical regulations in different countries, etc.

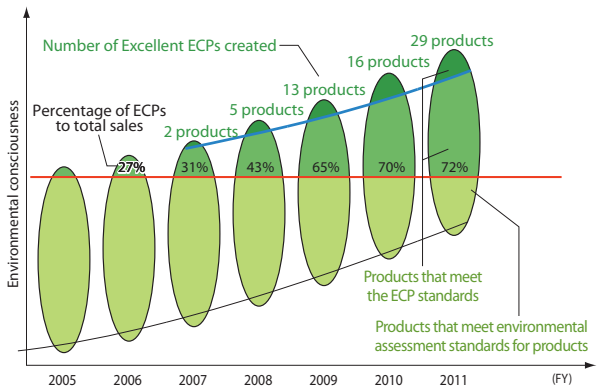
■ System for the Greening of Products



Creation of Excellent ECPs and ECPs

● Results of FY2011

Under the Fourth Environmental Action Plan, Toshiba Group worked to improve the environmental performance of all its products by increasing the percentage of ECPs to total sales and, by making the number of newly created Excellent ECPs as an indicator, created products with the highest level of environmental performance in the industry. In FY2011, the percentage of ECPs to total sales was 72%, which exceeded the goal of 70%, while the number of Excellent ECPs newly created was 29, which also exceeded the goal of 20 (details on page 35).

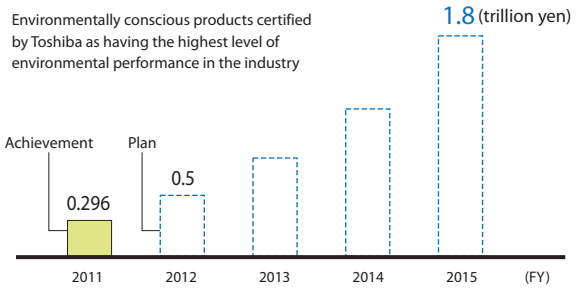


● Future initiatives

Under the Fifth Environmental Action Plan, we aim to fulfill the ECP standards and achieve the highest level of environmental performance for all products we develop. In order to further enhance the creation of Excellent ECPs, we have introduced sales of Excellent ECPs (instead of the number of newly created Excellent ECPs) as a new indicator with the aim of integrating business with environmental management.

Sales of Toshiba Group products certified as Excellent ECPs in FY2011 totaled 296.2 billion yen. Under the Fifth Environmental Action Plan, we aim to achieve sales of Excellent ECPs totaling 1.8 trillion yen in FY2015.

■ Sales of Excellent ECPs



Aiming to increase product eco-efficiency by 3.4 times in FY2015

Viewing the product eco-efficiency (details on page 45) as an important indicator, Toshiba Group is promoting activities to create ECPs.

● Results of FY2011

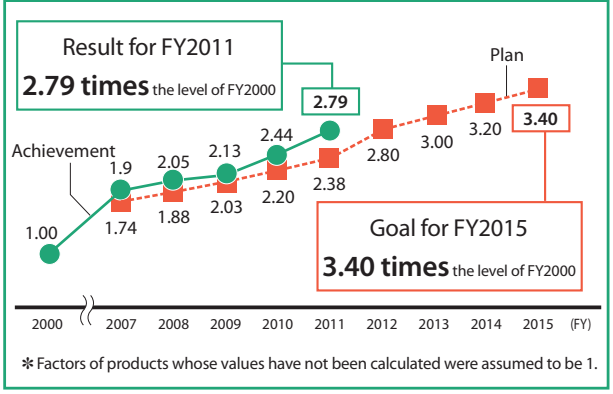
By the end of FY2011, we calculated the Factor values (degree of improvement in eco-efficiency) for 92% of all Toshiba Group products. By enhancing the value of products and by reducing their environmental impact, Toshiba Group was able to achieve a Factor of 2.79, which far exceeded the goal of 2.38.

● Future initiatives

Under the Fifth Environmental Action Plan, we aim to increase the product eco-efficiency to 2.80 times the level of the base year (FY2000) in FY2012 and 3.40 times the level of the base year in FY2015.

Product eco-efficiency

Value of a product / Environmental impact of a product



✻Factors of products whose values have not been calculated were assumed to be 1.

Creation of Excellent ECPs

Products certified as Excellent ECPs in FY2011

● **Results of FY2011**

Since starting the program for the creation of Excellent ECPs with the industry's highest level of environmental performance in FY2007 (details on page 33), Toshiba Group has continued to increase the number of such products each year (see the table below). In FY2011, 29 products were certified as Excellent ECPs, exceeding the goal (20) by 9. Sales of Excellent ECPs for FY2011 totaled 296.2 billion yen.

● **Future initiatives**

Under the Fifth Environmental Action Plan, we will increase the number of Excellent ECPs not only in the areas of home appliances and digital products, but also in the area of social infrastructure products and achieve sales of 1.8 trillion yen for such products in FY2015.

	FY2007	FY2008	FY2009	FY2010	FY2011
Audio-visual and digital products	Notebook PC	Notebook PC LCD TV	Notebook PC LCD TV	Mobile notebook PC A/V notebook PC Business notebook PC LCD TVs Blu-ray player	Power slim mobile PC: Tecra R800/R840, Satellite Pro R840, Satellite R800/R840/R845, Tecra R850, Satellite Pro R850, Satellite R850/R855 Slim compact notebook PC: Portégé R830/R835, Satellite R830 Ultrabook™: Portégé Z830/Z835 LCD TV: REGZA 47Z2 and 55/46A2 LCD TV with Eco-chip™: REGZA 32BE3 Blu-ray disk recorder: DBR-C100
Home appliances	LED lighting	Washing machine with dryer LED light bulb	Washing machine with dryer Home air conditioner Refrigerator LED light bulb LED indoor lighting LED outdoor lighting	Washing machine with dryer Home air conditioner LED light bulb	Washing machine with dryer: TW-Z9200 and TW-Z8200 Home air conditioner: Daiseikai VOiCE NDR series Multi-purpose air conditioner system for emerging countries: MCY-MAP0804HT8-C Refrigerator/freezer: GR-E55/50FX Electric fan: F-DLN100 LED light bulb (light engine): 43 models, including LECF/24N-W20GHP50 LED light bulb (bulb type): LDA11L-G, LDA11N-G, LDT7N-G and LDT7N-G (T-type) LED light bulb (ball type): LDG10L LED light bulb (beam lamp type): LDR9L-W, LDR14L-W and LDR14N-W LED lighting (LED ceiling lights): 11 models, including LEDH82102Y-LC, and 2 models, including LEDH82103-LC LED lighting (LED tube-base lights): 73 models, including LEDT-42307-LDJ LED lighting (high ceiling equipment): LEDJ-20021W-DJ2 and LEDJ-20023W-DJ2 Cleaner: VC-C11 and VC-11A
Social infrastructure-related products		X-ray CT system	Air-cooled chilling unit Office air conditioner Rechargeable battery SCiB X-ray tube	Heat source system Office air conditioner Diagnostic ultrasound system Open showcase Motor for rolling stock: Permanent Magnet Synchronous Motor (PMSM)	Standard elevator: SPACEL-GR Multi-slice CT system Hybrid shunting locomotive Solid-state weather radar: TW4321A Circulation heat pump unit: HWC-H451H Indirect hydrogen-cooled generator

Audio-visual and digital products (6)

LCD TV with Eco-chip™

REGZA 32BE3 (December 2011 release)

- Zero standby electricity* (industry first)
- Highest level of resource-saving performance* (Body weight: 9.0 kg)

★ When operated in eco-standby mode. If standby continues for approx. ten hours or more, the TV consumes an average of 0.5 watts of electricity every three minutes in order to charge the large capacity capacitor.

LCD TV

REGZA 47Z2 (March 2011 release)
REGZA 55/46A2 (April 2011 release)

- Highest level of energy-saving performance* 116 kWh/year (47Z2); 127/103 kWh/year (55/46A2)
- Slimmest body thickness* (29 mm)

Blu-ray disk recorder

DBR-C100 (November 2011 release)

- Lowest power consumption (17 W in operation)*
- Highest level of resource-saving performance* (Body weight: 2.2 kg)

Power slim mobile PC

Tecra R800/R840, Satellite Pro R840, Satellite R800/R840/R845, Tecra R850, Satellite Pro R850, Satellite R850/R855 (March 2011 release)

- Highest level of energy-saving and resource-saving performance* R840/R850 (ENERGY STAR TEC value*; 21.4/23.2 kWh/year (115 V, 60 Hz); Body weight: 2.09/2.44 kg)
- EPEAT Gold rating (22 points) (U.S. model)

Ultrabook™

Portégé Z830/Z835 (November 2011 release)

- Highest level of energy-saving and resource-saving performance* (ENERGY STAR TEC value*: 16.5 kWh/year (115 V, 60 Hz); Body weight: 1.12 kg)
- EPEAT Gold rating (22 points) (U.S. model)

Slim compact notebook PC

Portégé R830/R835, Satellite R830 (March 2011 release)

- Highest level of energy-saving and resource-saving performance* (ENERGY STAR TEC value*: 19.2 kWh/year (115 V, 60 Hz); Body weight: 1.49 kg)
- EPEAT Gold rating (22 points) (U.S. model)

★ TEC value: Power consumption calculated based on the standard conditions for assessing appropriateness for the International Energy Star Program

Home appliances (13)

Refrigerator/freezer

External award

GR-E55FX and GR-E50FX
(November 2011 release)

- Awarded the Grand Prize for Excellence in Energy Efficiency and Conservation
- Industry's lowest level of power consumption (peak consumption: 109 W) for an electric heating device achieved thanks to the twin cooling system

Washing machine with dryer

TW-Z9200/Z8200
(November 2011 release)

- Highest level of energy and water-saving performance*
  Power consumption: 665 Wh
  (when washing and drying 6 kg of clothes)

Home air conditioner

RAS-NDR1 series
(November 2011 release)

- Lowest level of power consumption (45 W)*
  (Equipped with a dual compressor)

Air conditioner system for emerging countries

MCY-MAP0804HT8-C
(July 2011 release)

- The industry's highest IPLV (5.3)
  (Energy-saving rating in China)
  (details on page 39)
- The lightest weight*
  (123 kg)

✻ As of when the product was released on the market; this result does not guarantee the current status of the product.

LED light bulb

Light engine

LECF/24N-W20GHP50, etc.
(November 2011 release)

- The highest level of luminous efficiency* (82.0 lm/w)

Bulb type

LDA11L-G, etc.
(November 2011 release)

- The highest level of luminous efficiency*
  (94.3 lm/w)

Ball type

LGG10L
(September 2011 release)

- The highest level of luminous efficiency*
  (73 lm/w)

Beam lamp type

LDR9L-W, etc.
(February 2011 release)

- The highest level of luminous efficiency*
  (44.1 lm/w)

Electric fan

External award

F-DLN100 (April 2011 release)

- Awarded in the Energy Efficiency and Conservation Grand Prize
- The lowest power consumption*
  (Without oscillation)
  (Annual power consumption of 17.6 kWh/year)
- The lowest noise level*
  (43 dB with an air flow of 41 m³/min)

LED lighting equipment

LED ceiling light

LEDH82102Y-LC, etc.
(April 2011 release)

- The highest level of luminous efficiency*
  (65.4 lm/w)

LED tube-base light

LEDT-42307-LDJ, etc.
(August 2011 release)

- The highest level of luminous efficiency* (82.9 lm/w)
- The lightest weight*

High ceiling equipment

LEDJ-20021W-DJ2, etc.
(August 2011 release)

- The highest level of luminous efficiency*
  (88.9 lm/w)

Cleaner

VC-C11 and VC-11A
(September 2011 release)

- The lightest weight*
  (Body weight: 2.5 kg)
- Use of recycled plastic
  (details on page 41)

Industrial and social infrastructure products (6)

Indirect hydrogen-cooled generator

External award

ICH-670MVA (February 2010)

- The highest power generation efficiency (99.10%)*
- Recipient of many awards from outside organizations, including the Japan Machinery Federation Chairman's Award for Outstanding Energy-Saving Devices

Standard elevator

Standard type (carrying capacity of 1,000 kg)
SPACEL-GR (January 2012 release)

- The highest level of energy-saving performance*
  (with a regenerative power function)
  (details on page 39)
- No oiling required for guide rails
- Chemical substance reduction (without mercury)
  (details on page 44)

Multi-slice CT system

Alexion™ TSX-032A (November 2011 release)

- The smallest capacity required for power source facilities*
  (Capacity required for power source facilities: 30 KVA; internal data at the time of product release)
- The most compact and lightest*
  (Body weight: 1,220 kg; Minimum footprint: 10.4 m²)
  (details on page 40)

Solid-state weather radar

TW4321A, etc.
(mass production started in 2009)

- The highest level of energy-saving performance*
  (Power consumption 0.9 kVA)
- The highest level of resource-saving performance*
  (Body weight: 1,996 kg)

Circulation heat pump unit

External award

HWC-H451H (September 2011 release)

- COP (energy consumption efficiency): 2.15
- The most compact and lightest weight*
  (Body weight: 54 kg)
- 2010 Food Industry Carbon Dioxide Reduction Grand Prize
  (Kasugai Seika awarded the prize for the system as a whole)

Hybrid shunting locomotive

HD300 (mass production started in 2012)

- NOx emissions reduced by 61%
  (hauling test with 700-t load)
- Noise level reduced by 22 dB
  (running engine with high speed rotation)
- Fuel consumption reduced by 36%
  (hauling test with 700-t load)

Mitigation of Climate Change

In order to promote developments aimed at mitigating climate change, Toshiba Group assesses the entire life cycle of products. We will continue to provide energy-saving products for countries around the world and to reduce CO_2 emissions to contribute to the mitigation of climate change.

CO_2 emissions reductions by supplying eco products considered throughout their life cycles

In order to mitigate climate change, Toshiba Group is striving to develop environmentally conscious products which reduce environmental impact throughout their life cycle from the procurement of raw materials, manufacturing and distribution to the use and disposal stages.

Toshiba Group's products cover a wide range of categories from consumer electronics to power generation plants, and CO_2 emissions from these products in different stages of their life cycle vary from one product to another. For example, digital products like notebook PCs cause environmental impacts mainly during the procurement of materials, while semiconductor products, such as SD memory cards, cause most of their environmental impacts during manufacturing. Meanwhile, the CO_2 emissions from power consumption during the use of products account for the bulk of the impact caused by products that consume a large amount of energy and those that are used for a long period of time, which leads us to believe that the most effective way to reduce their environmental impacts is to reduce the amount of power consumed when they are used.

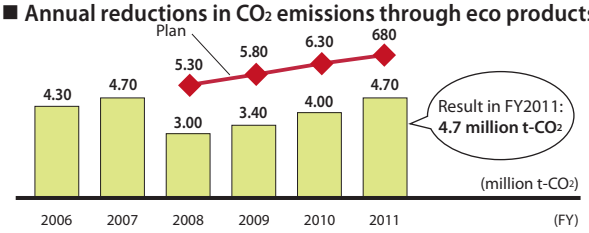
For this reason, with a view to appropriately evaluating its diverse product portfolio, Toshiba Group calculates the annual reductions in CO_2 emissions that would be achieved if products purchased in FY2000 were replace by eco products not only during their use but also throughout their entire life cycle in order to achieve a greater reduction in CO_2 emissions. To this end, we added "CO_2 emissions reduction effect of eco products" as a new indicator to the Fourth Environmental Action Plan, which has been in effect since FY2008.

In FY2008, we fell far short of achieving our goal as a result of rapid economic changes. Therefore, we formed a working group to promote measures to mitigate climate change through products and have been implementing group-wide activities to achieve the goal.

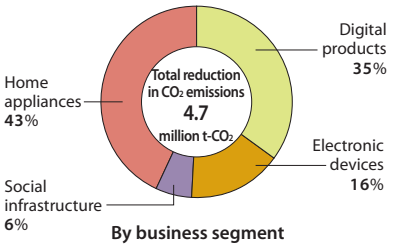
● Results of FY2011

Since FY2010, we have set eco-targets regarding the mitigation of climate change in order to develop products with the highest level of environmental performance. In FY2011, we were able to reduce CO_2 emissions by 4.7 million tons per year by offering newly developed products throughout the world. Although we fell short of our annual goal, we achieved a reduction of 0.7 million tons per year in CO_2 emissions compared to the previous year, exceeding our plan of reducing emissions by 0.5 million tons of CO_2 per year, and we continue to make improvements.

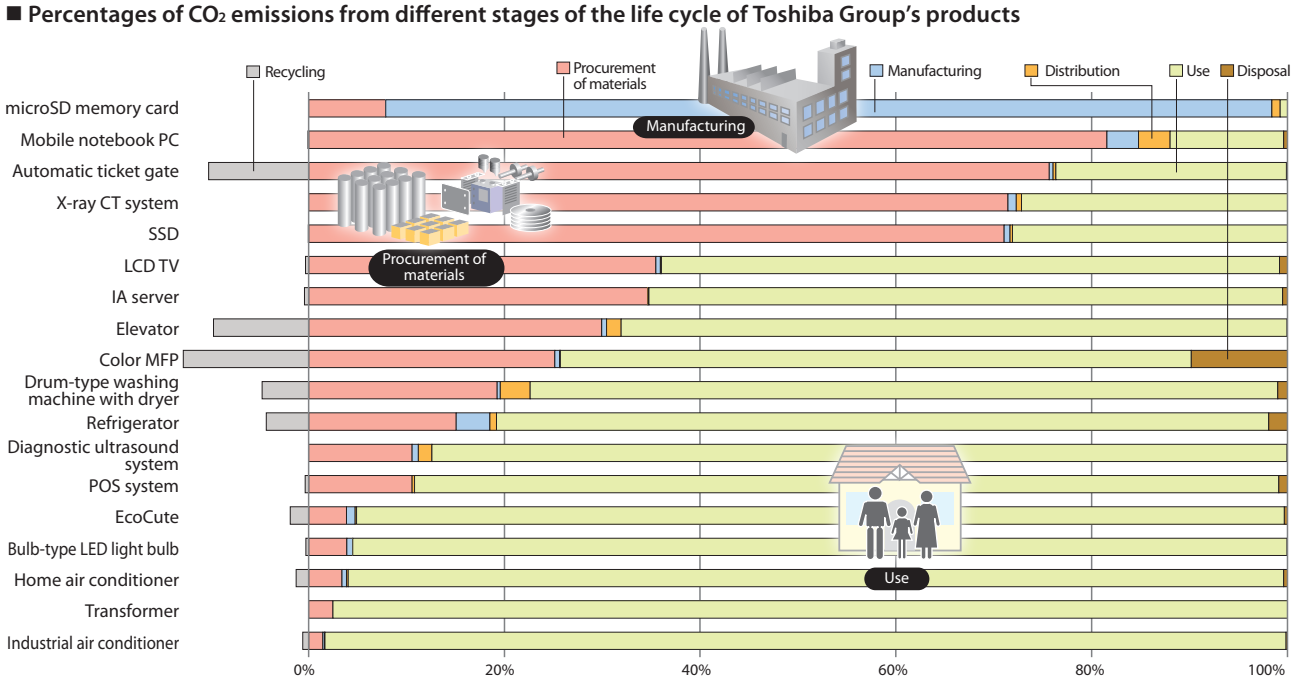
■ Annual reductions in CO_2 emissions through eco products



■ Breakdown of reductions in CO_2 emissions (FY2011)



■ Percentages of CO_2 emissions from different stages of the life cycle of Toshiba Group's products



● **Future initiatives**

Toshiba Group will continue to reduce CO_2 emissions across all its products by identifying key factors that contribute to reducing CO_2 emissions and by sharing advanced examples and core technologies among group companies. At the same time, we will expand our business in global markets for home appliances, such as digital products that use substantially less energy and LED light bulbs—especially in markets in emerging countries where there is a rapidly growing demand for products that can achieve great reductions in CO_2 emissions.

Under the Fifth Environmental Action Plan, we will continue to evaluate products throughout their entire life cycle. At the same time, we will focus our efforts on reducing environmental impacts during customers' use of products, which has a large effect on the environmental efforts of Toshiba Group as a whole, and further enhance the annual CO_2 emissions reduction effect that may be achieved if conventional products are replaced by eco products. Through these measures, we aim to achieve a reduction of 15 million tons in CO_2 emissions by FY2015.

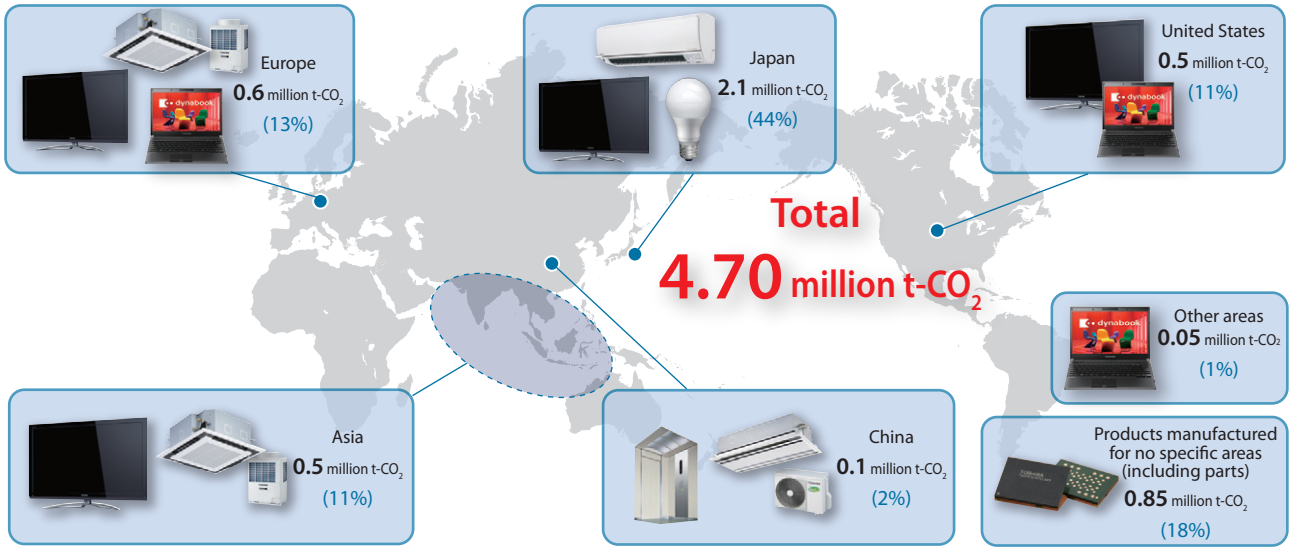
Reducing CO_2 emissions worldwide through products with the highest level of energy-saving performance

Although about half of the reductions in CO_2 emissions in FY2011 was achieved by products for Japanese markets, Toshiba Group's products, such as LCD TVs, PCs and air conditioners, are contributing to reducing CO_2 emissions in Europe and the United States as well.

Reductions in CO_2 emissions achieved in emerging countries account for only about 10% of the total at present. However, now that there is a rapidly growing demand for home appliances and digital equipment in these countries, we need to support convenient and comfortable lifestyles while at the same time mitigating climate change by providing products with a high level of energy-saving performance throughout the world.

Environmental impacts caused by the use of products vary depending on the type of energy supply available in different areas. Average CO_2 emissions coefficients for electricity of the area are used to calculate estimated reductions in CO_2 emissions in Japan, Europe, the United States, Asian countries and China. Global average values are used to calculate estimated reductions in other areas and reductions regarding products, including parts, that are manufactured for no specific areas.

In its global business development, Toshiba Group will continue to contribute to the mitigation of climate change through its energy-saving products in areas around the world.



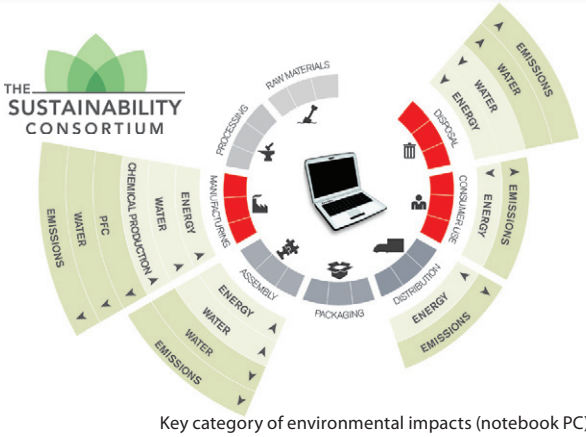
✻The photo is for illustrative purposes only.

TOPICS Optimal product life cycle management through supply chains

Toshiba Corp. Digital Products & Services Company

In the United States, retailers, suppliers, universities, governments, NGOs, and other stakeholders are all working as members of The Sustainability Consortium (TSC), which was launched in July 2009, to enhance environmental assessment and management, with their initiatives now developing into a global endeavor.

Since January 2010, Toshiba America Information Systems, Inc. has participated in these activities as a member in the electronics sector working group. We have been promoting initiatives aimed at implementing optimal product life cycle management, including creating a measurement and reporting system for product sustainability and developing related IT tools.



Key category of environmental impacts (notebook PC)

Mitigation of Climate Change

Example 1 Mini-SMMS, a localized air conditioner system for emerging countries

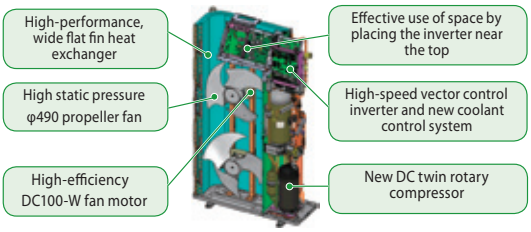
Toshiba Carrier Corporation

The company has developed an energy-saving multi-purpose air conditioner system localized for high-end condominiums in emerging countries. Equipped with a new DC twin rotary compressor designed to improve operational efficiency in low-capacity operation areas, this product has achieved the industry's highest IPLV*1, 2 (5.3). In order to maintain the volume of coolant flow into the interior unit at an appropriate level, the piping is designed to minimize energy loss based on actual usage conditions.

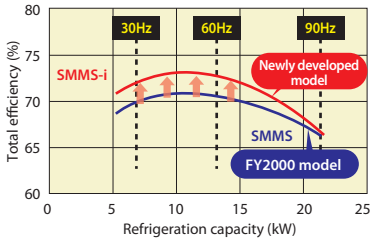
*1 Toshiba internal data as of January 2012 (comparison with other companies' products for emerging countries)
*2 IPLV (Integrated Part Load Value): Annual energy consumption efficiency indicator used in China, which includes energy consumption for partial load operation

Mini-SMMS series

Built-in technologies



Improvement of efficiency in low-capacity areas

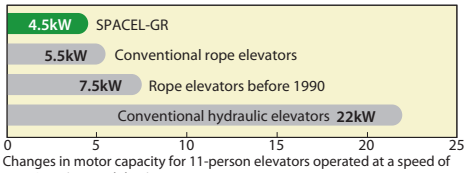


Example 2 SPACEL-GR, a standard elevator

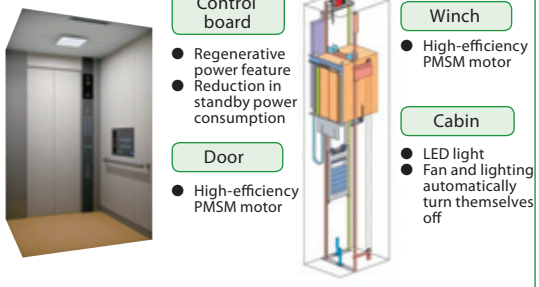
Toshiba Elevator and Building Systems Corporation

In order to further improve riding comfort, the company used controllers and new roller guides developed with the most advanced technologies. In addition, the company also introduced a high-efficiency PMSM*1 motor and LED lighting, reduced standby power consumption and provided an option to use a regenerative power feature that returns the regenerative power generated by the motors during elevator operation to the building. Through these measures, power consumption was reduced as much as 50%, thereby achieving the industry's highest level of energy-saving performance.*2

*1 PMSM: Permanent Magnet Synchronous Motor
*2 Toshiba internal data as of November 2011



Changes in motor capacity for 11-person elevators operated at a speed of 60 m/min (internal data)



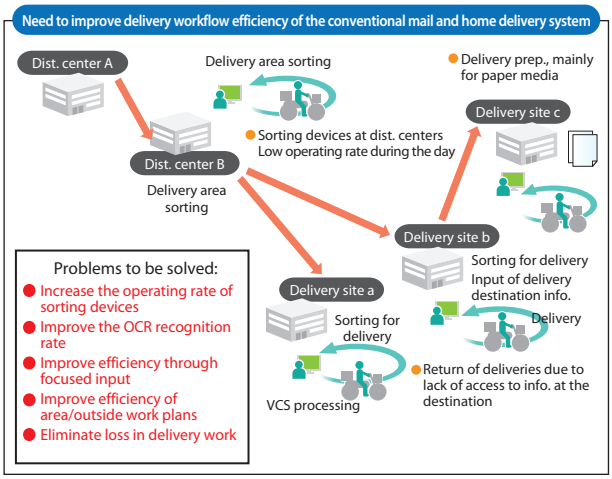
Elevator structure and effect items

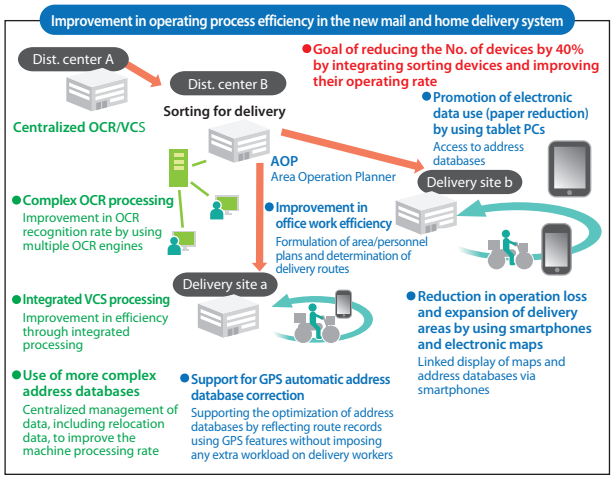
Example 3 Next-generation sorting/distribution solution making use of ICT

Toshiba Solutions Corporation

Use of ICT*1 makes it possible to greatly improve the efficiency of business operation processes.
For example, in the home delivery business, delivery efficiency can be improved by integrating delivery sites, by formulating delivery area plans using electronic maps and by optimizing delivery routes. Improving the efficiency of delivery routes reduces not only CO_2 emissions by 15% but also work loss.

*1 ICT: Information and Communication Technology





Efficient Use of Resources

Toshiba Group promotes 3R (reduce, reuse and recycle) initiatives for products to reduce resource consumption and increase incoming and outgoing recycling.

Toshiba Group's 3R* initiatives for products

In order to create a sound material-cycle society, there is a need to reduce the amount of resources extracted and discharged as waste throughout the product life cycle. Toshiba Group is promoting 3R initiatives for products aimed at reducing waste, increasing incoming recycling and improving outgoing recycling. We are also taking measures to promote design for 3Rs of product and service systems and are implementing activities to reduce the environmental impact of our products throughout their life cycles.

* Reduce, reuse and recycle

● Waste reduction

We achieve waste reduction through various means, including reducing the amount of resources used to manufacture products (reducing weight and size) and extending product lives (including upgrades and maintenance).

● Incoming recycling

Incoming recycling refers to the application of recycled materials in products. We will work to improve our incoming recycling rate by increasing our use of recycled materials, plant-derived materials and reusable parts.

● Outgoing recycling

Outgoing recycling refers to the collection and recycling of end-of-life products. By promoting designs for reusing and recycling materials, we improve outgoing recycling while simultaneously improving the system design for recycling end-of-life products further.

Waste reduction initiatives

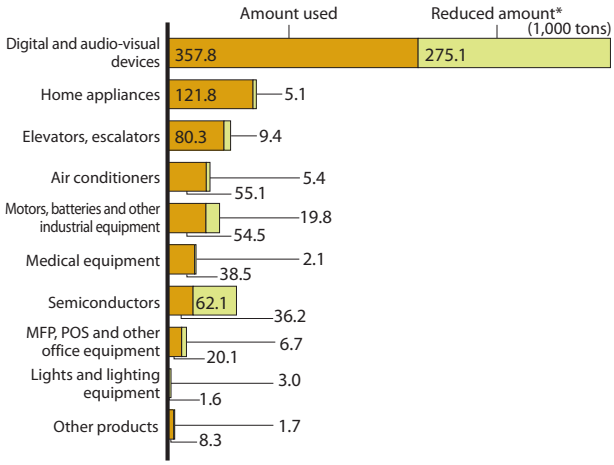
● Results of FY2011

In FY2011, the total amount of resources used in Toshiba Group's major products, estimated by multiplying the amount used for products and packaging materials by the number of shipments, was 774,000 tons. Based on comparisons with the previous product models and adjusting for the expected number of years of use, we also estimated to what extent resource consumption has been reduced for different products. Our comparisons show that we have reduced the use of resources by 390,000 tons. In addition to reductions in the size and weight of digital devices, including LCD TVs, DVD players and notebook PCs, this result is also due to reductions in resource consumption in industrial products such as elevators, motors and industrial air conditioners.

● Future initiatives

Under the Fifth Environmental Action Plan, we will promote resource-saving designs for all products with an aim of further reducing resource consumption by 50% by FY2015.

■ Amount of resources used by Toshiba Group and reductions in resource consumption (FY2011)



* Calculated by comparison with the previous product models adjusting for the expected number of years of use

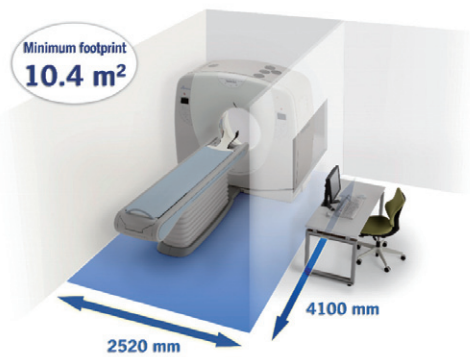
Example 1 Multi-slice CT system, Alexion™ (TSX-032A)*1

Reduce

Toshiba Medical Systems Corporation

This multi-slice CT system was developed as a low-end 16-row model to meet the needs of clinics and small hospitals. While keeping the high-resolution and high-performance features of our conventional model, including cutting-edge technologies for creating high-resolution images with a low level of X-ray radiation (AIDR-3D™, VolumeEC, etc.)*1 as well as a low-power compact X-ray tube that saves energy,*2 we achieved the industry's lightest weight and smallest footprint. As a result, this system was certified as an Excellent ECP in FY2011.

With a body weight of 1,220 kg and a minimum footprint of 10.4 m^2, the Alexion™ can be installed in existing CT examination rooms*3. This system also minimizes the size of renovation (extension) and construction required for electric utilities and reduces the amount of waste generated by system updates.



*1 Using AIDR 3D, the system can reduce its noise level by a maximum of 50% and X-ray radiation exposure by 75%. Systems equipped with this technology do not require external units or hardware to produce these effects.
*2 Can be operated with 30 kVA of power.
*3 The Alexion™ can be installed in the same space where Toshiba's conventional single-slice CT system has been installed.
Activion™, Toshiba's 16-row multi-slice CT system, has a footprint of 18.4 m^2.

Efficient Use of Resources

Incoming recycling initiatives

Toshiba Group is promoting initiatives to recycle plastic waste generated by end-of-life products.*

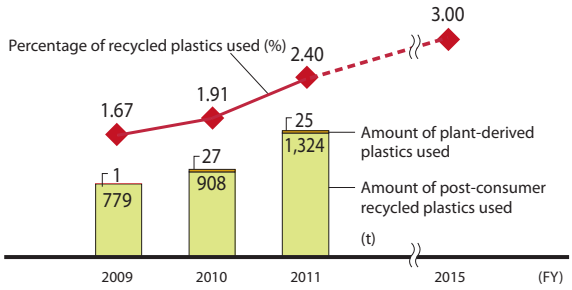
● Results of FY2011

In FY2011, we used a total of about 1,300 tons of recycled plastics. This is largely due to improvements in the design of washing machines, refrigerators, vacuum cleaners and LCD TVs, as well as the use of identical designs for the manufacture of many products. As a result of such efforts, we have continued to increase our use of recycled plastics. We are also using plant-derived plastics to manufacture some plastic parts for LCD TVs and POS systems.

● Future initiatives

Under the Fifth Environmental Action Plan, we will further improve the incoming recycling rate by expanding our use of recycled materials with the aim of increasing the percentage of recycled plastics to 3.0% by FY2015.

■ Amounts and percentages of recycled plastics used



* Post-consumer recycled materials vary in quantity available and quality depending on how they are obtained. At times, we may need to use virgin materials due to insufficient supply or quality problems.

Example 2 Cleaner

Reduce Recycle

Toshiba Home Appliances Corporation

This cyclone cleaner has the industry's lightest body weight (2.5 kg) and was certified as an Excellent ECP for FY2011.

Recycled plastics are used for the motor covers and ducts, accounting for 11% of all plastics used in the cleaner.

Including other cyclone cleaner and paper bag cleaner models, Toshiba Group provides a wide range of cleaners which contain recycled plastics, thereby contributing to resource recycling.


Lower motor cover


Upper motor cover


Ducts A and B

Outgoing recycling initiatives

● Results of FY2011 and future initiatives

To improve outgoing recycling, Toshiba Group promotes designs that facilitate reusing and recycling products. We provide Environmental Design Guides and Eco-material Selection Guides for in-house designers and share information concerning the disassembling of various products. At the same time, we review areas for improvement with respect to designs for reuse and recycling by promoting technological exchanges between designers and recyclers.

It is also essential to develop systems for recycling end-of-life products. Although we have been promoting such recycling globally, there will be an increasing need to develop new recycling technologies and advanced systems to manage rare metals. We will design such advanced recycling systems by considering how to strike a balance between environmental and economic performance.

3R initiatives for packaging material

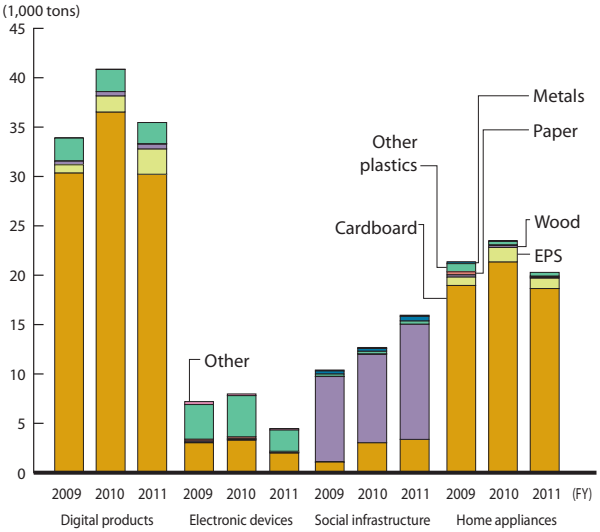
We will streamline the use of packaging as well as product materials to reduce environmental impacts throughout their entire life cycles.

● Results of FY2011 and future initiatives

The amount of packaging materials used by Toshiba Group in FY2011 was 76,000 tons.* As the number of shipments increases, the amount of packaging materials used also tends to increase. Nevertheless, we will work to reduce the use of packaging materials in accordance with the characteristics of each business area and product category through various measures, such as reducing packaging volume, enlarging the size of returnable (reusable) cases and using materials with low environmental impact.

* We collected a wider range of data than in FY2009.

■ Amount of packaging materials used by Toshiba Group



TOPICS Water footprints of home appliances

In recent years, the importance of water resources has been attracting global attention, highlighting the need for companies to find solutions to realize sustainable use of water. The water footprint (WF) of a product is an indicator that shows the estimated water consumption during a product's life cycle, from production, distribution, use and disposal through to recycling. Toshiba is working in collaboration with Tokyo City University to estimate the WFs of its products,* an industry first. In this report, we would like to present the WFs estimated for our washing machines and refrigerators.

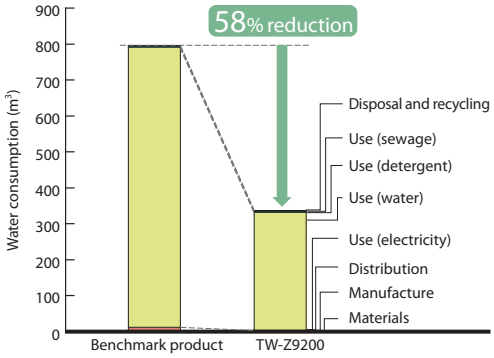
* We are using the water resources database developed by Tokyo City University's Norihiro Itsubo Laboratory. For detailed information, see the following website: http://www.yc.tcu.ac.jp/~itsubo-lab/research/water_db.html

Water footprints of washing machines with dryers

TW-Z9200

Washing capacity: 9 kg; Drying capacity: 6 kg
Washing machine with dryer with the highest level* of energy and resource-saving performance; certified as an Excellent ECP in FY2011

*As of when the product was released:
Power consumption: 665 Wh (for washing and drying)
63 Wh (for washing)
Water consumption: 60 L (for washing)



- Benchmark product: Toshiba's FY2000 model (TW-F70)
- A usage period of seven years was assumed.

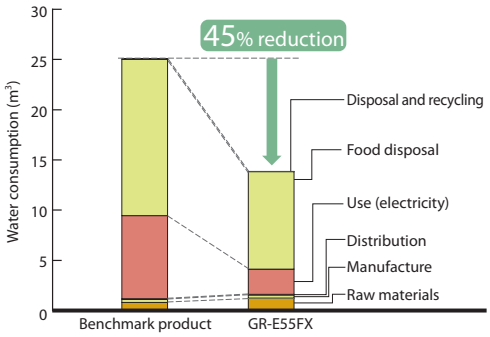
The WFs of washing machines with dryers are largely accounted for by their water consumption during use. Use of heat pumps greatly reduces water consumption during drying. In addition, Toshiba's ZABOON washing machine with dryer is equipped with water-saving technologies for centripetal washing and energy-saving operation. Thanks to these technologies, it can reduce water consumption by approximately 58% over its entire life cycle (in comparison with Toshiba's model produced in FY2000).

Water footprints of refrigerators

GR-E55FX/50FX

Awarded the 2011 Grand Prize for Excellence in Energy Efficiency and Conservation (Chairman Prize of ECCJ). Designed to reduce the use of electricity by the heating device* in order to minimize peak power consumption and to contribute to power conservation during the summer, this refrigerator was certified as an Excellent ECP for FY2011.

*The industry's lowest power consumption (109 W)



- Benchmark product: Toshiba's FY2000 model (GR-471K). Power consumption during use was calculated based on the annual power consumption (750 to 840 kWh) stipulated by the Japan Electrical Manufacturers' Association's independent standards for refrigerators with capacities of 401 to 450 liters rather than using a specific product model.
- A usage period of ten years was assumed.
- Water consumption for food waste was calculated by Toshiba based on the amount of food directly disposed of according to the Statistical Survey on Food Waste (Ministry of Agriculture, Forestry and Fisheries).

The WFs of refrigerators are largely accounted for by water consumption related to food waste. Since crops and vegetables consume large amounts of water while being cultivated, reducing the amount of food waste leads to reduced amounts of food consumption, thereby reducing water consumption. Energy-saving initiatives we have developed in the past have also lead to reductions in indirect water consumption required for power generation. In order to mitigate climate change, it is important to conserve energy. To protect water resources, it is equally important to preserve food. Toshiba's VEGETA refrigerator is equipped with a vegetable monitoring sensor designed to maintain humidity at approximately 100% and sterilizes food with pico ions in order to preserve vegetables for an extended period of time (for example, it preserves the water in spinach approx. 2.3 times longer than conventional models). It reduces water consumption by 45% throughout its life cycle.

The United Nations has announced a goal of reducing the percentage of people without access to safe drinking water and sanitary facilities by half by 2015. Also, there are growing concerns among countries worldwide about how to solve water shortages. The water footprint approach, which analyzes water consumption and its effects from the perspective of product life cycles, is recognized as an effective assessment method for doing so. At present, the ISO is discussing how to establish international standards for implementing this approach.
Toshiba is playing a leading role globally in adopting the water footprint approach and is effectively providing environmental information on its eco products. As a company that supplies products worldwide, Toshiba is successfully fulfilling its responsibilities to the global community by providing information that attracts the attention of developing countries with special interests in water problems.

Associate Professor
Norihiro Itsubo
Faculty of Environmental and Information Studies
Tokyo City University

Management of Chemicals

In order to minimize risks involved in the use of chemicals, Toshiba Group formulates action plans and implements measures before other companies. We also promote eco procurement to minimize environmental impacts and participate in initiatives aimed at providing industry-wide information on chemicals.

Minimization of chemicals' environmental impacts

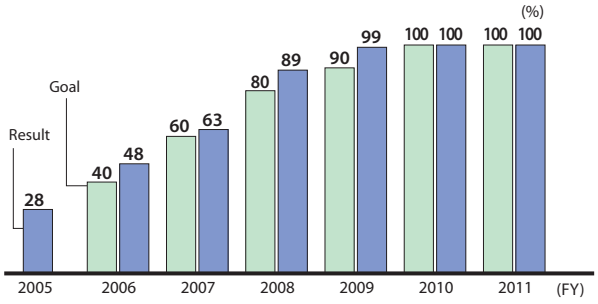
Regulations on chemical management have become stricter than ever in recent years. In particular, EU REACH*1 regulations mandate collection and provision of information regarding the chemicals contained in products, thereby requiring companies to properly manage information on the chemicals contained in their products throughout their supply chains.

With a view to achieving the goal of minimizing risks involved in the use of chemicals, which was proposed and adopted at the World Summit on Sustainable Development (WSSD*2) and other conferences, Toshiba Group has been promoting initiatives to eliminate the use of specified chemicals, to reduce the amount of chemicals contained in products and to use substitute materials so that customers can use Toshiba products with a sense of security.

● Results of FY2011

The Fourth Environmental Action Plan, which started in FY2005, identified 15 rank-A chemical substance groups and made it a goal to eliminate the use of all these chemicals by FY2010. The percentage of products that do not contain these substances relative to the total sales reached 100% in FY2010 as specified in our action plan. In FY2011, we were able to continue without the use of these substances as planned.

■ Ratio of sales of products with 15 substance groups eliminated to net sales



15 chemical substance groups subject to restriction (rank A)

(1) Bis (tributyl tin) oxide (TBTO)
(2) Tributyl tins (TBTs) and Triphenyl tins (TPTs)
(3) Polychlorinated biphenyls (PCBs)
(4) Polychlorinated naphthalenes (PCNs with 3 or more chlorines)
(5) Short-chain chlorinated paraffins (C10-C13)
(6) Asbestos
(7) Azo colorants
(8) Ozone-depleting substances
(9) Radioactive substances
(10) Cadmium and its compounds
(11) Hexavalent chromium compounds
(12) Lead and its compounds
(13) Mercury and its compounds
(14) Polybrominated biphenyls (PBBs)
(15) Polybrominated diphenyl ethers (PBDEs)

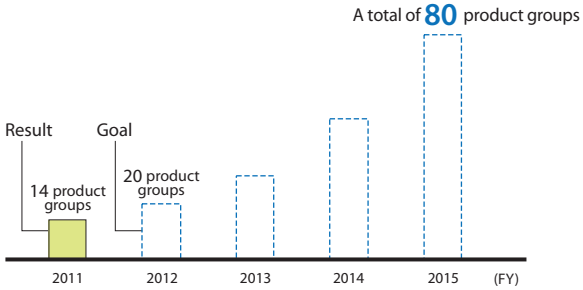
* Detailed definitions and exempted uses are provided separately.

*1 REACH (Registration, Evaluation, Authorization and Restriction of Chemicals): Regulations on registration, evaluation, authorization and restrictions related to chemicals
*2 WSSD: World Summit on Sustainable Development
*3 Regulations on PVC and BFRs in major countries:
Many national governments regulate PVC when used as an additive to soften resins (generally known as a "plasticizer").
Example 1: Phthalate esters contained in PVC (DEHP, BBP, DBP and DIBP) are designated as high priority hazardous substances in the EU REACH regulations (substances to be authorized or to be restricted (under examination)) and the revised RoHS directive.
Example 2: Use of organic tins contained in PVC (DOP and DBP) is restricted in the EU REACH regulations (substances to be controlled)
Example 3: In addition to PBDEs and PBBs, which are designated as forbidden flame retardants in the RoHS directive, hazard assessments of various other BFRs are underway in countries around the world.

● Future initiatives

Under our Fifth Environmental Action Plan, which starts in FY2012, we will step up our efforts to use substitute materials for polyvinyl chloride (PVC) and brominated flame retardants (BFRs) in response to even stricter environmental regulations on chemical management.*3

■ Product groups covered by the PVC/BFR substitution initative in the Fifth Environmental Action Plan

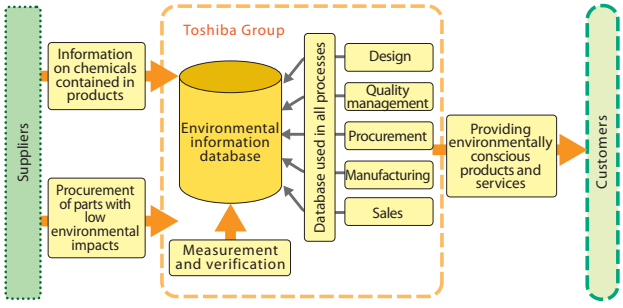


Provision of information on chemicals throughout the supply chain

Toshiba Group promotes eco procurement in countries around the world in cooperation with our suppliers. In particular, in order to properly comply with the RoHS directive*4 and REACH regulations, we share information throughout our supply chain. In addition to participating in JAMP*5 activities in collaboration with other companies in our industry, Toshiba Group has also developed Eco Socce-T,*6 a centralized system shared by all Toshiba Group companies, to facilitate obtaining and distributing information on chemicals contained in Toshiba products. Our information on parts and materials is stored in a database and used for various purposes, including certifying newly procured materials, making judgments as to whether or not to replace existing materials with substitutes, or developing environmentally conscious products.

*4 RoHS (Restriction of certain Hazardous Substances) directive: A directive which limits the use of specified hazardous substances in electrical and electronic devices
*5 JAMP: Joint Article Management Promotion-consortium
*6 Eco Socce-T: Eco, Substances of concern exchange & management system in the Toshiba Group

■ Creating a procurement database, including parts and raw materials



To promote business activities aimed at reducing the environmental impacts of hazardous chemicals and the risks involved in using them, it is essential to obtain the cooperation of suppliers, our business partners, for those activities for which the supply chain as a whole must be targeted. We request the understanding and cooperation of our suppliers in our eco procurement initiatives aimed at creating a sustainable society. We also request that they make environmental assessments and conduct research on and evaluations of the chemicals contained in the materials and parts they supply and report the results of independent assessments on their level of eco procurement (according to Toshiba's standards) in accordance with ISO 14001.

■ Suppliers' levels of eco procurement for FY2011

(%)

Rank S	Rank A	Rank B	Lower than Rank B
85.4	11.8	1.8	1.0

Note: Rank S (Priority), Rank A (Excellent), Rank B and Lower than Rank B (Improvement requested)

Development of Non-destructive Analysis Techniques Using SPring-8

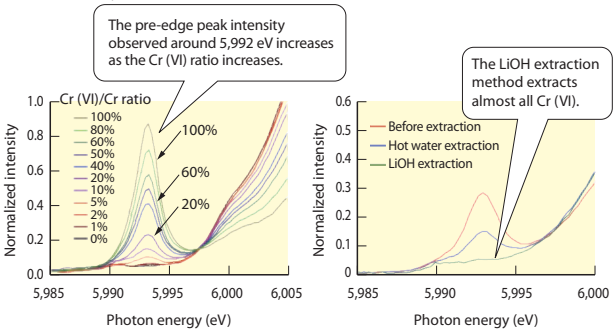
To ensure the reliability of eco procurement and proper management of substances forbidden from being used in products, Toshiba Group has developed group-wide management standards regarding specific substances that have a high risk of being contained in products and is striving to prevent forbidden substances from being mixed into our products by fluorescent X-ray tests and chemical analysis.

In particular, in the past there was no established method for accurately measuring the amount of hexavalent chromium contained in chromate films on metal surfaces, which made it difficult to ensure compliance with regulations. To overcome this difficulty, Toshiba newly developed a lithium hydroxide (LiOH) extraction method which greatly improves the efficiency of extracting hexavalent chromium compared to the conventional hot water extraction method. We also established a method of non-destructive XAFS analysis*8 using SPring-8,*7 a large synchrotron radiation facility.

We have confirmed the relationships between this method and the chemical analysis method using lithium hydroxide, thereby contributing to the development of various analysis methods to meet different needs.

*7 SPring-8 (Super Photon ring-8GeV): A large synchrotron radiation facility managed by the Japan Synchrotron Radiation Research Institute which generates synchrotron radiation featuring the world's highest luminance for experiments, research and applications. It is jointly used by various organizations as a cutting-edge tool for analyzing substances.
*8 XAFS: X-ray Absorption Fine Structure

■ Measurement of hexavalent chromium through the use of synchrotron radiation



(a) Standard sample measurement results (b) Chromate film measurement results

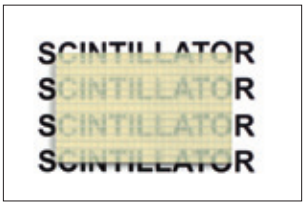
K: K electron shell

Example 1 Initiative for reducing the amount of hazardous chemicals contained in parts and materials

Toshiba Materials Co., Ltd.

Non-destructive inspection of baggage at airports via X-rays is one essential measure to protect against terrorism. Scintillators play a crucial role in devices that transform the X-rays that penetrate into or reflect off baggage into light to create images. Toshiba has developed a GOS (Gd_2O_2S) scintillator by using rare-earth oxysulfide to replace conventional CWO ($CdWO_4$) scintillators that contain cadmium, which is a hazardous substance. Toshiba's GOS scintillator contains no hazardous substances and has a higher sensitivity than conventional products. In addition to baggage inspection at airports, it can also be used for checking for the presence of foreign matter in food or for internal inspections of whole cargo trucks. Its high sensitivity allows the intensity of X-ray radiation to be reduced.

X-ray inspection device (for baggage)



Scintillator

Example 2 Initiative for reducing the amount of chemicals used in elevators

Toshiba Elevator and Building Systems Corporation

Toshiba's standard elevator, SPACEL-GR, is not only designed to achieve the industry's highest level*1 of energy-saving performance by reducing standby electricity consumption, but also uses advanced technologies to reduce the use of hazardous chemicals, such as the inclusion of mercury-free materials, the use of a new type of coolant and reductions in the use of lead.

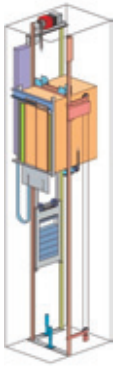
*1 Internal data as of November 2011

● **Mercury-free**
Use of LED lights for all ceiling lighting

● **Use of a new type of coolant**
A new coolant (R-410A) that does negatively affect the ozone layer is used for the elevator cooler.

● **Reductions in the use of lead**
To support the elevator, a wedge-and-rope suspension system is used instead of the conventional rope suspension system.
We have eliminated the use of lead for the processing of rope ends.

Elevator car



Elevator passage
- Lead-free rope ends

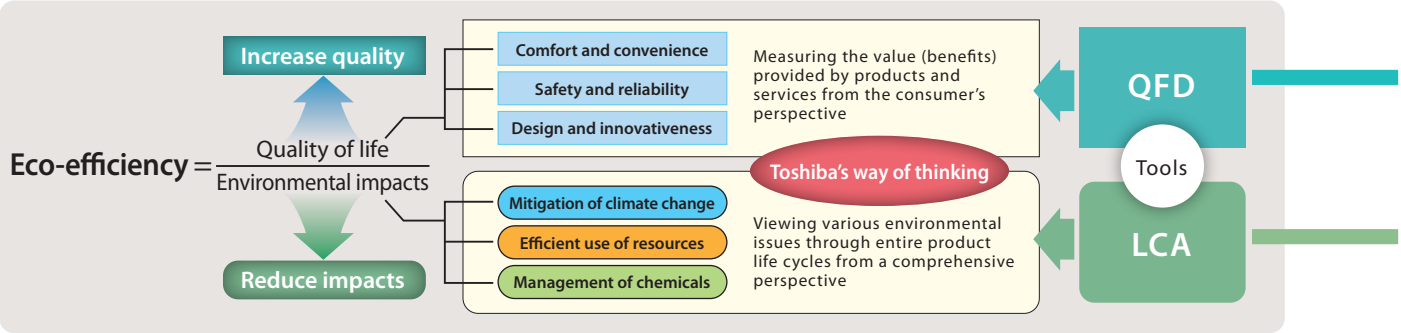
Elevator cage
- LED light
- PVC-free interior materials
- New coolant for the elevator cooler

Elevator structure and effect items

Product Eco-efficiency

Eco-efficiency

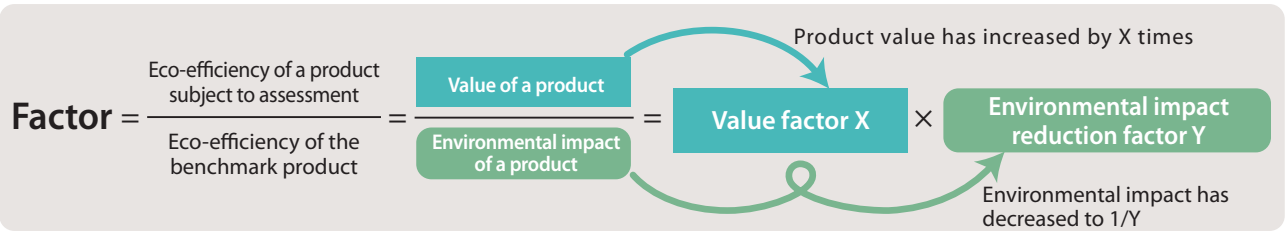
In order to achieve the goal established in the Toshiba Group Environmental Vision 2050 and create a world with all people leading affluent lifestyles in harmony with the Earth, it is essential to improve the eco-efficiency of products and services. Eco-efficiency can be improved by raising the quality of life and by minimizing the environmental impacts of products throughout their life cycles. At Toshiba, we use a unique method to measure eco-efficiency in order to create ECPs with high eco-efficiency.



Factor

The Factor indicates how many times larger the eco-efficiency of a product is in comparison with a standard. A greater Factor means that a product contributes more to the creation of a world with all people leading affluent lifestyles in harmony with the Earth through technological progress and innovation.

The Factor is composed of a numerator and a denominator, which represent different aspects of improvement in eco-efficiency. The numerator, which is called the value factor, represents an increase in the value provided by a product, while the denominator, which is called the environmental impact reduction factor, represents a reduction in environmental impact. The Factor is calculated by multiplying these two components.



Doubly awarded at the Life Cycle Assessment Society of Japan for the development and promotion of advanced Eco-efficiency assessment methods

Toshiba Group is working to develop and promote methods for assessing eco-efficiency in different business areas, including audio-visual and digital products and home appliances as well as system software and devices.

Toshiba Solutions Corporation has worked to develop a method for measuring the value of services, which was needed especially in the solutions area, and participated in the activities of the Japan Eco-efficiency Forum (currently Life Cycle Assessment Society of Japan (JLCA)) working group as a leader in order to contribute to establishing a standard assessment method for the ICT industry. In addition to systematically identifying customers' needs by using assessment categories based on knowledge of service engineering, this method also greatly improves efficiency in assessing services by establishing procedures for distinguishing appropriate quality characteristics. Toshiba was awarded the JLCA Chairman's Award in the eco-efficiency category at the 8th JLCA Award Ceremony in 2011 for its activities to develop and promote eco-efficiency assessment methods in the solutions area.

Toshiba Corp. Semiconductor & Storage Products Company has worked to develop a life cycle assessment (LCA) method for the semiconductor area. To improve environmental performance in this area, environmental impacts resulting from manufacturing processes must be efficiently reduced. To this end, it is necessary to consider products throughout their entire life cycles, including their energy-saving performance during use. The company therefore developed a method for identifying improvements that have been made by using analysis charts designed to visualize the ratios between environmental impacts at the material procurement/manufacturing stage and at the use stage. In addition, the company also created assessment templates for different product categories in order to improve LCA efficiency, thereby incorporating LCA into the product development process. As a result, Toshiba was awarded the Incentive Award in the LCA category at the 8th JLCA Award Ceremony for these LCA activities in the semiconductor area.

Toshiba Group has received awards in the eco-efficiency category seven times in seven consecutive years and in the LCA category four times in three consecutive years. We believe these results reflect our continued efforts to assess eco-efficiency using our Factor approach.

Calculation of the factor value for a standard elevator

Product certified as an Excellent ECP in FY2011

Standard-type elevator (with 1,000-kg capacity), SPACEL-GR (released in January 2012)
Benchmark product: SPACEL

Factor 4.33 =2.87×1.51

Assessment of the product value with QFD*1

Toshiba Group uses the quality function deployment (QFD) approach to measure the integrated value of products.

Step 1 Analysis of customer needs

We conduct questionnaire surveys on benefits obtained from the functions and performance of products to study customers' needs

Step 2 Visualization of customer's needs and product specifications

Based on the relationship between customers' needs and product specifications (quality characteristics) and by using QFD, we identify quality characteristics required to meet customers' needs.

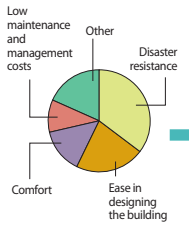
Step 3 Comparison of specifications

We evaluate the performance of the product to be assessed by comparing it with the benchmark product.

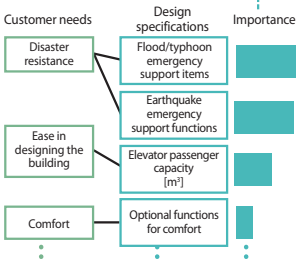
Step 4 Integration

After comparing specifications and normalizing assessment scores, we adjust the scores with weights and integrate them into a single indicator.

Value factor 2.87

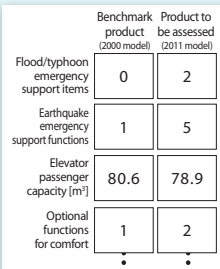


Customer needs based on marketing research



Design specs related to customer needs

Level of importance based on customer needs

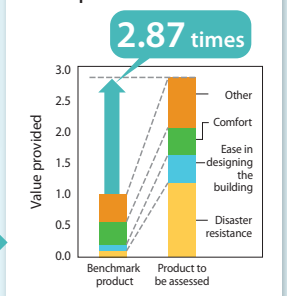


Specs comparison

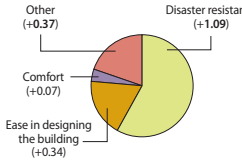
Normalized and weight-adjusted by levels of importance

Single indicator (normalized)

■ Value provided to customers



■ Breakdown of the improvement in value



Environmental impacts assessed based on the LIME*2 approach

By using the LIME approach to calculate weights for different environmental issues, Toshiba Group measures not only the performance of products regarding individual environmental issues but also their overall environmental impacts.

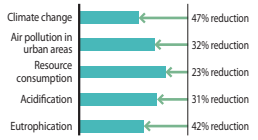
Step 1 Life cycle inventory analysis

Using LCA tools (Easy-LCA*3) and other methods, we calculate the levels of environmental impacts of products throughout their life cycles. Easy-LCA provides databases using input-output tables and makes it possible to make life cycle assessments of all products.

Step 2 Characterization

The levels of environmental impacts calculated in Step 1 are used to measure environmental effects.

The figure below shows comparative assessments of different aspects of environmental impacts between individual products.



Comparison of the results of characterization (extract) (benchmark product: 100)

Step 3 Impact assessment

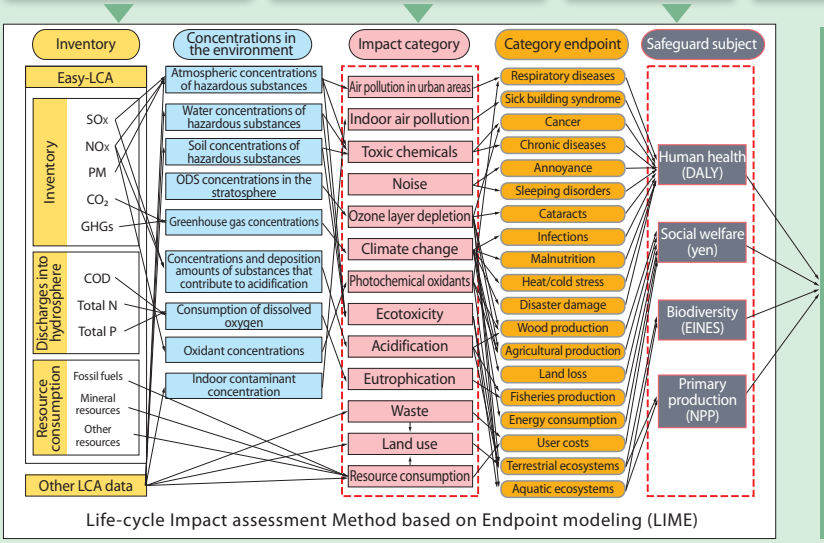
We measure the level of negative environmental impacts by the degree of environmental damage to four targets for protection.

Step 4 Integration

We integrate different measurements into a single indicator by determining weights for the four targets for protection and by using an economic value analysis method known as the conjoint analysis method.

LIME is a leading scientific and statistical life-cycle impact assessment method in Japan.

Environmental impact reduction factor 1.51

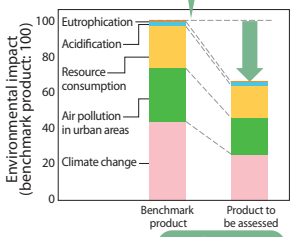


Life-cycle Impact assessment Method based on Endpoint modeling (LIME)

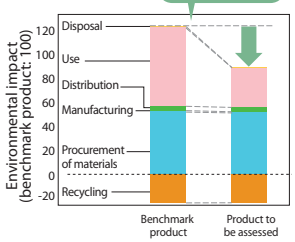
Single indicator (yen)

■ Life cycle environmental impact

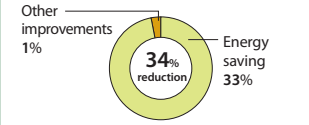
[By type of environmental impact] **34% reduction**



[By life cycle stage] **34% reduction**



■ Breakdown of environmental impacts



*1 A general tool used in product design.

*2 LIME is a leading scientific and statistical life-cycle impact assessment method in Japan developed by the National Institute of Advanced Industrial Science and Technology (AIST) through LCA projects. The LIME chart presented above is the LIME summary chart provided by the AIST with some additions.

*3 Easy-to-use life cycle assessment tool developed by Toshiba.

Greening by Technology
Low-Carbon Energy Technologies

We will contribute to providing a stable supply of power and mitigating climate change through our low-carbon energy technologies.

Summary of activities in FY2011

Toshiba Group energy initiatives

To achieve the goals of Environmental Vision 2050, Toshiba Group is promoting initiatives aimed at providing a stable power supply and mitigating climate change through its low-carbon energy technologies.

In order to contribute to mitigating climate change through the use of renewable energy, we are also working to develop and promote various power generation technologies, including photovoltaic, hydroelectric, geothermal and wind power generation technologies.

In the area of photovoltaic power generation, we provide residential solar modules with the world's highest level of module conversion efficiency (19.3%). For industrial power generation, we provide power conditioners (500 kW) that feature one of the best power conversion efficiencies globally (97.7%) and solar modules optimized to allow for the construction of mega solar systems worldwide. Through these products, we are working to expand the use of photovoltaic power generation.

We will further promote hydroelectric and geothermal power generation based on our technologies and products that we are developing and have delivered. At the same time, we will also expand our business into new areas, including wind power generation, and increase the supply of high-efficiency power generation devices to emerging countries, where demand for energy is growing.

With respect to conventional energy, Toshiba Group is continuing to develop thermal and nuclear power generation technologies. At present, about 80% of the world's energy supply depends on fossil fuels. Thermal power generation, which releases CO_2 during combustion, emits a greater amount of CO_2 than other power generation methods. There is, therefore, a need to strengthen measures to mitigate climate change by using the most advanced technologies. Among fossil fuels, coal has a relatively high reserves-to-production ratio, and coal-fired thermal power generation is likely to continue to be introduced in many Asian countries for economic reasons as well. Thus, to mitigate climate change, high-efficiency power generation facilities are essential. Toshiba Group aims to develop cutting-edge, ultra-supercritical coal-fired thermal power plants around the world as well as to further increase such plants' power generation efficiency. Meanwhile, in the area of gas-fired ther-

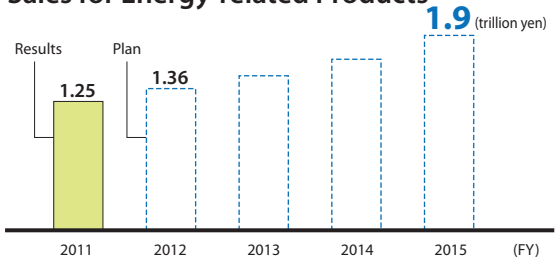
mal power generation, we will encourage the installation of combined-cycle power generation facilities, which use state-of-the-art, high-efficiency gas turbines in combination with high-performance steam turbines and generators. In addition, with the aim of promoting the development of next-generation thermal power generation technologies, we are also working to commercialize CCS (separation, capture and storage of the CO_2 contained in exhaust gases) technology as well as to develop new thermal power generation cycles designed to capture CO_2 more easily.

Nuclear power is a conventional energy source that does not emit CO_2 during power generation. Toshiba Group has been engaged in the construction of 112 nuclear power plants in ten countries around the world. In the United States and China, new nuclear power generation plants are under construction. Toshiba is taking an active part in providing large devices for these plants. Following the action plan for improving operational reliability, which was published in May of this year, Toshiba Group is working in cooperation with the Fukushima Daiichi Nuclear Power Station staff to develop and provide technologies required to improve the reliability and performance of the contaminated water treatment facilities. In the area of power distribution systems, which provide a stable supply of power to homes and factories, we are striving to develop various technologies based on our know-how acquired through many experimental projects. Our goal is to create smart grids (next-generation power distribution networks) designed to optimize the balance between energy supply and demand with making use of renewable energy. We will further promote the development of smart-grid technologies and contribute to the realization of future smart communities, which involve water, gas and transportation infrastructure (details on page 15).

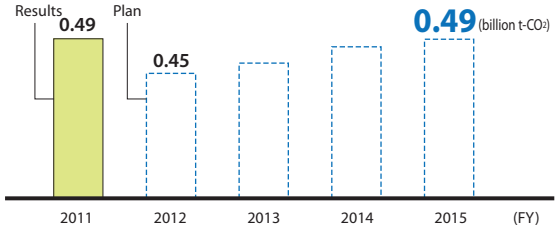
Achieving sales of 1.9 trillion yen for energy-related products and a reduction of 490 million tons in CO_2 emissions by FY2015

In the Fifth Environmental Action Plan, to start initiatives in the area of energy use, we added a new activity item represented by two indicators: sales of energy-related products and amount of reduction in CO_2 emissions (details on page 11). We will contribute to providing a stable supply of power and mitigating climate change with the aim of achieving sales of 1.9 trillion yen for energy-related products and a reduction of 490 million tons in CO_2 emissions by FY2015.

■ Sales for Energy-related Products

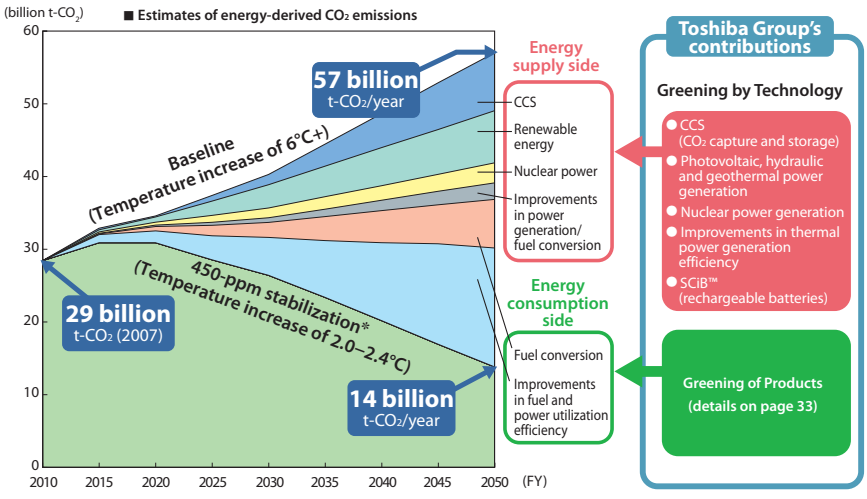


■ Reduction in CO_2 Emissions for Energy-related Products



Toshiba's technologies that contribute to reducing CO_2 emissions

Toshiba's technologies that contribute to reducing CO_2 emissions



Source: *Energy Technology Perspectives 2010*, IEA
✻ IPCC Fourth Assessment Report: Working Group III Report, Category I

The International Energy Agency (IEA) has estimated that if countries around the world continue their current policies, global CO_2 emissions will be 57 billion tons per year and the average global temperature will rise by 6°C by 2050 (see the graph on the left). In order to reduce global CO_2 emissions by 50% to 14 billion tons per year, innovative technologies must be developed on both the energy supply and consumption sides. We believe that Toshiba Group will be able to greatly contribute to achieving this goal not only through its energy consumption-related products but also through its energy supply-related products.

Renewable Energy

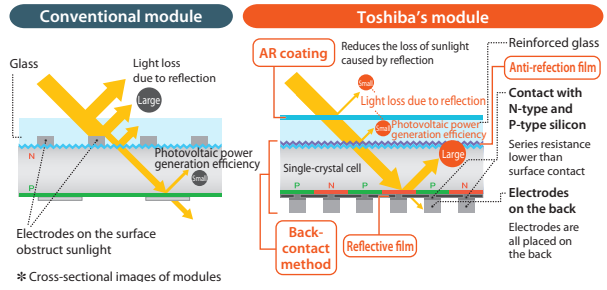
Photovoltaic Power Generation

Toshiba Group will contribute to reducing CO_2 emissions by providing photovoltaic power generation systems that achieve high levels of efficiency and long-term stability to a wide range of facilities, including power plants, factories and homes.

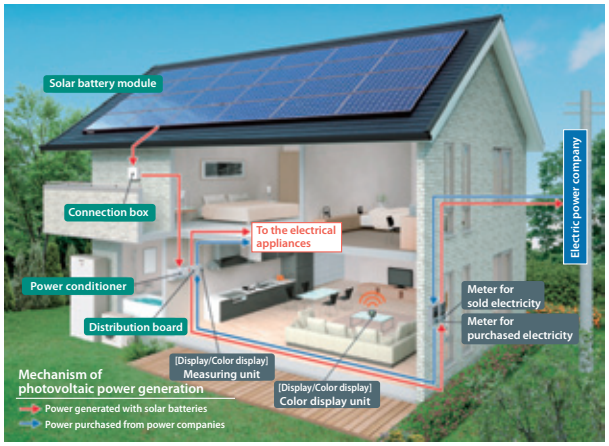
High efficiency solar panels for homes

Toshiba Corp. entered the residential solar photovoltaic power generation system business in April 2010. Since the release of its first model, Toshiba's solar battery modules for homes have increased module conversion efficiency to the highest level in the world by taking in sunlight efficiently even when placed on Japanese houses' small roofs and by maximizing power generation output. In September 2011, Toshiba started selling modules with the world's highest module conversion efficiency*1 (19.3%). While conventional solar battery modules have electrodes on the cell surface, Toshiba adopted a back-contact method, placed all electrodes on the back of each panel to increase the light reception area, and used an anti-reflection film to reduce the loss of light caused by reflection, thereby improving power generation efficiency. Toshiba's solar battery modules, which do not have electrodes on their surface, are also designed to be slim and have a sophisticated appearance. In July 2012, we added a Black Model*2 solar battery module to our product portfolio to promote photovoltaic power generation. The Black Model module improves power generation efficiency by using an anti-reflection film that minimizes the loss of light caused by reflection and has a sophisticated black design.

Adoption of a back-contact method that achieves high power generation efficiency, along with AR coating, anti-reflection films and reflective films designed to make effective use of sunlight



* Cross-sectional images of modules



Worldwide development of mega solar systems made possible by total engineering

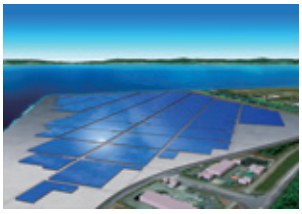
By using its comprehensive engineering skills acquired through the development of large-scale plants, Toshiba Group offers a full range of services, from installing solar battery modules to establishing connection to power supply networks, by total engineering that includes analysis, design and construction in order to provide mega solar systems that achieve the highest levels of efficiency and long-term stability. In Japan, we have received seven contracts for mega solar systems for electric power companies; these systems together have a total power generation capacity of 25 MW and are all currently in operation. We have delivered photovoltaic power generation devices to more than 200 public and industrial facilities in June 2012, and will seek further contracts for industrial mega solar systems. Overseas, we have received contracts for and delivered mega solar power generation systems mainly via our production sites in Europe and North America. We will further promote the use of industrial photovoltaic power generation systems, thereby reducing CO_2 emissions.

A photovoltaic power generation system needs to convert DC electricity generated by sunlight into AC electricity. Therefore, it is of crucial importance to create an efficient system designed to minimize conversion loss.

Toshiba provides power conditioners with the highest level of power conversion efficiency in the industry*1; these devices provide large amounts of power even during seasons and hours of the day with little sunlight and are highly efficient even when outputting small amounts of power. These power conditioners, which have a footprint of only 1 m^2 *3 (1 m × 1 m), are designed to save space and be easy to maintain. They are available in three types (100 kW, 250 kW and 500 kW) to facilitate use in a wide range of systems.

Tokyo Electric Power Company's Ukishima Solar Power Plant

Alessandria Eat in Italy



Tahara Solar/Wind Cooperative Commercial Operation

Extension of the Niigata Tobu Voltaic Power Plant

Contracts for mega solar power plants

*1 According to our internal data as of June 2012
*2 The Black Model is not designed to use the back-contact method.
*3 With 250-kW power conditioners

Hydroelectric Power Generation

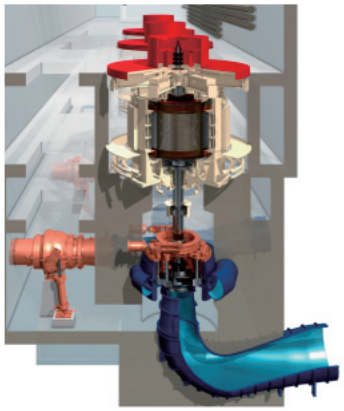
Hydroelectric power generation, which produces electricity without CO_2 emissions by using the gravitational force of falling water, provides clean and renewable energy, the effective utilization of which is being reviewed by countries around the world.

Provision of a stable supply of clean energy

Among power generation systems that use clean and renewable energy and that do not generate CO_2 emissions, hydroelectric power generation is the most efficient in providing a stable power supply at a low power generation cost. Since 1894, when we delivered a generator to the first commercial hydroelectric power plant in Japan, Toshiba Group has delivered some 2,000 hydroelectric turbines and some 2,000 generators with a total capacity of more than 54 GW, to over 40 countries around the world. Responding to increased needs for renewable energy in recent years, we are working to further expand the use of hydroelectric power both in Japan and overseas.

Contribution to power system stabilization by the world's top class pumped storage system technology

Pumped storage power generation systems generate power by pumping water at night and by letting water flow during the day when power demand peaks. Pumped storage power generation systems store electricity and play an important role in effectively using electricity. By using the most advanced fluid analysis technology, Toshiba Group has developed water turbines that are efficient in both power generation and water pumping; we have the world's top class technology and experience in this area. Recently, we completed construction of one of the world's largest capacity pump turbines, the Kannagawa Power Plant Unit No. 2, and are currently engaged in the renovation of the Ludington Pumped Storage Power Plant in the U.S., which features the world's largest diameter pump turbine runner, as well as the construction of the Qingyuan Pumped Storage Power Plant in China.



Hokkaido Electric Power Company's Kyogoku Power Plant
Water Turbine Power Generator (image)

Among pumped storage power generation systems, adjustable speed pumped storage systems, which can change the amount of electricity used while pumping by changing rotation speed, can serve to adjust system frequency. For this reason, these systems are attracting widespread attention as more and more renewable energy is introduced by wind and photovoltaic power generation. As the pioneer that built the world's first versions of these systems, Toshiba Group is constructing the Kyogoku Power Plant and the Kazunogawa Power Plant, which will feature the world's largest power generation capacity for an adjustable speed pumped storage power plant, with the aim of providing a stable supply of environmentally conscious energy.

Global business expansion based on wide technological development

Toshiba Group is working to develop a wide range of technologies and products designed to handle different geographical conditions, thereby improving power generation efficiency and output capacity as well as increasing product life. We have commercialized a technology that uses water instead of oil to lubricate turbine bearings and delivered products that use this technology in order to provide hydroelectric power generation systems capable of achieving high performance with low environmental impact. In addition to starting operation of large-diameter turbines and generators in China, we are also engaged in medium- and small-scale hydroelectric power projects in India as part of our efforts to expand our business in emerging countries. Through these projects, Toshiba Group is taking an active part in constructing new facilities as well as renovating existing ones both in Japan and overseas.

Power Generator Floor at the Gongguoqiao Power Plant in China (Unit No. 4)

Micro-hydroelectric power generation systems

Unlike large-scale hydroelectric power generation, micro-hydroelectric power generation makes effective use of small water resources to generate electricity. Toshiba Group has developed the Hydro-eKIDS™ series, which consists of five standard types of low-water-height, micro-hydroelectric power generation systems designed for customers that are not using water for power generation. We will soon add 1-kW small water turbine to our product portfolio.

We have received orders for more than 50 Hydro-eKIDS™ systems from 33 facilities in Japan and overseas. These products help many customers ensure a stable supply of power as well as reduce costs. Unlike conventional hydroelectric power generation systems, Hydro-eKIDS™ systems do not require large-scale civil engineering or construction work and can be used anywhere there are water sources available, including water supply and disposal systems, irrigation canals, wastewater from factories and water discharges from rivers, thereby contributing to reducing greenhouse gas emissions and saving energy.

The 1-kW small turbine power generator, which is to be newly added to our product portfolio, can be used in open water courses. This generator can be installed under a wide variety of geographic locations, is designed to minimize civil engineering work, is easy to use and achieves high economic performance even with a small capacity.

Unit-type Micro-hydroelectric Power Generation System
(Hydro-eKIDS™ Type M)

Renewable Energy

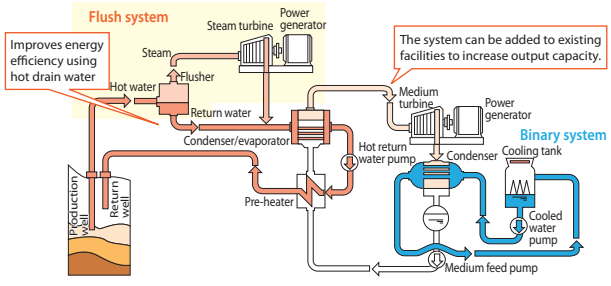
Geothermal Power Generation

By utilizing steam turbine and generator technologies developed through its experience in thermal power generation, Toshiba Group is also working to develop applications for renewable energy use, including geothermal power generation.

Applying steam turbine and generator technologies to make maximal use of geothermal energy

Geothermal power generation systems, which produce electricity by extracting hot water and steam from underground and by rotating steam turbines using the energy of the extracted hot water and steam, cause a very low level of CO_2 emissions—about 1.5% of CO_2 emissions generated by coal-fired thermal power generation (comparison on a life cycle basis). Construction and operation of a 55,000-kW thermal power plant instead of a conventional coal-fired thermal power plant reduces annual CO_2 emissions by approximately 420,000 tons. As geothermal power generation uses the stable thermal energy of the earth's magma, unlike other renewable energy sources, it can uniquely provide a stable supply of power regardless of seasonal changes or weather conditions.

By using the most advanced, high-performance, high-reliability technologies acquired through our experience in the development of steam turbines and generators for thermal power generation, Toshiba Group is working to provide an efficient geothermal power general system that makes optimal use of energy in accordance with the steam conditions of wells. Our technology uses a flush system*1 for high temperature steam and a binary system*2 for low temperature steam; our technology is also capable of increasing the amount of power generated by 30% through the use of a flush-binary system that combines both the flush and binary systems. We are able to provide various geothermal power generation systems in accordance with the temperature properties of geothermal sources in order to contribute to effective energy use.



High-low temperature flush-binary system

*1 Flush system: A system designed to pump high-temperature pressurized well water and flush it (vaporize it) to generate power by rotating a turbine with steam

*2 Binary system: A system designed to conduct the heat of relatively low-temperature well water to a medium with a low boiling point using a heat exchanger and vaporize the medium to generate power by rotating a turbine with steam

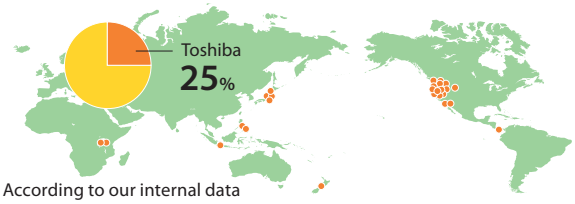
As a leading company in geothermal power generation

Since delivering 20,000-kW turbines and generators to the Matsukawa Geothermal Power Plant (Hachimantai City, Iwate) in 1966, Japan's first commercial geothermal power plant, Toshiba Group has delivered geothermal power generation equipment to various countries around the world, including the United States, the Philippines, Iceland, Mexico and Costa Rica. We have sent equipment for two 83-MW facilities featuring geothermal turbines and generators to New Zealand-based Contact Energy; this equipment is currently being installed. Working in cooperation with Toyota Tsusho Corporation and Hyundai Engineering Co., Ltd., we received an order for four 70-MW geothermal power generation facilities for an electric power corporation in Kenya. We also worked with Marubeni Corporation to obtain an order for a 55-MW geothermal facility from PT Geo Dipa Energi in Indonesia. At present, Toshiba Group provides facilities equivalent to approximately 25% of the world's total geothermal power generation capacity.

Shipping power generators to New Zealand-based Contact Energy

Unit 14, delivered in 2002 to the Geysers Power Plant in the U.S., which has the world's largest geothermal power generation capacity, has been in operation for ten years, demonstrating its high reliability. Toshiba Group will continue to promote geothermal power generation by using our high-performance, high-reliability technologies and will provide geothermal power generation solutions in accordance with the properties of a wide variety of geothermal sources, thereby contributing to reducing CO_2 emissions.

■ **Toshiba Group's Delivery Record for Geothermal Turbines and Generators and our Global Market Share***



* According to our internal data

Wind Power Generation

Wind power generation is attracting widespread attention as a method of power generation that provides clean energy without emitting CO_2 by converting natural wind energy into electricity.

Using wind energy to generate electricity without emitting CO_2

Wind power generation uses power generators to convert the rotational energy generated by windmill blades into electric energy. As wind power generation produces clean energy without emitting CO_2, it is attracting attention in countries around the world. Drawing on the thermal and hydroelectric power generation technologies we have already developed, Toshiba provides total solutions for processes—ranging from drafting windmill construction plans through to windmill construction, testing and maintenance—while also developing and actively promoting technologies designed to improve energy conversion efficiency and to increase windmill size.

Windmill (2 MW)

Conventional Energy

Thermal Power Generation

Toshiba Group is working to develop various technologies designed to reduce the amount of CO_2 emitted during thermal power generation.

Toshiba's thermal power plants designed to reduce CO_2 emitted during operation

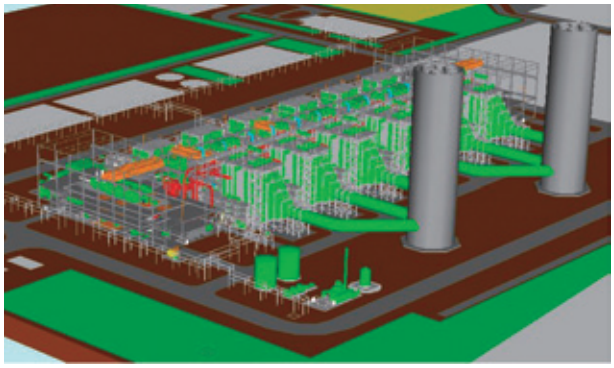
At present, thermal power generation accounts for approximately 70% of the total amount of electricity produced around the world. Toshiba Group is developing combined cycle power generation facilities with the world's highest level of efficiency as well as cutting-edge high-efficiency steam turbines and power generators. At the same time, we are also developing the technologies required for next-generation thermal power generation, including CCS* which captures and sequesters the underground CO_2 which otherwise would be emitted from thermal power plants.
Through these technologies, we will contribute to reducing CO_2 emissions and mitigating climate change.

* CCS: Carbon dioxide Capture and Storage

Combined cycle power generation facilities with the world's highest level of efficiency (62%)

Combined cycle power generation is a method of power generation that combines gas and steam turbines to efficiently harvest thermal energy, including exhaust gas energy. In order to further improve power generation efficiency, Toshiba Group has used cutting-edge technologies to develop a high-performance steam turbine, which features one of the world's largest titanium blades (48 inches) in the last row of the turbine. By combining this turbine with the latest 1600°C-class gas turbine developed by General Electric, we have opened up the possibility of achieving the world's highest level of gross thermal efficiency (62%). This technology enables fuel consumption to be greatly reduced as well as CO_2 emissions to be reduced by 3.5 million tons compared to conventional coal-fired thermal power generation.*

* Amount per 1000 MW of output; calculated by assuming an operation rate of 70% (Comparison is made with conventional subcritical coal-fired thermal power generation.)

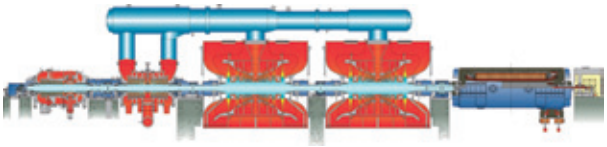


Overview: Combined cycle power plant

Cutting-edge coal-fired steam turbine for emerging countries

In recent years, clean coal-fired thermal power generation is attracting the attention of many countries, including China, India and other emerging countries where energy demand is increasing. Coal is one of the fossil fuels with the largest proven reserves. Since its reserves are relatively evenly distributed around the globe, coal is expected to play an important role in providing a stable power supply as well as in improving economic performance. At the same time, however, burning coal emits large amounts of CO_2. To overcome this difficulty, Toshiba Group is developing a high-performance supercritical pressure thermal power plant by using advanced technologies, such as improving power generation efficiency by raising the steam temperature and creating products of small size and large capacity. For example, Toshiba's ultra-supercritical pressure steam turbine (25 MPa at approx. 600°C) can potentially improve thermal efficiency by approximately 5.5% or more compared to a conventional turbine (subcritical pressure steam turbine; 17 MPa at approx. 540°C), which is equivalent to a reduction of approximately 580,000 tons of CO_2 emissions per year. Thanks to this technology, Toshiba JSW Turbine and Generator Private Ltd., Toshiba's local subsidiary in India, received an order from India's NTPC Limited in February this year for steam turbine power generation facilities for the supercritical coal-fired thermal power plant in Kudgi, Karnataka. These power generation facilities are to be composed of three 800-MW steam turbine power generator units. Toshiba will be in charge of the entire construction, including engineering, manufacturing, procurement and installation.

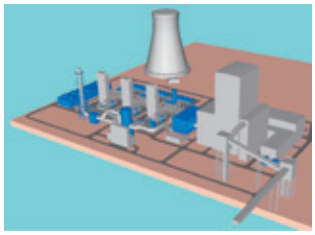
* Amount per 1,000 MW of output; calculated by assuming an operation rate of 70%



High-efficiency 800-MW steam turbines and generators

Towards practical application of carbon capture technology

Toshiba is also working to commercialize carbon dioxide capture and storage (CCS) technology. In order to verify the performance and operability of the post-combustion capture solvent system developed by Toshiba under actual thermal power plant conditions, a pilot plant was constructed in September 2009. Using this plant, we have conducted more than 6,100 hours of verification tests to date. Based on the insights and knowhow acquired through these tests, and in collaboration with specific customers in markets where there are interests and needs for this technology, we are verifying how to practically apply this technology to actual power plant designs. (e.g., Bulgaria and China)
In addition, we have embarked on developing a new thermal power generation method, with promises for power generation efficiency comparable to combined cycle power generation while collecting all of its CO_2 emissions.



Conventional Energy

Nuclear Power Generation

To assist in providing a stable supply of energy and mitigating climate change, Toshiba Group will contribute to reducing CO_2 emissions through the provision of truly safe and secure nuclear power generation.

Contributing to a stable energy supply and the mitigation of climate change

The global primary energy demand is predicted to increase to about 1.4 times the current level by 2035.*1 At present, we depend on fossil fuels for about 80% of our energy supplies. Meanwhile, the use of fossil fuels presents serious problems, including climate change and resource depletion, making it more and more difficult to depend on these sources for our energy supplies. Although solar power and wind power are expected as sources of clean energy, they are unlikely to become conventional energy sources because of their economic performance and supply stability.

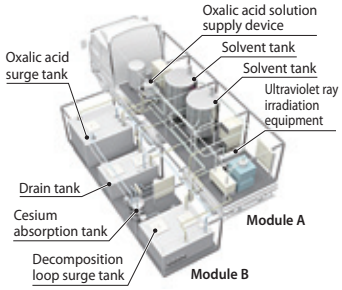
Nuclear power generation is capable of producing a large amount of energy without emitting CO_2 during operation. While it is estimated that fossil fuels will only be available for about 100 more years, uranium, which is a reprocessable nuclear fuel, is estimated to be available for use as energy for as long as 3,000 years.*2 By building a 1.35 GW nuclear power plant instead of a conventional coal-fired thermal power plant and by operating the plant at 80% of capacity, we will be able to achieve an annual reduction of as much as 9 million tons of CO_2.*3 Toshiba Group has been engaged in the construction of 112 nuclear power plants in ten countries around the world, thereby contributing greatly to reducing CO_2 emissions.

Support for post-earthquake restoration

At the Fukushima Daiichi Nuclear Power Station, which was seriously damaged by the March 11, 2011 Great East Japan Earthquake, the nuclear reactors were shut down at low temperatures in December 2011 thanks to the stable operation of the simplified active water retrieve and recovery system that Toshiba delivered in August last year as well as the efforts of related companies. As a result, the nuclear accident itself is considered resolved and the Prime Minister has released a plan outlining the next steps. At present, Toshiba Group is participating in implementing the reliability improvement plan (released in May 2012), including introducing multi radioactive nuclides removal system with a view to improving the reliability and performance of contaminated water treatment. We will develop and provide various measurement and automation technologies, including robots, to reduce the workload of those working toward restoration.

In addition, Toshiba plans to implement activities to restore the environment surrounding the power plant. For example, to ease decontamination, we are working to visualize hot spots by using portable gamma cameras that can show radiation levels on a screen in different colors. We are also making efforts to provide decontamination equipment, including a mobile contaminated water purification system and a mobile contaminated soil purification system.

Simplified active water retrieve and recovery system absorption tanks (2 series of 7 tanks each)



Mobile contaminated soil purification system

Initiatives for the future

As stated earlier, we believe that nuclear power generation is necessary to ensure a stable power supply to meet growing demands for electricity. Even in the aftermath of the earthquake, there will continue to be demand for nuclear power generation worldwide. Although some national governments have adopted policies aiming to phase out the use of nuclear power plants after a certain period of time, many developed and emerging countries continue to use and will newly introduce nuclear power facilities as a source of power and energy required for their development. In China, Westinghouse concluded a contract for building four advanced pressurized water reactors (AP1000™) and is currently building these reactors. In the United States, Westinghouse also received a contract for building six AP1000™ reactors. Combined license (COL) for the construction and operation of four of these reactors was granted for the first time in 34 years and their construction is currently underway. Toshiba is taking an active part in providing equipment for overseas nuclear power plants, including the shipment of its first large-sized equipment to the United States' Vogtle Electric Generating Plant in November last year.

Along with promoting nuclear power generation, countries around the world are also reviewing their safety standards based on the lessons learned from the accident at the Fukushima Daiichi Nuclear Power Station, including making safety assessments based on stress tests and formulating standards for severe accidents caused by external factors. Toshiba is cooperating in establishing international safety standards as well as reviewing facility standards. We will reflect these standards in our new plant designs as well as renovations of existing plants and make constant efforts to further improve safety.

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Arrival of condensers for AP1000™

Condenser for AP1000™ (Image of a completed condenser)

*1 Source: *World Energy Outlook 2011*
*2 Source: *Graphical Flip-chart of Nuclear & Energy Related Topics 2012*, Japan Atomic Energy Relations Organization
*3 Calculated based on a comparison of CO_2 emissions from coal-fired thermal power generation and from nuclear power generation. Source: *Graphical Flip-chart of Nuclear & Energy Related Topics 2012*, Japan Atomic Energy Relations Organization

Power Distribution Technologies

Smart Grids

Toshiba Group is working to develop various technologies for next-generation power distribution systems that optimize the balance between energy demand and supply, including use of renewable energy.

Toshiba playing a leading role in verification tests for next-generation energy supply-demand control system

Smart grid (next-generation power distribution network) technologies are attracting attention as technologies for using renewable energy which are likely to be used more widely in the future. The amount of power generated by power generation methods relying on renewable energy sources such as sunlight and wind varies with the weather. Therefore, when renewable energy is introduced in large amounts, the frequency and voltage of power distribution systems will be affected and such fluctuations must be adequately controlled. In the past, by combining functions for predicting energy supply and demand in addition to output control functions realized using storage batteries, Toshiba has created community-wide energy control systems to conduct verification tests. For example, we delivered a microgrid system for remote islands to the Okinawa Electric Power Company, which has been testing the system on Miyakojima Island since the fall of 2010. We also delivered a smart grid system to Italy's ACEA Distribution S.p.A. in the winter of 2011 in order to minimize the impact of an electric vehicle charging system on the electricity network. These smart grid systems achieve stable operation by appropriately controlling photovoltaic and battery systems.

Contributing to the world with a wide range of solutions

Based on the power distribution technologies that it has developed in the past, Toshiba Group provides various smart grid-related solutions.

● μEMS*: Grid monitoring/control device

The Micro Energy Management System (μEMS) is one of the core technologies that serves as the brain of a smart grid by monitoring and controlling the local supply and demand of electricity. It improves overall energy efficiency by controlling electricity supply and demand, including absorbing variations in power consumption within a grid and minimizing the effects of these variations on the electricity network. It becomes particularly important to accurately predict and control electricity supply and demand when introducing photovoltaic power generation and new large-scale transportation systems that feature electric vehicles which may change the demand side considerably. In addition to being involved in the verification test project conducted by the New Energy and Industrial Technology Development Organization (NEDO) in cooperation with the state government of New Mexico, the United States, Toshiba has also received a contract for a verification test project to carry out optimum energy control initiatives in Gongqingcheng City of Jiangxi province in China.

Smart meter
Landis+Gyr AG
Focus AXR-SD3

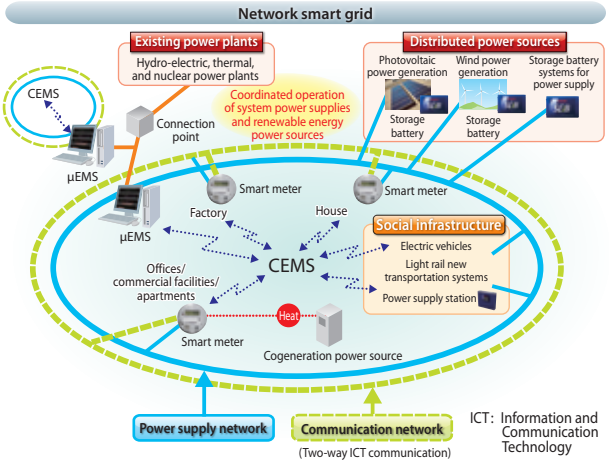
● Smart meter

A smart meter is a high-performance system that collects data on power consumption and transmits the data to power utilities. It is able to collect detailed data on power consumption in buildings and houses and transmits such data to power utilities via the network. Users can also obtain information on their power consumption charges in real time. Smart meters are capable of two-way communication. When receiving an order from the grid monitoring system to reduce power demand (demand response program), the smart meter manages the power consumption of the connected appliances for which consumption is to be reduced. In July last year, Toshiba acquired Landis+Gyr AG (headquartered in Switzerland) and Ecologic Analytics (EA), a subsidiary of Landis+Gyr AG, as a Toshiba Group company. EA has an advanced meter data management (MDM) technology for managing some 10 million smart meters and provides highly scalable solutions. Toshiba will continue to expand its smart community business globally.

● Smart battery, a stationary storage battery system

In response to increased awareness regarding energy conservation and disaster prevention, storage batteries are used more and more frequently to store renewable energy (e.g., sunlight and wind energy). Toshiba has developed a stationary storage battery system using the SCiB™ rechargeable lithium ion battery, which is designed to guarantee safety and long life and has a large input and output capacity. Using this battery system, Toshiba has released a lineup of scalable products that cover a wide range of uses, from small- and medium-scale industrial systems to large-scale power systems. We will continue to contribute to realizing a sustainable low-carbon society by providing smart battery solutions that promote massive introductions of renewable energy and efficient use of low-carbon energy.

Smart batteries (10 kWh to 45 kWh)



*μEMS (Micro Energy Management System)

Green Management
Continuous Improvement of Basic Activities

We aim to be the most excellent company globally in environmental management by continuously improving our basic activities.

Summary of activities in FY2011

Toshiba Group's Policy for the Environment

Toshiba Group promotes environmental management, focusing on environmental issues as one of its top management priorities. It has also formulated the Basic Policy for the Environment which lays out specific environmental strategies to be shared by all members of the group.

Toshiba Group's Basic Policy for the Environment

Based on the recognition that it is our responsibility to maintain the health of the global environment as an irreplaceable asset for future generations, Toshiba contributes to the development of a sustainable society by promoting environmental activities designed to realize a world that is low carbon, sound material-cycle and environmentally harmonious.

◆ **Promoting environmental management**
- Toshiba considers environmental stewardship to be one of management's primary responsibilities and promotes environmental activities in harmony with economic activities.
- Toshiba assesses the impacts of its business activities, products and services on the environment, including with regard to biodiversity, and specifies objectives and targets with respect to the reduction of environmental impacts and prevention of pollution.
- Toshiba strives to continuously improve environmental management through internal audits and reviews of activities.
- Toshiba complies with all laws and regulations, industry guidelines it has endorsed, and its own standards concerning the environment.
- Toshiba strives to enhance the awareness of all its employees with respect to the environment and requires that they make a practical contribution to the environment through their work.
- Toshiba operates globally, and accordingly, promotes environmental activities throughout Toshiba Group.

◆ **Providing environmentally conscious products and services and reducing their environmental impact through business activities**
- Toshiba recognizes that natural resources are finite and implements vigorous environmental measures to promote their effective and practical use in terms of both products and business processes.
- Toshiba develops and provides environmentally conscious products and services which contribute to the reduction of environmental impacts throughout their life cycles.
- Toshiba strives to reduce the environmental impacts of all business processes, encompassing design, manufacturing, logistics, sale, and disposal, with a particular focus on the mitigation of climate change, efficient use of resources and management of chemicals.

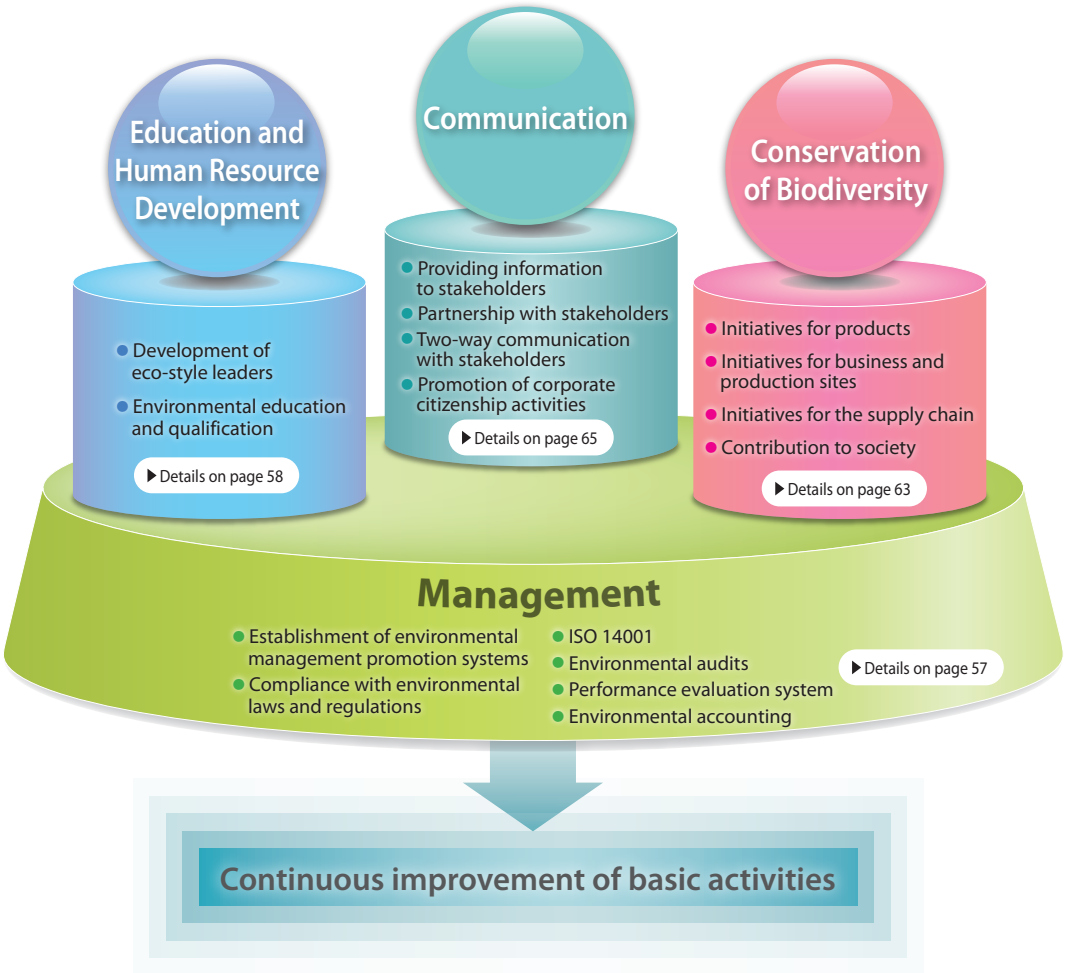
◆ **As a corporate citizen of planet Earth**
- Toshiba contributes to society through its environmental activities, which include the development and provision of excellent, environmentally conscious technologies and products in cooperation with society at large and with local communities.
- Toshiba is committed to maximizing disclosure and transparency in communication with stakeholders and society at large in order to facilitate mutual understanding.

Green Management Initiatives

Our Green Management initiatives aim to achieve continuous improvements of our core activities, including the training of next-generation leaders in environmental activities, our environmental management system, environmental communications, and biodiversity conservation. In promoting Green Management, in addition to giving priority to ensuring compliance with laws and regulations, we provide a wide range of environmental education programs for all employees. Along with working to acquire ISO 14001 certification, we monitor, through our own environmental audit system, the progress of environmental management, the development of environmentally conscious products, and the status of environmental activities at each business and production site to improve the level of these initiatives. Furthermore, in order to develop incentives to take on environmental challenges, we have created an environmental award system for organizations, teams, and individuals as well as a performance evaluation system for in-house and key group companies. As part of its environmental communication programs, Toshiba Group communicates information on the environmental aspects of its production activities as well as products and services. It also advances initiatives to encourage considering environmental issues with the general public by promoting collaboration with stakeholders, social contribution activities, and other projects in various countries and regions around the world. In accordance with the Biodiversity Guidelines, Toshiba Group is striving to reduce environmental impacts caused by construction of business and production sites, procurement of resources in business activities and the discharge of industrial waste, etc. We are also pushing forward with initiatives to contribute to the conservation of biodiversity by working with local governments and NPOs to carry out social contribution programs such as the 1.5 Million Tree-Planting Project.

● Future initiatives

In the Fifth Environmental Action Plan, we added the three categories outlined below to our activities. First, as part of biodiversity conservation efforts, Toshiba will expand development of ecosystem networks globally, with business and production sites playing a central role in cooperation with local communities; particular emphasis will be placed on the conservation of ecosystems with regional characteristics in mind. Second, as for environmental education and human resource development, Toshiba will promote the development of environmental leaders at each business and production site (Toshiba eco-style leaders) and will further enhance activities at sites with the aim of registering 2,000 leaders globally by FY2015. Third, with regard to environmental communication, through the commitments of the Toshiba Group's approximately 200,000 employees to community-based environmental activities around the world, Toshiba Group is expanding environmental communication to connect people worldwide.



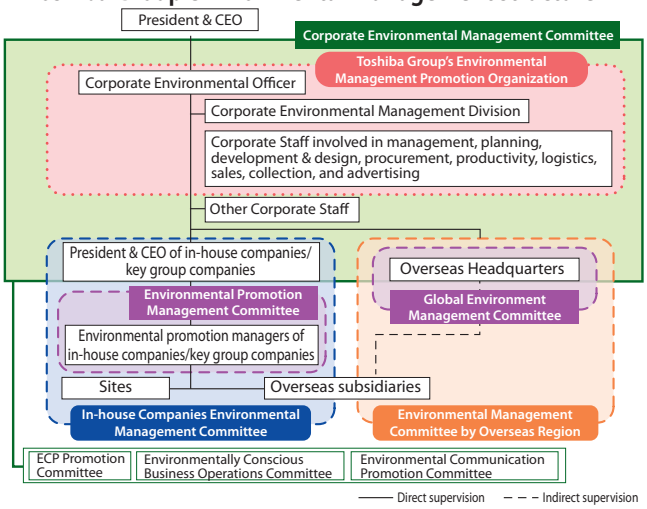
Management Structure

Environmental management structure

Toshiba Group is promoting environmental management worldwide as a group. There are four pillars upholding our environmental management: (1) strengthening of the management structure, (2) provision of environmentally conscious products and services, (3) development of environmentally conscious manufacturing, sales and processing, and (4) promotion of communication. We take active measures to promote initiatives focused on these objectives.

In order to promote environmental management, the Corporate Environmental Officer, Corporate Senior Executive Vice President, supervise the group as a whole, giving instructions to in-house companies and the presidents of key group companies. The Corporate Staff Environment Management Division formulates specific strategies for environmental management. With a view to promoting and strengthening environmental management throughout all companies, we have organized Toshiba Group's Environmental Management Promotion Organization, which is directly supervised by the Corporate Environmental Officer.

■ Toshiba Group environmental management structure



The Corporate Environmental Management Committee was formed as a group-wide decision-making organization regarding environmental management. The Corporate Environmental Officer serves as the chairperson of this committee, which holds meetings twice a year, attended by executive officers, environmental management officers of in-house companies and key group companies, and overseas environmental promotion managers of corporate regional headquarters. Various issues are examined at these meetings, such as proposals concerning environmental management, technological development, production and sales, as well as reviews of Environmental Action Plan aimed at achieving the Environmental Vision.

Furthermore, starting this year, in order to enhance the implementation of actual strategies, the Environmental Promotion Management Committee is to be held with in-house and affiliated companies' environmental promotion managers, who are in charge of environmental promotion, to ensure full promotion of strategies and to discuss collaboration among companies.

The following committees were organized as subgroups of the Corporate Environmental Management Committee: the Environmentally Conscious Products (ECP) Promotion Committee, which promotes the development of environmentally conscious products and technologies; the Environmentally Conscious Business Operations Committee, which promotes measures to reduce the environmental impact of business activities; and the Environmental Communication Promotion Committee, which promotes internal and external communication. These committees formulate detailed plans, identify potential problems and review measures implemented to solve problems in order to promote the sharing of information among all company members. Various committees specializing in particular themes are engaged in activities in a wide range of areas under the supervision of these committees.

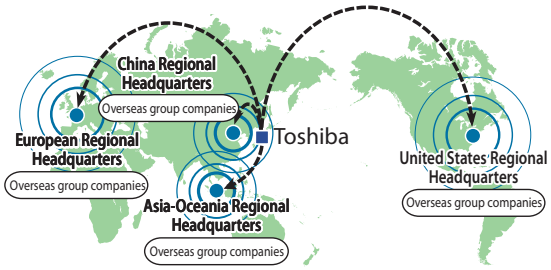
● Enhancement of the global environmental management structure

At the global level, Toshiba Group has established corporate regional headquarters in Europe, the U.S., China and Asia-Oceania in order to collect and share information on environmental policies and regulations in each region and to provide cooperation and support for group companies in these regions in developing effective environmental strategies.

Furthermore, Toshiba Group holds meetings of the Global Environment Management Committee to share activities implemented at a global level, thereby promoting the Group's environmental management in countries around the world.

We also have an auditing system (details on page 59) through which we provide training for local auditors who conduct the environmental audits of overseas sites.

■ Global environmental management network



Risks and compliance

● Compliance with environmental laws and regulations

Toshiba Group sets self-regulation standards stricter than legal standards regarding atmospheric emissions and discharges into hydrosphere so as to ensure that all its business and production sites comply with environmental rules. We conduct in-house environmental audits (details on page 59) in order to identify potential environmental risks and to prevent environmental accidents. We also develop group-wide initiatives by sharing information, such as the results of internal audits on individual business and production sites, new regulation policies, and examples of accidents in other companies from among group companies.

There were no violations of environmental rules and regulations discovered in Toshiba Group companies in FY2011. Detailed information is presented on our website to show what measures are taken to ensure legal compliance at our business and production sites.

● Response to environmental risks

The Risk Compliance Committee examines how to cope with diversified risks under the direct supervision of the President and also takes measures to prevent environmental risks.

If any environmental risk should materialize, the Corporate Environment Management Division and the environmental promotion managers and other concerned parties of in-house companies, key group companies and business and production sites work in collaboration

under the direction of the Corporate Environmental Officer to implement appropriate measures, including sharing information, checking relevant business and production sites and preventing recurrences.

ISO 14001

In recognition of the importance of activities at business and production sites in promoting environmental management, we obtained ISO 14001 certification for all of Toshiba Corp.'s 15 domestic business and production sites by 1997 and have maintained the certification to this day. In addition, all of Toshiba Group's 200 business and production sites eligible for certification had obtained ISO 14001 certification. We will also acquire ISO 14001 certification for new overseas business and production sites that will become eligible for certification as a result of future business expansion.
Toshiba Semiconductor & Storage Products Company, Toshiba Power Systems Company, Toshiba Elevator and Building Systems Corporation, and other companies are striving to obtain integrated certification for their headquarters, sales offices, factories, and their group companies in order to develop environmental management systems for entire in-house and group companies.

■ Number of ISO-14001-certified sites

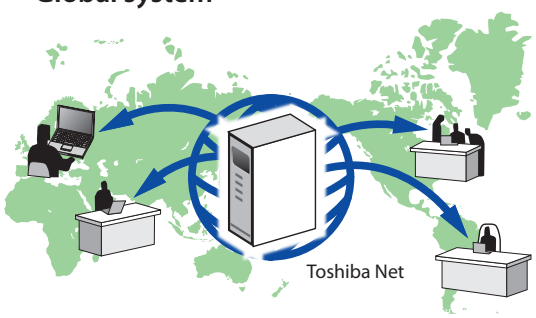
	Eligible sites	Certified sites	Certification rate
Toshiba Corporation's business and production sites	15	15	100%
Domestic manufacturing sites	74	74	
Domestic non-manufacturing sites	46	46	
Overseas manufacturing sites	55	55	
Overseas non-manufacturing sites	10	10	
Total	200	200	

The list of ISO-14001-certified sites is posted on our website:
http://www.toshiba.co.jp/env/en/management/iso14001.htm

Environmental Management Information System

We have developed an Environmental Management Information System in order to collect and manage environmental data required to promote environmental management.
The Environmental Management Information System makes it possible to centrally manage and register not only performance data, such as energy consumption required for business activities and the amount of waste generated from these activities, but also environmental accounting information and the results of site environment audits. It covers all consolidated subsidiaries within the scope of management of Toshiba Group (554 companies in FY2011) and is accessible from countries around the world.

■ Global system



Environmental education and qualification

In order to raise the level of environmental activities, we provide environmental education programs for all employees. These education programs are composed of (1) general education courses, (2) ISO 14001 education courses, and (3) specialized education courses, offering curriculums designed to meet the needs of different posts, occupational roles, and specialties. All curricula for these courses are reviewed annually in order to help employees share the latest information. Starting in FY2011, we introduced training courses for biodiversity promotion leaders (details on page 64). In addition to enriching the content of our specialized environmental education programs, we will develop Toshiba eco-style leaders according to the Fifth Environmental Action Plan.

■ Environmental education system

General education	ISO 14001 education	Specialized education
e-learning (for all group company members)	Training courses for internal auditors	Education for the certification of in-house environmental auditors (Site auditors/Technology auditors)
Education for new employees	Education for special employees	Introductory course for environmentally conscious design
	General education	Training courses for biodiversity promotion leaders

We provide training for auditors for our in-house environmental auditing system, which was put into practice in 1993. In the training program for site auditors, candidates are screened through group education, on-site training and a written examination. After the screening, candidates participate in actual audits as assistants and submit reports in order to be certified as auditors. Technology auditors are certified through group education and a written examination. In FY2011, 21 employees were certified as site auditors, 8 as technology auditors and 16 as overseas local auditors. The current number of certified auditors is 323.

■ Training for auditors (site audit)

Education and written examination (1 day)
↓
Chosen as a candidate
↓
Practical training
↓
Assistance in audits (2 days, twice)
↓
Submission of audit reports (twice)
↓
Certified as an auditor

- Knowledge required
  - Global environmental issues
  - Environmental laws and regulations
  - ISO environmental management system
  - Environmental science and technology
  - Toshiba's environmental promotion rules and structural guidelines, etc.
- Requirements for auditors
  - Employment in positions equivalent to or higher than section chief
  - Auditors are classified into chief auditors, executive auditors and assistant auditors depending on experience and skills.
- Other
  - Education sessions are held once a year.
  - The pass rate in FY2011 was about 67%.

Toshiba Group certified auditors in FY2011
Site auditors: 164
Technology auditors: 103
Overseas local auditors: 56

Participation in external organizations

Toshiba Group actively participates in and cooperates with external organizations, including trade associations, government agencies, international institutions, NGOs, and NPOs. The Group aims to contribute to the realization of a sustainable society by acting globally as a signatory to the United Nations Global Compact and the Electronic Industry Code of Conduct (EICC) as well as in its capacities as a member of the World Business Council for Sustainable Development (WBCSD) and the International Electrotechnical Commission (IEC).

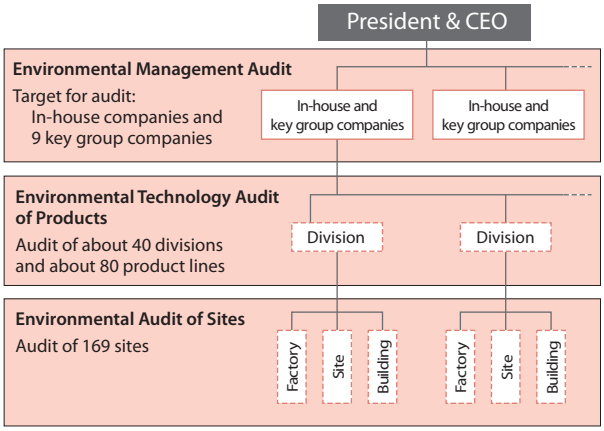
Environmental Audits

Toshiba Group's environmental audit system

After conducting environmental audits for the first time in 1989, Toshiba Group developed a comprehensive environmental audit system and has been using the system since FY1993 to conduct audits based on standards established by the group. The audit system initially developed was composed of four categories: (1) management system audits (environmental activity promotion systems, etc.), (2) on-site audits (levels of compliance with rules regarding environmental facilities, etc.), (3) VPE audits (levels of achievement of goals set in voluntary plans), and (4) technology audits (product environment management system, environmental performance, etc.). Audits were conducted over two days to check these items. The most important of these categories were on-site audits, reflecting the shop-floor approach. This approach is incorporated into the environmental audits of sites conducted today.

Environmental technology audits of products became an independent category in FY1995. Environmental management audits were started in FY2004 to evaluate the level of environmental management in in-house companies and key group companies.

■ Toshiba Group's environmental audit system

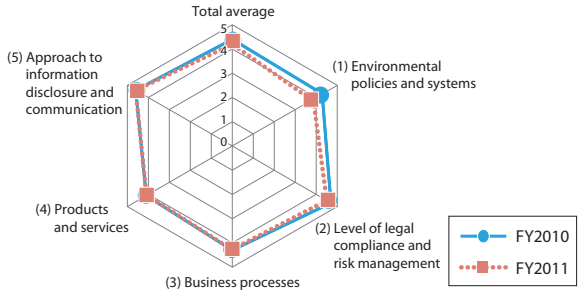


These multiple audits have been integrated into a single system since FY2006 so that they could all be conducted at once. Toshiba Group conducts (1) environmental management audits covering in-house companies and 9 key group companies, (2) environmental technology audits of products covering about 40 divisions, and (3) environmental audits of sites covering 169 business and production sites, including non-manufacturing sites and non-consolidated subsidiaries. In-house companies and group companies conduct self-audits (self-inspections) within their companies based on the same standards in order to check business and production sites with relatively low levels of environmental impact that are not covered by site environment audits.

Audit items for these three audits are reviewed annually to apply stricter evaluation standards. In FY2012, we added 5 new items and reviewed the five-grade evaluation method for some items. By defining the required level for each audit item at present as "3" and the ideal level in the future as "5" as per the Environmental Action Plan, Toshiba Group is evaluating its present status in order to step up its efforts to strengthen environmental management with the aim of becoming one of the world's foremost eco-companies.

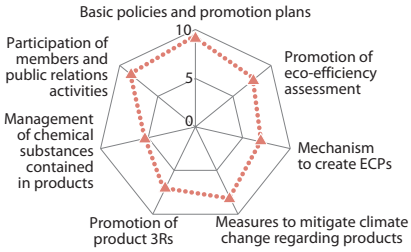
■ Audit results (FY2011)

● Environmental management audit (total number of check items: 75)

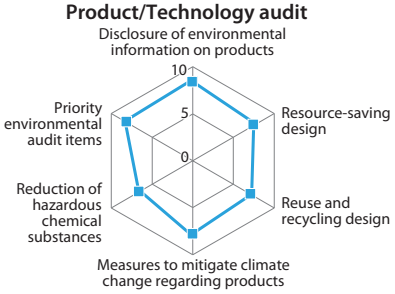


● Environmental technology audit of products (total number of check items: 36)

Technology audit/EMS* audit

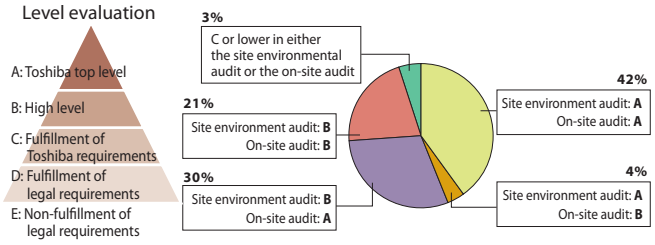


Product/Technology audit



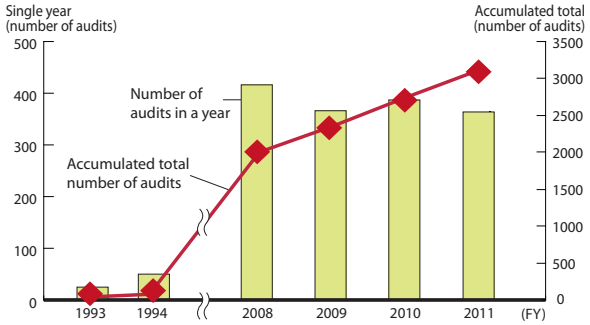
*Environmental Management System

● Environmental audit of sites (total number of check items: 220)



The number of audits that are conducted, including self-audits, is increasing annually and the total number of audits conducted since FY1993 has exceeded 3,000. We also provide in-house training for auditors who conduct audits (for education programs, see page 58).

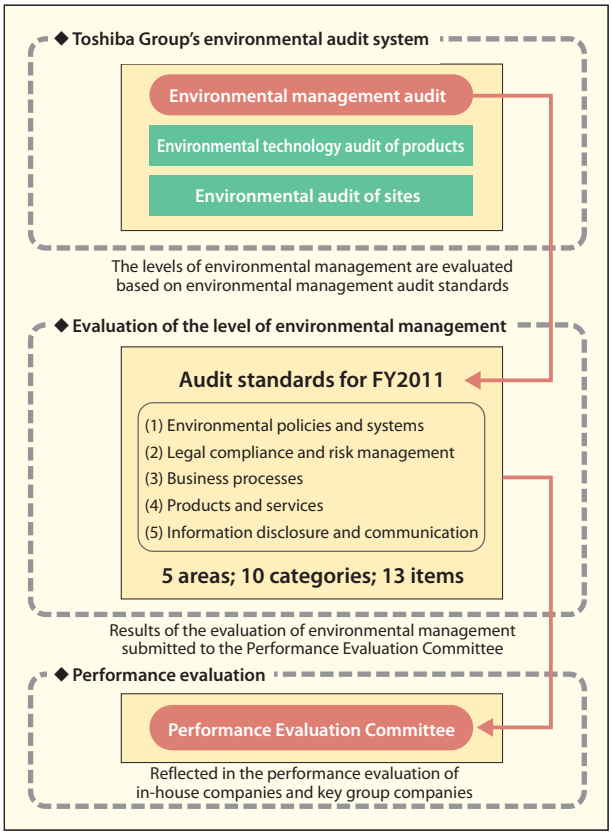
■ Toshiba Group's environmental audit records



Performance Evaluation and Awards

Performance evaluation

Based on the Toshiba Group's environmental audit system, we evaluate the level of environmental management of all in-house companies and key group companies (9 companies). We numerically evaluate their (1) environmental policies and systems, (2) legal compliance and risk management, (3) business processes, (4) products and services, and (5) information disclosure and communication, and provide feedback. The results are reflected in the performance evaluation of these companies and serve as incentives.



Toshiba Group environmental awards

In FY2003, Toshiba Group organized the Environmental Award Program in order to award the President's awards to individuals, groups and offices that have delivered outstanding performance regarding environmental management or development of environmentally conscious products, business processes and communication.

Out of 25 groups carefully selected from among in-house companies and key group companies, 1 group won the Highest Performance Award and 3 groups won Outstanding Performance Awards at the Toshiba Group CSR Conference in December.

■ Award winners in FY2011

■ Projects chosen for Outstanding Performance Awards in FY2011

Highest Performance Award

Yokkaichi Operations of Toshiba Corp. Semiconductor & Storage Products Company
Project team for building a leading eco-factory

"Building a leading eco-factory"


Production Building No. 5 at Yokkaichi Operations

With the goal of realizing one of the world's leading eco-factories, the team built environmentally-friendly production buildings in which CO_2 emissions are reduced using energy-saving manufacturing equipment, air-conditioning equipment, etc. and which also feature LED lighting. Further, wastewater sludge is reduced and valuables therein are sold thanks to the introduction of calcium fluoride recovery equipment. Also, native-grown rare species of plants have been transplanted into the developed land.

Outstanding Performance Award

New Lighting Systems Div. of Toshiba Corp.
Toshiba Lighting & Technology Corp.
Toshiba Europe GmbH
Toshiba Systèmes (France) S.A.S.
Team for publicizing and promoting LED lighting

"Promotion of LED lighting in collaboration with the Louvre in France and other entities"


The Louvre in France Cour Napoléon

The team introduced LED lamps to the Louvre Museum in France, co-sponsored a local star festival, "Kihoku Tanabata Monogatari" in Mie Prefecture's Kihoku-cho, participated in the Yokohama City Mega-watt Campaign, and implemented other LED lighting enlightenment and promotion activities in collaboration with entities in Japan and overseas.

Outstanding Performance Award

Toshiba Information Equipment (Philippines), Inc.

"Winning of an ASEAN Energy Award for energy-saving measures"


Awards ceremony

The company's aggressive energy-saving measures and sustained environmental protection activities in local communities were highly valued as one of the leading environmental management activities in the ASEAN region, leading to receipt of an ASEAN Energy Award and thereby contributing to the improvement of Toshiba's environmental brand.

Outstanding Performance Award

Home Electronics Div., Toshiba Home Technology Corp.

"Development of an environmentally conscious electric fan, F-DLN100"

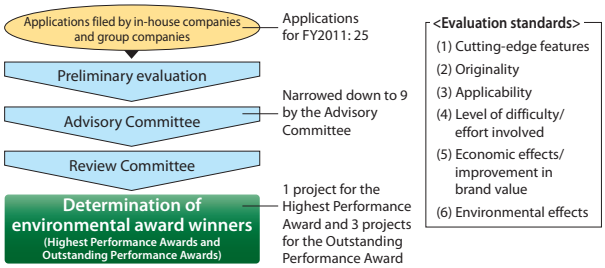

Electric fan (F-DLN100)

The company developed an environmentally conscious fan featuring low power consumption by increasing the number of blades from four to seven as well as by using a DC inverter motor instead of an AC motor. This product was introduced in various media as an energy-saving item for the summer, thereby contributing to the creation of an eco-product and improving Toshiba's environmental brand.

■ Projects receiving Toshiba Group environmental awards

Environmental management	Promotion of environmental management in coordination with the Environmental Vision, environmental actions and business activities
Environmentally conscious products	Design and development of environmentally conscious products, development of environmental technologies and solutions
Business processes	Activities aimed at reducing the environmental impact regarding all business processes, including research and development, design, procurement, manufacture, sale, distribution, services and recovery of products
Communication	Promotion of measures designed to raise environmental awareness inside and outside the company

■ Evaluation process



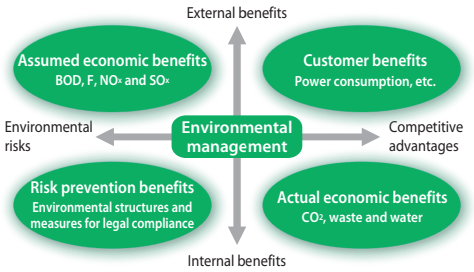
Environmental Accounting

● As a tool for environmental management

With a view to promoting environmental management, Toshiba Group is working to introduce an environmental accounting approach aimed at collecting accurate data on investments and costs required for its environmental conservation initiatives and analyzing the collected data in order to reflect investment effects and cost benefits in managerial decision making.

Environmental costs are calculated in accordance with the Ministry of the Environment's Environmental Accounting Guidelines 2005. As for environmental benefits, Toshiba Group's environmental accounting assumes four basic concepts: prevention of potential environmental risks, competitive advantages, internal benefits and external benefits. We classify benefits into four categories based on combinations of these concepts to develop a comprehensive approach to environmental accounting: customer benefits due to reduced power consumption of products, assumed economic benefits estimated to result from reductions in air pollutant emissions, benefits resulting from preventing potential risks, and actual economic benefits resulting from reductions in the amount of waste and energy consumed. These categories provide useful indices for environmental management.

■ Environmental accounting as a tool for environmental management



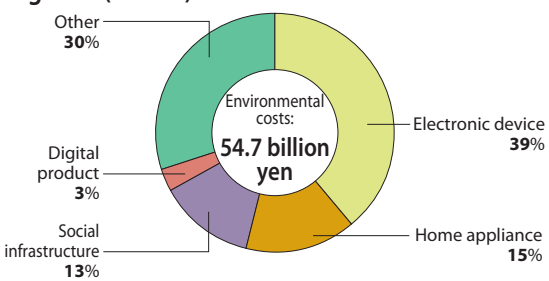
● Environmental costs and benefits

Total environmental costs decreased by 1.0% from the previous year to 54.7 billion yen. Of the different business sections, the electronic device section accounted for the largest percentage of total environmental costs, followed by the home appliance section.

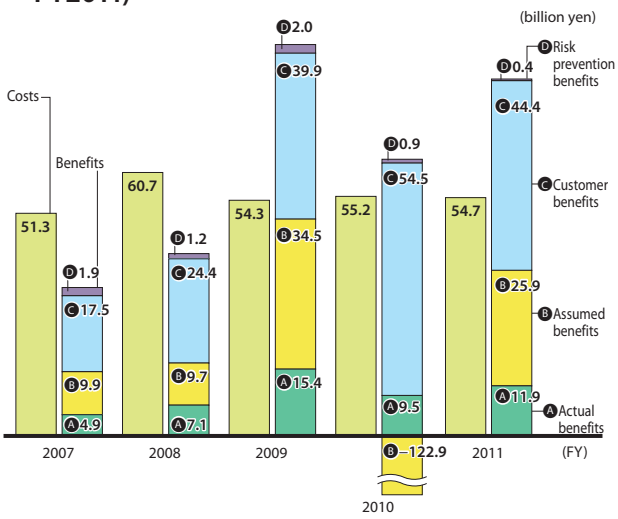
Total investments decreased by 6.4% from the previous year to 9.5 billion yen, with environmental investments accounting for 2.8% of total investments.

The total amount of environmental benefits was 82.6 billion yen: 11.9 billion yen for actual benefits, 25.9 billion yen for assumed benefits, 44.4 billion yen for customer benefits, and 0.4 billion yen for risk prevention benefits. The increase in actual and assumed benefits was a result of the reduction in the amount of pollutants emitted due to the reduction in production caused by the Great East Japan Earthquake and floods in Thailand.

■ Breakdown of environmental costs by business segment (FY2011)



■ Environmental costs and benefits (FY2007–FY2011)



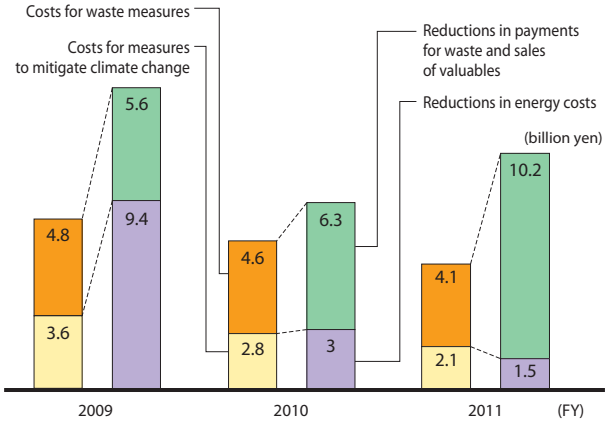
● Cost benefits of environmental management measures

The figure below shows the changes in the cost benefits of measures for climate change mitigation and waste disposal over the past three years. We compared the costs incurred in taking measures to mitigate climate change and dispose waste against the total amount of reductions in payments related to energy consumption and waste disposal compared to the previous year as well as sales of valuables during the current year. In the table, costs are expressed as business area costs and benefits as actual benefits.

In FY2011, the costs incurred taking measures to mitigate climate change were more than the reductions in payments related to energy consumption. On the other hand, measures to dispose waste brought larger benefits than the costs incurred taking them.

The major issue to be addressed going forward is how to overcome two conflicting problems: an increase in emissions of environmental pollutants as a result of business expansion and the need for cost reductions. Toshiba Group will also analyze the cost benefits and other financial aspects of environmental management measures in more detail.

■ Cost benefits of measures for climate change mitigation and waste disposal



■ Environmental costs (FY2011)

Unit: million yen

Category	Description	Investments		Costs	
Business area costs	Reduction in environmental impact	8,201	(1,333)	21,916	(-1,380)
Upstream/downstream costs	Green procurement, recycling, etc.	564	(-1,172)	3,266	(357)
Administration costs	Environmental education, EMS maintenance, tree planting on factory grounds, etc.	255	(-181)	5,217	(-373)
R&D costs	Development of environmentally conscious products, etc.	439	(106)	21,056	(3,770)
Public relations costs	Support for local environmental activities, donations, etc.	2	(-16)	59	(-53)
Environmental damage restoration costs	Restoration of polluted soil, etc.	46	(-717)	3,199	(-2,844)
Total		9,507	(-647)	54,713	(-524)
		Total investments during the period: 338.5 billion yen		Total R&D costs during the period: 319.9 billion yen	

Figures in parentheses represent increases or decreases from the previous year.

■ Environmental benefits (FY2011)

Unit: million yen

Category	Description	Amounts		Calculation method
Ⓐ Actual benefits	Benefits that are represented as monetary values, such as reductions in electricity and water charges	11,913	(2,379)	The amount of money, such as electricity charges and waste disposal costs, that was saved compared with the previous year, plus earnings from the sale of objects with value.
Ⓑ Assumed benefits	Reductions in environmental impact that are converted into monetary values	25,894	(148,748)	The amount of money was calculated by multiplying the cadmium equivalent value of each substance obtained from environmental standards and the American Conference of Governmental Industrial Hygienists Threshold Limit Value (ACGIH-TLV) by damage compensation for cadmium pollution. This method of calculation provides a means of showing reductions in environmental impacts on the atmosphere, hydrosphere and soil and makes it possible to compare the environmental impacts of different substances using the same standard by converting the impacts into monetary values.
Ⓒ Customer benefits	Reductions in environmental impact during the use of products that are calculated in terms of monetary values	44,441	(-10,078)	Environmental impact reduction benefits during product use are evaluated in physical quantity units and monetary units. Energy-saving benefits are calculated by using the following equation: Benefits (yen) = Σ [(Annual power consumption of the previous product model – Annual power consumption of the current product model) × Number of products sold annually × Benchmark unit price of electricity]
Ⓓ Risk prevention benefits	Reductions in environmental risks compared with conditions prior to investments that are calculated in terms of monetary values	378	(-513)	Benefits accruing from investments in environmental structures designed to prevent the pollution of soil and groundwater are computed as benefits of preventing potential risks using the following equation: Risk prevention benefits = Quantity of chemical substances safely stored × Standard amount of money required for purification and restoration × Number of potential accidents The standard amount of money required for purification and restoration and number of potential accidents are calculated using our own standards.
Total		82,626	(140,716)	

Figures in parentheses represent increases or decreases from the previous year.

Ⓐ Actual benefits (FY2011)

Item	Reductions in environmental impacts	Benefits measured in monetary values (millions of yen)
Energy	266,432 (GJ)	1,544
Waste	35,900 (t)	10,234
Water	1,160,000 (m^3)	135
Total		11,913

Note: Reductions in environmental impacts represent differences between FY2011 and FY2010.

Ⓑ Assumed benefits (FY2011)

Item	Reductions in environmental impacts	Benefits measured in monetary values (millions of yen)
Benefits from reductions in the amount of chemicals discharged	449 (t)	25,894

Ⓒ Customer benefits (FY2011)

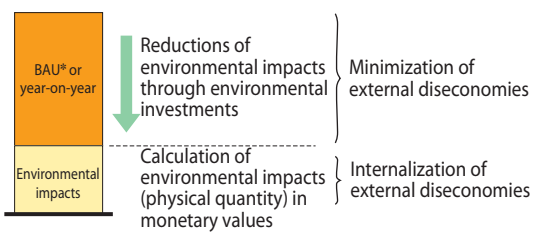
Item	Reductions in environmental impacts	Benefits measured in monetary values (millions of yen)
Environmental impact reduction benefits during product use	3.76 million (t-CO_2)	44,441

● Attempt at a new kind of environmental accounting: internalization of external diseconomies

Toshiba's current environmental accounting is basically an initiative aimed at minimizing external diseconomies, in which data on costs required for environmental conservation activities is collected to analyze effects on investments. However, environmental impacts due to business activities cannot be reduced to zero. For this reason, we are considering visualizing external diseconomies by assessing final environmental impacts as monetary values and to recognize (or internalize) them as required costs for environmental renewal.

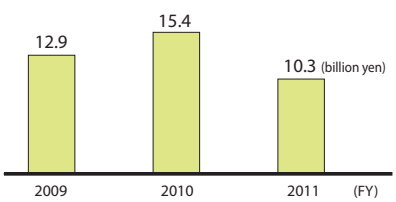
The figure below shows a conversion of environmental impacts caused by industrial waste discharged by Toshiba Group over the past three years into monetary values. The amount of external diseconomies for FY2011 was computed to be 10.3 billion yen. Moving forward, we will consider a system to compensate or reduce external diseconomies by examining effects on customers that contribute to environmental conservation at customer sites as well as initiatives that will bring about positive effects on the environment, such as biodiversity conservation and social contribution activities, among others.

■ Perception of external diseconomies



* BAU (Business as Usual): Best obtainable value for environmental impacts

■ Calculation of external diseconomies



Visualize external diseconomies and recognize them as required costs for environmental renewal

↓

Internalization of external diseconomies

*Targeted environmental impacts:
- Total GHGs (CO_2, PFC, SF_6, HFC, other)
- Emissions to atmosphere (soot, NO_x, SO_x)
- Emissions to hydrosphere (BOD, COD, suspended matter, total nitrogen, other)
- Final waste disposal amount (scrap metal, cinders, sludge, waste paper, waste acid, waste plastics, other)
- Chemical substances (covered by PRTR)

*The Life-cycle Impact assessment Method based on Endpoint modeling (LIME) was used for conversion into monetary values. For more details on LIME, see page 46.

Conservation of Biodiversity

Toshiba Group is committed to realizing biodiversity conservation in collaboration with local stakeholders around the world.
The Group is developing biotopes* at its main business and production sites worldwide as well as making social contributions such as planting trees and nature conservation.

*Good habitat for species

Toshiba Group's policy on biodiversity

The business activities of Toshiba Group benefit from ecosystem services supported by diverse forms of life and at the same time affect such services. Ecosystem services are classified into (1) provisioning services (supply of food, water, wood, etc.), (2) regulating services (such as waste separation and water purification), and (3) cultural services (recreation and psychological benefits, etc.).
In order to conserve biodiversity, which is the foundation of ecosystem services, Toshiba Group implements the four pillars of its initiatives: products, production sites, supply chains, and contributions to society.

■ Four pillars of initiatives to conserve biodiversity

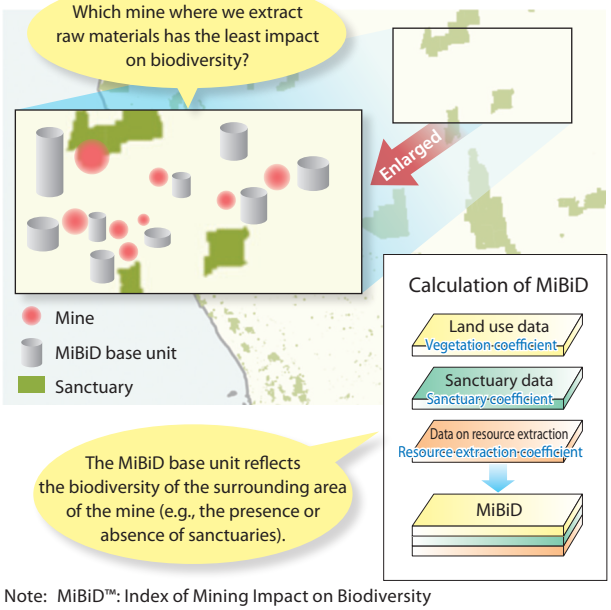
Products	Production sites	Supply chains	Contributions to society
• Development of the Index of Mining Impact on Biodiversity (MiBiD™)	• Development of biotopes at all target production sites	• Establishing systems to procure from suppliers working to conserve biodiversity	• Toshiba Group 1.5 Million Tree-Planting Project

Product initiatives

● Index of Mining Impact on Biodiversity (MiBiD™)

Toshiba Group has developed the MiBiD™ method is to quantify the impacts on biodiversity from mining materials used for products. We have already created a database of materials (e.g., steel, copper, and aluminum which are most-used minerals worldwide) extracted from mines around the world that records the relationships of said materials with the mines, the surrounding natural environments, and vegetation using MiBiD/kg as the base unit. We are now considering the use of this method in our product assessments.

■ Example of calculating the MiBiD base unit (MiBiD/kg) for each mine



Note: MiBiD™: Index of Mining Impact on Biodiversity

Initiatives at production sites

Toshiba Group aims to minimize the adverse effects of its business activities on biodiversity and shift its biodiversity policy toward initiatives for improvement to realize an ideal state of environmental management in 2015. To achieve this goal, Toshiba Group is developing biotopes at its major production sites worldwide (approx. 100 locations).
While the measures to mitigate climate change and ensure efficient use of resources discussed under Greening of Process (details on page 19) are initiatives that mainly contribute to provisioning services and regulating services, we consider development of biotopes to be an initiative that contributes to cultural services.

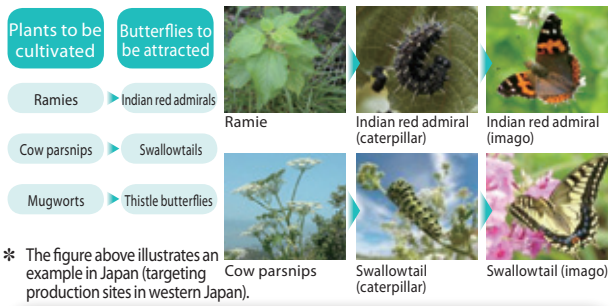
■ Toshiba Group definition of a production site biotope

Attracting butterflies and other flying organisms	Establishment of habitats or resting places for birds, dragonflies, butterflies, and other living organisms, regardless of their rarity, in the areas surrounding production sites
Ex-situ conservation of rare flora and fauna	Protecting and breeding rare flora and fauna in the areas surrounding production sites on-site before returning them to their native habitats

* Rare flora and fauna: A species on the Red List or other species of wildlife specified by local government or regional experts.

● Attracting butterflies and other flying organisms

Although the existing wooded areas at production sites have many garden species and are pleasing to the eye, they are not suitable habitats or resting places for wildlife. For this reason, we will convert such wooded areas into biotopes by planting butterflies' favorite trees and at the same time we expect the costs of pruning and watering to fall.



* The figure above illustrates an example in Japan (targeting production sites in western Japan).

TOPICS Development of swallowtail biotopes at employees' homes

As part of our activities to contribute to biodiversity at employees' homes, Toshiba Group launched an initiative to grow plants such as citrons, Japan pepper trees, and kumquats in the gardens and balconies of employees' homes to attract swallowtails. Participants in this initiative are required to follow up on the lives of the butterflies from the egg to imago stages without removing any butterfly eggs or caterpillars from these plants. We invited those employees who were already growing such plants in their homes to join this initiative and started growing citron at Keio University Hiyoshi Campus to distribute citron seedlings to employees who wished to participate. Going forward, we will expand the biotopes by identifying which homes attracted swallowtails.

● Ex-situ conservation of rare flora and fauna*

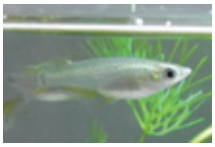
Toshiba Group launched an ex-situ conservation initiative as stipulated in Article 9 of the Convention on Biological Diversity (CBD). Our production sites can serve as extremely important conservation areas for flora and fauna since: (1) the sites can be managed by our employees and (2) the sites' security is ensured and there is no risk of illegal removal of plants or overhunting of insects by third parties. Going forward, we will aggressively promote ex-situ conservation of rare flora and fauna at our production sites.

* Ex-situ conservation (Article 9 of the CBD): Measures taken for the recovery and rehabilitation of threatened species and for their reintroduction into their original habitats under appropriate conditions as well as measures taken for the purpose of complementing in-situ measures aiming to conserve such threatened species within their original habitats.

■ Toshiba Keihin Product Operations

Toshiba Keihin Product Operations is raising Japanese eight-barbel loaches and killifishes in a dragonfly pond created on-site. It will reintroduce the Japanese eight-barbel loaches that it breeds to the Tsurumi River watershed, their original habitat.

Japanese eight-barbel loach (Listed as endangered by the Ministry of the Environment)



Killifish (Listed as vulnerable by the Ministry of the Environment)

Raising loaches and killifish in a dragonfly pond at Toshiba Keihin Product Operations

■ Toshiba Lighting & Technology Corp.

Toshiba Lighting & Technology Corp. transplanted daylilies, which are excessively picked in the Koajiro forest of Miura Peninsula, to an open space on-site at the company and succeeded in blooming them. As their seedlings increase in the future, the company will re-plant them in the forest.

Transplanted to a an open space at Toshiba Lighting & Technology Corp.

Blooming daylilies

● Biodiversity conservation through local collaboration

At Toshiba Group, we are promoting biodiversity conservation activities in collaboration with local stakeholders and governments. For example, Mr. Yuji Kishi, Professor at the Keio University Faculty of Economics in Tokyo and representative of TR Net, a non-profit organization (NPO), advises us on our initiative targeting the Tsurumi River watershed. As for ex-situ conservation of daylilies at Toshiba Lighting & Technology Corp., we collaborate with Kanagawa Prefecture, which owns the Koajiro forest. Going forward, we will continue to promote biodiversity conservation activities in collaboration with local experts and interested parties

■ TR Net (NPO)

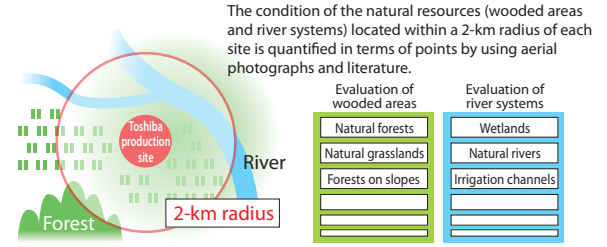
An NPO represented by Professor Yuji Kishi of the Keio University Faculty of Economics. TR Net has conducted a study on the ecosystem and implemented conservation projects at the Tsurumi River watershed for more than 20 years.

http://www.tr-net.gr.jp/ (Japanese)

Survey of a production site conducted by Prof. Yuji Kishi, Representative (right)

● Internalization of the biodiversity potential assessment method

Assessing the areas surrounding production sites is essential for implementing initiatives at the sites. Toshiba and InterRisk Research Institute & Consulting, Inc. have jointly developed a simplified version of the biodiversity potential assessment method that can be conducted by production site staff. We regularly hold one-day internal training courses on this method. By attending one of these training courses, employees can learn about the biodiversity potential assessment method as well as acquire basic knowledge and the latest trends related to biodiversity.



Biodiversity training

Mr. Makoto Haraguchi of InterRisk Research Institute & Consulting, Inc.

● Aiming to acquire a certification demonstrating low biodiversity impacts

Toshiba America, Inc. was assessed with regard to their impacts on biodiversity by Wildlife Habitat Council (WHC), an environmental NGO. Through regularly assessing the improvement status of organism species protection and organisms' habitats, our production sites aim to acquire a certification demonstrating low biodiversity impacts (see details on page 66).

Supply chain initiatives

In addition to conventional eco procurement, procuring raw materials in a way that accounts for ecosystems' needs will be one important element of future biodiversity conservation initiatives. Toshiba Group aims to establish a system of procurement which employs suppliers who are keen on conserving biodiversity. In the future, in cooperation with its suppliers, the Group will strive to protect biodiversity throughout the supply chain.

Contributions to society

Toshiba Group's 1.5 Million Tree-Planting Project contributes to realizing ecosystems that are suitable for the growth of various organisms by pruning and thinning trees for proper forest management. Furthermore, the Group provides human resource development services for those who love nature, such as tree-planting events for employees, nature observation programs and training for nature observation instructors.

Global Communication

Activities in Europe

Europe

Promoting local environmental activities in Poland

To raise environmental awareness, Toshiba Television Central Europe Sp. z o.o. is continuously promoting social contribution activities in which its employees and local community residents work together. The company provides environmental seminars at local elementary schools and holds events to collect unneeded electrical and electronic products as well as environmental contests. Furthermore, the company donates materials necessary for cleaning to local communities and implements various other environmental communication initiatives throughout the year.
In an event held from FY2010 to FY2011, unneeded electrical and electronic products weighing more than one ton were collected from employees' homes.

Environmental seminar at a local elementary school

Electrical and electronic products collected from employees' homes

Tree-planting events attended by employees in Germany

As part of the Toshiba Group's 1.5 Million Tree-Planting Project, Toshiba Europe GmbH, Toshiba TEC Germany Imaging Systems GmbH, and Toshiba Electronics Europe GmbH have been planting trees since FY2011 with a goal of planting 12,000 trees in three years. In a tree-planting event held in October 2011, 40 employees from the three companies volunteered to plant 2,000 beech trees.

Activities in Asia and Oceania

Asia Oceania

Support for flood recovery in Thailand

Toshiba Group companies in Thailand conducted a large-scale cleanup campaign to support recovery from the massively destructive floods that occurred in the country in 2011. Employees of Toshiba Thailand Co., Ltd., Thai Toshiba Lighting Co., Ltd., Thai Toshiba Fluorescent Lamp Co., Ltd., and other group companies cleaned up the areas surrounding their sites. Waste was properly separated and recycled. In addition, the companies provided product inspections free of charge to local community residents and employees volunteered to distribute food and drinking water as well as to provide medical services.

Clean-up activity on-site at Thai Toshiba Lighting Co., Ltd.

Toshiba employees volunteered to transport food and other items by boat

Run for Pasig River, an environmental enlightenment event in the Philippines

Toshiba Information Equipment (Philippines), Inc. participated in the Run for Pasig River event in which participants run under the theme of achieving environmental conservation for local rivers as a way of supporting environmental enlightenment. A total of 86,000 companies, schools, and government-affiliated parties in local communities participated in this event. 50 employees from Toshiba Information Equipment (Philippines), Inc. also participated to emphasize the company's approach to environmental issues such as a rehabilitation of water bodies in particular.

Toshiba Information Equipment (Philippines), Inc. employees who ran in the event

Activities in Japan

Japan

Summertime electricity conservation project

Amid concerns regarding the power supply in the area served by Kyushu Electric Power Co., Inc. due to the impact of the recent earthquake disaster, Toshiba's Oita Operations implemented an electricity conservation project in which its employees played a central role. The company's employees contributed 1,867 energy-saving ideas, allowing the company to successfully reduce electricity consumption to 652 MWh/month thanks to the implementation of "Super Cool Biz," a relaxed dress code designed for the summer heat.

Poster to ensure electricity conservation

Conventional dress

"Super Cool Biz" (No uniform required)

Supporting afforestation activities

Toshiba Ome Complex conducts afforestation fund-raising activities every October. In recognition of its continuing efforts, the company recently received a letter of appreciation from the Tokyo Greening Promotion Committee. Donations to the fund are greatly aiding afforestation and environmental activities.

Activities in the Americas

Americas

Conserving biodiversity in collaboration with an environmental NGO in North America

Biodiversity assessments have been conducted at several Americas sites with the support of the Wildlife Habitat Council (WHC), an environmental NGO. WHC assessed Toshiba America Information Systems, Inc., Toshiba America Business Solutions, Inc. and Westinghouse Electric Company HQ and provided them with recommendations to enhance biodiversity at their sites. Based on these recommendations, the companies will develop and implement specific action plans.

Toshiba America Information Systems, Inc. will provide habitats for butterflies and birds by replacing non-native plantings with natives.

Westinghouse Electric Company will provide cover for small animals by collecting tree branches.

Participating in Earth Day 2012 in New York

Toshiba America, Inc. participated in the April 2012 Earth Day event held in New York and emphasized its corporate activities from the perspective of environmental awareness. The company set up a booth in Grand Central Station to introduce Toshiba's wide range of environmentally conscious products as well as to promote the concept of Smart Communities with interactive attractions.

In addition, the company placed advertisements on the Toshiba Vision display in Times Square as well as on subways and buses.

Interactive attraction in Grand Central Station

Public relations via the Toshiba Vision display in Times Square

Activities in China

China

Supporting an environmental organization's activities

Since 2008, Toshiba International Procurement Hong Kong Ltd. has been participating in the Around the Island Hiking Competition hosted by a local environmental organization. In the sixth competition held in January 2012, the company made a donation to the host organization and the company's 20 employees successfully completed the 10 km and 25 km races. The presented donation will be used to provide environmental education in the community and at schools. The company received a letter of appreciation from the environmental organization and a thank you advertisement was placed in the newspaper.

Employees participated in the Around the Island Hiking Competition to emphasize Toshiba's approach to environmental issues

Holding an environmental enlightenment event in collaboration with the local community

Toshiba HA Manufacturing (Nanhai) Co., Ltd. holds an environmental enlightenment event on World Environment Day (June 5) every year. In FY2011, the company set up a stage in a downtown area and introduced Toshiba Group's environmentally conscious products as well the company's environmental activities in collaboration with the local government and neighboring elementary schools to emphasize its stance on environmental issues and contribute to raising local residents' environmental awareness. This event, which appeared in a local newspaper, attracted the public's attention.

A stage was set up downtown to call attention to World Environment Day

Environmentally conscious products were on display, attracting local residents' attention

Global activities

Global

The 2011 Toshiba Youth Conference for a Sustainable Future

In August 2011, Toshiba Group held its fourth Toshiba Youth Conference for a Sustainable Future, in which high school students from Japan, the U.S., Thailand, and Poland discussed various environmental issues. Toshiba International Foundation hosted the event. Although the last three conferences were held in Japan, this year camp sessions were held in Thailand. At the conference, a total of 17 high school students and 10 teachers from countries around the world held group discussions and participated in many programs in which they experienced generating diesel fuel from waste oil and traditional agricultural techniques such as charcoal burning. Toshiba Group will continue to support younger students who think about environmental issues from a global viewpoint and act accordingly.

Group photograph of participants

Experiencing threshing

Discussion among students from countries around the world

Providing Information to Stakeholders

Environmental Report and website

Since the publication of the first volume of its environmental report in 1998, Toshiba Group has disclosed its environmental information every year. The Toshiba Group Environmental Report has received accolades from external parties and won many awards. Currently, the Environmental Report is published in Japanese, English, and Chinese.

Toshiba Group Environmental Report 2011 (Japanese and English; Chinese version is available only as PDF data)

In addition to the content found in our environmental reports, we also disclose more detailed, up-to-date information on our Environment website, where one can find movies of exhibitions and questionnaires.

In addition, on the Toshiba eco style website, we introduce "Toshiba eco style," our unified global brand for environmental initiatives.


Toshiba Group environment website
http://www.toshiba.co.jp/env/en

"Toshiba eco style" website
http://ecostyle.toshiba.com

Site report

In order to present an overview of business activities at our production sites around the world and to have our environmental initiatives understood by local community residents, we disclose environmental information for each of our production sites. We summarized major environmental initiatives in FY2011 and presented digest reports on about 126 sites on our websites. Some of our production sites publish their own reports and present their information on the website. Copies of these reports are also distributed to visitors to our factories.


Digest reports of a production site

Environmental reports of production sites

Site reports: http://www.toshiba.co.jp/env/en/company/region.htm

Exhibitions

We take an active part in presenting our products and technologies at various exhibitions around the world in order to have our environmental initiatives understood by as many people as possible.

● **Major exhibitions in which Toshiba recently participated**

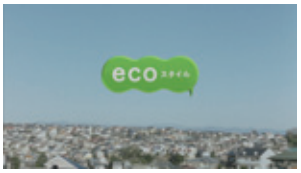
Feb. 2012	21st Toshiba Group Environmental Exhibition	Toshiba headquarters, Japan
Jan. 2012	2012 International CES	United States
Dec. 2011	Eco-Products 2011	Japan
Sep. 2011	IFA/Berlin International Consumer Electronics Show	Germany
Jun. 2011	Green Expo Japan-China 2011	China

Eco-Products 2011 (Japan)

Green Expo Japan-China 2011 (China)

Advertisements

Toshiba Group deploys corporate advertisements under our "Toshiba eco style" global brand to improve its corporate, brand, and environmental initiative images. We emphasize contributing to electricity conservation by introducing eco-mode functionality through home appliances.



"Home appliances" TV commercial aimed at the pursuit of "eco style"


"Home appliances lineup" TV commercial aimed at the pursuit of "eco style"

Advertisement of receipt of a 2011 Grand Prize for Excellence in Energy Efficiency and Conservation award

After receiving a total of five awards in the 2011 Grand Prize for Excellence in Energy Efficiency and Conservation (hosted by the Energy Conservation Center, Japan), Toshiba Group placed advertisements using the award-winning theme in newspapers.

In addition, a special website to introduce the theretofore untold story behind the development of our 2011 Excellent ECPs was opened, a tie-up project with Nikkei Business Publications, Inc. At the same time, we also emphasized our actions by publishing a special separate volume of "ecomom," a booklet describing Toshiba Group's environmental initiatives.

In addition, we released an advertisement "With 10 Years of Life (10-year calendar)" for LED light bulbs, which received the Gold Award in the Outdoor Category at the Cannes Lions International Festival of Creativity, one of the world's three major advertisement awards ceremonies, in addition to many other awards in Japan and overseas. This advertisement was released in television commercials, newspapers, magazines, radio, and other media.


Emphasizing LED light bulbs' long life of approx. ten years with the "With 10 Years of Life" advertisement

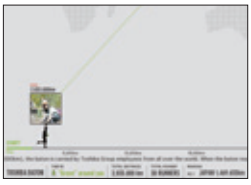
Partnership with Stakeholders

Opening of the employee participatory website TOSHIBA BATON

We have launched TOSHIBA BATON, a website that facilitates sharing of photographs of environmental activities posted by Toshiba Group employees around the world. The distance ran by the runner depicted on the site increases according to the number of postings made as well as the number of supporters who have viewed the postings. When the runner reaches the finish line, donations are made to environmental organizations.

Through this site, we aim to promote information sharing among our employees and increase employees' motivation to involve themselves in environmental activities as well as to make as many stakeholders as possible familiar with Toshiba Group's initiatives by reporting on our activities at our business and production sites around the world in a friendly format.

TOSHIBA BATON homepage
http://toshibaton.com/



The runner runs across the world map.
The distance ran increases as the numbers of postings and supporters increase.

Involvement in environmental campaigns

● Carbon Dioxide Reduction/Light-Down Campaign in Japan

We participated in the Black Illumination 2011 campaign (June 22) and the Star Festival Light-Down campaign (July 7) organized by the Japanese Ministry of the Environment and turned off the signboard illuminations in offices and towns. Toshiba Group designated the period between June 22 and August 31 as a voluntary campaign period and saved 316,153 kWh of electricity at 80 facilities in Japan and abroad. This amounts to about 87.8 years of electricity consumed by one home.

Toshiba building in Sapporo (before and after lights-out)

● Earth Hour 2012

Toshiba Group companies in various countries around the world again participated in Earth Hour 2012, an event hosted by the World Wildlife Fund that calls for people to make a global effort to turn off lights at the same time. On the day of the event, in addition to turning off signboards and other lights in major cities worldwide, including New York, Paris, London, Jakarta, Hanoi, Ho Chi Minh, Mumbai, Beijing, Shanghai, and Hong Kong, our companies called on their employees to reduce electricity consumption.

"Toshiba Vision Times Square" in New York (before and after lights-out)

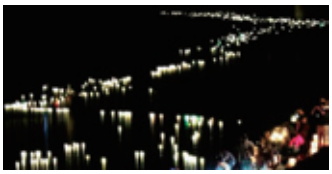
Introducing LED lamps to the Louvre

Pyramide du Louvre - Architecte I.M. PEÏ

The Louvre Museum is implementing a lighting replacement project as part of its environmental conservation activities; Toshiba provided LED lighting for Cour Napoléon, the Pyramids, Pyramidion, and Cour Carrée under its partnership agreement. By developing lighting equipment that provides an artistic touch as well as environmental performance without harming the spectacular view of the Louvre, Toshiba realized a reduction in annual power consumption of 73%*1 compared to that of the previously used lamps (e.g., xenon lighting). The Museum also agreed in principle to use Toshiba's LED lighting to replace the lighting for its major rooms, including the Red Room where Leonardo da Vinci's Mona Lisa and Eugene Delacroix's Liberty Leading the People are exhibited. Our LED lighting will be used to realize both reductions in environmental impacts and provide an artistic touch. In recognition of our efforts in this project, the French government gave the Grand Mecenat Award*2 to Norio Sasaki, President & CEO of Toshiba.

*1 Comparison of the previous 4,500 lighting fixtures (power consumption: 392 kWh) against the 3,200 Toshiba LED lighting fixtures (power consumption: 105 kWh) that replaced them.
*2 Award given by the French government to individuals or businesses that have made a significant contribution to the development of French culture. President Sasaki is only the second Japanese person to receive this award.

Supporting a local star festival



Floating LED capsules

On July 2, 2011, Toshiba Corporation and Toshiba Lighting & Technology Corporation co-sponsored a local star festival, "Kihoku Tanabata Monogatari," held in Mie Prefecture's Kihoku-cho in Japan. In the ceremony, which features floating lighting capsules (said to resemble wishing stars) atop the Choushi River, "Negaiboshi Nagashi," Toshiba provided replacements for the conventional miniature bulbs used for the capsules and the incandescent bulbs used for lighting the aisles along the river; in total, Toshiba provided 2,500 LEDs for the capsules and 150 LED bulbs for the aisle lighting. In addition, we held a class on LEDs for approximately 100 local children in elementary and middle school as well as other residents prior to the festival. By holding this class, Toshiba contributed to environmental conservation in collaboration with the local community as residents learned about the history of lighting and energy-saving LEDs, enjoying the lectures of our employees as well as experiencing firsthand the creation of the LED capsules used for the event.

Local residents learning about LEDs

Capsules are collected and reused

Third-Party Evaluation

In order to improve the reliability of the environmental performance data presented in this report, Toshiba Group requested Bureau Veritas Japan Co., Ltd.* to conduct a third-party verification of the data. Global data regarding the results for FY2011 was reviewed to check the processes of the collection, aggregation and internal verification of data and the accuracy of aggregated data.

*A certification organization that conducts inspections, reviews and certification regarding ships, buildings, health, safety, the environment, systems and consumer products (URL: http://certification.bureauveritas.com)

Reference View

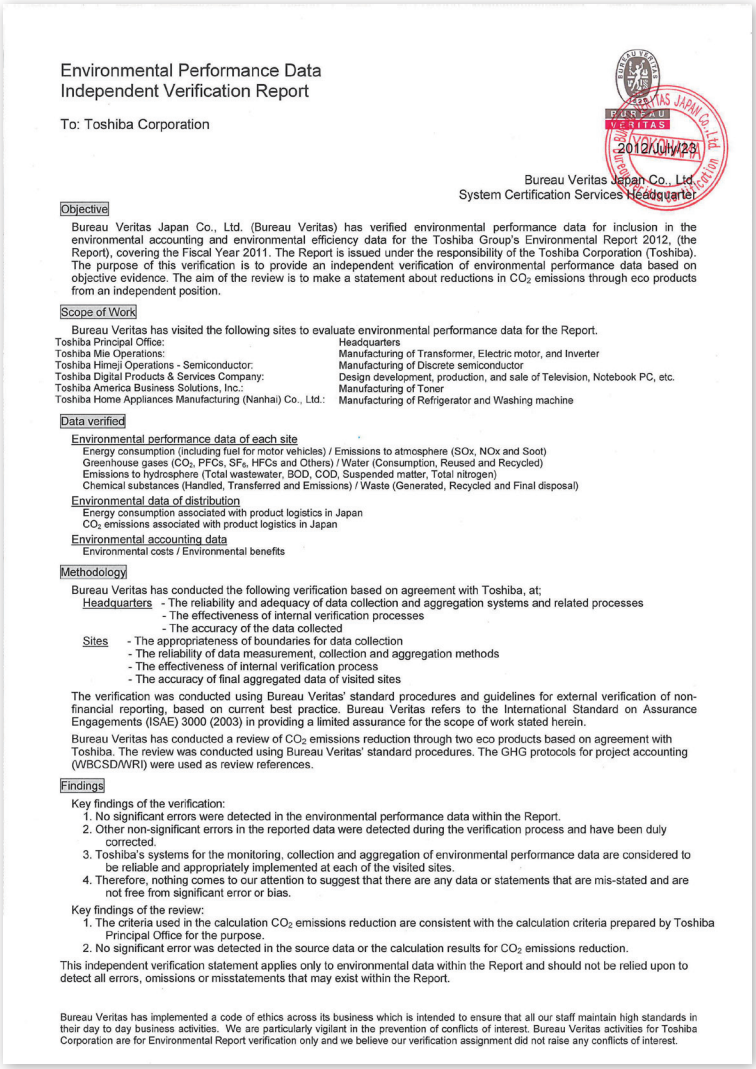
Bureau Veritas has conducted environmental performance data verification for the "Toshiba Group Environmental Report 2012." The following conclusions are made as a result of the work.

1. Positive Findings

- High transparency data management was confirmed because the source record for all data was effectively maintained at each site sampled.
- Number of sites using estimated data due to difficulty of data collection has been remarkably decreased. This decrease might be caused by semiannual check of site information using the "Site registration master" in Environmental Management Information System.
- All data was comprehensively analyzed by Headquarters, therefore confirmation of the reasons for abnormal values and the correction of errors were effectively conducted.

2. Improvement situation against the last year's recommendations

- Efforts to reduce manual calculation into data processing stage were confirmed at all sampled sites, however, some errors were still observed. It is expected that continued improvement of the checking function at the site will enhance the understanding of abnormal values and/or other errors.
- "Environmental performance data processing flowchart" was newly established to specify data collection and calculation procedure more clearly at each site, as the countermeasure for procedure transfer risk in case of a change of role and responsibility and other risks. On the other hand, it was observed that clarification of procedures is needed especially regarding the data collection and calculation processes of environmental accounting and wastes at some sites.
- As for the checking process of environmental performance data by Company level, analysis and evaluation leading to correction of error value through material balance check of overseas waste data was conducted by Digital Products & Services Company.



Environmental Performance Data
Independent Verification Report

To: Toshiba Corporation

2012/July/23

Bureau Veritas Japan Co., Ltd.
System Certification Services Headquarter

Objective

Bureau Veritas Japan Co., Ltd. (Bureau Veritas) has verified environmental performance data for inclusion in the environmental accounting and environmental efficiency data for the Toshiba Group's Environmental Report 2012, (the Report), covering the Fiscal Year 2011. The Report is issued under the responsibility of the Toshiba Corporation (Toshiba). The purpose of this verification is to provide an independent verification of environmental performance data based on objective evidence. The aim of the review is to make a statement about reductions in CO_2 emissions through eco products from an independent position.

Scope of Work

Bureau Veritas has visited the following sites to evaluate environmental performance data for the Report.

Toshiba Principal Office:	Headquarters
Toshiba Mie Operations:	Manufacturing of Transformer, Electric motor, and Inverter
Toshiba Himeji Operations - Semiconductor:	Manufacturing of Discrete semiconductor
Toshiba Digital Products & Services Company:	Design development, production, and sale of Television, Notebook PC, etc.
Toshiba America Business Solutions, Inc.:	Manufacturing of Toner
Toshiba Home Appliances Manufacturing (Nanhai) Co., Ltd.:	Manufacturing of Refrigerator and Washing machine

Data verified

Environmental performance data of each site
- Energy consumption (including fuel for motor vehicles) / Emissions to atmosphere (SOx, NOx and Soot)
- Greenhouse gases (CO_2, PFCs, SF_6, HFCs and Others) / Water (Consumption, Reused and Recycled)
- Emissions to hydrosphere (Total wastewater, BOD, COD, Suspended matter, Total nitrogen)
- Chemical substances (Handled, Transferred and Emissions) / Waste (Generated, Recycled and Final disposal)

Environmental data of distribution
- Energy consumption associated with product logistics in Japan
- CO_2 emissions associated with product logistics in Japan

Environmental accounting data
- Environmental costs / Environmental benefits

Methodology

Bureau Veritas has conducted the following verification based on agreement with Toshiba, at;

Headquarters
- The reliability and adequacy of data collection and aggregation systems and related processes
- The effectiveness of internal verification processes
- The accuracy of the data collected

Sites
- The appropriateness of boundaries for data collection
- The reliability of data measurement, collection and aggregation methods
- The effectiveness of internal verification process
- The accuracy of final aggregated data of visited sites

The verification was conducted using Bureau Veritas' standard procedures and guidelines for external verification of non-financial reporting, based on current best practice. Bureau Veritas refers to the International Standard on Assurance Engagements (ISAE) 3000 (2003) in providing a limited assurance for the scope of work stated herein.

Bureau Veritas has conducted a review of CO_2 emissions reduction through two eco products based on agreement with Toshiba. The review was conducted using Bureau Veritas' standard procedures. The GHG protocols for project accounting (WBCSD/WRI) were used as review references.

Findings

Key findings of the verification:
1. No significant errors were detected in the environmental performance data within the Report.
2. Other non-significant errors in the reported data were detected during the verification process and have been duly corrected.
3. Toshiba's systems for the monitoring, collection and aggregation of environmental performance data are considered to be reliable and appropriately implemented at each of the visited sites.
4. Therefore, nothing comes to our attention to suggest that there are any data or statements that are mis-stated and are not free from significant error or bias.

Key findings of the review:
1. The criteria used in the calculation CO_2 emissions reduction are consistent with the calculation criteria prepared by Toshiba Principal Office for the purpose.
2. No significant error was detected in the source data or the calculation results for CO_2 emissions reduction.

This independent verification statement applies only to environmental data within the Report and should not be relied upon to detect all errors, omissions or misstatements that may exist within the Report.

Bureau Veritas has implemented a code of ethics across its business which is intended to ensure that all our staff maintain high standards in their day to day business activities. We are particularly vigilant in the prevention of conflicts of interest. Bureau Veritas activities for Toshiba Corporation are for Environmental Report verification only and we believe our verification assignment did not raise any conflicts of interest.

3. Opportunities for Improvement

● Consistency of calculation boundary for each data to be reported

Calculation boundary setting criteria for in-plant subcontractor's performance data items were not managed correctly in some cases. Providing clearer criteria and a procedure for keeping the consistency and transparency of the boundary of all data items is expected.

● Completeness of water quality data collection

Water quality items such as BOD, COD and total nitrogen were not reported in some cases due to some local situations in overseas country (China). Unifying data collection and reporting criteria from the viewpoint of more reliable reporting of water quality and environmental accounting is expected.

Evaluation by External Parties (FY2011* result)

* The list below includes recently received awards.

Award title	Award-winning item(s)	Evaluated entity
Evaluation of products and technologies		
2011 Grand Prize for Excellence in Energy Efficiency and Conservation, Product and Business Model Category, Minister's Prize, the Ministry of Economy, Trade and Industry	Combination of three basic heat source equipment models, including Universal Smart X RUA-SP24	Toshiba Carrier Corp.
2011 Grand Prize for Excellence in Energy Efficiency and Conservation, Product and Business Model Category, Director-General's Prize, the Agency for Natural Resources and Energy	The storage device: "enterprise-class solid state drives (SSDs)", three models including MK4001GRZB.	Toshiba Corp. Semiconductor & Storage Products Company
2011 Grand Prize for Excellence in Energy Efficiency and Conservation, Product and Business Model Category, Chairman's Prize, Eco-Efficiency Category, the Energy Conservation Center, Japan	Refrigerator VEGETA series models, GR-E50FX and GR-E55FX	Toshiba Home Appliances Corp.
2011 Grand Prize for Excellence in Energy Efficiency and Conservation, Product and Business Model Category, Chairman's Prize, Eco-Efficiency Category, the Energy Conservation Center, Japan	Electric fan with a DC motor, SIENT F-DLN100	Toshiba Home Technology Corp.
8th Eco-Products Awards, Excellence Award for Energy-saving Service in the Eco-Service Category	Cloud service for visualization of power consumption	Toshiba Corp., Toshiba Solutions Corp.
8th LCA Society of Japan Awards, Honorable Award in the LCA Category	LCA services in the semiconductor field	Toshiba Corp. Semiconductor & Storage Products Company
8th LCA Society of Japan Awards, JLCA Chairman's Award in the Eco-Efficiency Category	Development and promotion of eco-efficiency assessment methods in the solution field	Toshiba Solutions Corp.
Minister of the Environment's FY 2011 Commendation for Global Warming Prevention Activity, in the Technological Development and Commercialization Category	MFP System allowing Paper to be Reused	Toshiba TEC Corp.
Consulting-Specifying Engineer 2011 Product of the Year (Silver Award)	P9 Adjustable Speed Drive	Toshiba International Corp.
2011 New Century Awards, Kanto Branch of the Japan Society for Analytical Chemistry	Study on ultramicro analysis for electrical and electronic materials	Toshiba Corp. Miyuki Takenaka
Japan Society of Refrigerating and Air Conditioning Engineers' Technology Award	Environmentally conscious product, heat source system "Universal Smart X"	Toshiba Carrier Corp.
Energy winner award in Korea	Multisystem air-conditioners for buildings, SMMS-i & air-to-air heat exchanger with direct expansion coil units	Toshiba Carrier Corp.
2011 Kanto Region Invention Prize, Invention Incentive Award	Peak-shift control technology for computers (Patent No. 4212570)	Toshiba Corp. Digital Products & Services Company Satoru Arai, Koji Nakamura, Hideaki Ando, Kei Sakamoto
The 59th Electrical Science and Engineering Promotion Awards The Education, Culture, Sports, Science and Technology Minister's Promotion Award and the Electrical Science and Engineering Promotion Awards	Commercialization of a prediction and control technology that reduces the start-up time of steam turbines for thermal power generation	Toshiba Corp. Power Systems Company Koji Yakushi, Shigeru Matsumoto, Hiroshi Inada
2011 Awards for Employees of Electricity Business Merit, the Concept Prize, the Grand Prix	Development of an energy-saving plant operation support system	Toshiba Corp. Power Systems Company Akinori Kamito, Hideki Tsukahara, Hirokazu Otsuka, Dai Murayama, Toshihiro Yamada
JEMA TECHNICAL AWARD	Development of the world's first transportable 300 kV-6000A gas insulated switchgear, which halves environmental impacts (Heavy electric section)	Toshiba Corp. Social Infrastructure Systems Company Masafumi Takei, Hiroshi Furuta
Evaluation of business activeties		
2011 Grand Prize for Excellence in Energy Efficiency and Conservation, Successful Case of Energy Conservation Category, Chairman's Prize, the Energy Conservation Center	Energy saving for power generation equipment through potential development	Toshiba Corp., Yokkaichi Operations
Reduce, Reuse, Recycle Promotion Association Chairman's Award for Achievement in Promoting Reduce, Reuse, Recycle Activities	3R promotion activities	Toshiba Corp., Oita Operations
Reduce, Reuse, Recycle Promotion Association Chairman's Award	Support for solving soil problems related to PCB contamination, contribution to CSR improvements and corporate compliance, and promotion of the Kitakyushu Eco-town Project	GEOSTEAM Corporation (One of the co-winners)
Taihakurou Daido Construction Company's Award	Tree-planting activities for environmental conservation	Toshiba Semiconductor Wuxi Co., Ltd.
Wuxi City green-level certification for environmental management	Environmental conservation activities	Wuxi Tongzhi Microelectronics Co., Ltd. (WTZ)
ASEAN Energy Awards - Best Energy Management Practice (Large Industry Category)	Energy efficiency/Special energy saving projects - e.g. Turbo Chiller, PC reduction at Test process	Toshiba Information Equipment (Philippines), Inc.
Chief Pollution Control Officers' Award for Excellence	Laguna Lake conservation activities, etc.	Toshiba Information Equipment (Philippines), Inc.
Energy Efficiency Improvement Award/Energy Efficiency Improvement Special Prize	Energy efficiency improvements	Toshiba Information Equipment (Philippines), Inc.
Green Curtain Competition Best Performance Award in the Office Category	Green curtains for building windows	Toshiba Corp. Yokohama Complex
Certified as a Green Company by the 2010 Hangzhou City Corporate Environmental Management Assessment	Environmental conservation activities	Toshiba Hydro Power (Hangzhou) Co., Ltd. (China)
Merit Award in the Singapore Packaging Agreement 3R Packaging Awards 2011	3R (reducing,reusing,recycling) of packaging waste	Joint project: Toshiba Asia Pacific Pte., Ltd. Toshiba Data Dynamics Pte., Ltd., Toshiba Singapore Pte., Ltd. and Toshiba TEC Singapore Pte., Ltd.
Donald Cousens Conservation & Environmental Leadership Award	Advanced environmental initiatives	Toshiba of Canada Limited
Maintenance of reforestation	Environmental conservation activities	Toshiba de Mexico, S.A. de C.V.
Friends of EcoPark	Environmental conservation activities	Toshiba Hong Kong Ltd.
The 13th Green Purchasing Prize, Judges' Award	Energy-saving activities	Toshiba Lighting & Technology Corp.
Evaluation of communication programs		
French Government's Grand Mecenat Award	LED lighting for the Louvre Museum (73% reduction in power consumption compared to conventional lighting)	Toshiba Corp.
"With 10 Years of Life" advertisement for LED light bulbs received the following awards: The 41st Fuji Sankei Group Advertisement Awards: Media Mix Grand Prize, etc./Cannes Lions International Festival of Creativity Gold Award in the Outdoor Category/The 91st New York ADC, Silver Prize in the Outdoor Category/The 53rd Clio Awards, Bronze Prize in the Film Category/The 65th Dentsu Advertising Awards: Dentsu General Advertising Awards; and other awards.		Toshiba Corp.
The 76th Mainichi Advertising Design Awards/The 59th Asahi Advertising Awards	Advertisement on Toshiba's decision to cease production of incandescent bulbs	Toshiba Corp.
Fuji Sankei Business i, Business Advertising Awards, Gold Prize in the Series Advertisement Category/Gold Prize in Double Spread Advertisements	SCiB advertisement: the Future Town series "Keeping Volts"	Toshiba Corp.
20th Global Environment Grand Prize, Japan Business Federation Chairman's Award	Multilateral environmental communication inside and outside the Company	Toshiba Corp.
Best Report Award, Dalian City Sustainable Development Report (Environmental Report)	Publication of information on environmental conservation activities and their results	Toshiba Dalian Co., Ltd. (China)

Evaluation by the mass media and SRI		
Ranking based on the 15th Environmental Management Level Survey by Nikkei Inc.	5th place (category: manufacturing)	Toshiba Corp.

Committed to People, Committed to the Future.

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The report is available on the Toshiba website.
URL: http://www.toshiba.co.jp/env/en/

Toshiba is conducting an online questionnaire.
Give us your opinions or comments on the report
for future reference.
URL: https://www.webcom.toshiba.co.jp/csr/env.php

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